



# **Universität Stuttgart**

## **Transformations and Conservation of the Ex-Colonial Dwelling Settlements in North Bandung – Indonesia**

**a historical and urban architectural review for the search of  
city identity and conservation strategy approaches**

Von der Fakultät Architektur und Stadtplanung der Universität Stuttgart  
zur Erlangung der Würde eines Doktors der Ingenieurwissenschaften (Dr.-Ing.)  
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vorgelegt von

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**Helena Ignasia**

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***"Human identity presupposes the identity of place. . . .  
The basic act of architecture is therefore to understand the 'vocation' of the place."***

Christian Norberg-Shultz

***dedicated to my father, Suhadie***

A man who endlessly sacrifices and dedicates his life for his family and community  
A man who teaches me for being sincere and thankful for what we've achieved in life

May Allah always protects you

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## ABSTRACT

North Bandung has so many unique potential urban features that were utilized by the Dutch colonial town planners as influential considerations in arranging the planning concepts. The adoption of the European "Garden City" in Indonesia was initially established in this area. The garden city concepts employed local contents at the same time, and this has made the dwelling quarters in North Bandung unique. A mixed-levels housing plan in the urban design, where low, middle, and upper-level dwelling units were combined was implemented together in an integrated plan of the urban structure in this area. The strong character of "Art Deco" decorated the façades of the buildings in the quarters and has also made North Bandung architecturally interesting and valuable. Bandung became one of the best examples of "tropical art nouveau" in Southeast Asia in the colonial era.

Today, this city has to face the challenges of uncontrolled growth mainly caused by urbanization. The development in this city has not only expanded to the periphery but also taken place within the inner city areas, where historical quarters exist. Transformations and demolitions of land use have long been going on, and have been worsened and taken on the face of the practice of commercialisation, land speculation, and ongoing densification. This culminates into the neglect of rich cultural values of their localities that have long characterized and become the identity of such quarters. These forces are creating tension in such areas and thus are among other current important tasks of city planning in Bandung today.

This study tries to observe and seek the existing values in the ex-colonial dwelling quarters in North Bandung both in terms of architecture and urban planning in order to understand how they became the identity of and built image in such a built environment and how they became implemented in planning in the inhabitable dwelling environment. The research is also aimed at getting a better understanding of the various influences that determine the uncontrolled urban development process and transformations within the historic setting and tries to rediscover the historical denominations in all of their complexity. Finally, this research will try to provide some recommendations and suggestions for developing concrete actions of conservation strategies, which can be implemented both in the selected case study and/or in other similar cases in Indonesian cities.

*Keywords: North Bandung, Colonial Housing Settlements, Conservation, Transformation*

## KURZZUSAMMENFASSUNG

Nord-Bandung hat sehr viele einzigartige städtische Merkmale, deren Potentiale von holländischen Städteplaner benutzt wurden um die Stadtplanungskonzepte zu gestalten. In Indonesien wurde die europäische Gartenstadt erstmals in diesem Gebiet adoptiert.

Die Gartenstadtkonzepte setzten lokalen Kontext gleichzeitig ein, von denen die Wohnsiedlungen in Nord-Bandung einzigartig gebildet wurden. Der Wohnungsbauplan wurde für unterschiedlicher soziale Gruppe, d. h. niedrige, mittlere und höhere Schichte gemacht und wurde zusammen mit einem integrierten Plan der Stadtstruktur in diesem Gebiet umgesetzt. Der unverwechselbare Stil des "Art Deco" schmückte die Fassaden der Gebäude in diesen Vierteln und hat Nord-Bandung gleichzeitig architektonisch wertvoll und interessant gebildet. Bandung wurde auch zu einem der herausragendsten Beispiele für tropische Jugend-Stil in der Kolonialzeit in Südostasien bekannt.

Heutzutage muss sich diese Stadt die Herausforderungen des unkontrollierbarem Wachstums, die hauptsächlich durch Urbanisierung verursacht werden, gegenüberstellen. Die Stadt Bandung entwickelt sich heutzutage nicht nur in die Peripherie der Stadt, sondern die findet auch in der Innenstadt statt, wo die historische Viertel existieren. Seit langem wandeln sich ständig die Landnutzungen und sie werden von Abrissaktivitäten verfolgt. Dieses Phänomen verschärft sich sogar vom Jahr zu Jahr und werden starker von Kommerzialisierung, Bodenspekulation und ständiger Verdichtung beeinflusst.

Solche Situation kulminiert zur Vernachlässigung der wichtigen kulturellen Werte dieser Orte, die lang gekennzeichnet haben und zur Identität solcher Viertel geworden sind. Solche Belastungen generieren Spannungen in solchen Gebieten und sind deshalb wichtige Aufgabe in der heutigen Stadtplanung Bandungs.

Diese Studie versucht, die existierenden Werte in den Wohnvierteln in der ehemaligen Kolonialzeit herauszufinden und zu beobachten. Dabei spielen Architektur und Stadtplanung eine Rolle, sodass sich herauskristallisiert, wie diese Werte zur Identität und zum baulichen Stadtbild in einer gebauten Umgebung gestaltet wurden und wie sie in bewohnbaren Wohnsiedlungen umgesetzt wurden.

Die Arbeit soll auch dazu dienen, die zahlreichen Einflüsse, die die unkontrollierbaren urbanen Entwicklungsprozesse und Wandel innerhalb der historischen Umgebung bestimmen, besser zu verstehen. So sollen historische Bekenntnisse in all ihrer Komplexität wiederentdeckt werden.

Schließlich will diese Forschungsarbeit versuchen, einige Empfehlungen und Vorschläge zu liefern, um konkrete Maßnahme für Erhaltungstrategien zu schaffen, die sowohl in der gewählten Fallstudie als auch in anderen ähnlichen Fällen in Indonesien umgesetzt werden können.

*Stichwörter: Nord Bandung, Koloniestadt / Koloniale Wohnsiedlungen, Stadterhaltung, Stadtwandel*

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# **CHAPTER I**

## **Introduction**

# CHAPTER I

## INTRODUCTION

### 1.1. Background

Like other big cities in the developing countries, Indonesian cities as well have to encounter massive problems of urbanization which include uncontrolled rapid population growth and densification of the urban areas. The problems are more alarming today especially after the economic and political crisis in 1997, during which the local governments had less financial and technical capacity to cope with the increasing demand of infrastructures, public services, and public facilities to meet the basic needs of their population. Lackadaisical commitment from the government and the communities is among other problems obstructing the improvement of urban planning as well as the development of many cities. Consequently, though some cities have already implemented planning to manage the development of their urban areas, some urban planning simply remain blue print concepts.

Big cities such as Jakarta, Bandung, Semarang, Surabaya, and Medan are some of the many cities, which have to face the challenges of uncontrolled growth. The development in these cities has not merely been expanding to the periphery but also takes place within the inner city areas, where historical quarters usually exist, and where the current densification and transformations of land use have long been going on. In most of the cases, the situation has worsened since cities try to enhance their performance and image by adopting modernization both in concepts and technical approaches that unfortunately often resemble the practice of western capitalism and ideologies. This culminates into the neglect of rich cultural values that have long characterized and become the identity of such quarters. It is obvious that commercialization, land speculation, demolition, and efforts in the course of the so-called renewal / redevelopment have often threatened some historical quarters and are causing the decay of the social and functional structures, besides deteriorating visual and environmental quality. These forces are creating more tension in such areas and thus are among other current important assignments of city planning in Indonesia today.

Conflicts thus always emerge when cities have to deal with the conservation of historical urban areas. The reasons include the lack of appropriate regulations including technical guide lines as instruments both for implementing urban renewal and conservation

programs, and for controlling urban development. Many of the historical quarters are degrading and fading. At worst, they even totally disappear from the urban structure.

## **1.2. Problem Statements and the Objectives of Study**

It is undeniable that all urban areas undergo change. Historical urban quarters also have to face challenges and must cope with contemporary problems which is the current trend of today's development. The driving forces are the globalization of economy and culture, the digitalization of technology and the deregulation of politics. The results are new economic and productive frameworks for urban life, new urban scales and connections and changes in the physical form of the city (fig. 1.1.).

This demands an additional focus on the quality of urban planning and design. In order to reconcile with such a situation, both conservation and revitalization efforts have to operate within a sensitive context and environment which act as constraints and benefits. They also should help to find a common language regarding the development aspects of the cities in terms of socio-cultural facets, economics, and politics. Thus the necessity of reconciling the various exigencies of conservation and revitalization, especially of balancing economic development with respect to local identities and environmental quality, is particularly challenging in such areas.

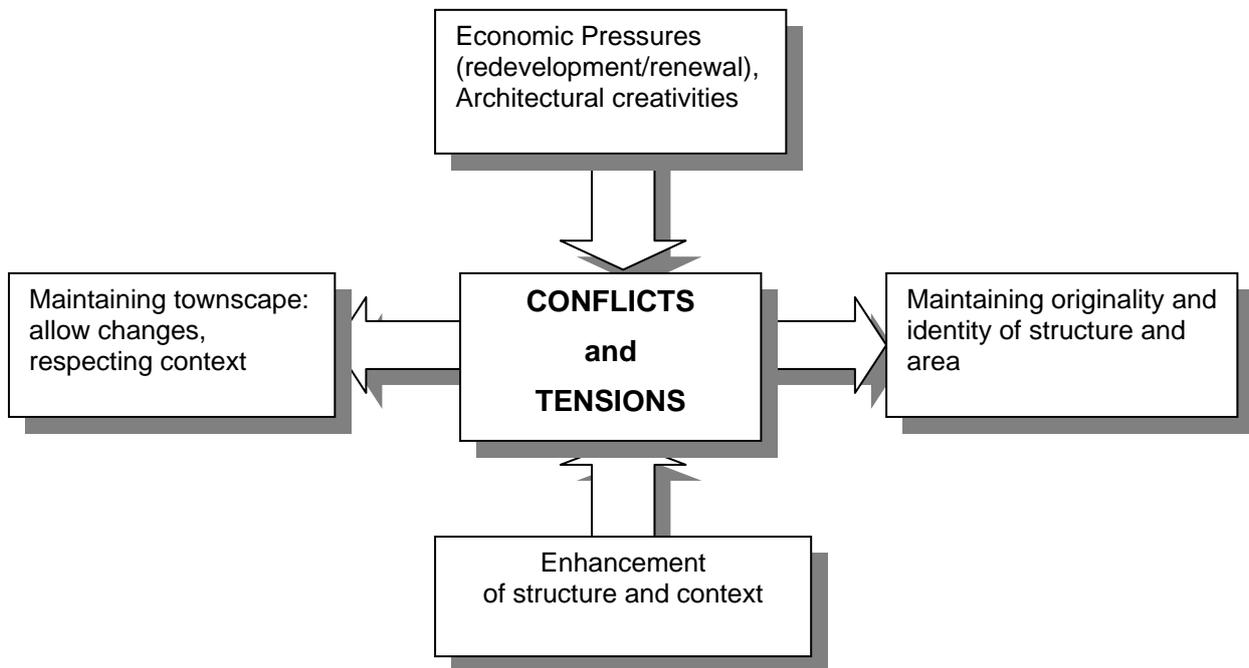
New strategies for design and production of environment are therefore needed. This broad area encompasses reflections on current mechanisms guiding the generation and the shaping of man-made environment; spaces, buildings, urban spaces, urban landscape etc.. More specifically, studies in this area seek to address changes both in processes and outcomes arising from new social practices and technological developments. The generation of new strategies for design and production of the built environment is seen as one of the most important issues in this case too.

To give support to an improved process of urban development, the following questions arise:

1. What are the specific both spatial and architectural characteristics of historical urban settlements and their elements and what are their future potentials in terms of their historical evolution and possible conservation strategies?
2. In what way can the existing urban structures and living environment maintain a more useful function within the current process of transformations so that they may be kept as an integral part socially, culturally and physically in the city structure?

**Figure : 1.1.**

**The Challenges of Conservation in Historical Inner Urban Settlements**



Based on the above backgrounds the major objectives of this research are:

1. To identify the existing values in such quarters both in terms of architecture and urban planning i.e. how they became the identity of and built image in such a built environment, as well as how they become implementable planning and inhabitable environment
2. To get a better understanding of the various influences that determine the uncontrolled urban development process and transformations within the historic setting and try to rediscover the historical denominations in all of its complexity
3. To give recommendations and suggestions for developing concrete actions and preservation / revitalization strategies of the historical quarters which can be implemented both in the selected case study as well as in other Indonesian cities

To achieve those mentioned objectives, the following issues or studies can be put forward:

- Historical and synchronic reading

This discussion will help to identify both the spatial and architectural features of historical quarters and their significance to the city structure as well as determine the importance of preserving such an area and its elements. It will also help to define the

significant characteristics and the identity, the once built image of the city, besides it will help clarify the process of evolution / transformations in different stages of city development up to now. Furthermore, this will also be helpful for selecting representative quarters and primary dwelling elements that will be further explored as case study.

- Hierarchy of scale and Typo-morphology

Urban morphology is the expression of the city, which consists of interwoven buildings, open spaces and other dwelling elements that are not homogenous. It also enfolds several scale levels; city, city sector or segment, neighborhood, neighborhood segments, dwelling groups, dwelling, and dwelling unit. Nevertheless, between all the levels of scale there are complex structural relationships, which form an urban tissue from upper level to lower level and vice versa. Thus the tool to look into the urban morphology is the exploration of concepts of urban morphogenesis, which is best seen as an assembly of process in times of fundamental transformation and which is also expressed in forms<sup>1</sup>. The study of hierarchy of scale and typo-morphology will help identify the important elements of such dwelling quarters and architectural features which is also one object of this research. The study also will help explore vital information on the concepts of city formation and transformation, particularly in relation to the physical context such as neighborhood parcels, the role of quarters, and its place within the city.

- Psycho-dynamics of a City & its Community

This will help identify the influencing factors and motivations of a city and its population both economically and socio-culturally in the urban development. It will show how far such influences have any impact on shaping and transforming the city structure, and what are the advantages and costs of transformation in such areas in regard to their functional, visual, and environmental qualities. This will also help identify and recognize the characteristics, the potentials, and weaknesses of the city and inhabitants in improving, renewing, or developing their neighborhood, and show how they will be able to cope with the current problems they are confronted with.

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<sup>1</sup> Rappoport, Amos. "*System of Activities and System of Settings*", in Kent, Susan "Domestic Architecture and the Use of Space, an Interdisciplinary Cross-cultural Study", 1993. P.14.

- Development Policies in Urban Planning, Urban Housing Development, and the Process of Implementations.

This comprises a revision of how the related existing regulation and the regulatory process are implemented which results both in the conservation and revitalization, as well as in renewal efforts in the deteriorating quarters. This also will help recognize the role of stakeholders involved in such efforts including the regulatory process, so that its weaknesses and potentials can be further evaluated.

- The Methods and Techniques of Preservation and Conservation

Dealing with the preservation and conservation as the main focus of this research, it is important to know the reason for conservation. Methods have to be adhered to approach knowledge of what should be conserved. The study of methods and techniques of conservation is also important to help formulate the decent strategies and methods that are to be implemented in the selected study cases in this research. To have broader ideas, it is also important to be able to compare qualities of other sites by reviewing other similar studies and cases.

### **1.3. Dutch Colonial City in North Bandung as Case Study**

Bandung is well known as one of the historical colonial cities in Indonesia, not only politically but also in terms of urban planning. It was even once considered the best example of a colonial city in the tropical context as stated by a famous Dutch architect, Hendrick Berlage, in CIAM Congress held in Switzerland in 1928. The urban planning of Bandung was also the first one utilizing the formal international standard in Indonesia. Bandung was intended to be the capital of the "Dutch East Indies" in the early 20's and has therefore represented the force of colonial authority, and the symbol of power in commerce and culture.

The northern part of this city has so many unique potential urban features. This potential had been utilized by the Dutch colonial city planners as influential considerations in arranging the planning concepts. The adoption of the European "Garden City" in Indonesia that at the same time employed local contents, was also firstly applied in dwelling quarters in the North Bandung area. The concept included a mixed-level housing plan in the urban design, where the low, middle and upper level dwelling units were put together in an integrated plan within the urban structure in this area. It brought about a unique character and was considered an innovation in the colonial urban planning. These concepts have made Bandung a role model for other colonial cities in

Indonesia. The strong character of "Art Deco" that decorated the façade of buildings in these quarters has also made this area architecturally interesting and valuable, and has made it one of the best examples of "tropical art nouveau" in Southeast Asia. Buildings and open spaces as two important elements were strictly controlled by building codes and regulations in order to comply with the concepts of the garden city as the main idea of urban development. The colonial urban dwelling quarters in North Bandung are selected because they are currently threatened by severe and uncontrolled changes in terms of functional, visual, and physical quality. Hence, it is necessary to place these areas under certain and suitable renewal as well as conservation programs through decent strategies in the city development planning.

#### **1.4. Scope of Study**

The whole city of North Bandung including the city elements will be explored in order to have a clear description of how this area was built and has shaped its uniqueness and characters, which will later be used as the basic considerations of conservation. More so, as mentioned, there are several sites of historical quarters that can represent the different types of planning of the urban dwellings, different initial aims and functions, phases of formation, as well as the intensity of transformation. The in-depth observation will cover selected urban quarters, especially those which are now threatened by the dramatic changes and uncontrolled transformations leading to a decrease of their functional, visual, and environmental quality. The selected quarters also should have been proposed as the conservation area by the city of Bandung and experienced improvement programs or the likes that are intended to enhance such an area. Nevertheless the expected results have not been optimally obtained. Therefore the dwelling quarters as shown in table 1.1. were selected to represent this study.

As urban development consists of a large range of aspects, this study will mainly focus on the architectural and physical aspects, whereas the non-physical ones which are inseparably influencing factors would be used for supporting the comprehensive analysis.

As the city is so dynamic in all of its aspects, the level of transformation is also changing from time to time depending on the current context and situations, i. e. in terms of socio-cultural aspects, politics, and economics. The research is therefore limited, classified and highlights some critical phases of urban development of Bandung, with an in-depth observation during the years of 2003-2005.

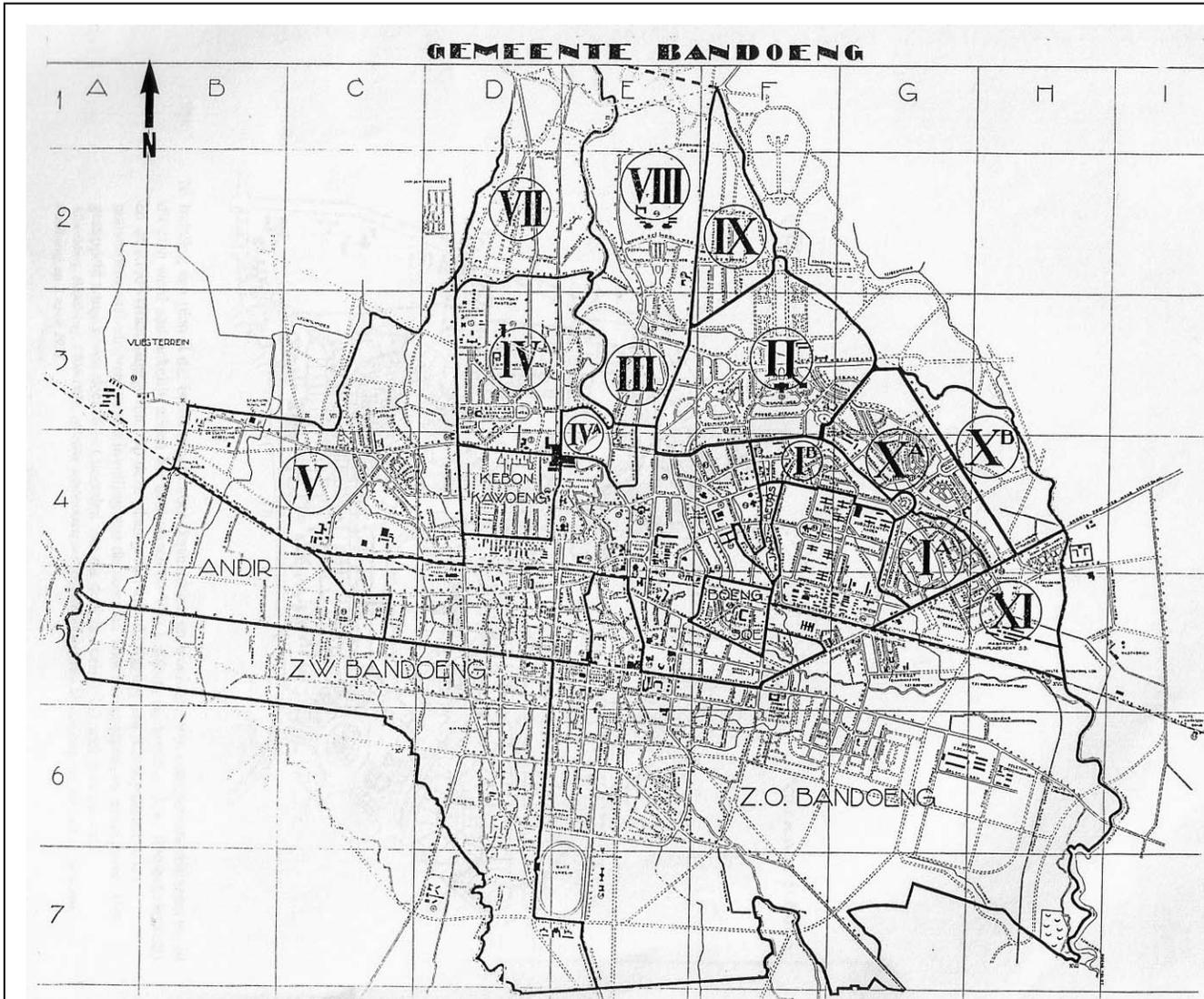


Figure 1.2. :  
The Development  
Phases of Dwelling  
Quarters in the  
Colonial City of the  
'Noord Bandoeng'

Source: Jubileumgave te Gelegenheid von het 25-jarig Bestaan van de Gemeente Bandoeng op 1 April 1933.

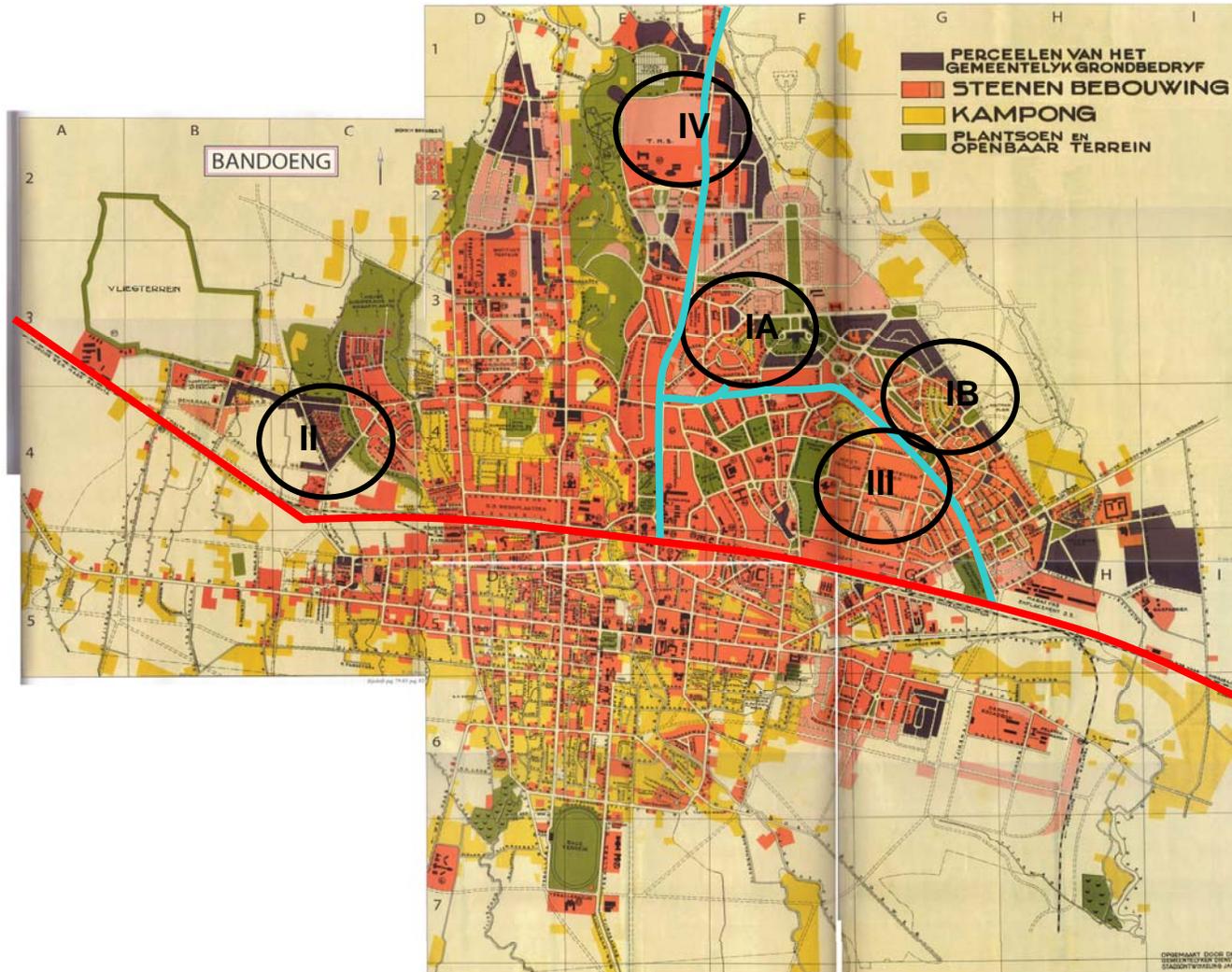
**Table : 1.1.**  
**Case Studies**

<b>No.</b>	<b>CASE STUDIES</b>	<b>Former Main Function / Uses</b>	<b>Phase of Construction</b>	<b>Location</b>	<b>Proposed in the Urban Heritage Maps by the Bandung Heritage Society</b>
1.	Government Officials Dwelling Quarters	Officials' Residence	Phase II and X	Gedung Sate Area (Gempol & Saninten)	Yes
2.	Industrial Dwelling Quarters	Dwellings for Industrial Workers	Phase IV	Arjuna Area	Yes
3.	Dwelling Quarters in Military Complex	Military Barrack and Ware Houses	Phase I	Tongkeng Military Barrack (Siliwangi)	Yes
4.	Villa Quarters	Villas Quarter for Individuals, Private Companies, and High-Grade Officials	Phase IX-X, and Phase I	Along Dago – Merdeka Street	Yes

## **1.5. Methodology**

### **Urban Typo-Morphological Analysis**

As mentioned above, it is considerably challenging today to study urban development, especially when dealing with the urban architecture. In many cases, city form connotes a general conception of the physical appearance of the city. The current hybrid realities, which contain conflicts of multiple forces, and questions how the past, the present, and the future can be linked together in the cityscape, demand comprehensive approaches. Learning from what had once existed and what has been present is therefore necessary to recognize the relevance of those for the new. Thus careful reading of urban aspects from the past and present is much required. To fulfill the mentioned objectives some approaches and methods can be utilized to support this research and to achieve the aims of this study.



Source: Gemeentelijken Dienst van Stadontwikkeling, January 1933.

Figure 1.3. :  
 Map of Bandung Colonial City  
 and Locations of Case Studies

I.A. Gempol Quarter

I.B. Houtwijk Quarter

II. Arjuna – Industrial Dwelling  
 Quarter

III. Tongkeng – Military Dwelling  
 Quarter

IV. Merdika – Dago Villa Quarter

In this study, urban analysis on morphology is thus considered a main term referring more precisely to understand the activities that utilize the space layer per layer. It will be conducted descriptively with both a qualitative and a quantitative approach. The spatial analysis will utilize the typo-morphology analysis as well as historical (diachronic) and synchronic reading as its main research instruments. These readings will help to comprehensively trace the stages of city formation and its changes, both physical and non-physical (socio-cultural and economic factors and people's perceptions), and help to understand the process of transformation.

### **Data Collection**

To proceed the investigation the data collection has been developed as follows:

- Literature studies

The literature studies can be conducted by reading from references of related studies such as the theory, concepts, methods and techniques of urban typo-morphology analysis, as well as of those for the conservation of the urban heritage, the history of Indonesian cities and especially of those, which directly relate to respective case studies. The theories of system and urban settings, as well as urban anthropology and sociology will help this research to understand the process of formation and transformations of the urban structure and architecture, which is the main focus of this research. The secondary data are collected both from official and unofficial sources like literatures, archives, ancient writing of related objects, municipal leaflets, magazines, and articles in newspapers or journals.

- Tracing maps, pictures, and engravings

Maps and original pictures (engravings, photographs, etc.) will be valuable as they can transmit most directly the physical and tangible reality of the former shapes of such quarters.

- Field survey

Field visits and observations are conducted to get a clear description of the variables observed in this case study. This direct appraisal is conducted by gathering physical data, i.e. the observation of actual urban settings and the collection of maps, photographs, sketches, and other physical traces. Hence measurements, documentation, observation and questionnaires are needed as survey tools. This will also help to obtain clear information on the transformed elements in the case studies and the current situation.

Qualitative survey is also utilized in the case study to identify the vulnerable and the less vulnerable parts of these quarters. Direct interviews with the inhabitants and other resource persons will be used as cross-checking in order to give a clearer and deeper understanding of all aspects of the localities that might affect the physical changes in the area of the case studies.

This research also uses the phenomenological approach, where survey and interview will be carried out by using a structured list and questionnaires, with some open questions to allow for the observation of other urban facts that had not been included in the prepared lists. The questions posed by the inhabitants or related resource persons are put as feed-back and additional information in prepared questionnaires.

- Interactive / participatory observation

Participatory observation allows inhabitants or related parties such as the heritage society in the neighborhood level and governmental agencies at the local level to get involved in the field survey as resource persons. This aims to identify and understand the potentials and weaknesses in the case studies from the community's and stakeholders' side, and to search findings that might have been missing from the interview list or questionnaires made by the researcher.

In addition to this, a review of the policies and different conservation strategies both in the local and national context and that have been implemented or adopted in the case studies will also be carried out as an evaluation and input for further recommendation on urban conservation as well as renewal strategies.

## **1.6. Organization of the Report**

The report of this study is mainly structured in three main discussions in five chapters.

**Chapter I** is an introduction of this research. It contains the background, main questions, objectives, and the scope of the research, the methods and organizations used in this study.

**Chapter II** is the general description and analysis of Indonesian cities. This step is important to help systematically recognize the basic historical layers of city development, the shaping of cities, the concept of Indonesian urbanity, and the current general problems faced by the cities. These will help to analyze the focus of this study.

**Chapter III** is a description and analysis of Bandung in general. This contains a description of its historical background, the basic concepts of the urban formations and the transformation processes, acknowledged with the analysis of the urban typomorphology. The review and evaluation of the existing policies concerning urban planning and the conservation in the city of Bandung is also discussed in this part.

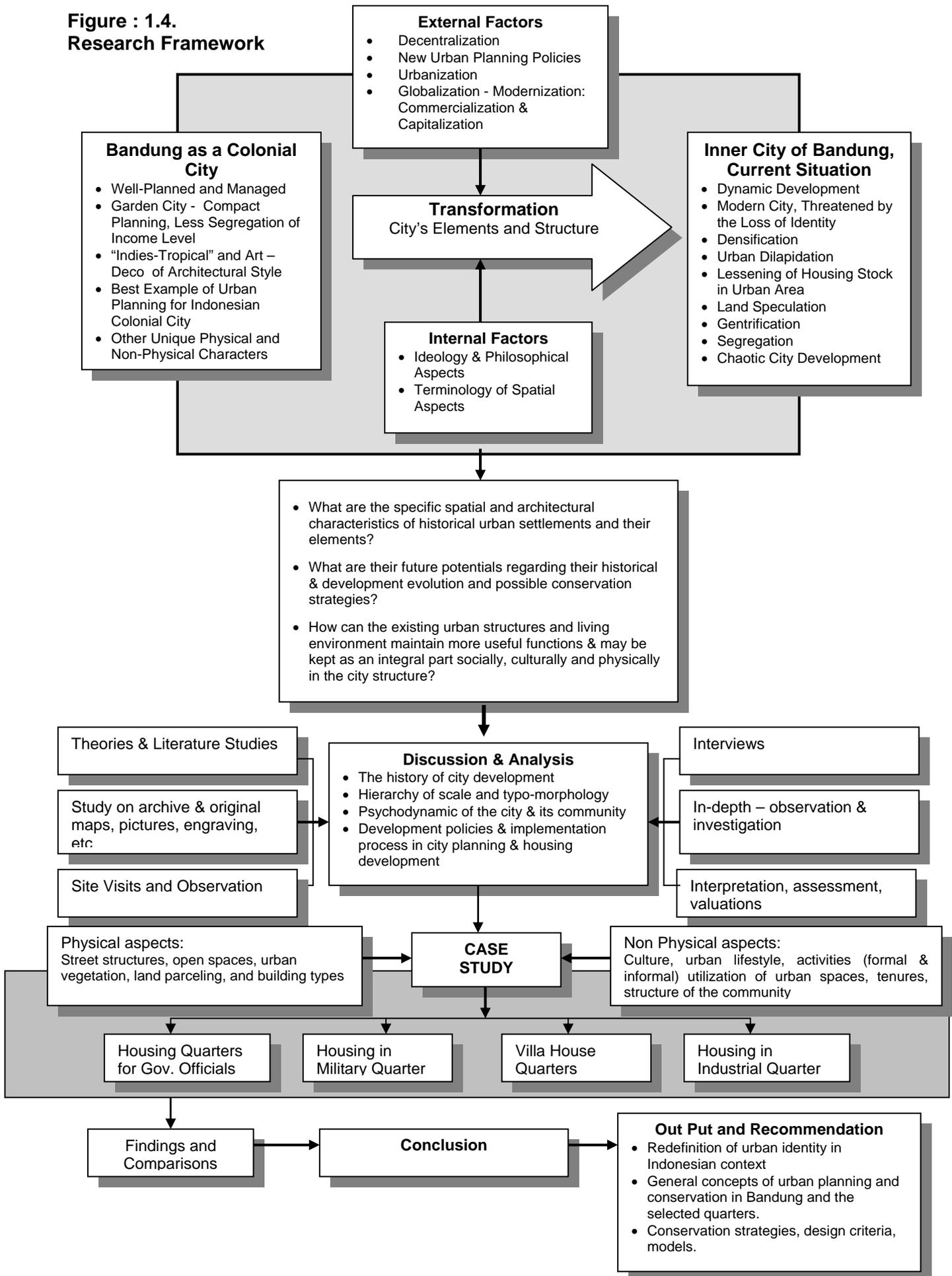
**Chapter IV** is the description and analysis of selected case studies. In this chapter, the analysis of physical and non-physical elements is conducted to explore the transformation in various degrees of urban space in the case studies. The analysis of the physical elements will include elements of urban fabric such as the street structure, open spaces, urban vegetation, land parceling, and building types. The analysis of non-physical elements will cover the existing culture and lifestyle, activities including formal and informal utilization of urban spaces, tenures, and the structure of the community, which are considered influencing factors in shaping the built environment in the area of case studies.

Chapter IV also contains concluding remarks and basic approaches for the urban conservation in colonial quarters of the North Bandung. This chapter will also include some possible alternatives of conservation, renewal efforts and strategies in each selected quarter.

**Chapter V** is the concluding section of this whole research. It also contains a redefinition of urban identity in the Indonesian context, and recommendations for a general concept of urban planning in Bandung, and particularly concepts, models, and methods of conservation in the respective area.

The following diagram figures the framework and the organization of report of this study:

**Figure : 1.4.**  
**Research Framework**





## **CHAPTER II**

### **History and Typology of Indonesian Cities**

## CHAPTER II

### History and Typology of Indonesian Cities

The typology of Indonesian towns and cities has been strongly associated with general history of the country. Regarding this history, a dynamic process of development with its internal and external acculturation has constantly transpired and has intensely given characters on the formation and metamorphosis of its towns and cities. In order to understand the characters and situations of Indonesian cities and their recent contemporary urban development, it is necessary to study their cultural and historical backgrounds, and their complexity.

Regarding its epoch, the formation of Indonesian cities can be classified into three main different periods: the early Indonesian towns, the colonial period, and the modern development. These periods are interrelated and have partly overlapping themes<sup>1</sup>:

#### 2.1. The Early Indonesian Towns

The early Indonesian towns are also known as pre-urban settlements or traditional cities as termed by many scholars. They generally functioned as capitals of city-states; acted as political entities, which related to a particular capital; exerted control on agrarian hinterlands; and were part of international trade. One of these functions was often more dominant than others. The three significant factors that defined the structure of the towns and determined the rise and fall of the early Indonesian towns are described in detail hereafter<sup>2</sup>.

##### 1. International and Regional Trade

The initial Indonesian city-states were strongly related to the world trade activities, which were not dominated by merchants but mostly by the owners of capital/lenders. This trade provided profit to princes and the rich, and became the foundation for coastal states and towns.

International trade was done by overseas sailors and merchants from Turkey, Arabian countries, Persia, India (Gujarat), Champ, Siam, and China. Trade brought along strong influences and caused cultural diffusions on natives and their indigenous life. The structure of pre-urban settlements in this period was therefore strongly marked by the traffic of regional and international trade.

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<sup>1</sup> Following discussions in Martokusumo, 1999 and Siregar, 1990. See also W. Rutz, 1985, P. 240. and P.J.M. Nas, 1986. P.5.

<sup>2</sup> P.J.M. Nas, 1986, P.18.

Up to this moment, new culture had not yet been infused by military or political defeat by the large group of colonists settling in Indonesia. Therefore, contacts between foreign merchants and the natives also allowed 'soft acculturation'. Chinese influence was smaller compared to Indian culture since it was restricted to the border area of Chinese settlements. Some scholars assumed that Indian culture was the most accepted since there were more intensive contacts between the Brahmas and local princes. Moreover, native rulers also saw more possibilities to adapt Indian culture to local / customary laws – the so-called '*hukum adat*'.

## 2. Control of Production and Labour

Control of production and labour, initially taken from the Hindu civilization, gave support to the rulers' power. Within the early Indonesian towns, it was impossible to declare land as private or individual property, because based on the '*adat*' laws, land belonged to the community. This starkly contrasts the system of landownership in the modern Indonesian town. According to the old system, the inhabitants were assumed to work for the rulers, and those who utilized the land would give the yields that were collected from the surplus of production as their reward and loyalty to the princes. Such a system is a typical of an agrarian society. The princes or lords would then use these yields to build temples, execute public works, etc. Besides having the right to recruit soldiers for war, the princes also organized labour for large construction works.

The existence of *keratons* (palaces) as societies with their great tradition of civilization - comprising legal and aesthetic norms (including art and architecture) - in this phase was, therefore, made possible by the extraction of surplus from the peasants.

A system of decentralization was also introduced during this period. There was a subdivision of power within each *keraton* and its area of authority. Each *keraton* was lead by a local prince, who was administratively responsible for the production and labour in the smaller area. Local princes had obligatory to deliver the yield to the central prince. This decentralization was a big threat to the unity of the city-state. As a result, the central prince would forcibly repress the local princes. Based on this, the structure of the city-states was built in a particular form allowing efforts to secure its stability.

## 3. Legitimization of Power

The power of the princes in the city-states was mainly supported through earnings gained from the lords' dues and their works. The Indian civilization together with the influences of Buddhism and Hinduism played the most central role in this phase. They

produced traditional laws, the so-called '*Hukum Adat*', and the standards of life were later based on this culture. Some of the principles of Indian culture were also used by the rulers to strengthen their power, such as manipulating the ancestral beliefs and considering themselves as manifestation of Hindu or Buddhist gods.

The Brahmans also had a vital role being the medium for spreading Indian culture. As a result, the new culture was adopted and presented more in the local court. For example, the previously Javanese temples were changed into places for Hindu or Buddhist worship. Thereafter, the existence of *candi* and some monumental tombs was considered a mixture of indigenous ancestral worship and of Indian religious thoughts.

Under these influences, the gap between the *keraton* society and ordinary people also widened.

The above explanation leads to a conclusion that firstly, the initial existence of the early Indonesian towns, in particular Javanese towns, was mainly based on the manifestation of the rulers' power. This further materialized in the bond of territory, the implementation of buildings and spatial arrangement of the rulers' palaces.

Secondly, the philosophy of cosmology was implemented in the formation of towns adopting Hindu principles. The capital of the kingdom symbolized a model of the micro-cosmos, which was a part of the whole totality (macro cosmos). This principle, which correlated strongly to the points of the compass, determined the spatial arrangement of the town facilities, their locations, orientation as well as hierarchy of facilities and the structure of each town<sup>3</sup>.

Thirdly, the morphological structure of the towns reflected the socio-economic segregation. There was always a border between the capital city or "*Kuta*" and the neighbouring smaller villages or "*Desa*".

Since it was believed that each town had its own 'world', meaning that each had its particular system and assumptions of micro and macro cosmos, the orders of spatial hierarchy, orientation and the structure differs from town to town. It depends firmly on status and location.

These early Indonesian towns developed and transformed along with more arrivals of overseas merchants. In this regard the formation overlaid or even superimposed the former ones and built the typology of Indonesian towns in this period. Not only were the

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<sup>3</sup> H. Hanan, 1996. P. 34 referred to Koentjaraningrat, 1995, P. 38-39.

influences of Hinduism and Buddhism dominant in this period, but also the succeeding rise and fall of the Islamic sultanates. Christianity, which came along with the Europeans, also has played a role in the formation of Indonesian towns although it was not so influential.

### **2.1.1. Hindu and Buddhist Towns**

The first city layer is considered to be established during the 8<sup>th</sup> – the 14<sup>th</sup> century<sup>4</sup> when the influence of Hinduism and Buddhism was becoming dominant. However, by the 5<sup>th</sup> century there were already trading relations between Indonesian kingdoms in one side and India and China in the other. In China and India, Budha and Hindu were two religions that were essential beliefs of the population. There were some different characteristics of Hindu and Buddhist terminology of city states. According to Hindu, temples are a manifestation of the concept of state, which was very hierarchical, and vertically oriented.<sup>5</sup> These states were mainly based on agriculture. The Buddhist on the contrary were based on trade and marine activities, and subsequently, mostly located along coastal areas, such as Sriwijaya kingdom in Sumatra. Since Buddhism lacked the concept of 'King as God' the great temples were hardly present in these states.

Many Hindu and Buddhist temples can still be found in central and eastern Java today. Unfortunately, there is no further evidence on whether the cities or towns in this period had distinct features, since most of the city structures in this era have lost their urban functions or completely disappeared (fig.2.2.). Nevertheless, there is a well-documented inland city in Indonesia that we can refer to as an example in regard to Hindu cities – the capital city of Majapahit in eastern Java, which appeared during the 14<sup>th</sup> century<sup>6</sup>. According to Pigeaud (1974), the city-state of Majapahit was not a walled-in-city, but composed of compounds separated by fields and board roads. The fields were utilized as public amenities, e.g. markets and places for communal gathering (fig. 2.3.).

The compounds consisted of several walled courtyards. The central courtyard was used by the master and his family. Most compounds were surrounded by houses of relatives and servants. The courtyards were planted with trees that gave the town an image of a great park, whose edges fused into the cultivated lands of the countryside<sup>7</sup>. The urban

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<sup>4</sup> J.L Cobban (1970) stated that the structure of urban settlement in Java Island was assumed to have arisen in the 7<sup>th</sup> century or 100 years earlier. It is alleged that such a structure was also used in the palace-city of Majapahit Kingdom and Hindu-Mataram in East Java. The lack of archaeological records and researches make it difficult, however, to ascertain when the establishment of the cities began.

<sup>5</sup> Siregar, 1990. P. 20. referred to Koentjaraningrat, 1981.

<sup>6</sup> De Graaf, Pigeaud, 1974.

<sup>7</sup> Siregar, 1991, after De Graaf, Pegeaud, 1974.



Source: personal sketch - resketched from existing

### Figure 2.1. : Map of Indonesia

Current territory of the archipelagic country – Indonesia.



Source: Wirjomartono, 1995.

### Figure 2.2. : The site of Ratu Boko Temple in Central Java

The ruins above show a city structure that is assumed as a centre of city state in the period of Hindu.



Source: B.F. van Leerdam, 1995.

### Figure 2.3. : Plan of Majapahit's City Centre

This Plan was made based on the hypothesis of a Dutch architect, Maclaine Pont, in 1926. It shows that Majapahit was not a walled-city, but a complex of compounds separated by fields and roads with gridiron structure and centralized orientation.

architecture of the capital city of Majapahit was seen by some anthropologists as the emergence of walled-architecture, since cities, especially the palaces of the rulers were surrounded by walls<sup>8</sup>. And because the structure of the city was stretched out rather than compact, western people who visited the Javanese capitals at that time recognized not much of the urban image in the early Indonesian or Javanese city-states during this development period. They perceived that the Javanese towns were merely as palaces of the rulers rather than capital of a state<sup>9</sup>.

Although the contemporary cities in Java are not really originated from the period of Hindu, some of the conceptual features used in this era can still be seen in the morphology of the *keraton* and the *alun-alun*. These two elements constantly appear among the most significant Javanese townscape today.

There are two palaces with respect to hierarchy. The *keraton*, which in general means palace, is a place for a *raja* (king) or *sultan*; whereas the palace for the local ruler or *bupati* (regent) is called *kabupaten*. Both have an *alun-alun* (square or the front yard of the palace), whose size depended on political and administrative hierarchy. The lower the rank of the ruler, the smaller would be its size.

In most Javanese towns the complex of the *keraton* or *kabupaten* with its *alun-alun*, were arranged in cosmological concept and orientation. Those elements also became the embryo of the urban setting. Since the Majapahit period, the North-south axis has been used as a basic pattern for the Javanese *keraton* and *kabupaten*. This is shown for example by the structure of the *keraton* Yogyakarta built in the mid-18<sup>th</sup> century, where the *keraton* faces north while the *kabupatens*, which are administratively and politically subordinate to the central power embraced by the ruler in the *keraton*, face south<sup>10</sup>.

The structure of this city also shows a concept of rectangularity in which the *alun-alun* stretches across the major roads and shapes the initial dimension of the town grids.

Besides those general morphological characteristics, some differences can also be found in other regions. In Priangan (West Java) for example the temples were not present and

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<sup>8</sup> Jo Santoso, 1981 mentioned the architecture of Majapahit era as the emergence of the wall-surrounded architecture.

<sup>9</sup> Evers, 1982. P.8.

<sup>10</sup> The layout of the *keraton* Yogyakarta and every part of it has symbolic meanings. The orientation of the *keraton* and *kabupatens* is also correlated with to the Javanese mythology such as the esteem to the Goddess of south sea, etc. See also Prijotomo, 1988 and Wiryomartono, 1995.

the *kabupatens* face north<sup>11</sup>. But the influence of Javanese towns was very obvious, particularly from the existence of the *alun-alun*.

The influence of Hinduism can also be seen in the recent traditional Balinese settlements, where the culture of this religion is still well preserved until now. Yet the typology of Balinese settlements varied widely and shows that there is no single typology but two major patterns; 1) a crossroad pattern used mostly in the flatland and villages, 2) and the linear one used in the highlands. The structure and elements of Balinese settlements are also always referred to in the natural and cosmological context.

The Balinese settlements have a close interrelation with the form of dwelling and the village. They are constructed by the set of temples, hamlet organization, kinship system, irrigation society, title distribution, etc.<sup>12</sup>. The basic residential unit is a walled housing compound, the so-called '*pekarangan*.' The houses are usually occupied by different kinds of families, from a simple nucleus family to an extended patri-family with three or more generations. The elements and layouts of each housing compound also depend on the *kasta* (caste) of the owner<sup>13</sup>.

### **2.1.2. Indonesian Towns in Islamic Phase**

The second layer is considered as the period of Islamic Kingdoms, which arose between 1400 and 1700, during which Islam was emerging as a major religion in Indonesia and spreading out through the dominions in the archipelago. The transformation of meanings, structures, systems, and functions of urban area appeared in this period along with the rise and fall of the Islamic Kingdoms in Indonesia (fig. 2.4.).

In the 15<sup>th</sup> century, the power of Islam became visible through the expansion of trade activities by the Muslim merchants from Arabia, Persia, Gujarat (India) who sailed through Malaka Strait. Thereafter, their power started replacing the earlier rulers particularly in the coastal area<sup>14</sup>. The Samudra Pasai Kingdom in the northern part of Sumatra Island was the first Islamic kingdom in Indonesia with approx. 20,000 inhabitants. Its port was considered to have the busiest trade activities in this region at that period. Later on the Javanese traders brought Islam to the whole archipelago. The influence of Islam spread

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<sup>11</sup> Some sources assumed that this opposite orientation refers to the opposing attitude against Javanese kingdoms, as before the Dutch intervention this region had been under the sovereignty of Mataram Kingdom (Central Java) for about 50 years.

<sup>12</sup> Siregar 1990. See also Geertz, 1959. P.998.

<sup>13</sup> There are four main castes in Hindu-Balinese society referring to the Indian-Hinduism. The following castes are revealed on the hierarchy from the highest to the lowest; *Brahman* (the priest and his family), *Satria* (the royal families), *Waisa* (the workers and farmers) and *Sudra* (ordinary people).

<sup>14</sup> Tjandrasasmita, 1978. P.155.

out fast and peacefully like it did in other South East Asian countries. It was easily accepted by the local culture and society since Islamic lessons and their concepts of egalitarianism drove out social segregation. The local traditions also kept on moving smoothly as hybrid and synthesis with the Islamic culture.

In Java, the Hindu-Javanese empires were completely defeated in the early 16<sup>th</sup> century. When the Hindu-Majapahit weakened and collapsed at the end of the 15<sup>th</sup> century, the Muslims began to build villages along the northern coast of this island and started to dominate this area. The great influences of Islam first appeared in the establishment of coastal cities such as Gresik, Tuban, and Surabaya (Ngampel) in East Java<sup>15</sup>.

In the northern part of Central Java, Demak emerged as the first Islamic kingdom in this area, although later on the political power shifted to the hinterland when Mataram came onto the scene as the greatest Islamic kingdom in the 16<sup>th</sup> century. The Hindu Pajajaran in Priangan area (West Java) was also conquered by the Sultanate of Banten, and the harbour towns like Cirebon, Banten and Sunda Kelapa (Jakarta) were completely ruled by the Muslims from the beginning of the 16<sup>th</sup> century.

Although the building and planning order were transformed by this new domination of Islamic culture, the main form of the Javanese towns was not destroyed. In this period, not many new towns were created. However, through the intensive shift of power, more existing settlements adapted to the transforming situation. Regarding the built environment, the basic lines of the former city structures was persevered and even now can still be found among others in the basic principles of the Javanese *keraton* and its housing units<sup>16</sup>. Although in this case, the town structure also allowed the existence of a mosque, the orientation order of the pre-Islamic era, with the dominance of the north-south axis, was still used as a principle for the town layout. The position and function of the *alun-alun*, *keraton*, and the market as well were unchanged; meanwhile the mosque would be placed integrally inside this structure. However, to some extent there were some essential changes of architectural characteristics, i.e. the Hindu-Javanese and those in the Islamic era. The most essential one is the disappearance of sacred buildings such as temples built of solid materials like stones and brick<sup>17</sup>.

Thus, the new significant element which appeared in the Islamic-Java cities was the mosque. In line with the *qibla*<sup>18</sup>, the location of the mosque used to be in the western site

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<sup>15</sup> R.G. Gill, 1995. P.128–132.

<sup>16</sup> Jo-Santoso, 1981. P.23.

<sup>17</sup> These architectural characteristics appeared a lot in mosques in East Java. See also Pont, 1923. P.123.

<sup>18</sup> The *qibla* is the orientation of the mosque towards the Kaaba in Mecca.

of the *alun-alun*. This principle often caused a slight turn of the mosque building on the site or adjustment towards the interior (fig. 2.5.). The areas in the backside of the mosques were usually occupied by the Muslims and they shaped enclaves called *Kauman* (in Central and East Java) or *Dalem Kaum* in West Java (fig. 2.6.) (fig. 2.7.).

In this phase, the appearance of enclaves of settlements based on ethnic group or nationality, religion, and craftsmanship; for example the *Pecinan* (Chinese enclave), *Pekojan* (Indian enclave), *Kauman* (Moslem enclave), *Ksatrian* (noblemen enclave), *Kepatihan* (the enclave for civil servants), etc., also initially emerged in the centre of kingdoms<sup>19</sup>.

### **2.1.3. The Towns with the Influence of Christianity**

The Portuguese were the first Europeans to introduce Christianity. They came to Indonesia in the early 15<sup>th</sup> century. The influence of the Europeans was not so strong in the early development of Indonesian towns. Somehow the zoning system of Indonesian towns was differentiated, especially with the appearance of churches as one of the main facilities introduced by the Europeans. The sites of the churches were always located near the European quarters, on the outskirts of the *keraton* and the *alun-alun* complexes. Moreover, those quarters even became the prestigious parts of the town. The European urban townscape is shown more defined in some cities which did not implement the concept of *alun-alun* and *keraton*, and where the number of Christians is dominant such as in Batak, Manado, and Ambon.

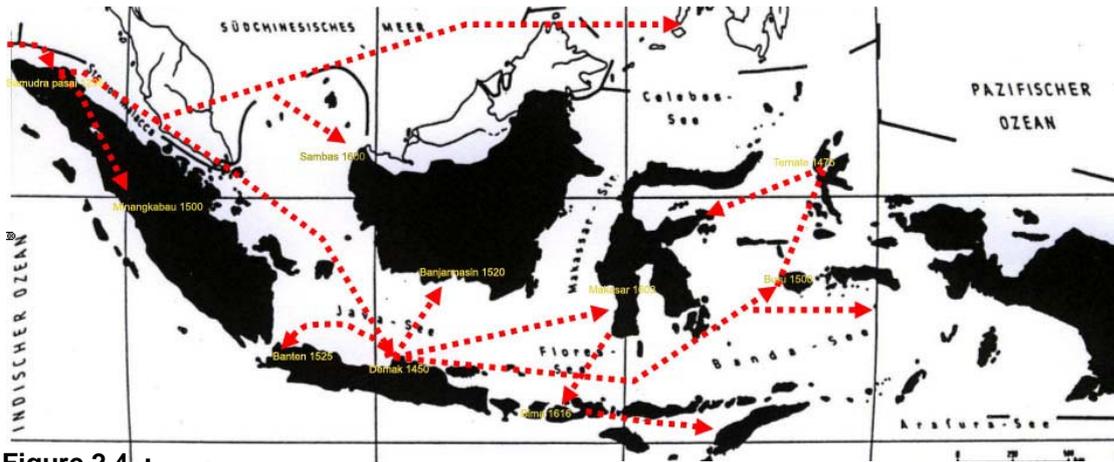
### **2.1.4. The Ethnic Formation**

Indonesia has a wide range of ethnic diversity. There are around 400 ethnic groups with their own cultural identity<sup>20</sup>. There are two terms of ethnicity: the internal, which originated from Indonesian ethnic groups (i.e. Javanese, Balinese, Minang, Batak, Timor, etc., fig. 2.8., fig. 2.9.), and the external, whose ancestors came from outside the archipelago and became Indonesian citizens (i.e. Chinese, Arabian, Indian, etc.). Each ethnic group usually has a homogeneous home territory in one or another island. For example, the West Java where Bandung is located, is a home territory of the Sundanese. But the largest of these ethnic groups in Indonesia is Javanese. The acculturation process has also been practiced among these ethnic groups.

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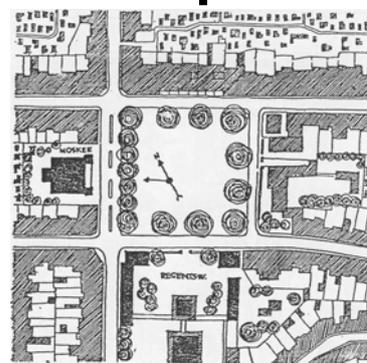
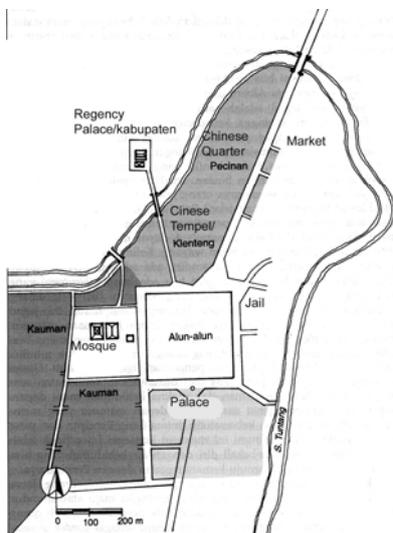
<sup>19</sup> See Tjandrasasmita, 1978. P.158.

<sup>20</sup> *Koninklijk Instituut voor de Tropen*, 1981. Nr.1.



**Figure 2.4. :**  
**The Spreading of Islam in Indonesia**

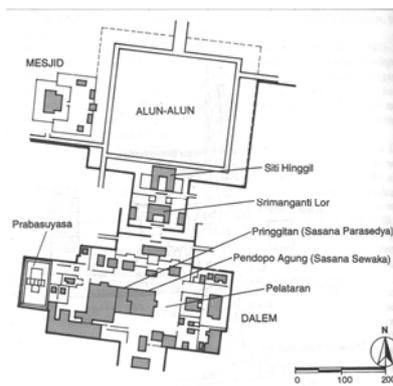
Source: personal sketch, resketched from Palte, 1975.



Source: Thomas Nix, 1948.

**Figure 2.5. :**  
**A Typology of Islam Javanese City centre**

The city centre were mainly composed of *Alun-alun* (square), Mosque, and the Palace (residence of the rulers)



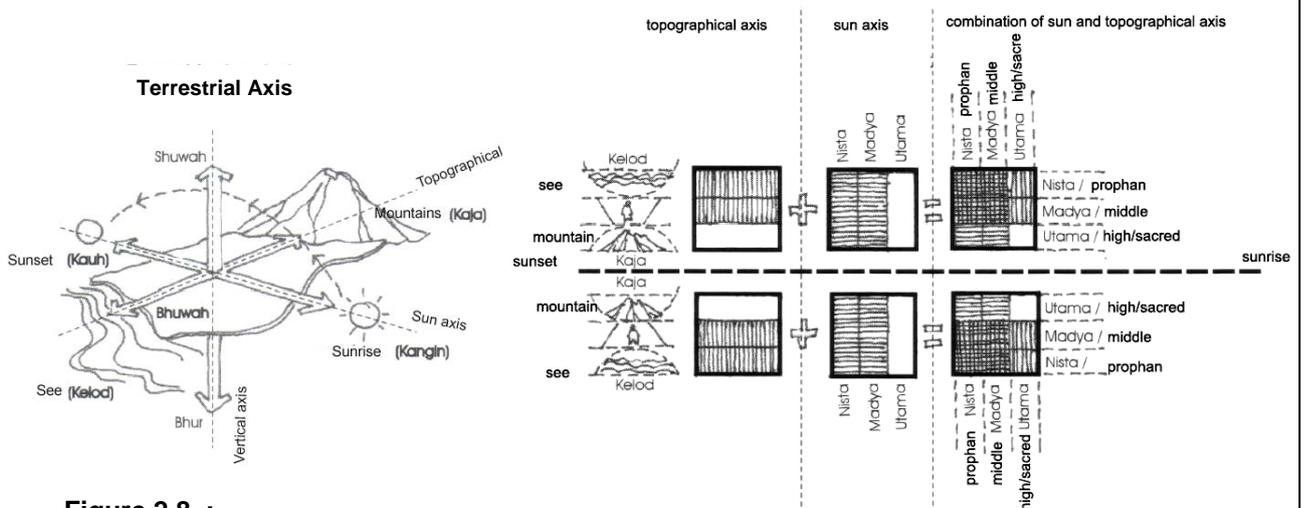
Source: Wirjomartono, 1995.

**Figure 2.6. :**  
**A City Centre of Javanese Islamic City-State of Demak**



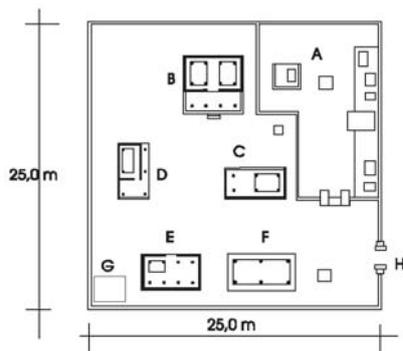
Source: Siregar, 1990.

**Figure 2.7. :**  
**A City Centre of Javanese Islamic City-State of Cirebon**

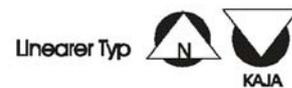
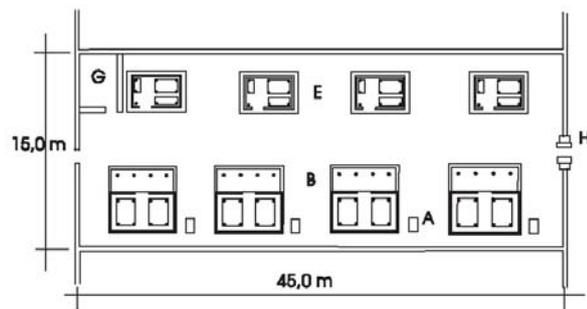


**Figure 2.8. :**  
**Vertical and Terrestrial Axis of the**  
**Structure of Balinese Traditional Town**

Source: Personal Documentation - resketched based on Pribadi, Oka Sindu. I.G, 2001.



Source: Aryatama, 1999.



**Legend:**

- A : Pamerajan/Sangah (Family temple)
- B : Uma meten/Bale daja (Parent'house/sleeping pavilion)
- C : Sumanggon/Bale dangin (Family house/east pavilion)
- D : Bale Dauh (Guest room/ west pavilion)
- E : Paon (kitchen)
- F : Jineng (rice barn)
- G : Kandang (pig stall)
- H : Kori (entrance gate)



Source: Pribadi, Oka Sindu.,I.G. ,2001.

**Figure 2.9. :**  
**Typology of Balinese Houses**

In the colonial era, especially during the period of occupation of the Dutch, these ethnic groups were clearly differentiated. The Dutch used their distinctions as one of their political strategies. The Dutch also set apart among groups and settlements and this clearly appeared in the morphology of the cities<sup>21</sup>, even although before the Dutch era these ethnic groups had already settled in the quarters based on their ethnicity.

### **The Chinese Quarter (*Pecinan*)**

Historically, the contact between the Indonesian and the Chinese has been in existence since the Chinese settled in Indonesia in the 5<sup>th</sup> century<sup>22</sup>. Many Chinese traders had already settled in the northern coastal area and contributed to the development of the harbour towns in the 14<sup>th</sup> century as the Majapahit Kingdom reached the crest of its supremacy. Some of the Chinese traders even took part in the spreading of Islam in Java in the 15<sup>th</sup> century<sup>23</sup>.

The relationship between the Chinese and the natives and other foreign communities in Indonesia has had its ups and downs. During the Dutch colonial era, the activities of the Chinese community were restricted, particularly after the Dutch considered the Chinese as their main rival in trade and other economic activities in their colony<sup>24</sup>. For example in the Priangan (West Java) region, the Dutch prohibited the Chinese from travelling to certain areas in order to protect their system of monopoly. This affected the form of their settlements. For the same reason, the Chinese were only allowed to reside in a special quarter commonly known as China Camp or *Pecinan*. The presence of the Chinese was not equally distributed from town to town. In some cities, the size of these quarters, like in Semarang and Jakarta, was considered large and almost formed a homogeneous district. In the Priangan (West Java) region, including Bandung, these quarters were less homogeneous compared to those in other regions due to the restriction of the Dutch colonial government. This made this area to be the last location where the Chinese entered<sup>25</sup>.

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<sup>21</sup> In Batavia for example, the Dutch made a distinction regarding ethnic groups between Javanese and non-Javanese and between natives and other far-eastern ethnic groups. There were native ethnic quarters now known as kampong, like the Kampong Jawa, Kampong Bugis, Kampung Bali, Kampung Melayu etc. All are based on their ethnicity. Just like the foreign quarters of the Chinese who resided in the *Pecinan*, or the *Pekojan* for the Indian, Kampong Arab for Arabian, etc.

<sup>22</sup> Van Reenen, 1981. P.23.

<sup>23</sup> Carey, 1986. P.15.

<sup>24</sup> In the first century of their colonial presence the Dutch in fact still encouraged Chinese trade activities. The pressures on this community even led to a Chinese rebellion in Batavia in 1740. See also Wirjomartono, 1995. P.103.

<sup>25</sup> See also Jackson, 1975. P.47-51.

The Chinese quarters were mainly associated to the trade activities and were always located in the centre or along the major axes of the town structure. The houses and buildings were usually built in Chinese architectural style. Most of these quarters were also considered as the densest area of the city with very narrow streets, alleys, house modules. There was hardly any space for landscape in the whole district, which limited possibilities of expansion<sup>26</sup>. Temples were one of the most important elements of Chinese quarters. They were usually located in the axis of the streets and reinforced the coherent urban character of the *Pecinan*<sup>27</sup> (fig. 2.10.), (fig. 2.11.).

### **Other Ethnic Elements: Arabian and Indian Quarters**

The presence of the Arabs in Indonesia is not as prominent as those of the Chinese. Their existence did not go along with the spreading of Islam. However, some quarters with Arabian origin can be found in coastal areas such as Surabaya (East Java) and Pekalongan (Central Java). The Arabs used to reside at the backside of a mosque and near the trade quarters.

Regarding the Indian quarters, there are only a few cities that are known to have a significant population of Indian communities. Compared to neighbouring countries such as Malaysia and Singapore, the Indian population that remained in Indonesian towns is much smaller. The most substantial population can be found in Medan (North Sumatera), in Indian quarters known as *Kampung India* or in another town called *Kampung Keling*.

### **2.1.5. The Coastal and Inland Cities**

The coastal cities generally prospered due to their advantageous geographical location for the overseas traders to build harbours<sup>28</sup>. In comparison to the inland cities, the coastal cities developed more rapidly and dynamically. They have more heterogenic characteristics due to their function as 'meeting place' and at the same time as 'confluence point' of people from different areas and cultures<sup>29</sup>.

The obvious morphological character of these cities is the clear spatial segregation that is based on the social-ethnic aspect of the inhabitants<sup>30</sup>. The heterogeneity of each ethnic group can be easily seen in the form and shape of their quarters (fig. 2.12.). Although the

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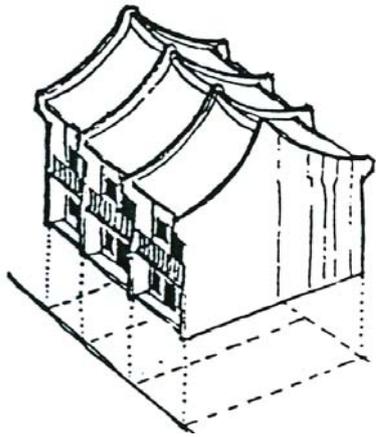
<sup>26</sup> In addition Willmott, 1960. P.12 also described that the streets in Chinese quarters are related to the shop house module, which is used as a basic physical parcel unit.

<sup>27</sup> Widodo, 1988.

<sup>28</sup> Van Leur (1955) mentioned it as one of the 'harbours principalities'. It was used by the sailors/traders as a tool to define the location that relied on economic principles.

<sup>29</sup> Nas, P.J.M., 1986. P. 23.

<sup>30</sup> Mc.Gee, 1967. P.35.



**Figure 2.10. :**  
**Typology of Chinese Temple and**  
**Shop-house**

Source: Personal documentation - resketched from Siregar, 1990.



Source: KITLV – Leiden.

**Legend:**

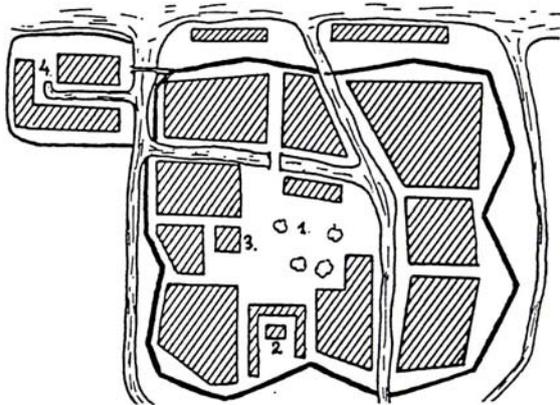
1. Alun-alun (City Square)
2. Train Station
3. Great post road
4. Pasar Baru (new market)
5. Suniaradja
6. Citepus
7. Pasar Andir (Andir Market)



Bandung 1933

Source: van Diesen, 1989.

**Figure 2.11:**  
**Chinese Quarter in Bandung**

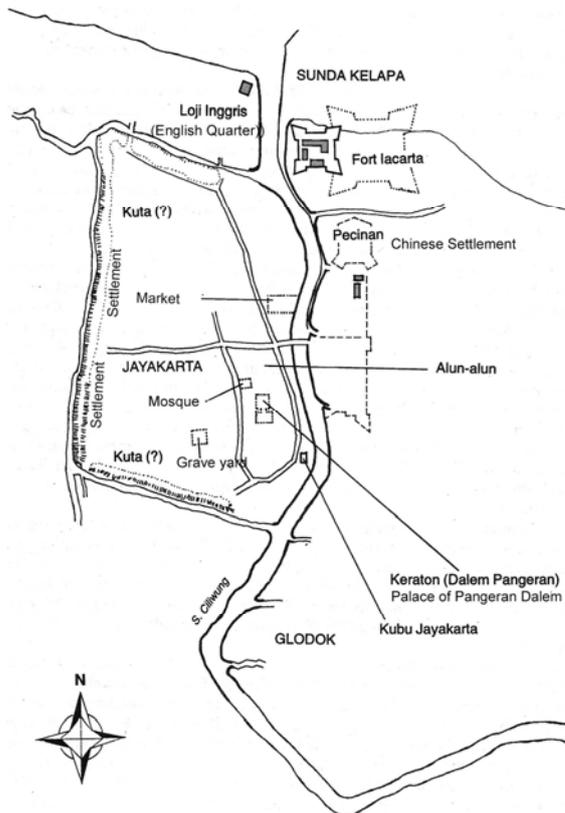


**Legend:**

1. Alun-alun (City Square)
2. Mosque
3. Keraton (palace)
4. Chinese quarter

**Figure 2.12 :**  
**The Morphology of Costal City of**  
**Banten in 16<sup>th</sup> Century**

Source: Lehman. 1936.



**Figure 2.13 :**  
**The Morphology Costal City of Jayakarta**  
**in 1618**

Source: Personal sketch - resketched from Van Diesen, 1989.

situation in such areas is very dynamic, the general pattern of traditional cities can still be observed. For example, the morphological structure was dominated by the living quarters of the prince (*keraton*) (fig. 2.13.). It used to be kept separate from the rest of the mercantile town and was built according to particular rules. The big market in this case used to be mostly situated outside of the core of the town, or sometimes there was more than one market.

The inland cities were found mostly in Java, and were also city-states in form. Besides agriculture as the main resource, the inland cities also had trade relations with the coastal area. Nevertheless, unlike the coastal cities, the inland cities were less dynamic due their geographical-spatial structure and their orientation towards agricultural sectors. The tradition and religion in these cities (in this case Hindu and Buddhist) were also relatively stronger than those in the coastal cities. The way of thinking was dominated by a cosmological frame of reference that was expressed in the ordering of agriculture cities. The inland cities sometimes also became religious centers, as most of them laid the sacred elements in their culture.

The inland cities were founded by the princes through divination, although in some cases the economic and strategic consideration also played a role. The princes also had the major responsibility of defining the site of the town, layout and its extension<sup>31</sup>. The gradient from the centre to the periphery related to prestige and power. The major elements of the morphological structure were the palace, temples, and living quarters of the various ranks of populations. The model of the *keraton*-town was also applied in these cities (fig. 2.14.). However, what makes it different from the coastal cities is the layout. McGee (1967) described that such cities showed a pattern of concentric circles reproducing cosmological heaven. The core was formed by the palace or important temples, surrounded by the dwellings of the aristocracy and religious leader (fig. 2.15.), (fig. 2.16.). The foreign traders and the poor were situated outside of the city core, in quarters which lent the name of craftsmen. The farming population inhabited the outer circle or countryside.

## **2.2. The Colonial Towns**

The genetic-history of Indonesian cities under the western influence can be divided into two phases:

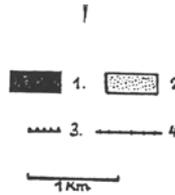
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<sup>31</sup> Wertheim, 1951. P.21.



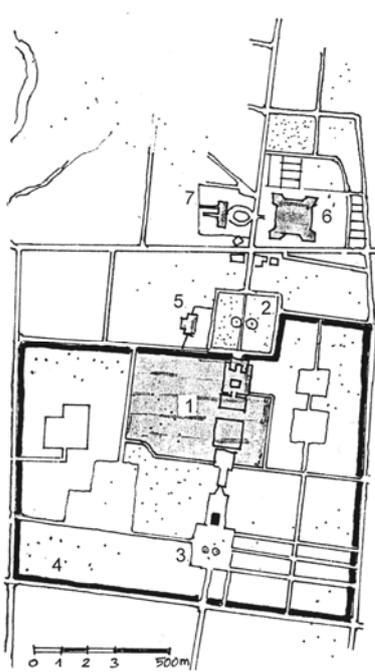
**Legend:**

- 1. Complex with permanent buildings
- 2. *Kampongs*
- 3. The wall of *Keraton* (palace)
- 4. Train railway



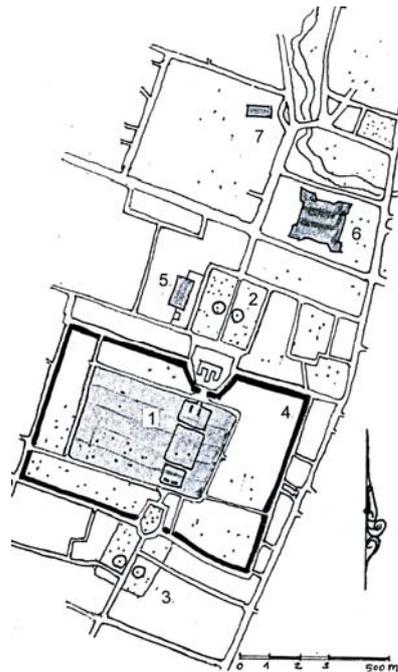
Source: Lehman, 1936.

**Figure 2.14 :**  
**Map of Yogyakarta – the Morphology of Inland City**



Source: Resketched from Lehman, 1936.

**Figure 2.15. : Yogyakarta – the Morphology of Inland City**



Source: Resketched from Lehman, 1936.

**Figure 2.16 : Surakarta – the Morphology of Inland City**

**Legend:**

- 1. Keraton (palace) complex
- 2. Northern *Alun-alun*
- 3. Southern *Alun-alun*
- 4. Walls
- 5. Mosque
- 6. Jail
- 7. Resident

1. The early colonial phase is the third layer of the development of Indonesian cities. This phase arose from the 16<sup>th</sup> until the 18<sup>th</sup> century with the influence of the occupation of colonial powers. This period is also called the early colonial period or European commercialism. The Dutch were not the only influence in the formation of cities in this period but also the Portuguese and British. Although their occupation was for a relatively short period, the British and Portuguese left some marks that characterized the structure and the architectural elements of Indonesian cities. Cities in this period were not only developed in the coastal area but the colonial authority also extended to the smaller towns into the inland to stimulate development in areas that initially functioned as small trading towns. In the same period the colonial government also started building transportation infrastructure such as railways and roads to connect the new inland towns and cities.
2. The fourth layer, the so-called late colonial period, began from 1800. It brought forth cities and towns which were characterized by the industrial-economic circumstances. Most of the cities in this period arose from small trade or acted as transit towns. Others were developed from the establishment of new plantations or plants for raw materials such as mine products, new port facilities including those for the industry and military, as well as government facilities.

### **2.2.1. The Phase of Commercialism and the Dutch Influences on the Traditional Town**

Portuguese are recorded as the first Europeans who came to Indonesia through their trade activities and missions through Malacca Strait. Their first arrival in 1498 was one century earlier than those of the Dutch, who docked their first ship at the end of the 16<sup>th</sup> century in Banten harbour - West Java. The Portuguese later ruled Malacca. Nevertheless, their influence on the structure of the towns on Malacca's neighbouring islands was not as prominent as the main intention of the Europeans' establishment of new towns in this phase was mainly to control the traffic of the sea trade in the South-east Asian region.

Along with the industrial revolution in the European countries in the mid-18<sup>th</sup> century, efforts to look for any possibility for resources of raw materials to support the industry's activities were escalating. The urge to gain more profits from trade activities was increasing as well. This led to the desire to steer political and economic domination in

foreign countries by changing the status of trade cities and strategic sites, like harbour cities, plantations and mining areas into colonies<sup>32</sup>.

In Indonesia, the Dutch performed the strongest influence of this colonialism. They also established their trade organization among the traders called V.O.C.<sup>33</sup>, which later led the Dutch government to expand its authority. The embryo of the Dutch cities emerged when the Dutch started building settlements in Batavia soon after their first arrival. In 1618 they started constructing a small fort at the east bank of Ciliwung River from where they attacked and completely conquered Jayakarta (the existing native town in this area) in 1619. The first fort's wall facing the sea in the northern part was later expanded to the southern part of the city. During the 17<sup>th</sup> and 18<sup>th</sup> century the town was completely surrounded by the walls. This fortress was also developed by building the '*Kasteel van Batavia*' - also famous as Fort 'Jakarta'. The designs of the buildings in this period were mostly adopted from European countries. The Batavia Castle was inspired from the castle of Herzog Willem van Gulik in 1538<sup>34</sup>, which was designed by architects Wilhelm Gompert from Welldorf and the Italian Alessandro Pasqualini from Bologna. The other significant feature in this city was a canal network. Besides their utilization as trade means, the building of canals was considered to follow the '*Hollandese*' tradition of managing marshy land and its low laying nature in their motherland<sup>35</sup>. It therefore assumed that Batavia was built copying the model of the city of Amsterdam. The Dutch always sited the non-Dutch settlements, which used to be zoned ethnically, at the outskirts of the new city (fig. 2.17.), (fig. 2.18.).

Only a few towns in Indonesia retained their structure after the arrival of the Dutch. Most of the urban centres existing today were initially developed in the colonial era, although some were initially built by native rulers. Generally, the Dutch determined and developed their settlements soon after establishing their dominance. In later stages, they re-arranged the native towns by putting up fortresses, trade offices, government buildings, houses, and other supporting facilities in strategic locations (fig. 2.19.). These elements were sometimes completely built in vacant area. However, in many cases the existing traditional urban structure was infilled or the new elements were superimposed upon it.

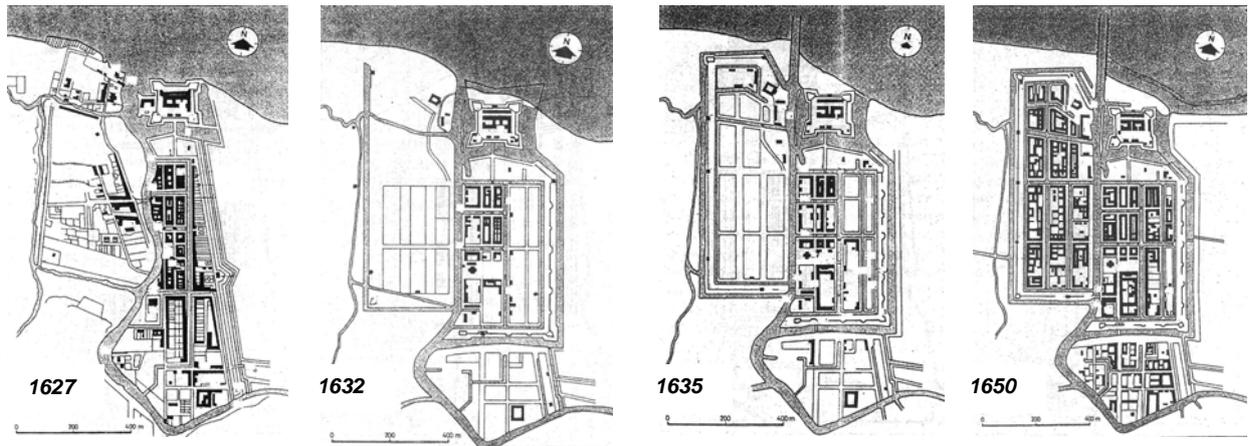
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<sup>32</sup> See H.Kunto, 1984.

<sup>33</sup> V.O.C. (*Vereinigde Ost Indische Compagnie*) was found in 1602. This trade organization handled and controlled the trade monopoly through territorial occupations of strategic locations of trade activities and raw material resources. This organization was dismissed on 1<sup>st</sup> of January 1800 due to corruption and deprived mismanagement. See also M.C. Ricklefs, 1981. P.106.

<sup>34</sup> Wirjomartono, 1995. P.100.

<sup>35</sup> The canals network appeared mostly in the coastal cities, like Jakarta, Surabaya, and Semarang. Its initial function was to transport raw materials from the hinterland to the seaports. The existence of canals generated the development of settlements dominated by the Chinese and Dutch traders along their lanes.



Source: Van Diesen, 1989.

Figure 2.17. : The Transformation of Morphology of the Colonial City - Batavia



Source: Tresling & Co. Amsterdam.

Figure 2.18 : Morphology of Colonial City of Surabaya



**Fortress**



**Churches**



**Commercial Buildings: Shop Houses, Shopping Center, Market, and Hotel**



**Military Facilities: Military Headquarters, Jail, and Military Office**

*Sources : KILTV – Leiden, Siregar, 1990, Budihardjo, 1997, and personal documentations/sketches.*

**Figure 2.19 : The Building Typology of the Early Colonial Phase**

This mostly applied to the *kabupaten* level, since the *keratons* had a stronger rigidity of authority and power. The typo-morphology of the *kabupatens* in Javanese towns in the colonial era can be seen from the blending of both the native and Dutch elements in the core of the town<sup>36</sup>. The Dutch elements, particularly the ‘Assistent Resident’<sup>37</sup> house and office buildings, can be easily found alongside the *alun-alun*, the *kabupaten* (the place of the local ruler), the houses of the higher native authorities, the market and the prison (fig. 2. 20.), (fig. 2.21.).

### 2.2.2. The Late Phase of Colonialism

The Dutch started to develop an autonomous administration for cities in Indonesia in the early 17th century<sup>38</sup>. At the beginning of the 20<sup>th</sup> century, the Dutch colonists living in cities and towns outside of Batavia began to strive for a degree of municipal self-government comparable to the institutions in their homeland.

#### Decentralization Policy

This new political issue demonstratively surfaced after the Queen’s message of “Ethical-Politic”<sup>39</sup> regarding the government of the colonies, which was introduced into the Dutch parliament. The main idea of this policy was humanitarian. It obliged the colonial government to give more attention to the improvement of the local community both in social and economic terms.

Some of the practices by the Dutch government in Indonesia were: improvement of health standards and facilities (including improvement of the water provision and city utility system); development of the education system and infrastructure; and the implementation of decentralization in the governmental / political system<sup>40</sup>.

The decentralization law made it possible to establish ‘*gemeente*’ or municipalities after 1905<sup>41</sup>. After this reform, the development of towns and cities pertaining to urbanization speeded up. In fact, the right of autonomy or city self-government that was the intention for developing the political sector, implemented merely in the European quarters, whereas the native quarters remained under the “*Inlandische-Gemeente*” set of laws. The

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<sup>36</sup> Analyzed from some documents and maps the Dutch fortress and other elements used to be built separately from the nucleus of traditional towns. See also P.J.M. Nas, 1997.

<sup>37</sup> ‘Assistent-Resident’ is the representative of the Dutch government who is at the same level like the *Bupati* (the ruler / chief of the *kabupaten*/regency).

<sup>38</sup> Milone, 1966. P.15.

<sup>39</sup> C.Th. van Deventer, a reputable lawyer, is the author of a publication titled ‘Debt of Honour’ in Dutch Journal *de Gids* in 1899. He was also one of the keen proponents of ethical politic.

<sup>40</sup> Wertheim, 1956.

<sup>41</sup> W.D. Mc Taggart, 1976. P.61.



**Formal Buildings – Private Offices and Governmental Buildings**



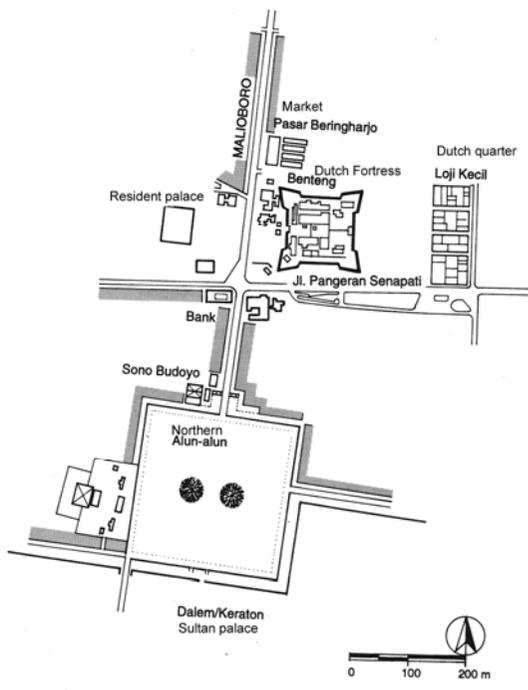
**Public Facilities / Amenities: School, Hospital, Club House (*Societeit*), Train Station**



**European Villa / Big Type Residences**

Sources: KILTV – Leiden, Siregar, 1990. Budihardjo, 1997.

**Figure 2.20 : Building Typology of the Early Colonial Phase**

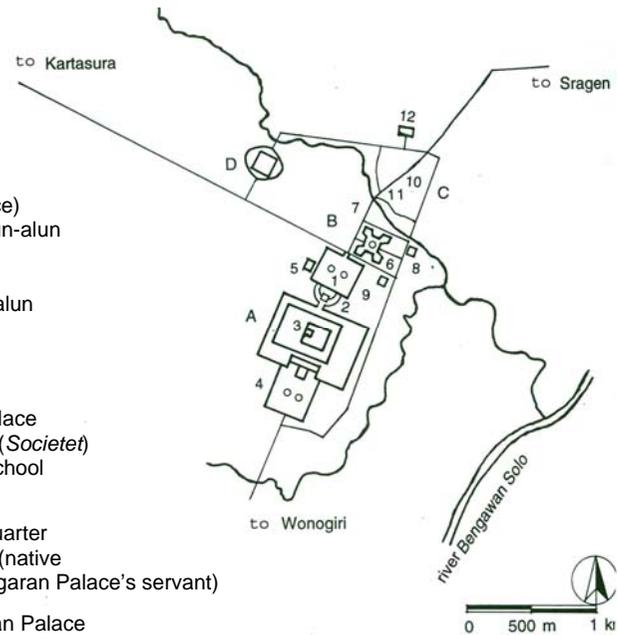


Source: re-sketched from Wirjomartono, 1995.

**Figure 2.21 :**  
**The Dutch Elements in the Traditional Town Structure in Yogyakarta**

**Legend:**

- A. Keraton (Palace)
  - 1. Northern alun-alun
  - 2. Siti Hinggil
  - 3. Kedhaton
  - 4. South alun-alun
  - 5. Mosque
- B. Fortress
  - 6. Fort
  - 7. Resident palace
  - 8. Club house (*Societet*)
  - 9. European school
- C. Outer Quarter
  - 10. Chinese quarter
  - 11. Kepatihan (native Mangkunegaran Palace's servant)
- D. Mangkunegaran Palace



Source: re-sketched from Wirjomartono, 1995.

**Figure 2.22 :**  
**The Dutch Elements in the Traditional Town Structure in Surakarta**

Dutch role in Indonesian town development became more critical as these municipal towns even became controlled by the Dutch. This situation also brought 'dualism' to the city both in its management and spatial aspect.

### **'Indische' or 'Mestizo' Culture**

Along with their new orientation of building and planning culture in the 19<sup>th</sup> century, the Dutch influence also brought a new lifestyle into the Indonesian cities and its society, the so-called '*Mestizo*' or mixed-culture. This culture existed not only among the Dutch but also within the Javanese noblemen society. The word '*Indisch*' was uttered by Wertheim to term the 'Indo-European' products fashioned by this phenomenon<sup>42</sup>. This way of life influenced the form and development of Indonesian cities and urban houses during this phase.

In the case of the city structure, its nucleus represented Indonesian and Dutch ambience. The term '*Indische*' town or city was used to describe this part of the city where the *alun-alun*, palace, mosque, the natives' dwelling quarters, the Chinese settlements, and the Dutch facilities were located. Later, a new type of dwelling commonly known as '*indische huis*' appeared as a part of this lifestyle. These housing types used European and traditional structural and architectural elements as the result of acculturation, which proceeded under the colonial atmosphere (fig. 2.22.).

The '*mestizo*' culture showed a reflection of social transformation in the society during this era. However, the influence of the Dutch that was mostly exerted by its wealthy part, that preferred to keep holding and maintaining contact with its motherland, left a big mark on the local culture. The facilities they built in the earlier phase of this period were close copies of western models and prototypes found in their home country. They even brought the bourgeois culture. In general, the development in this early stage was led by the well-off and feudal society, while it was gradually followed by the rest of the urban society.

### **The '*Uitbreidingsplan*' (City Extension Plan), '*Kleinwoningnouwvolkshusingvesting*' (Small-Social Public Housing), and the '*Kampong-Verbetering*' (Improvement) Programs**

To give a real picture of the particular situation in the Indonesian big cities in this period, Karsten described that after 1890 the number of the urban population rapidly increased as a consequence of the growth of agrarian-capitalism<sup>43</sup>. Cities like Jakarta, Semarang,

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<sup>42</sup> W.F.Wertheim, 1956. P.171, See also P.J.M. Nas, 1986. P.6.

<sup>43</sup> T.Karsten, 1938. P.224 and see also W.F. Wertheim, 1958. P.vii.

Surabaya, and Bandung were forced to build more facilities such as government and trade offices, banks, workshops, as well as facilities for industry and manufacture. Therefore, the demand for housing provision and its facilities became higher to accommodate the growing number of employees. As a result, some of the existing quarters were densified, and this caused not only physical problems both in spatial and building order, but also conflicted the interests of different groups. This situation was a disadvantage for local people as they were not equipped socially and mentally to cope with and take part in such a transformation. Moreover, the provisions and the betterment of public infrastructures and social facilities by the urban improvement programs were simply focused on the interests of the colonial society and neglected the natives. The hygienic conditions of the native settlements in the old city especially in the coastal area, was worse compared to the Dutch settlements that were always well-maintained. Yet, this was gradually followed by the degradation of other ethnic settlements (i.e. those of the Arabs and the Chinese). This situation kept going on until the early 20<sup>th</sup> century and lead to a chaotic city management and spatial disorder.

Actions to improve this situation were taken by the Dutch government by expanding the cities to have more adequate settlements, by improvements and renewal, and by implementing small housing programs for the lower level of income<sup>44</sup>. These actions were supported by the extension of train networks especially in Java, allowing an easier access to hinterland areas<sup>45</sup>.

In this period, the establishment of new European quarters in big cities such as Jakarta (Menteng area), Bandung (North Bandung), Bogor, Semarang, etc., was considered to be the largest influence compared to those in other phases (fig. 2.23.), (fig. 2.24.). The town hall and city parks emerged as new urban features and resulted in shaping urban articulations. However, such plans are not similar to the colonial type of town development found in the British or French colonies, where the new European and the old native or traditional elements were often radically separated and created dichotomy. In Indonesia, the European quarters in their design still refer to the existing old town, eventually completed with new urban accents.

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<sup>44</sup> H.Kunto, 1984. P.162 and 232.

<sup>45</sup> The train lanes were built to connect the cities on the east and on the west part of Java Island. The train connection from Jakarta to Bandung was completely opened on 17<sup>th</sup> of May 1884, and in 1920 the network finally connected important cities in Java. The construction from west to east along the northern coastal areas of Java created a ribbon development that has remained until now and has hugely influenced the later development of Javanese cities in this region.

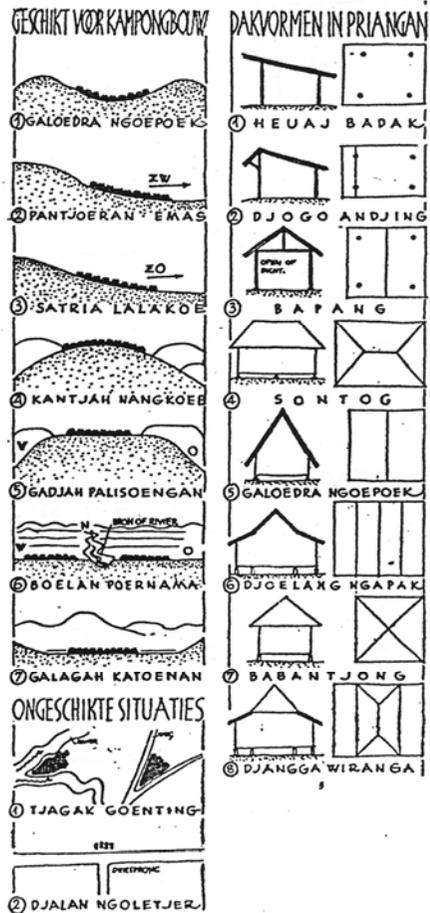


Fig. 117. Soendase woningbouw. Traditionele dakvormen met benaming. Situaties welke geschikt dan wel ongeschikt geoordeeld worden voor het aanleggen van een kampong; elke situatie heeft haar typerende benaming.

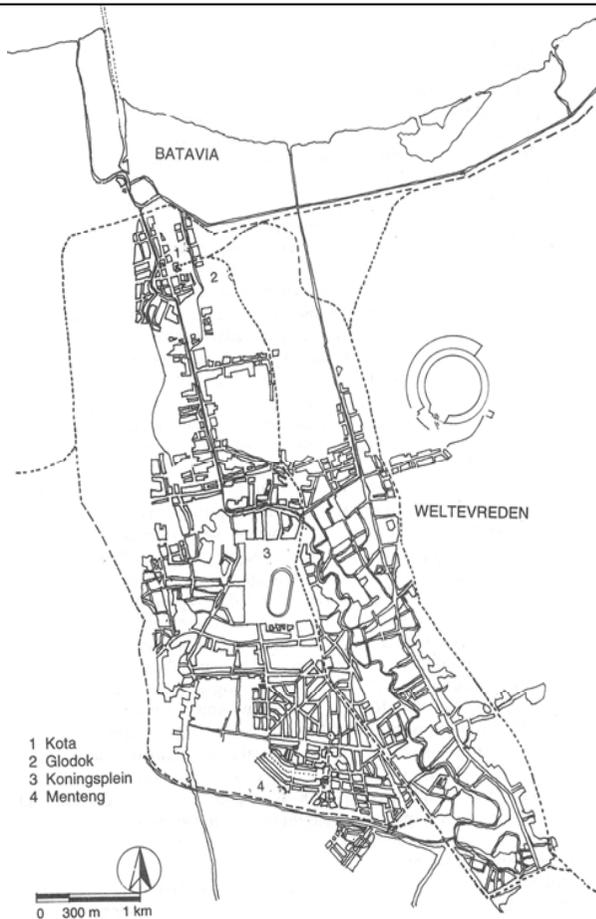
Source: Thomas Nix, 1948.

**Figure 2.23 :**  
**Building Typology of the**  
**'Mestizo' Culture**



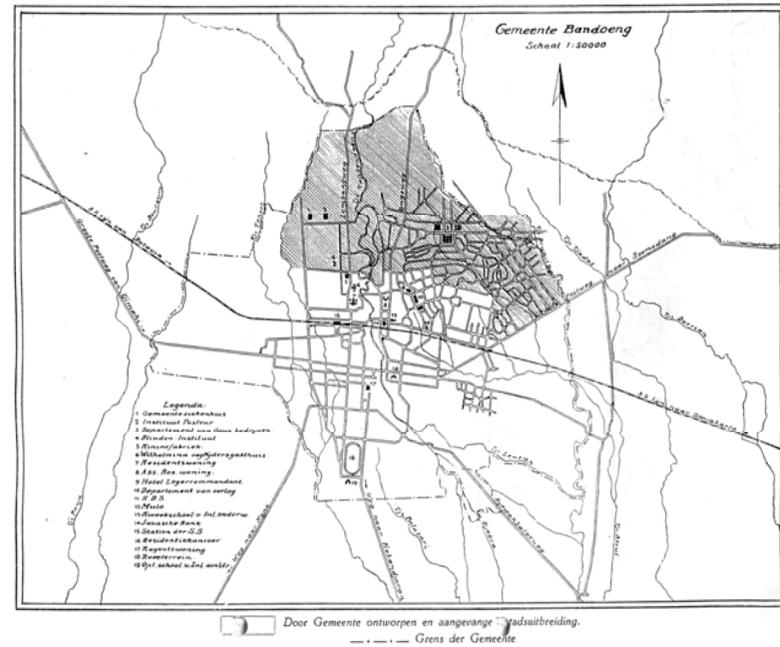
Sources: KILTV – Leiden, personal documentations.

Mosques, churches, official buildings, public facilities (schools and hospitals), and private houses above show a harmonious mixture of the European and local architecture, which is called 'indisch - mestizo' architecture.



Source: Wirjomartono, 1995.

**Figure 2.24. :**  
**The Expansion Plan of Colonial City of Batavia – Weltevreden**



Source: Gemeente Bandung, 1918.

**Figure 2.25 :**  
**The Expansion Plan of Colonial City of the North Bandung**

In the 1920's the '*kleinwoningbouw/volkshuisingvesting*' or the small-social housing program for the lower income class arose in conjunction with seminars about this matter in Bandung and Semarang (fig. 2.25.), (fig. 2.26.). It was a result of political circumstances at that time both from the Dutch and the native side. The intention of this program was to provide more adequate housing units (fig. 2.27. and 2.28.), which fulfilled the minimum standard of hygiene and were accessible to all income levels<sup>46</sup>. Regarding the condition of native settlements that emerged from the '*dualism*' mentioned before, some local and city governments also launched the '*kampong-verbetering*' (kampong improvement) program. Nevertheless, such programs were not integrated into the development of the colonial cities as a whole.

### **2.2.3. The Principles of the '*Indische*' Urban Planning and Contribution to the Development of Indonesian Cities**

Town planning was a new idea in Indonesia as can be seen in the development of many old cities particularly in Java. However, the foundation and the practice of modern urban planning in Indonesia was initially introduced and developed by the Dutch, as per their principles.

Thomas Karsten (1884–1945), a Dutch graduate in architecture from TH Delft, with his long experience of managing problems of city planning in Java, contributed greatly and laid an important foundation for modern urban planning in Indonesia. Intensive discourses about urbanization and policies in the housing sector in Europe by students and experts during his studies at Delft from 1904 – 1909, and especially his 'socialistic-communistic' background undoubtedly influenced his thoughts in this regard<sup>47</sup>. His ideas were also possibly influenced strongly by the urban planning reference and publications in Europe at that time such as concepts revealed by Camillo Sitte (1889), Herman J. Stübben (1890), Raymond Unwin (1919), and especially by German planning concepts of Rudolf Eberstadt who created some planning guide books for housing and urban settlements such as "*Handbuch des Wohnungswesens und Wohnungsfrage*" (1909), and "*Städtebau und Wohnungswesen in Holland*" (1914)<sup>48</sup>.

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<sup>46</sup> Siregar, 1991, after Thjsse, 1953. P.95.

<sup>47</sup> Thomas Karsten first came to Indonesia in 1914, and joined the consultant office in Semarang owned by McLaine Pont, who invited him to work in Indonesia. In 1931 he moved to Bandung and started his own office. In 1904 he joined the "*Sociaal-technische Vereeniging van Democratische Ingenieurs en Architecten - STV (Social-technical Association of Democratic Engineers and Architects)*". He died in Japanese POW Camp in 1945. See also: Boagers, 1983 and P.J.M.Nas, 1986. P.73.

<sup>48</sup> There were not so many Dutch publications on town planning at that time. The German town planning possibly gave more input for his ideas. Since early 1880 this discipline had developed as a result of rapid growth of towns and increasing governmental intervention. See P.J.M. Nas, 1986. P.78.

With the assistance of Mclaine Pont, he could thoroughly study the local-traditional building culture, particularly the Javanese architecture. Many researches and publications were made as a result of his studies during his work with Mclaine Pont in Semarang. In early 1916, he took part in a planning team for improvement programs for the native's settlements and kampongs in Java.

In 1920, Karsten revealed his ideas about the '*indische stedeboew*' at the 10<sup>th</sup> Decentralization Congress in Bandung. He stressed that planning should pay more attention to local values besides introducing modern rationality into planning, design, and methods of intervention. Those which were created under the influence of ethnic-politics later became a reference point for town and city planning in Indonesia. One of his ideas that were considered progressive at that phase was the abolition of racial differences within the zoning system and the introduction of zoning based on socio-economic levels. This idea was implemented in 14 locations in Indonesia, where he had the opportunity to take part in the planning processes in the respective cities<sup>49</sup>.

Karsten also put forward some town and building regulations that were later implemented in several Indonesian cities and towns<sup>50</sup>. The most important contributions to the development of town planning in Indonesia were his ideas formulated in "*Toelichting op de Stadvormingsordonantie (SVO) Stadgemeente Java*" (Town Development and Town Planning Ordinance in Municipalities in Java) in 1938. By 1948 and after the Japanese occupation of Indonesia in World War II., they had finally been adapted and utilized by the Dutch government as *Stadvormingsordonantie / Stadvormingsverordering (SVO-SVV)*. Some clauses of these regulations are still being used as basic input for the urban planning practice in Indonesia.

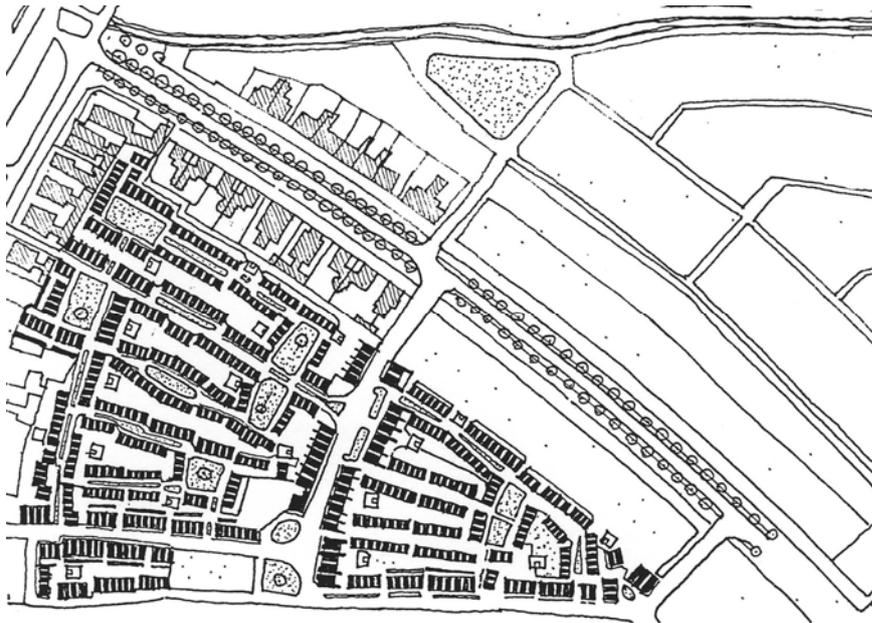
Some of Karsten's basic principles are significant enough to be highlighted in this discussion<sup>51</sup>. His first opinion was that cities and towns were generally formed by a multitude of different social groups. The Indonesian towns consisted of three different races (Dutch, Chinese and the natives) and each group had its own conflict of interests. It was therefore important to realize that planning in its material sense should strive for a condition of social and internal order through the administrative role. Secondly, he

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<sup>49</sup> During 1916 – 1933 Karsten was given a chance to implement his planning concepts in some important cities not only in Java but also in Sumatera and Borneo (Kalimantan). The materialization of his concepts can still be clearly found in several cities such as Batavia (Jakarta), Buitenzorg (Bogor), Bandung, Magelang, Semarang, Madiun, Yogyakarta, Surakarta, Malang, Padang, Palembang, Medan and Banjarmasin.

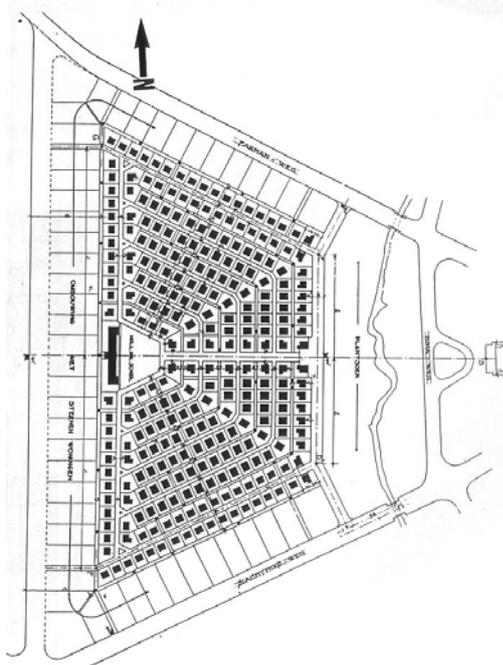
<sup>50</sup> The first significant building regulations proposed by Karsten (1929) were the ones in "*Korte Handleiding voor de Praktise Rooilijnpolitiek in Gemeenten en Regentschappen*" or Guidebook for the Practical Guideline Policy in the Municipalities and Regencies.

<sup>51</sup> See also the Erica Boagers's and Peter de Ruijter's discourse in P.J.M.Nas, 1986. P. 71-87.



**Figure 2.26 :**  
**Kleinwoningbouw Project**  
**in Mlaten Semarang**

Source: Re-sketched from Karsten – *Locale Techniek 1 / 2*, 1932 P.11.



Source: *Locale Techniek 4*, 1932, P.16.

**Figure 2.27. :**  
**Site Plan of Kleinwoningbouw Projekt**  
**in Arjuna- Bandung**



Source: KITLV – Leiden.

**Figure 2.28. :**  
**Some Types of Dwelling Units of the**  
**'Kleinwoningbouw'**

pointed out that a town is a '*coherent organism*', which on the one hand should be seen as a certain unity besides its divided and disorderly nature on the other hand. Thirdly, planning must not only be viewed as technical work but as "organizing" processes. Hence, it must conform to other aspects such as architectural, hygienic and economic factors. In addition to these, he also stressed that a town or city is a 'living' and a 'growing organism'. Therefore, it must be regarded as dynamic and never static. Every dynamic move of the society has to be taken in account and materialized both in planning consideration and implementation.

Karsten also pointed out that town planning instruments should consist of three elements that must form a unity and have organic coherence. The first element is plan in totality (*het plan in hoofzaak*), meaning that it must form a unity and give indication of future improvement and development. This type of plan therefore must remain alive and when necessary should be adapted to fit changing circumstances and opinions. The second element is townscape (*stadbeeld*) - the combination of the built form and layout of the surroundings. It must be seen as the aesthetic side of the town layout, where the planners must infrequently ensure that the town has got "character". The third is the detailed plan (*plan in onderdeelen en het bebouwingsplan*), which should consist of buildings, road systems, squares, landmarks, planting, sewerage, and other urban facilities and infrastructure.

Another person who also should be taken into account in the discourses about Indonesian town planning is Thomas Nix. He expounded that there are differences about the town planning in the *Netherlands-Indies* and the Netherlands. The town planning and development in the *Netherlands-Indies* in this phase was more characterized by the problem of "living together" due to the conflicts among different social groups and other socio-political circumstances created by the colonial community order. In the Netherlands, it was based on the principles of '*bouwkunst*' (building art) and normative aspects. Further, he assumed that such differences were created as they depended on the nature of urbanity in respective countries, their targets, objectives and rationale.

### **2.3. The Modern Town: City Development after Independence**

Leinbach and Ulack (2000) mention that by the end of colonial era, the cities in south-east Asia were generally marked by five strong characteristics: (1) concentration of cities in the coastal area; (2) rectangle-grid pattern; (3) increasing number of overseas' migrants; (4) variety and mixture of commercial functions; and (5) the rapid growth of population.

After World War II, the development of industry and international trade was boosted as security had improved. There was also increased demand for raw materials from countries all over the world for sustaining their industries and fulfilling their need in order to carry out both physical and economic reconstruction. These circumstances together with development both in communication and transportation are considered as external factors that had very strong influences on the shaping of spatial structure and the development of cities especially in the developing countries. Through the relationship of the so-called south-north or industry-developing countries the contact between ex-colonies and the ex-colonists has been sustained<sup>52</sup>. Although the colonial countries have already got their independence, their economic situation still depends on the industrial countries. The economic and social transformation in the developing countries therefore has also been strongly influenced by situations in industrial countries. Such situations are reflected in city planning, which somewhat follows the western norms and criteria of rationality and efficiency. It is also said that cities in these decades have been shaped to cope with capitalist-industrial community and to suit the market demand.

### **2.3.1. Transformation of Primate-cities**

International trade and export-oriented activities have benefited some cities in developing countries, especially those located near sites for exported resources or production. They are forced to build more infrastructures that can support the distribution of these products. The port cities and those situated near strategic places for warehouses in particular are mostly influenced by these activities. Such cities consequently have tendencies to develop more rapidly. This is because they have to house the industrial or production facilities, their distribution, and also the population that supports such activities.

The primate cities had initially functioned as the "Gate to the World" in the new economic interrelationship. However, in the colonial period the economic effects on the hinterland were rather insignificant since those export-oriented ports created more enclaves only in the surrounding areas. These regions had neither been economically developed nor connected to other cities, particularly those situated inland. In this phase, the developed inland cities were those that had been connected to the transportation system constructed by the colonial government based on their own intentions. Other inland cities with less or no potentials therefore lost their meaning in this constellation. Such gap of distribution keeps appearing in the further pattern of development of particular cities in Indonesia - even in Java as the most developed island in this country. Primate cities keep

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<sup>52</sup> See T.G.McGee, 1967. P.18.

growing rapidly and expanding into the urban periphery, and to neighbouring regions they keep creating a huge agglomeration. Due to inadequate planning, an unstructured sprawl, concentrated urbanization and densification in the urban corridors somehow occurred.

### **2.3.2. Early Development after Independence**

Since the early 50's, cities in Indonesia have been experiencing many challenging transformations caused by natural population growth, migration, and the densification of city areas. In order to cope with this situation, some cities have started to develop and extend their areas. This decade was considered as the initial formation of Indonesian metropolitan cities. Some different significant pull and push factors warranted such developments. In the first phase right after the independence in 1945, it was caused by the increasing demand of new facilities for governmental and administrative offices in the cities. This generated the extensive work place and increased demand for housing for employees. Within 1950 – 1970 there were some political conflicts that triggered more migrants to move into the cities. Even though the political situation became relatively stable afterwards, most of these migrants preferred to stay inside the cities and only a few went back to their villages.

During 1960 – 1970, there were more programs of town development, extension, and reconstruction in Indonesian cities and towns, while in the countryside a slow development occurred due to the considerably unattractive development in the agrarian sector. Accordingly, big cities were assumed by the country people to have more employment opportunities and chances to obtain a better living standard. This assumption led to the movement of more population into urban areas and continued to make cities more crowded. The situation was even worsened by the centralized governmental system enforced in this period, causing the imbalanced allocation of development.

With regard to town planning and building regulations, most of the Dutch system was still used. No significant new regulations and laws were created during that period. The Indonesian architects and town planners had bigger chances to take part in town planning, designing, and constructions of Indonesian cities, especially when Sukarno, the first Indonesian president, declared the political jargon of 'Nation-Building'. This statement was intended to put the nationalistic deliberation for the citizens, which in architectural and town planning fields meant the use of the Indonesian tradition instead of the cultures

or customs inherited by colonists<sup>53</sup>. During this period, some prestigious buildings and monumental constructions such as hotels, sport stadiums, banks, embassies, airports, seaports, monuments, etc. were constructed by local engineers with the assistance of American, Chinese, Russian, and Japanese experts and technicians. Particularly in Jakarta as the capital of Indonesia such constructions were built to raise the pride of the nation<sup>54</sup>. Most architectural appearances in the big cities were strongly influenced and marked by modern architecture as the most preferred style in this era. Housing developments also were improved. The dwelling complex in 'New Kebayoran', the first Indonesian satellite city, designed by an Indonesian architect – Soesilo, for example, was considered the first achievement of Indonesian town planning. Its concepts were adopted from basic principles of the garden city but strong characteristics of the local context also appeared at the same time. A unique architectural style, the so-called '*Jengki*', characterized many dwelling units in this quarter. Sukarno's era ended in 1966 and was replaced by the new order.

In the early 70's, the government set some new development strategy that politically and economically gave bigger opportunities to private and foreign investments in industrial sectors. The rise of the oil price was also responsible for the acceleration of the rapid growth of Indonesian cities in this period. Big numbers of factories and manufacturing companies were constructed in urban areas and further expanded to the peripheries. During this period flows of migration into the cities became stronger as well. Architectural transformations occurred during this phase as a result of these industrialization processes of the urban areas. Rationalism and functionalism were among others characteristics of the modernism that left its mark on the building and planning culture in Indonesia in this phase. Such modernization has often been perceived as the utilization of western ideology by Indonesian cities. Constructions in international style with no respect to the local contexts later on became a common language characterizing Indonesian cities<sup>55</sup>.

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<sup>53</sup> Surjomihardjo, 1977. P.71.

<sup>54</sup> P.J.M. Nas, 1993. P.13-35 and H. Akihari, 1990.

<sup>55</sup> The American building and planning system was brought to Indonesia by Indonesian scholars studying in America. Since then, American cities seem to have been providing much orientation in planning and designing. As a result, Indonesian cities appear as representatives of American cities. See also the further discussion by H.van de Wal in A. Duivesteijn, 1994.

### **2.3.3. Economic Boom in the 80's and the 90's and its Effect on the Urban Development Trend**

The economic growth in Indonesia sped up during this phase. Many basic urban infrastructures were constructed to support economic activities and made urban areas more attractive. The number of migrants entering the cities continued to increase as the development persistently focused on the city and the surrounding areas. A large number of housing complexes and constructions for commercial use were constructed to accommodate the rapidly growing population in this period.

The economic development policies accompanying the deregulation reform in the finance sector, especially in banking, during this period until the mid of the 90's also accelerated the property boom<sup>56</sup>. High-rise buildings used for apartments, office spaces, hotels, huge shopping malls, large-scale real estate projects mostly for the middle – high class were constructed both in inner city areas and further widely expanded to the urban periphery.

The rapid development in city areas in this phase was mostly followed by inadequate and ambiguous development planning. Such a tendency has not only occasionally, but even radically, transformed the city structure. City centres, where the old and historical quarters were usually situated, were the most preferred locations and mostly considered advantageous for commercial uses. In most cases, previous buildings and urban structures were replaced by modern commercial buildings for new large-scale development projects. Such developments often neglect the heterogeneity of the historical city structures and the remaining urban heritages. Old inner-city housing quarters, especially kampongs, become the most vulnerable sites threatened by eviction to accommodate such development policies. The so-called redevelopment and renewal to improve these areas mostly benefit the middle and high-class society or the big investors. This happens because there is no certain market mechanism to protect the former inhabitants especially the poor population living in the inner-city area. Consequently, the gap between the poor and the rich becomes bigger and bigger. The people who cannot afford to live in new redeveloped or renewed areas have been forced to live in outskirts of the cities. Many who want to stay in the urban area were often found to densely populate the remaining inner-city housing quarters both legally and illegally.

Euphoric urban development continued until the economic crisis crashed it in the middle of 1997 causing political turbulence to thwart such developments. Many property development projects were cancelled and even some of the incomplete ones were

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<sup>56</sup> Based on an interview with Tjuk Koeswartojo, October 2004.

stopped. The property business started to recover only in early 2000 when the economic and the political situation became better and more secure for investments.

The movement of the population into big cities nevertheless has still been going on until now due to inadequate planning at the local and regional level. The urban developments are also influenced negatively by insufficient infrastructure development caused by the geographical situation of this archipelagic country. Although the governmental system was changed into a decentralized one in 1999, its implementation has not really been felt due to the lack of supporting resources, especially skilled personnel and the tools to manage the development at the local level. Moreover, cities themselves are having problems since they cannot cope with the fast growth of population as compared to their capacity to provide infrastructure. They also have to face the problem of social and spatial segregation caused by inadequate land use regulations, which in fact did not exist in the traditional Indonesian landowning class / titles<sup>57</sup>.

The dualism of 'traditional' and 'modern' type of development keeps appearing in townscapes and becomes common structure in Indonesian new urban areas. This represents a situation where many city centres are shaped by crammed prestigious high-rise buildings and are suited to fit commercial purposes with intensive use of space while they neglect spontaneous settlements with semi-agrarian culture.

#### **2.3.4. The Role of Urban Planning and its Practice after Independence**

##### **Master-planning as Land Use Planning**

The years following the war meant the discontinuation of urban planning and its thread was only taken up in the 60's and 70's. Some efforts to improve and replace SVO had been made to cope with new developments and governmental structures. After independence, a conference regarding town planning and related regulations was held in Jakarta in 1954 and was attended by the Mayors of the province capitals. As a result, the SVO/SVV was continuously enforced with a little bit of adjustment<sup>58</sup>. The meeting was followed by the Indonesian Inter-municipality Forum held in Surakarta in 1958 that resulted in a consensus to adopt modern concepts of town planning particularly with regard to zoning and segregation principles based on basic functions (dwelling, working area, circulation, recreation, etc.). Eventually this principle became the objective of a master plan enforced in Indonesian urban planning. Therefore, the notion of town planning afterwards has been understood mainly as a land-use planning.

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<sup>57</sup> P.J.M. Nas, 1999.

<sup>58</sup> Soepangkat, 1970.

Attempts to substitute the SVO/SVV have actually been initiated since the early 60's. This law was considered to merely focus on physical orders and the building types recommended in the regulations could not fit into the current situation of urban developments. As a result a set of concepts and laws were proposed in 1970 by the Public Works Department<sup>59</sup>. In fact, it failed to be approved and implemented.

In 1973, similar products of laws were introduced again in the form of circular notes by the Ministry of Internal Affairs (Pemda No. 18/2/6, dated May 14<sup>th</sup>, 1973 about the development planning at the capital city of municipalities). This act was improved and later became the decree of the Ministry of Internal Affairs (No. 4, 1980 about the Guideline of Town Planning). In 1985, another joint act of the Ministry of Internal Affairs and the Ministry of Public Works appeared to define the task and responsibility in urban planning (Act No: 640/KPTS/1986 about Spatial Town Planning). However this act was dismissed and replaced by another law (Internal Affairs Minister Law No: 4, 1980), but once again changed with Internal Affairs Minister Law No. 2, 1987. In 1992, the Law No. 24, 1992 about spatial planning was established for the first time. This law is legally considered the dismissal of the SVO, and expected to be a main guideline for developing the town planning laws and regulations in Indonesia<sup>60</sup>. Nevertheless, this law could not substantially replace the SVO. Until now, there are still no established laws able to regulate and control the town development in Indonesia.

Even though the regulatory process has experienced many kinds of evolutionary developments, no advanced ideas have been developed yet and the achievement is still considered insignificant. Most of the planning policies are implemented “*ad-hoc*”, meaning that those that are applied do so in the course of a projects' term. Some of the policies intended to cut the bureaucratic procedures like those with “*Inpres*”<sup>61</sup>, in fact, resulted in the dependency of the local governments on the central government. Thus, there is still no standing policy concerning urban planning that is able to manage and control the cities. The situation described above however reflects that such efforts seem to continue while there is also ambiguity and confusion.

At the implementation level, each Indonesian town has its own master plan, directed by Law No. 24, 1992. The master plan is based on a long term (20 years) planning, with the possibility of review and reconditioning when necessary. A master plan will later be implemented at the local level in 5 years. It consists of general but comprehensive

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<sup>59</sup> *Rencana Undang-undang tentang Pokok-pokok Bina Kota* (Draft of Decree of the Technical Guidelines in the Town Planning) has never been proceeded and approved as a real decree.

<sup>60</sup> See further in Tjuk Koeswartojo, et.al., 2004.

<sup>61</sup> The abbreviation of *Instruksi Presiden* or President's Instruction.

guidelines on aspects of urban development such as land use, urban transportation networks, and the methods of implementations. This regulatory process has to pass several stages, starting with the collection of data concerning the history of the city, demographic data, information on urban socio-economics and culture as well as transportation, the physiographic to geographic conditions, existing rules and laws, etc to be later subject to review and analysis. A series of discussions will later be held among the related city's stakeholders to produce a set of documents called data compilation document, document of analysis, and finalized by a master plan document.

Since the procedures seem to be so complicated and take a long time, many people start to question the effectiveness and efficiency of such a process in achieving aims and sequentially cope with the rapid and very dynamic development of the Indonesian cities. In some cases, many a master plan could even not be implemented, because after their completion, urban society had changed already too progressively compared to the first processed data. Hence, further reviews and revisions were very necessary. This situation was often caused by inadequate supporting tools and unskilled personnel to collect valid data and information in order to support the making of master plan. Other problems arise especially when a master plan is made to achieve ambitious aims such as to cover a large scope of a development area or just to imitate the world's modern trends of urban designs, but without any proper budget and/or other necessary supporting recourses. Many contain guidelines that are too general and have no sufficient details for short- or medium-term action plans, which makes it more difficult to realize and implement them.

As far as this study is concerned, the most challenging problem of master plans in Indonesian cities is the lack of physical-spatial urban realities. It is shown by the little detailed information about existing physical realities, such as the fabric of the buildings, spaces including the diversity of their character, types and uses. Such situations bring a master plan to remain as a utopian fantasy apart from urban realities.

### **Land Management System**

Land is a significant matter in Indonesian urban planning. The Indonesian non-traditional town planning uses the building regulations as an instrument to control urban development, which in fact was initiated by giving the certain right to the land status. With regard to the conservation of a particular area, it is necessary to know the land right / land status used in Indonesia.

Until today, the land management in Indonesia is still very complicated due to the dualism created by the former formal legal system inherited from colonial administration<sup>62</sup>. The colonial agrarian law, which was first introduced in 1870, accommodated the western and the traditional system. On the one hand, the law tried to take the customary (traditional) orders, known as “*hukum adat*”, of the various ethnic groups into account, especially those that belonged to the Javanese. This law introduced 3 land statuses: customary land rights (*hak milik adat*), the right to farm land (*hak usaha*) and the right to use land (*hak pakai*). On the other hand, the formal legal system also used the Western European right adopted particularly from the Dutch, for example a full property right (*eigendomrecht* – became *hak milik*), the lease agreement for erecting the buildings (*opstalrecht* – became *hak guna bangunan*), and the lease agreement for using land (*erfpacht* – became *hak guna usaha*).

After independence, Indonesian government tried to change these laws by enacting the agrarian decree 1960 (UUPA – Indonesian Agrarian Laws). It was originally created to harmonize all existing and conflicting rights and to abolish the insecurity of rights. The new fundamental laws on land and property rights were also defined to replace the customary rights but were not pure adoptions of those of the former Dutch laws. So far, the new law makes it compulsory to register all the primary rights in an urban area mainly as: full property right (*Hak Milik*), building right (*Hak Guna Bangunan*), with a permit that should be renewed every 10 - 20 years - depending on the local administration, and the land lease agreement (*hak guna pengelolaan*).

Aside from those main statutes above, there are some secondary titles of property delivered by owners of primary rights to third parties, which are not compulsory for registration. Those statutes are among others: lease agreements (*hak sewa*), land and lodging agreements (*hak menumpang*), mortgaging (*hak gadai*), and sharecropping agreements (*hak usaha bagi hasil*).

The customary rights (*hak milik adat*) are valid as long as they are evidenced by the land right called ‘*Girik*’, which in this regard is provided by the head of the villages (Kepala Desa / Lurah). This status will gradually disappear and be replaced with certain certification programs, and the plots of land which are not registered as *hak milik* will be considered as state-owned property (*tanah negara*).

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<sup>62</sup> Dorleans, Bernard in Nas, P.J.M, 2002.

Although the statuses have seemed to be at least defined, however, in fact, the registrations proceed so slowly and the results are still far from expectations due to the complicated procedures, and uncertain and poor administration tools.

## **2.4. The Modern Indonesian Cities: Problems and the Searching for Image and Identity**

Before further discussing the urban image and identity, it is important to understand the basic terminology of the city and the concept of urbanity in the Indonesian context, since they might differ from those of other realms. With regard to conservation efforts as a major topic in this dissertation, it will be necessary to help defining which elements of cities are significant to be preserved or should play important roles to shape their identity and strengthen their image. Current problems of urban development would also be well understood if one could help to recognize their potentials and constraints so that efforts can be aimed sensibly.

### **2.4.1. The Terminology of the “City” and Concepts of Urbanity in Indonesia**

In the search for such an image and identity, basic terminology regarding Indonesian cities and urbanity must be explained. The word “city” has been acknowledged both in the Indonesian and in the traditional vocabularies. “*Kota*”– a term for city or town in Indonesian itself originally comes from a Javanese<sup>63</sup> word, whereas in Malay<sup>64</sup>, town or city is called “*Pura*”.

There is a wide range of different ideas to universally define the term “city”. Many authorities in different countries for instance use different criteria to adjust the term to their situations and intentions. The traditional approach states size of area and of population, administration level, as well as the functions as criteria to determine the urban status. Others try to define it with classical demographical characters such as the size of mass, density, and the heterogeneity of the population. In the case of the Indonesian cities McGee (1967) defined the urban status based on the following characteristics; heterogeneity of the population, the segregation of its social structure, the bureaucratic structure of the society, and the market role. After independence until the 60’s what was considered “urban” in Indonesia were only towns with status of municipality. Currently, the

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<sup>63</sup> In Javanese it is pronounced “*Kuta*” or “*Kuto*”.

<sup>64</sup> Malay is the origin of the Indonesian language.

status has been extended to include other second-level administrative centres and a few functionally defined cities above a certain size of population<sup>65</sup>.

According to Law No. 24, 1992 concerning spatial planning in Indonesia, the city is assumed to be an area which has non-agricultural activities and functions as urban housing, it is a centre of distribution for the government as well as a supplier of social-economic services and facilities.

Today, the term of the city has been strongly related to urbanity, which theoretically connected with the political and economic transformation within the society<sup>66</sup>. It physiologically refers to the transformation of the way of life. Some sociologists furthermore consider that a rational, economic as well as an individualistic pattern of relationship within the society are the characteristics that might leave their mark on the "urban way of life"<sup>67</sup>. Many also associate the term "urban" with the "modern way of life" or consider both identical. Such a phenomenon will also be physically manifested on the built environment as well as in spatial aspects of the city. The architectural features within the city quarters as one element of the built environment therefore will reflect the dynamic circumstances of the urban society.

Indonesian cities such the ones that were seen in their historical process have been formed by various dwelling quarters, both formal and informal. Their structure and appearance were shaped and superimposed upon by the formations of different periods, which were also influenced both by local and foreign cultures. Due to political reasons in colonial times, urban quarters have been definitively separated and therefore created an obvious segregation both socially and spatially; the incremental and unplanned native kampongs on one side and the colonists' quarters, which were mostly planned and utilized by better urban infrastructures. Even after a closer contact with the western capitalism had existed for a long time, the cities in Indonesia like the ones in other Asian countries did not follow the pattern of western society in their development. As a result, the agrarian population had no easy outlet in the cities<sup>68</sup>.

The dualism of the city structures, both socially and physically, still carries on and characterizes most of Indonesian cities today. The disparity even has been stronger due

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<sup>65</sup> Cities in Indonesia are now divided into four categories classified by the size of their population; 1). Metropolitan city with a population of > 1,000,000; 2). Big city with a population of 500,001 – 1,000,000; 3). Medium city with a population of 100,001 – 500,000; and 4). Small city with a population of 20,001 – 100,000.

<sup>66</sup> See further discussion in Giddens, 1997.P.478 – forward.

<sup>67</sup> Bintarto, 1983. P.36.

<sup>68</sup> Wertheim, W, F. 1965. P 33 – 76.

to the development policies focusing more on modern sectors. The conflict between different classes has also become more evident through the rapid expansion of capitalism. Moreover, the role of its market mechanism has been taking a big part and has strongly marked the shaping of the cities' built environment. The features of Indonesian big cities include parts of the modern industry-oriented and highly developed areas with intensive capital investment, which are also characterized by advanced services, elite housing, and leisure facilities. In other parts of the cities the traditional quarters with their traditional way of life keep appearing in regions that are often socially and economically marginalized. However, in many cases, the formal developments and the modern population still live within and demand the services supplied by the informal or traditional sectors. It is apparent that in big Indonesian cities the respective areas are not always spatially or administratively separated. They often can be found side by side in the same neighbourhood<sup>69</sup>.

Concerning the traditional way of life within urban areas, it is necessary to briefly mention the discussion about kampongs in this regard, since it is considered another significant phenomenon that strongly characterizes the urban structure in Indonesia. Etymologically the term kampong in Malay means "an enclosed compound" and in the early period it was assumed to be correlated with living in traditional patterns, whereas by the Javanese it was understood as the complex of garden lots belonging to villagers who live within the city boundary<sup>70</sup>. Geertz (1965) describes kampongs as a type of settlement with a traditional village pattern but with a denser, more heterogeneous, and less integrated urban environment. Today many foreign sociologists always understand kampongs to be similar to urban slums or even squatter dwelling areas.

The definition of a kampong within the urban area hence seems to have been transformed pejoratively. In fact, in the context of Indonesian cities, kampongs are by no means all ghettos of poverty since they mostly consist of a remarkable range of income groups with a substantial number of modern houses neighbouring to dilapidated huts. In certain cases, in fact many urban kampongs occupy land and build illegally and later form squatter areas. However, it would be quite wrong to judge that all Indonesian kampongs are also built illegally, since there are many kampongs from the traditional city structure that still exist in the urban areas with land that is legally inhabited. Such an opinion might exist since land tenures in Indonesia are very complicated with nine types of tenures. While it may be the case that certain kampongs are built illegally on private or state-

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<sup>69</sup> Agriculture activities such as farming and cultivation areas can still be found easily in Indonesian big cities even within areas where modern buildings or modern housing complexes are situated.

<sup>70</sup> Atman, 1974.

owned lands, the vast majority of kampong dwellers have some forms of legitimate tenure<sup>71</sup>. The urban kampongs therefore also can be found in a wide range of typical layouts and designs, based on which classification one would view from. Nevertheless, morphologically their existence in the cities has been long and historically they have significantly characterized Indonesian urban areas.

These several factors make unity beneath all appearance of heterogeneity. Such a situation therefore induces many scholars to think that Indonesian urban society has not matured enough “to live an urban way of life”. The cities’ identities appear therefore to be very complex ones, composed of several identities, since they have received so many inputs, not only due to their physical reality as their initial layout, but go back beyond culture and history.

Many scholars moreover perceive the forms of Indonesian cities to be based on the number of basic contrasts. In Nas’ (2002) opinion the first keystone of these contrasts lies in the opposition between focal and local urbanism. It distinguishes the specific characters of the medieval Malay cities and the cities in Europe in the same period. The second element is the distinction between coastal and inland cities that are associated with the differences in ethnic composition and cultural background. The third polarity differentiates the compact cities of the past from the new form of mega-urban areas, which integrate and mix all sorts of areas such as traditional cities, countryside, nature, recreational area, suburb, and completely new towns. Such contrasting elements very much characterize the image of Indonesian cities today.

Based on these concepts of urbanity and the current situation of Indonesian urban development, it also somehow seems difficult to describe or develop the new conceptualization of Indonesian cities today in order to implement real city planning. Consequently, such heterogeneity and complicated forms of urban culture and spatial structure should be carefully deliberated when ordering the methods of urban planning.

## **2.4.2. Major Problems of Indonesian Urban Development**

### **1. Urbanization**

The issue of urban development in Indonesia first arose at the beginning of the 20<sup>th</sup> century after the Dutch colonial government introduced decentralization and established the status of the “*gemeente*” on several Indonesian cities. Following those junctures, the growth of urban population began to accelerate. After its independence, Indonesia also

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<sup>71</sup> See further discussions in Devas, 1981 and Hoffman, 1991.

has been taking its share in the worldwide phenomenon of the rapid urbanization of developing countries. Whatever definition of urbanity is used in the Indonesian context, urbanization in the sense of higher population growth in urban areas has been continuously proceeding and the number of newly-formed cities has been increasing. In the awakened economic development which goes together with increasing educational possibilities, major urban problems appear parallel. The people living in Indonesian cities are predicted to reach 40% of the total population at the end of the 21<sup>st</sup> century<sup>72</sup>.

Regarding the process of urbanization, many empirical studies on Indonesian urban development reveal that in general today's major city structure problems are among others created by:

- 1) An absolute rapid growth of the population living in the cities both caused by natural growth and rural-urban migration, leading to densification of urban areas;
- 2) Urban blast caused by conurbations and the formation of instant metropolis', along with an unstructured-sprawl development to the peripheral areas and the formation of agglomeration of rural-urban areas;
- 3) Urban land and housing shortage, creating uncontrolled formations, expansions, and densification of slums and squatters and;
- 4) Inadequate urban infrastructure causing related problems such as traffic congestions, floods, and other degradations of the urban environmental quality both ecologically and architecturally.

Moreover, other significant problems have also arisen due to inadequate planning, absence of laws concerning the use of land which does not belong to the traditional Indonesian land owning class, and institutional insufficiency in urban environmental management. From economic and social perspectives, the insufficiency of the job market in urban areas and the gap between the marginalized poor and the well-off also drive some social problems. These aspects - all together, take part in shaping the disparity and desegregation of the city structure.

Nowadays, cities seem to transform into mega urban regions, which constitute a configuration of traditional centres and old suburbs, incorporated villages and rural areas and urban sprawl development comprising completely new towns. Thus, whatever the concept of the city might be and whatever continuity may exist between the urban area

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<sup>72</sup> Tjuk Koeswartojo, 2004.

and its periphery or surrounding rural areas, this rapid urbanization anyhow creates conditions which are different from the previous ones.

Such problems definitively have many impacts on the structure of old city centres and quarters, which in the earlier urban growth in Indonesia (in the traditional formation phase), were concentrated around the open spaces in the core of the cities and built on a spacious space scale during the colonial time. Among other questions that should be considered and are becoming significant tasks for Indonesian urban planning today are the challenges of what to do with the urban heritage from colonial and even pre-colonial times and how to create new living environments for the increasingly urban population. Considerable input to understand the urbanization process in order to foster urban planners and regulate unbalanced development is absolutely needed. Yet, under such problematic prevailing conditions, planners, economists, politicians and people of other related disciplines prefer to develop their own point of views. Although holistic and integrated discourses have often been held, however, in most cases they have been left as conceptual ideas and rarely have been implemented so far.

## **2. Urban Housing**

The development of housing will definitively influence the structure of the city, and further will involve shaping the city's images. Many cities were even initially developed from big housing projects built on an urban scale, for example the colonial dwelling settlements in North Bandung and Candi-area Semarang. Further developments of those areas therefore are based on or modified from their former uses and structures.

Urban housing was not really a significant problem for the Indonesian population in urban areas before the 20<sup>th</sup> century. It started to become a crucial issue when a number of new towns and cities were arising as a result of the urbanization process, especially after the Indonesian independence. After this point small towns have kept transforming to become cities, whereas cities have become big cities and are developing further to metro or megapolitan areas.

Organized housing initially was developed by the government in the colonial phase, and mainly provided for the government employees. The development of public housing started to become a more significant issue in the urban development when the Dutch colonial government delivered the status of municipality (*gemeente*) to some towns and cities. Some regulations regarding housing development were created, such as *Burgerlijke Wonings Regeling* (BWR) or Public Housing Regulations 1934. Some congresses and seminars on urban housing were held in this period in order to produce

some constructive outcomes in improving programs and methods of urban housing development. Major issues in such discourses were sanitation and hygiene, urban planning, as well as technical, architectural socio-political and economic aspects. Land policy and housing finance also provided an important focus to such discussions.

The native urban settlements or urban kampongs later became a big concern, although they were in fact previously neglected. Due to humanitarian interests adopted from the ethic politics appearing in European countries, including the Netherlands and its colonies, and the fear of the epidemic coming from the deteriorating kampong environments, the Dutch colonial government initiated a kampong improvement program known as *kampong verbetering*<sup>73</sup>. There were some assumptions among the Dutch in this phase that the better living conditions in the kampongs and their inhabitants would bring economic benefits for the colonial government and would indirectly secure the political situation. Following these policies, some projects were initiated in Semarang, Jakarta and later in Bandung.

In the early years after the independence, the organized housing projects also were built, but mainly for government officials or for the employees of the government related offices or projects. The construction of such projects on a larger urban scale, like those in Kebayoran Baru, Bendungan Hilir, Slipi, Tebet in Jakarta, was implemented in the early 60's to supply the skyrocketing housing demand<sup>74</sup>.

In order to cope with the continuing demand for housing, a national housing board called PERUMNAS was established in the early 70's by the Indonesian government. This board was assigned to develop prototypes of housing environments. Large numbers of the new mass housing complexes were constructed at this time, which mostly were in fact built in uniformed environments with a similar design of dwelling units and plots. So far, such development often neglected the cultural, social, and economic as well as climatologic and geographical characteristics existing in the sites from extremely different locations.

The Indonesian government gave the private sector a chance as it could take part in the housing delivery through the open market system. In order to enable the low-middle income groups to access this facility, private developers were required to build dwelling units with a certain number of proportions and provided some subsidy<sup>75</sup>. The effort was considered successful at first, but in fact this could not really reach the low-income group

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<sup>73</sup> Nas, P.J.M, 1986.

<sup>74</sup> All locations mentioned above, due to the conurbation process, are now parts of the inner city quarters of Jakarta Metropolitan area.

<sup>75</sup> The ratio of 1: 3 : 6 of housing for high income : middle income : low income which was also manifested in housing size and facilities, was required from the developers for planning new real estates.

who was the target of this measure. Moreover, plans and designs of new dwelling estates often focus only on quantitative - economic aspects, whereas qualitative aspects are not considered properly.

The required ratio unfortunately was often misunderstood and put incorrectly into practice by most of the developers. Many housing projects are likely to build the housing units completely separated, classified by income groups. Consequently, many cities and towns have been growing with dwelling environment which is isolated from one and another. Furthermore segregation once obviated in the new planning of Indonesian towns by Dutch architects such as Thomas Karsten in the early 20th century has finally been repeated because many developers like to establish their own standards of planning to reach the profit targets of their investments in such property businesses. Sprawl development cannot be avoided since the expansion of such new housing estates mostly follows its own pattern and often neglects the existing structures of the cities on the macro level. Those estates often do not provide sufficient urban facilities and amenities; even many still depend on those provided by the cities.

The formal provision of housings unfortunately is only able to fulfil not more than 15% of the total demand. This means that 85% of the community still supplies the demand autonomously or in certain self-help organizations<sup>76</sup>. Many urban poor populations who don't have any access to land and other supporting recourse are only able to reside on vacant land, idle plots or urban open spaces. In many cases, they often build their houses incrementally and without following the standard plan of housing development. This phenomenon has gotten worse especially since the economic crisis in the middle of 1997, where some of the properties and constructions in the urban area have been left undone by the owners. During this crisis period, many urban plots were seized by the government as a result of the validation of many banks and in-debt firms. These sites became favourite locations for the urban poor to live on. Later they established some informal economic activities to support their lives in order to cope with the crisis. Some of these unplanned dwelling quarters were later legalized by the government but many are left to dwell illegally. Since many cities do not have any other alternatives to evict or relocate these poor communities, especially those who occupy the idle lands owned by privates, problems in Indonesian urban areas are becoming more complex. Not only are the urban structures destroyed by the loosing of green areas and open spaces, but the evictions have raised social and political conflicts in many Indonesian cities.

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<sup>76</sup> Koeswartojo, 2004.

Historical housing quarters located on the strategic sites in the city centres also have to encounter such problems. Many of them have been forced to be converted mostly to commercial use by the process of capitalization. Transformations are enforced, and in many cases, most of the buildings are destroyed and replaced by new ones, which are considered to be more modern or attractive for the market. The so-called renewal or redevelopment programs in these areas often drive to damage the structure of many historical quarters due to inadequate planning and measures of control. Such developments rarely give the former inhabitants the opportunity to resettle in their own neighbourhoods. Not only does this result in the decrease of housing stocks in the inner city areas, but this often destroys the special cultural and social characteristic of the former urban structure.

### 3. Urban Architecture

In order to meet the aims of development at the implementation stage, a master plan, also known as *RTRW (Rencana Tata Ruang Wilayah Kota / Kabupaten)*, is classified into three levels of planning as follows<sup>77</sup>:

- 1) General Urban Spatial Planning (*RUTRK = Rencana Umum Tata Ruang Kota*), produces a 5-years general plan of the whole or particular parts (district scale) of the city. This plan deals with general aspects of town planning like zoning, land use, road structure, system of urban services and utilities, and the general guidelines to the lower regulations (*RDTR* and *RTRK*). The determination of preserved area is also defined at this level.
- 2) Detailed Urban Spatial Planning (*RDTR = Rencana Detail Tata Ruang Kawasan*), produces a detailed plan of a particular part of the city, is used to regulate its physical development, and to issue building permits, declare the status of lands, and other related permits. It contains a zoning and bloc plan, a structure of land use, a system of urban facilities, services, and utilities, as well as technical requirements for urban development.
- 3) Technical Urban Spatial Planning (*RTRK = Rencana Teknik Ruang Kawasan*) also known as Buildings and Neighbourhoods Plan (*RTBL = Rencana Tata Bangunan dan Lingkungan*) deals with the technical aspects of site planning, building layouts, and the development of urban services, facilities, amenities, and utilities. It is used to manage and control the physical implementations in a particular area.

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<sup>77</sup> [http://www.pu.go.id/ditjen\\_ruang/nspm/UU24-1992-ubah.pdf](http://www.pu.go.id/ditjen_ruang/nspm/UU24-1992-ubah.pdf).

All of these plans are proposed by major or related agencies. Theoretically, the planning and related regulatory process also must involve urban community participation. The results will be later approved by the local government through a series of discussion sessions held by the city council.

The regulations seem to be more established at the local level especially after the implementation of the decentralization law. Nevertheless, town planning is not even so much better than it was in the colonial time, when blueprints consisted of more varied physical and spatial dimensions, and even regulated architectural elements. Today regulations have been shifted into larger regional levels. At the lower level of planning, many plans are often too abstract, without clear definitions of basic spatial aspects. In most practices, it is clearly shown that the role of urban architecture has been gradually declining. Although it sometimes exists in many debates, the basic spatial regulations regarding urban architecture rarely come to the foreground. Thus within those enormous and complicated urban problems, urban architecture remains minor among other urban planning aspects<sup>78</sup>.

Indonesian urban society is also very much dynamic. It results in ongoing changes of the urban structures both socially, culturally, and economically and this further shapes the physical performance of the urban area. The situation is worsened as such transformations move faster than the capacity of the city to collect adequate detailed information of the existing physical realities such as the real fabrics of buildings, spaces and functions, etc. which are necessary to shape and control urban architecture.

#### **2.4.3. Indonesian Cities Searching for Identity**

The development of cities in Indonesia has also been strongly affected by the political and economic ripples from time to time with their rise and fall. Urban conflict results in a reflection of a struggle of identity involving different groups of civil society and the individual. The struggle involves finding a balance between developing a city, which is plugged into a global network and is international in outlook and has a cosmopolitan identity, and a city that is simultaneously anchored in local heritage retaining its genuine identity.

Due to the disappointment about modern planning which fashioned the looks of big cities all over the world to be indistinguishable “like peas in a pod”, the search of an own image or spirit and identity for the cities therefore is becoming an ever more urgent issue in

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<sup>78</sup> Based on personal discussions with Tjuk Koeswartojo in 2005.

urban development and in contemporary urban architecture today. In phrasing this theme, it is noticed that a literary form of juxtaposition is used: tradition versus modernity, east versus west, local identity versus global integration, regionalism versus internationalism, conservation versus development. The same situation has been encountered by Indonesian cities with such discourses surfacing. Many challenges are even so obvious such as the ones described in the Indonesian urban development mentioned above.

To begin with, the question of image and identity of cities or parts of them therefore is a complicated one. Issues of locality and diversity play a major role concerning such discussions as Indonesian cities have quite elaborate impressions of the characters of various places. Such a discussion will be more interesting when it comes to the current Indonesian cities, which are gradually becoming contemporaneous. Many discourses focusing on the issue of urban identity sometimes result in conflicts whether this term will bring in idealized cities but also rather stagnant ones when related to the urban development in current modern world.

The diversity of identity forming images of those cities might be strongly rooted to historical aspects, main functions or activities of towns / cities, cultural structure of the society, natural characteristics, town structure, or other urban major facts. Cities might have a “mono-characteristic identity”, but some might also have multi-characteristics, thus building more images. The city of Bandung for example is not only known as colonial city since some parts of the city are strongly characterized by quarters, which are strengthened by urban structure and buildings left over by the colonial era, but also a city of education, city of fashion and shopping as such a big range of facilities is offered. Moreover, Bandung was also known as a city of parks and flowers to describe the general atmosphere of the city as it was initially designed as a garden city. A *Pecinan* (China quarter), *Kampong Melayu* (Malay quarter), *Kampong Arab* (Arabian quarter), etc. exist in many an Indonesian big city and are labels for parts of cities inhabited by a particular ethnic group.

Besides the general images of cities, the construction of the meaning/identity of urban environments, or a part of them, or their more detailed elements depend on the mental maps of the people. Education, mobility, duration of residence are considered to be some of the major factors to define the level of such cognitive maps. The perception and interpretation of urban environment therefore is a dynamic and even complicated one, and shows a great variety, as those elements of the same cities might be used and experienced in various ways by different people.

Since image development is a two-way process between observer and the observed subjects, it is possible to strengthen the image either by symbolic devices, consider revising a statement as the meaning is not clear<sup>79</sup>. Therefore, though the variety of Indonesian towns is very adequately shown by the divergent images and mental maps, it is still possible to redefine and illustrate the identity / image from outside the cognitive domain by the use of existing material about towns<sup>80</sup>. In this case, the careful recognition of urban elements which could strengthen their image becomes very important. The analysis to define the significance for preserving such elements to maintain the identity in each respective city also should be carried out with a deep understanding of the actual conditions of urban realities. Regarding the new form of mega-urbanization in Indonesian cities and the shifting society, the search for identity in the building of urban images hence should also not entail a constraint of the development. The challenges therefore lie in the question of how the approach can be well-integrated both in the economic and mental efforts of the cities. In addition it is critical to know how to shape the image to be an open-ended one, adaptable to chances, and allowing individuals to continue, investigate, and organize reality in a sufficient urban system. The efforts to build the image of the city can also be manifested in the urban planning, and derived from urban building codes and regulations to control its consistency. But it is always necessary to note that the wrong identification of elements of an urban image, and too ideal and strict efforts on the contrary could result in failures further causing urban disasters, such as the stagnancy of local development, even the destruction of urban structure itself economically, socio-culturally, and physically.

#### **2.4.4. Urban Preservation and Conservation in Indonesia : The Challenges of Starting a New Development Paradigm**

It is a common trend in Indonesia that the rapidly urbanizing cities have to deal with problems of growing population density, the invasion of rural migrants, disintegration of infrastructure, property speculation, commerce, poor development of transportation, as well as poor overstretched social services. All those problems contribute to some tremendous pressures on historical urban areas where invaluable architectural and urban heritage is found. Tensions within the cities fray the social fabric as much as economic speculation transforms the urban tissue.

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<sup>79</sup> Lynch, Kevin, 1960. P.11.

<sup>80</sup> P.J.M. Nas, 1986. P.03.

Many cities in Indonesia, which carry the imprint of settlements developed during colonial occupation, also become disrupted by modernization. Those historical areas are increasingly dilapidated mostly by the middle class and economic activities, taking off the area and thereby actively destroying its very fabric. Many have been losing their historical and cultural achievements in the past which results in the discharging of the social unity inbuilt in urban principles.

Today, those urban conflicts also result in a reflection of a struggle of finding identity in Indonesia, involving the state of different groups of both civil society and individuals. Scholars are the particular group who deafeningly voice these efforts. These endeavours require finding the balance between developing cities, which are plugged into a global network that is international in outlook and they carry a cosmopolitan identity, but on the other hand cities are pushed to simultaneously anchor in local heritage retaining their genuine identities. Conservation hence becomes one of the measures that have been appearing in the course of these last two decades in some Indonesian societies. Those interest groups, especially scholars, also try to bring conservation principles as a force into urban planning. Yet some conflicts of interest still exist and become a big challenge towards conservation and preservation efforts.

### **1. Romanticism versus economics**

The preservation and conservation efforts in Indonesia are somewhat different to those implemented in the European countries, where ideas of conservation originally initiated. Most of the efforts in Indonesia have been initially developed in connection with tourism. The first idea actually surfaced in the early 19<sup>th</sup> century when Sir Thomas Stamford Raffles ruled Indonesia, but its concern was limited to archaeological and historical interests. Those were sponsored by the government and still involved limited stakeholders; archaeologists and historicists. Such efforts were halted during the wars but then continued after decolonization. They became more visible as the political and economic situation in Indonesia started to be more stable in the 70's, and tourism was placed as a priority of development programs.

The demand to accommodate some certain groups of tourists, especially those from the Netherlands who search for nostalgia to remind them of their stay in Indonesia during the colonial period, has also motivated the conservation efforts on colonial heritages in some particular towns in Indonesia as tourism destinations. Such efforts became a formal movement at the beginning of the 80's. The conservation effort in Indonesia has even been accommodated and legalized in National Degree No. 5 /1992 of Cultural

Preservation. This degree recommends the preservation and conservation of historical buildings including those at the city / local level. The trend to develop the “old image” has been hence utilized very often as ideas and initiatives of preservation including the renewal or redevelopment of historical area. At the same time, conflicts surface when people start to ask the significance of efforts in this field. Many believe that such romanticist approaches cannot cope with the demand of urban dynamics, since not all of the “old” values are able to follow the values of modern society. At the same time, conflicts have arisen between scholars for their idealist ideas of preservation and other actors who have merely focused on economic aspects.

Efforts to bring the urban heritage, in particular the one left over from the colonial era, into surface, thus, have to encounter some challenges. Although some parties prefer to see inheritances as architectural witnesses of an urban development that can become an identity of such a particular urban area, however to some extent conflicts came up as the inheritances also revived certain memories of life under colonization, leaving many miserable experiences for a number of groups in Indonesian society. Though there has been increasing awareness within the society during these two decades, the situation is still challenging especially when it comes to budget, commitment, as well as the consistency and capacity of involving actors.

## **2. Inadequate knowledge of conservation**

Cohen (1993) pointed out that historical urban areas are made up of a web of urban structures and their elements such as buildings, streets, squares, etc. and their inhabitants from different periods which take part in creating various cultural and urban strata. Over the centuries, many of historical areas have finally built up their characteristics of self-preservation but some others have evidently failed in their effort to preserve their area. He also underlined that self-preservation only happens when preservation extends beyond nostalgic or aesthetic values, and is applied comprehensively to the city as a whole. Successful urban heritage preservation is also significantly more than merely preserving few buildings. Thus if urban heritage is not correctly integrated into daily life, the preservation process will fail and areas will continue to change, and in the long run can cause the past to be a cultural block and burdensome to the public. In Addition to those, Rodedweig (1983) has underlined that one of the problems usually embedded in urban heritage preservation is the inability to foster the urban fabric with a life of its own and with abilities to sustain the communal life in the area

On the contrary to the premises mentioned above, many actors in Indonesia still assume that heritage preservation entails merely preserving few single buildings and individual objects as most references recite and focus only on building renovation or restoration. It is often misleading that such efforts are likely to focus on preserving many attributes like tourist attractions instead of the essentials. Many efforts to preserve historical urban heritages in Indonesia are often not correctly integrated into daily life, and therefore have failed to stop the areas from uncontrolled and continuous changes. Based on the previous experiences most of the efforts have minor considerations on the urban scale and are not concerned with the urban fabric as a whole, but only focus on the architecture of those single objects. It is obvious in many cities that building restorations remain specific, isolated and are set against a milieu of broad-spectrum decay.

Moreover, there are actually many examples of poor and neglected neighbourhoods, although the products of natural evolution and simple architecture are highly vibrant and enlivened by positive urban values. Many have made mistakes in identifying and utilizing the values of those urban elements to sustain the liveable urban areas as they lack judicious planning and openness for the necessary culmination of urban culture as the focal point of human encounter. It is now also well prominent in Indonesian cities that heritage preservation comes afore when there is already a clear decomposition of buildings<sup>81</sup>.

In general, the lack of knowledge regarding preservation of urban heritage amongst the actors involved often causes great difficulties in day-to-day work, as we are still not able to understand and know how to clearly formulate the intention of what to preserve while maintaining a clear effort of incorporating new buildings. Some problems arise since the parties involved sometimes come to hard discourses of how to define what and where the elements worth preserving on the urban scale are, what constitutes and creates the given element, and how it relates to the geometry of the planned environment. Till date the issues of sustainable development involve the development of the designated Indonesian historical urban areas. The challenge will be bigger in the upcoming years since we still have huge problems of fostering urban fabric with a life of its own and with abilities to sustain the communal life in the area.

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<sup>81</sup> Based on Discussion with Frances Effendi, Chairperson Bandung Heritage Community, October 2005.

### **3. Issues of community participation**

The preservation issues mostly deal with questions of ownership, land division, private and public property as well as the arrangement of urban space as a result of changes over time, including changes of use. Since public property is the first sign of cultural wealth it cannot be left to decay, meaning that the public bears a substantial portion of the burden of preservation<sup>82</sup>. The burden may include a decision regarding private participation and building regulations. The preservation of urban heritage also needs to be funded by or supported with donations of private individuals. Public efforts are thus needed to raise the funds needed for preservation. Public involvement in passing the legislation is also necessary to facilitate long-term and sustainable preservation.

Conflicts of interest of the urban stakeholders can obviously be seen in almost every conservation effort in Indonesian cities so far. The environment of work together, commitments, and clear legal aspects to describe the tasks of each involving actor, which are major conditions for successful preservation, are still not clearly present.

It is evident that there has also been unfair development among groups within the communities in Indonesia. The low-income group living in the designated preserved area is the party, which is mostly neglected and does not profit by the renewal or revitalization, even sometimes, they become victims alone yet evicted from their social and cultural niche. Though the participation of the private sectors is more apparent today, the participation of the community comprising all social levels as the biggest portion of urban citizens is still considered low. Many urban citizens do not understand the positive impact of these projects for their daily lives and cannot voice their interests on such development programs though they are directly and indirectly bearing the cost socially, culturally, environmentally and economically. Such conditions will hamper the success of sustainable development. Therefore, the challenge of participation in Indonesian cities rests on questions of the potency to facilitate and encourage the community to take part in preservation as this can be a measure to sustain the development and life in cities.

#### **2.4.5. Basic Appraisals of Conservation**

Some discourses about conservation come to the general conclusion that conservation can be considered as a process to cope with the changes or transformation<sup>83</sup>. Conservation is assumed to be one of the actions taken in the search for identity in order to give the city an image. This according to Lynch (1960) is also a two-way process

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<sup>82</sup> Cohen, 1999.

<sup>83</sup> Recited from a concluding remark of a symposium held by the University of Strathclyde in the UK in 1977 with the main topic "Old into New".

involving the environment and the human as the observer as well as the users of the city. As the human aspect is a dynamic one and very much affects the shaping of the built environment, theoretical models to be put in a planning strategy should help finding the tools for understanding the nature or the subjective aspects of the transformation as well as predicting the trend of those changes<sup>84</sup>.

Every city has its own unique character. Every place has developed under different political circumstances and geographical features and will have different approaches towards planning in different phases of urban development. We will find marks of long-term influences, taste, ideals and architectural ability mixed with evolving technical potentials and geometrical divisions which form obvious patterns<sup>85</sup>. This essential and underlying geometry is not as simple as the result of some conflicting basic forces along with geographical constraints. The basic preservation is made up through the meaning of space-forming by historical forces, some of which are hundred years old and have a long tradition in their behaviour and influence. Careful analysis of the historical forces will bring light on ways and means of the area formation and enable us to maintain continuity while combining it with present development trends and or new elements. Urban planning and heritage preservation should be viewed as a symbiotic process. It should be treated as a way of analyzing the urban as a whole, contributing an attitude beneficial to planning in all aspects. This means that the new and old have to be viewed in similar terms while maintaining continuity. New buildings therefore can infuse the historical area with new life. Nevertheless, the existing urban structure is upheld. An adequate interpretation of the urban context is hence necessary to guide the planners and architects to incorporate the new into the old.

The diachronic and synchronic readings as mentioned earlier in the first chapter will be the main tools to help understand the transformations in the selected case study areas. Some of the important aspects might be understood and placed as a base to help identify, approach, and create proper planning strategies for preserving potential urban areas<sup>86</sup>. Besides the historical background, physical characteristics of the area have to be carefully observed concerning their significant roles in shaping the urban history. Those include land use, land ownership, land division, geometry and three-dimensional aspects, major transportation and routes within the city, street structure and hierarchy, etc. The urban economic dimension will be very crucial as without financial benchmark (land and building values), the data is unmanageable and recommendations on a large scale

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<sup>84</sup> This concept was concurred and developed by Aylward, 1978.

<sup>85</sup> Himasari, 2001.

<sup>86</sup> Himasari, 2001, after Cohen, 1999 and Parfect et al. 1997.

cannot be made. Major characteristics of the area should be carefully redefined as urban conservation primarily preserves geometry as a background for aesthetic qualities and not vice versa. Therefore, geometry plays an important role in aesthetics arrangements and must be discovered and defined.

Sense of place can be defined as emotional, historical and cultural associations. Therefore it is necessary to know the simple urban understanding, spatial location, as well as their selection and contribution to forging identities. Some elements of such views featured in certain urban themes, provision of comfort and shades, relaxation, link to nature, topography and vegetation hence should be reinvented. Within the areas there might be a singularity of places and links concerning urban spaces and blocks which are called informal links. These involve the spatial design that dominates the elements, positions, street measurement/length/height within the environment and are important elements to be analyzed. In addition to those style and design involving colour, material, textures, silhouettes creating similarities and differences between buildings, must be reinvented. All of these unique attracting elements need to be put in the inventory list. Workmanship is included by finding the former use of certain unique materials and methods in construction that might help to process and create the conservation areas to appear as original and authentic ones. Conservation also requires the appreciation of the dynamics of the local community. The analysis therefore should include the understanding of local views and initiatives, customs, the views of actors both in groups and individuals, organizational or institutional arrangements, and the policy context as well<sup>87</sup>.

In conclusion the character as well as the community and policy appraisal inventory will be important and will be utilized in this study as a basic approach for researching the areas of the case studies. Those aspects are listed in the tables below (2.1. + 2.2.).

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<sup>87</sup> Adopted from Urban Design Compendium - English Partnership, 2000.

**Table: 2.1.**

**Community and Policy Appraisal Inventory**

<b>Subject Area</b>	<b>Consideration</b>
Community profile	<ul style="list-style-type: none"> <li>• Actors</li> <li>• Local organization</li> <li>• Statistical data</li> <li>• Cultural characteristics, local opinions and preferences</li> <li>• Aspirations</li> </ul>
Local plans and policies	<ul style="list-style-type: none"> <li>• Design</li> <li>• Strategic views</li> <li>• Land uses</li> <li>• Transportation plans</li> <li>• Provisional uses</li> <li>• Particular constraints</li> </ul>
Heritage and conservation	<ul style="list-style-type: none"> <li>• Conservation areas</li> <li>• Listed buildings</li> <li>• Sites and specific scientific interests</li> <li>• Protected flora and fauna</li> <li>• Nature conservation and green strategies</li> </ul>
Other relevant policies and initiatives	<ul style="list-style-type: none"> <li>• Supplementary planning guidance               <ul style="list-style-type: none"> <li>- Development framework</li> <li>- Design guides</li> <li>- Site development briefs</li> </ul> </li> <li>• Other relevant local authority policies</li> <li>• Relevant policies and requirements of other bodies (e.g. environmental agency, etc.)</li> <li>• Other local initiatives</li> </ul>

**Table: 2.2.**  
**Inventory of Urban Characteristics Appraisals**

	Subject area	Considerations
Roles and relationship of the site and / area to its strategic context	<ul style="list-style-type: none"> <li>• Function</li> <li>• Linkage to broader area</li> <li>• Relationship to neighbouring areas</li> </ul>	<ul style="list-style-type: none"> <li>• Current performance relative to similar area</li> <li>• Identity</li> </ul>
Neighbouring area	<ul style="list-style-type: none"> <li>• Land uses</li> <li>• Views and skyline</li> </ul>	
Character appraisal	<ul style="list-style-type: none"> <li>• Historical development</li> <li>• Settlement pattern</li> <li>• Archaeology</li> <li>• Cultural characteristics and heritage</li> <li>• Local history</li> <li>• Colour and texture</li> <li>• Local vernacular</li> <li>• Façade treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Building elements and fenestration</li> <li>• Rhythm and pattern</li> <li>• Detail and richness</li> <li>• Local community aspirations</li> <li>• Local / regional building traditions and materials</li> <li>• Events and festivals</li> <li>• Place names</li> <li>• Natural environment / local provenance (plants, trees, etc.)</li> </ul>
Streetscape and public realm analysis	<ul style="list-style-type: none"> <li>• Visual clutter</li> <li>• Lighting</li> <li>• Barriers</li> <li>• Live edges</li> </ul>	<ul style="list-style-type: none"> <li>• Street furniture, signage</li> <li>• Public art work</li> <li>• Safety</li> </ul>
Building, structures and spaces	<ul style="list-style-type: none"> <li>• Layout and form of spaces</li> <li>• Public – private interface</li> <li>• Layout and form of buildings (including scale, height, and massing)</li> <li>• Age and condition of buildings and structure</li> <li>• Relationship between built and non-built form</li> </ul>	<ul style="list-style-type: none"> <li>• Sense of enclosure</li> <li>• Types of buildings</li> <li>• Continuity of facades</li> <li>• Urban grain</li> <li>• Public and open spaces</li> </ul>
Uses and activities	<ul style="list-style-type: none"> <li>• Building units</li> <li>• Economic activities</li> <li>• Activity spines and nodes</li> <li>• Public and open spaces</li> </ul>	<ul style="list-style-type: none"> <li>• Art and culture</li> <li>• Amenities and facilities</li> <li>• Education</li> <li>• Leisure and recreation</li> <li>• Employment</li> </ul>
Visual analysis	<ul style="list-style-type: none"> <li>• Image and perceptions of the area</li> <li>• Gaps and enclosure</li> <li>• Views (local and strategic, vistas and landmarks)</li> <li>• Skylines</li> <li>• Gateways and thresholds</li> </ul>	<ul style="list-style-type: none"> <li>• Boundaries and barriers</li> <li>• Aesthetic quality</li> <li>• Legibility</li> </ul>



## CHAPTER III

### ***Bandung Noord; a Transforming Colonial Settlement***

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### ***Bandung Noord; a Transforming Colonial Settlement***

Bandung is one of the big Indonesian cities located on Java Island, which is known for its prestigious reputation. This city has long been a home for some important historical events and venues in the Indonesian development phase; during colonial times, the early period after the independence of Indonesia, and even at present<sup>1</sup>. Bandung had a big role in the peak of the colonial period in the 1920s. The city was planned to be the capital of the Dutch-East-Indies in the 1930s. Some considerably sophisticated methods of design and urban architectural orders were applied to represent the important symbol of colonial authority, commerce, and eminent culture in this period. At the same time, Bandung became an architectural laboratory for a new breed of modernism. This trend of modernism housed the vocabulary of local traditions and of European rationalism as well.

Due to its lively and comfortable living environment, Bandung was once acknowledged as "*Parijs van Java*" because of its suitability to comfort many Europeans, thus pleasing a majority of the city population living in this city during the colonial era. The city was an agglomeration of the largest Art-Deco buildings in Southeast Asia. It housed many of the best examples of modern architecture in Asia known as "*Indies-Tropical Style*" or "*Indo-European Style*". Bandung was then also termed the best model for the other modern colonial cities in Indonesia; and the best example for the implementation of a garden city concept in the tropics. As discussed in Chapter II, Bandung is now one of the most rapidly growing Indonesian cities whose plans, rules, and regulations are not apt to cope with and anticipate the process of changes in the urban area. Spatial planning thus became a serious issue for the city's development today. The trend of development in the northern part of the city, where the previous colonial dwelling settlements with the garden city concept are located, becomes considerably uncontrolled. This area has encountered numerous urban problems until today and has indicated that unregulated and unmonitored land use is a major problem with emerging negative impacts on the environment and its urban architecture. The ex-colonial settlements in the northern part of Bandung have therefore been chosen as the case study. And they also represent the situation of urban development in Indonesia.

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<sup>1</sup> Bandung rose onto the world stage as the venue for 1<sup>st</sup> Asia-Africa Conference and the announcement of "The Bandung Declaration" to form the Non-Aligned movement ("Non-Block" countries) in 1955.

This chapter will describe the development and the growth of the city of Bandung in general, from its initial state till its current situation. The North Bandung area, in particular, where the case studies take place, will be presented in more detail to address the general characters of planned colonial cities, their evolutions, and transformations in different time horizons.

A city's morphology is a manifestation of politics, a stage for the history of power play, and a symbolization of ideology – in its three layers; morphologic (form, space, structure), sociologic (functions, activities, mechanisms), and spirit (meaning, philosophy, ideology). However, the discussions in this chapter will be highlighted only in terms of the built environment and specific studies with different architectural approaches.

### **3.1. General Overview of Bandung**

Bandung is located in the West Java Province (fig. 3.1.), and functions administratively as its capital city. Today, Bandung accommodates an agglomeration of relatively dense urban settlements, the so-called Bandung Metropolitan Area. Geographically, the city area is sandwiched between 107° east longitude and 6° 55' south latitude, and situated in a plateau at about 675 m - 1.005 m above sea level. The city centre itself is located at 791 m above the sea level. Morphologically, Bandung is divided into two topographical areas; the northern part is a hilly area and the southern one is relatively flat. The largest river, Cikapundung, crosses the city from north to south. The townscape, especially in the northern part, is strongly characterized by its river and the riverbank and valley, which create a beautiful panorama.

The tropical climate brings two seasons in this area; the dry season from March to August and the rainy season from September to February with an annual precipitation of 200.4 mm. The climate of Bandung is influenced by its mountainous location. The temperature therefore is relatively low (23.5° C in average) combined with humidity (rainfall frequency is 21.3 days per month). The northern part of Bandung is cooler than the southern part.

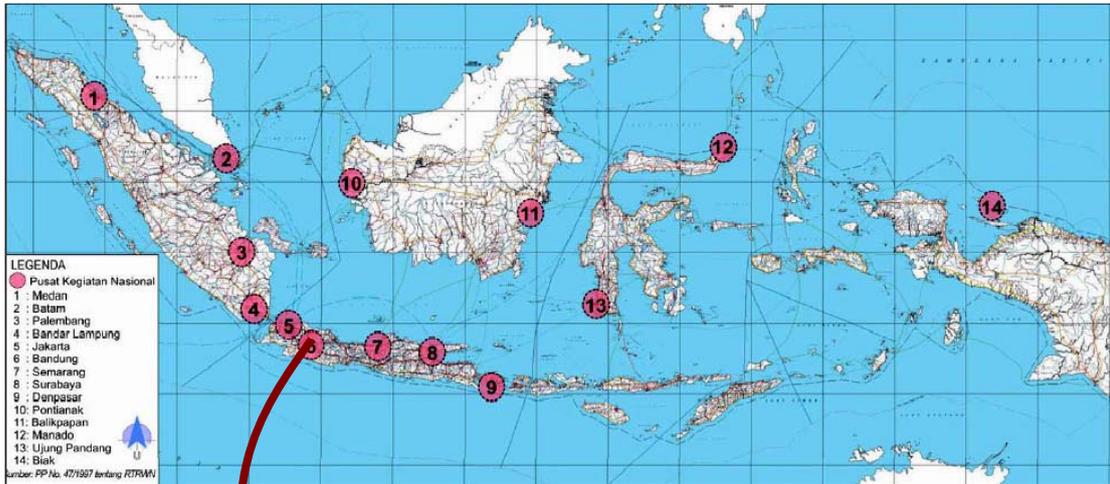
The city of Bandung is a municipality with an administrative area of 16,729.50 Ha. The area has doubled compared to its size in 1949, which was only 8.098 ha. Bandung is classified as a large city with a current population of 2,510,982<sup>2</sup> (table 3.2.). Thus, the gross density is about 150 persons/ha<sup>3</sup>, whereas the net density is 188 persons/ha<sup>4</sup>.

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<sup>2</sup> Statistic Bureau of Bandung, March 2004 and <http://www.bandung.go.id/>

<sup>3</sup> This number indicates the gross density, the number of the total area to population.

<sup>4</sup> This number is the net density, the number of the total built area to population.



Source: PP No. 47/1997 about Indonesian Regional Spatial Planning.

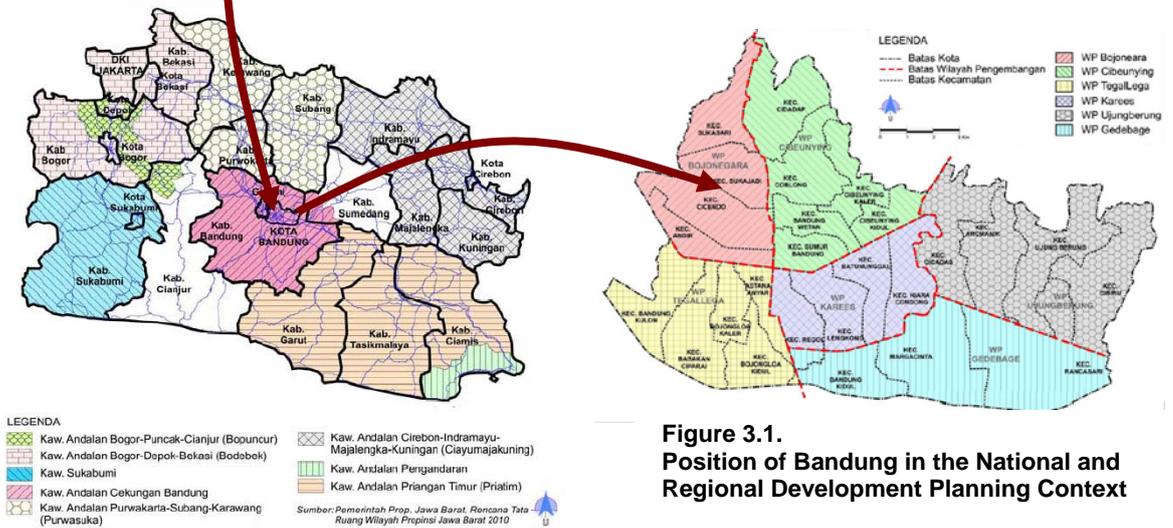
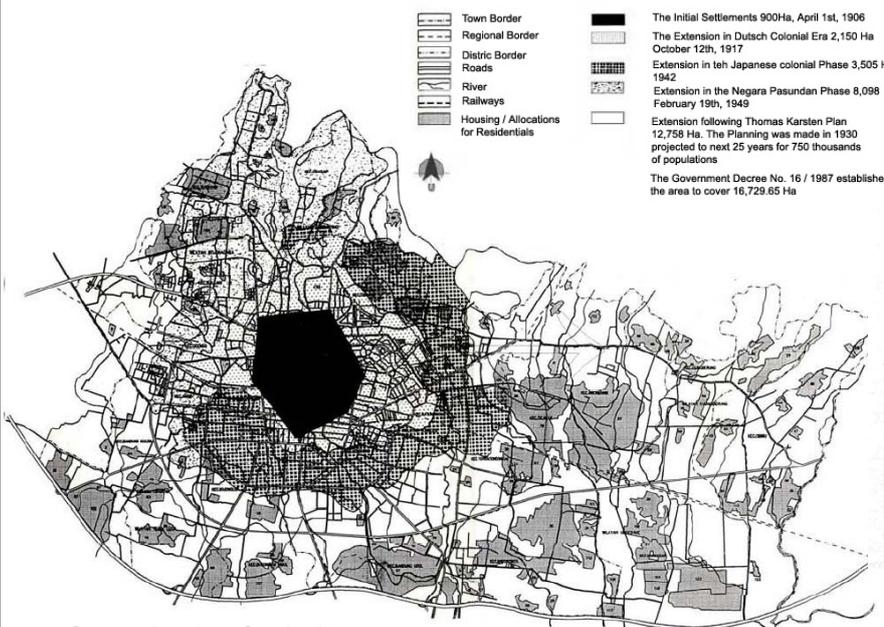
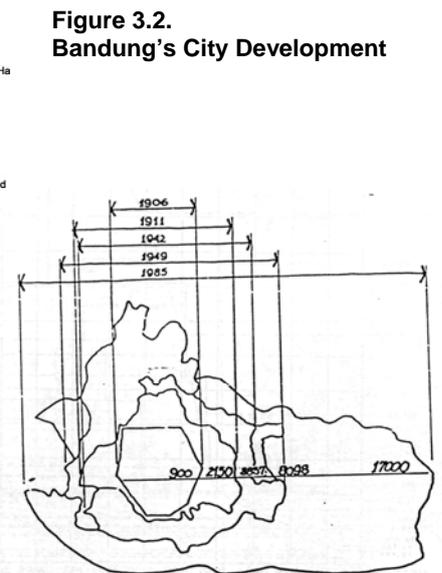


Figure 3.1. Position of Bandung in the National and Regional Development Planning Context



Source: Bandung Spatial Planning, 2001.



Source: Siregar, 1990

**Table 3.1.**  
**The Development of Built Area in Bandung (1904 – 1950)**

Year	Area (in Ha)	Built Up Area	Percentage
1906	900	240	26.66
1906	1,922	240	12.48
1911	2,150	300	13.95
1916	2,150	380	17.69
1921	2,353	850	29.79
1926	2,583	1,050	36.80
1931	2,583	1,300	45.56
1943	5,413	n.a.	n.a.
1950	8,098	1,900	23.34

Source : *Verlag van den Toestand der Gemeente Bandoeng 1919, Basaoeni, 1956*

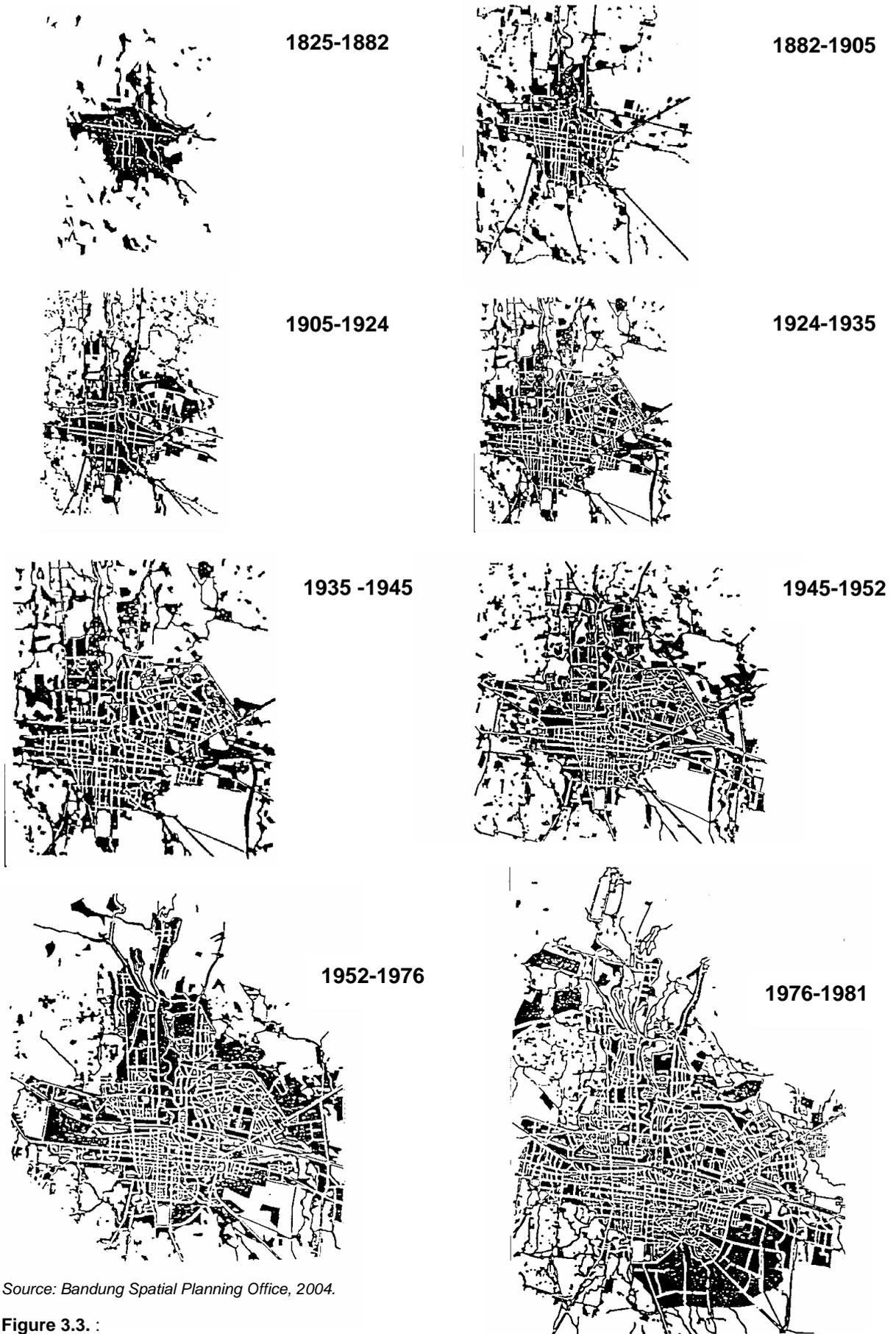
**Table 3.2.**  
**The Number of Population in Bandung (1901 – 2004)**

Year	Number of population (thousand)
1901*	109,0
1905/1906*	47,5
1910/1911*	118,0
1918*	58,6
1920*	94,8
1925*	136,0
1928*	145,0
1930*	166,8
1959*	941,5
1961*	973,0
1964*	1006,0
1971*	1201,7
1980*	1462,6
1991*	1808,7
1997*	1818,7
2000**	2136,3
2003**	2228,3
2004**	2510,9

Source : \* <http://www.populstat.info/Asia/indonest.htm> and  
\*\* <http://penataanruang.pu.go.id/taru/nspm/buku/metropolitan/Bab3.pdf>

Moreover, the density is not uniformly distributed within the city since the built up area is limited due to its topographical features. The Rancasari district for example has the lowest density of about 46 persons/ha, while in some other areas like in Pasir Koja, Ciroyom, and Cicadas the density can reach over 500 persons/ha<sup>5</sup>, which makes some

<sup>5</sup> This number of density is an official statistics. In fact some areas in Bandung such as the Bojongloa Kaler district are said to have a density of more than 700 persons/ha due to some unregistered population



Source: Bandung Spatial Planning Office, 2004.

**Figure 3.3. :**  
**Bandung's City Development and the Extensions of the Built Area**

areas of Bandung the most populated districts within the big Indonesian cities. Figure 3.2. and 3.3., and table 3.1. depict the development of built area in Bandung, whereas the population growth is shown in table 3.2..

### **3.2. The Initial Development of Bandung**

To understand the transformations in Bandung, it is essential to explore the historical backgrounds and initial formation of the city. The sub-chapter below will describe Bandung's process of developments in some significant periods.

#### **3.2.1. The Indigenous Formation of Bandung as a Town (ca.1810) and the Era of Plantation (*Groote Postweg*)**

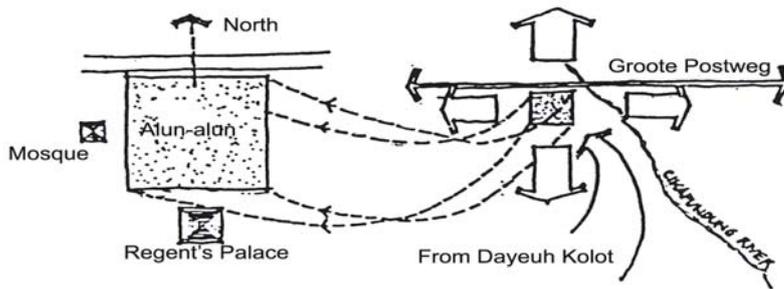
Juliaan de Silva<sup>6</sup>, the first foreigner who travelled to this area, mentioned that in 1641 the embryo of this city had already existed as a small village comprising of 25 to 30 houses called *Negorij Bandoeng* or *West Oejoeng Beroeng*. There is no particular literature mentioned about the pattern of the town, but it refers to the rural kampong form with incremental growth. The Sundanese who lived there at that time were a rustic people farming the fertile regions of Bandung.

The initial formation of Bandung had actually been spotted long before the first arrival of the Portuguese in Indonesia in the 15<sup>th</sup> century. The so-called *Priangan* (the commenced West Java) region already counted several principalities at that time, which stood under the sovereignty of the Hindu Kingdom of *Pajajaran*. However, the *Dalem* or *Bupati*, who ruled each principality, had governmental autonomy within their realm. The historical formation of Bandung alone can be traced through the establishment of Timbanganten. It reached sovereignty in about the 15<sup>th</sup> century when it was situated in an area near Mount Malabar and later moved to a site at the bank of Citarum river. Under the order of Tumenggung Wira Angun-angun, Bandung was later moved to Krapyak (now Dayeuhkolot), which is situated about 11 kilometres south of the planned *Groote Postweg*. In the early 17<sup>th</sup> century, the sovereignty of Bandung, known as *Tatar Ukur*, was placed under the power of the Islamic Kingdom of Mataram from Central Java. Dipati Ukur, the Bupati of Bandung at that time, was instructed by Sultan Agung from Mataram, to attack the V.O.C<sup>7</sup> headquarter in Batavia, but he did not succeed. This effort somehow attracted the Dutch towards the remote principality and was then followed by other European adventurers to try their luck in the fertile and prosperous Bandung area (fig. 3.4).

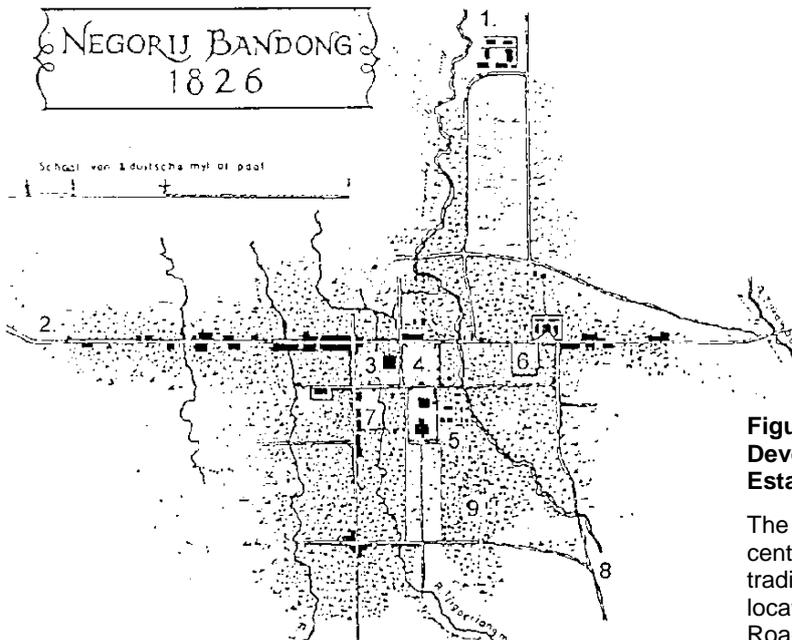
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<sup>6</sup> Van der Pijl, 1955. P.8, and referred to Prof. Dr.E.C. Goedee Molsbergen, 1935 in H. Kunto, 1986. P.7.

<sup>7</sup> V.O.C. = *Vereinigde Oost-Indische Compagnie* or the Dutch East – Indie Company, was a Dutch chamber of commerce led by J.P.Coen.



Source: Siregar, 1990.



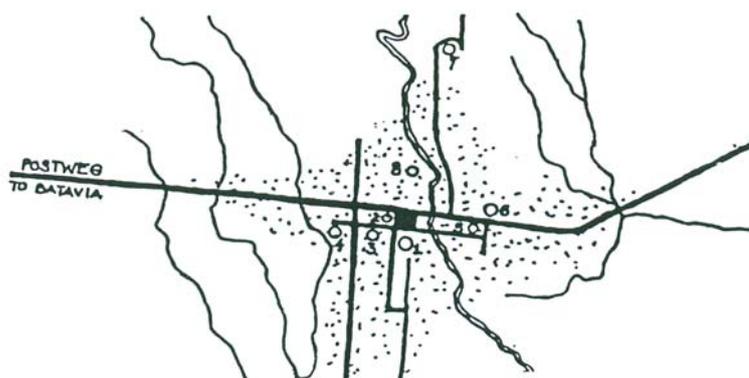
Legend:

1. House of the Coffee Culture Assistant
2. The 'Groote Postweg'
3. Mosque
4. Alun-alun
5. House of the Regent
6. House of Toemenggoeng
7. House of Aria
8. Cikapundung River
9. Kampongs

**Figure 3.4.**  
Development of Settlements in the Early Establishment of the *Groote Postweg*

The initial settlement of Bandung was centred in the residence of Bupati and a traditional Square (*alun-alun*), whose locations were attached to the Great Post Road (*Groote Postweg*).

Source: Mooi Bandoeng 10, 1939.



Legend:

1. Regent's Palace
2. Mosque
3. House of Aria
4. Barracks
5. Toemengoeng's House
6. Tavern
7. House of Coffee Super Intendant
8. Mr. Paijen's Residence

Source: Siregar, 1990.

**Figure 3.5.**  
The Initial Development of Dutch Settlement after the Establishment of the *Groote Postweg*

The Dutch gradually took control of the Priangan region in the early 18<sup>th</sup> century. They started to introduce agricultural obligation and forced labour, called *Cultuurstelsel*. Such a system compelled local rulers to plant exported-oriented crops (like coffee, tea, later quinine, etc.) and was applied on a large scale. Trade was monopolized by the V.O.C., which constrained the trading role of other foreign competitors in this region<sup>8</sup>. Nevertheless, the V.O.C lost its power in the early 19<sup>th</sup> century and the control of this region was taken over by the Dutch Government.

### **3.2.2. The Early Development of Bandung as a Colonial City (1880 – 1900)**

#### **a. The Construction of the Great Post Road “*Groote Postweg*”**

The achievements of European people led eventually to some developments, when a road was built connecting Jakarta, Bogor, Cianjur and Bandung in 1786. This trend increased in 1809 when Louis Napoleon - the ruler of the Netherlands - instructed Governor General H.W. Daendels to increase the fortifications in Java against the English<sup>9</sup>. The vision was a bond of military defence units and a supply road between Batavia and Cirebon, even though the spots along the coastal part were marsh and swamp. Due to this condition, further construction along the south route across the Priangan highlands was considered. However, the real establishment of Bandung as a town started in the early 19<sup>th</sup> century, with the construction of the Great Post road or the “*Groote Postweg*” by H.W. Daendels in 1810. This road ran through and connected almost all of the important cities on Java Island and even functioned as a backbone for the urban structure of some Javanese towns (fig. 3.5.). This road also incorporated the Priangan highland regions.

The east-west Post road passed through pre-existing native settlements on the Bandung plateau, which was about 11 km north of Krapyak. It crossed the pre-existing dust roads linking those settlements which followed north-south ridges and riverbanks. The new road was situated in-between the hilly part in the north and the flat-marshy land in the south. Therefore, from the very beginning the basic morphological pattern of Bandung was formed due to the integration of the hilly and plain landscapes and the colonial infrastructural interventions. This pattern was a complex interweaving of a double-structure of the pre-existing linked traditional villages and the new superimposed colonial establishments. This was soon developed into a comfortable shelter for the European planters and a fast growing town of opportunities for the Chinese entrepreneurs. With the

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<sup>8</sup> Tan Giok Lan, 1964. P.8.

<sup>9</sup> The main purpose of Daendles was to empower defence against neighbouring colonial powers in Singapore, Malacca and India to protect his military and economic intentions in this area.

existence of the Dutch and other foreign communities working at plantations in this region, the marginalized native kampong enclaves were also increased. This era was also known as “the great epoch of plantation”, since the city itself was mainly shaped by buildings and facilities, which supported plantation activities.

With the existence of new forces in this region, especially Europeans with the Dutch dominating, the traditional town lost its power. The Dutch under Governor General Daendles even ordered to displace the House of Regent Wiranatakusumah II and thus the regent was forced to move from his original location to the proximity of the great road. The new urban square "*Alun-alun*" as a main element of the traditional town structure was later intentionally sited by the Dutch on the main east-west road as the new town centre.

Initially, the Dutch representative was only an administrator of the coffee plantation, a trader who was also acting as the official Assistant Resident. He settled on a mansion further north of the *Groote Postweg* (fig.3.6.). The official residence of the Dutch Assistant Resident with a prison behind the house was erected later on the northern side of the square facing south. The barracks for soldiers and a station for their horse coaches were later placed at the eastern end of this complex. Thus, it is clearly shown from the new morphological arrangement that the Dutch tried to put local traditional rulers under colonial authority by using the traditional cosmological order and spatial language. The function of the “*Alun-alun*” hence was transformed. It was clearly a colonial urban design element facilitated with colonialist intention<sup>10</sup>. In addition to this feature of urban structure, there was a little settlement camp for the Chinese that had been already designated by the Dutch in the western quarter of the urban centre. The intention behind this was to give the Chinese some opportunities in the development of the urban economic life of this new town.

#### **b. Bandung under British Rule (1811 – 1816)**

In 1811, the colonial power was shifted to the British under the rule of Sir Thomas Raffles. Consequently, new rules were put into practice in this region. During this period, Raffles sold the land estates to some Europeans and Chinese planters. He showed his generosity to the Chinese population by including them into the middle-class society and granted them some advantages: they could act as financial institutions (money lending-borrowing), local market holders, and rice traders. Under his orders, the marketplace was decided to be located in the middle of the Chinese quarter in 1812. British rule, however,

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<sup>10</sup> See also Widodo, J., 2003.

had lasted only for a short period. In 1816, the Dutch returned as a result of the Peace Treaty in Vienna. As a consequence, old Dutch policies were re-implemented.

### c. The Second Dutch Occupation

In the next period from 1816 – 1826, power was embraced by the Dutch Governor General Van der Capellen. This period is also known as the era of isolation, since the Dutch government closed the access to the Priangan area in an attempt to restrict foreign people from taking part in the economic activities in this region. The activities in this area were absolutely monopolized by the Dutch government during those years. The region was re-opened in 1852, but the strict "*Cultuur-stelsel*" policy was enforced until 1870. In this period, the Priangan and Bogor regencies were separated. The domicile of the Dutch Resident of Priangan was also officially moved from Cianjur to Bandung in 1856. But it was only manifested in 1864.

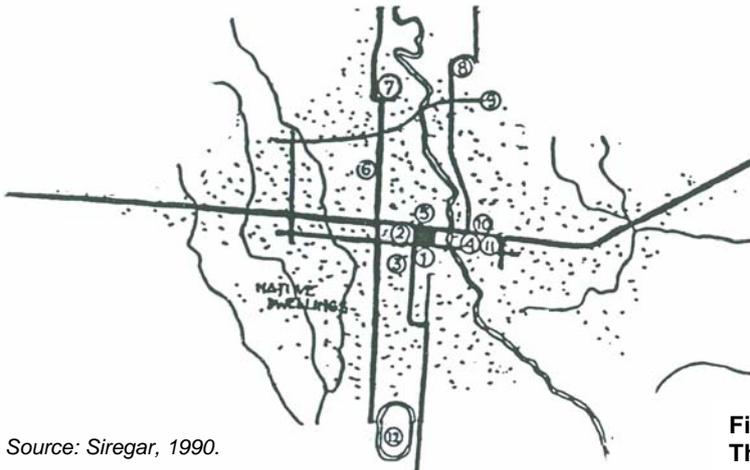
The exploitation of farmers in the Dutch colonies raised critiques in the Netherlands during the 1860's, followed by protests of Dutch politicians in the course of a so-called "humanitarian policy" movement. The most famous person in this connection was Eduard Dauwes Dekker who published his opinions about this movement in a book titled "Max Havelaar" in 1860. This publication led to the formulation of ethical policy some years later. Other critiques also came from the ranks of private entrepreneurs and bankers who suffered from the "*cultuur-stelsel*" monopoly system implemented by the Dutch colonial government in Indonesia. As a result, the forced cultivation in Priangan was abolished in early 1900 after a gradual change of Agrarian Laws had started in early 1870<sup>11</sup>.

In 1874, after the abolition of the forced planting system, the Priangan region was re-opened by the implementation of the Agrarian Law and it consequently allowed economic actors to come to this region. However, the Dutch government still limited this law to foreign traders, especially foreign oriental merchants (Chinese, Indian, and Arabian), by strictly requiring them to get travel or resident permits<sup>12</sup>. At the end of the 19<sup>th</sup> century, there were about 150 private plantations in the region. Bandung then developed and became a weekend town for the *Preanger* planters to have entertainment. New facilities such as club-houses, recreation facilities, hotels, horse race circuits and brothels appeared to fulfil the needs of the rich Dutch planters and merchants coming not only from Priangan and the neighbouring regions in Java but also from other places such as Bangka, Belitung, and Sumatra. The city then became a famous colonial leisure town.

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<sup>11</sup> Van Doorn, J. Hendrix, 1983.

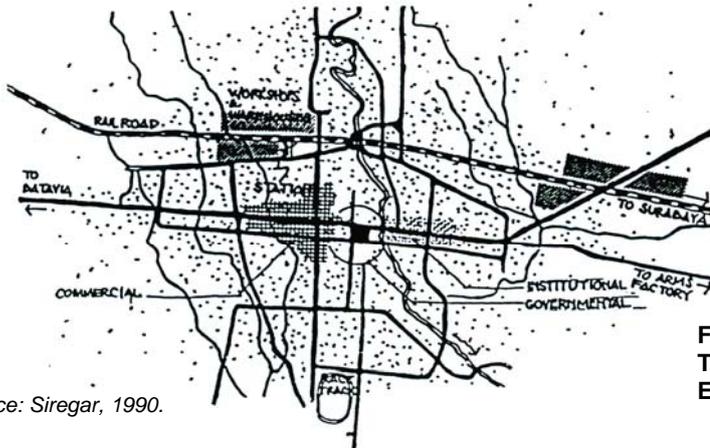
<sup>12</sup> According to Tan Giok Lan (1964), the new regulation was made to set foreign oriental traders in special quarters which were supervised by their own ethnical leaders.



- Legend:
1. *Bupati* Residence
  1. Mosque
  2. House of *Aria*
  3. House of *Toemenggoeng*
  4. House of *Asistent Resident's*
  5. Market Place
  6. *Resident's*
  7. House of *Coffee Super Intendant*
  8. *Kweek School*
  9. *Controleur*
  10. *Resident's* office
  11. Horse Race Track

Source: Siregar, 1990.

**Figure 3.6.**  
**The City Core of Priangan**



Source: Siregar, 1990.

**Figure 3.7.**  
**The Railway Development in the Early 19<sup>th</sup> Century**



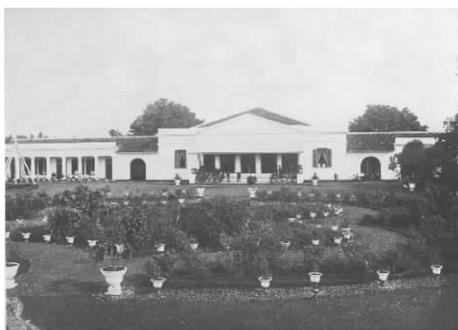
Source: *Beeld van Een Stad*

**Figure 3.8.**  
**Resident's House of Bandoeng**



Source: *Beeld van Een Stad*

**Figure 3.9.**  
**Bandoeng's Train Station**



Source: KITLV Library

**Figure 3.10.**  
**The Resident's Palace, 1864**



Source: KITLV Library

**Figure 3.11.**  
**Kweekschool, 1866**

This new development resulted in new transformations of the city structure. A new primary urban element, namely the palace for the Resident of Priangan was erected on the northern side of the great post road and the horse race track on the south at Tegallega. The new palace and the horse race track in the south were connected by a north-south circulation axis perpendicular to the old east-west axis. Some periphery of this junction also developed in the form of a growing commercial quarter occupied mostly by the Chinese population. These roads then became the new strong axis in the further development of the urban structure of Bandung. Moreover, other facilities and dwelling units of Dutch officers were built at the eastern section of the great post road (fig.3.7.). In this period, the so-called “*empire style*”<sup>13</sup> had appeared in urban architecture, which was applied in the building of the resident’s palace (fig. 3.8., fig. 3.9., fig. 3.10., fig. 3.11.).

In 1884, the new railway construction from Batavia to Surabaya reached Bandung. This track allowed the city of Bandung to become a key for accessing the transportation lines from Batavia to Central Java. This development was further improved by the transfer of the head office of the State Railway Company Western Sector from Batavia to Bandung. It was followed by the development of commercial facilities including the commercial quarters dominated by the Chinese. The emergence of new hotels, offices, workshops, warehouses, and housing for officials and workers situated near to the train station and along the railroad (fig. 3.12) accelerated the economic growth of this region.

Bandung was also considered a strategic location for colonial expansion towards the hinterland of western Java by the Dutch military. In 1896, a new army centre was built along the railroad in Cimahi, about 10 kilometres to the west of Bandung. Following the relocation of the weapon factory from Surabaya to the south-eastern side of the city in 1898, settlements for army officers and migrant workers were established. This new population mostly came from East Java<sup>14</sup>. The presence of a military base in Cimahi also strengthened the function of Bandung as a military city.

In the next development phase of 1908, Bandung grew more rapidly especially after the construction of a railroad between Karawang and Padalarang that shortened the distance from Batavia to Bandung. In 1896, the number of population in Bandung was only around 29,382 with 1,250 Europeans<sup>15</sup>. But by the end of the nineteenth century, the total

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<sup>13</sup> The Palace which is now known as Gedung Pakuan and used as the office of the Governor of West Java, has strong influences of the classicism and empire style. The empire style actually refers to the style commonly used in French colonies while classicism was the main style that had been applied from the mid-18<sup>th</sup> century in other British and Portuguese colonies such as in Singapore, Malacca, Macao, etc.

<sup>14</sup> These settlements are now still known as Babakan Surabaya. Surabaya is the capital city of East Java.

<sup>15</sup> Reitsma and Hoogland, 1921.



Source : Bandoeng en Omstreken, 1882 (Beeld van Een Stad)

**Legend :**

- 1. Inlandische (native) School
- 2. School voor Kinderen van Ind : Hoofden (Kindergarten)
- 3. School voor Kinderen van Ind : Hoofden (Kindergarten)
- 4. Horse Race Track
- 5. Hospital
- 6. Kweekschool voor In. Onderwijs

- 7. European Cemetery
- 8. Market
- 9. Post office
- 10. Mosque
- 11. Jail
- 12. European School
- 13. Hospital
- 14. Komediagebauw
- 15. Societeit city hall
- 16. Military Barrack

**Legend :**

- 1. Regent's (Bupati) Palace
- 2. Resident's Palace
- 3. Resident's office
- 4. Assistant Resident's residence
- 5. Wedana's residence
- 6. Controleur's Residence
- 7. Patih's residence
- 8. Hoofdjaksa's (high court's judge) residence
- 9. Residence of 'Kinakultuur' (quinine plantation) director

**Figure 3.12.**  
The Development of Urban Facilities in Bandung in the Early 19<sup>th</sup> Century



Source: Bandoeng—Beeld van Een Stad, Album Bandoeng Tempo Doeloe, Bandoeng, Documentation of Bandung Heritage Society

**Figure 3.13.**  
Architectural Style Performed in Bandung in the Early 19<sup>th</sup> Century

population of Bandung had reached about 46,000 (2% Europeans, 8% Chinese and Arabs, and 90% natives)<sup>16</sup>.

**Table 3.3.**  
**The Composition of the Population in Bandung Based on Ethnic Groups**

	1846 <sup>17</sup>	1906 <sup>18</sup>	1920 <sup>19</sup>	1930 <sup>20</sup>	1940 <sup>21</sup>
Native	31,000	41,393	79,017	130,028	171,457
European	30	2,199	9,043	19,650	27,726
Chinese	29	3,704	6,495	16,657	25,534
Others	47	95	245	480	-
	31,106	47,391	94,800	166,815	224,717

Source : Individual Analysis following data from W. Tietze, Brand, 1958, Haryo Kunto, 1986

**Table 3.4.**  
**The Number of the Foreign Population in Bandung with Restricted Stay Permit in 2003**

Continent	Asia	Europe	America	Oceania	Africa
December 2003	4,170	1,539	1,284	283	47
Total number of foreign population 7,323					

Source : <http://penataanruang.pu.go.id/taru/nspm/buku/metropolitan/Bab3.pdf>

This development in terms of an increase in the population demanded some more facilities. Most of these facilities were initially developed around the city square (*alun-alun*), some along the great post road and near the rail way station. In this period, Bandung was segmented sociologically and morphologically based on ethnicity: the Dutch area (north and east), the Chinese area (west), and the native area (south), with their specific morphological and typological structure. The urban pattern was thus shaped by a mixture of the traditional town and indigenous urban villages or "*kampong kota*". Moreover, the colonial urban frame became a typical morphology of an "*Indisch*" town, which in fact embodied the basic morphological characteristics of early Indonesian urbanism (fig. 3.14.). The traditional gridiron town layout was still used as the main structure of the town whereas architecturally the urban area was characterized by the popular symbiotic European architecture, with classical columns and arcades,

<sup>16</sup> Haryoto Kunto, 1986, P.834.

<sup>17</sup> W. Brand, in : W.F. Wertheim (Ed.)1958, P. 227 – 334.

<sup>18</sup> Haryoto Kunto, 1986, P.834.

<sup>19</sup> Westermanns Lexicons of Geography, W. Tietze (Eds.), and Brand, 1958, P. 231.

<sup>20</sup> Westermanns Lexicons of Geography, W. Tietze (Eds.), and Brand, 1958, P. 231.

<sup>21</sup> Hardjasaputra, 2000, P. 51.

symmetrical plans and arrangements with stuccowork such as applied by buildings in the Netherlands. In addition, large terraces were designed and the rooms were all scattered on these terraces and pavilion structures<sup>22</sup> (fig. 3.12.).

### **3.3. The Modern Development of Tropical “Nederland-Indie” Colonial City (1900-1945)**

#### **3.3.1. The Initial Modern Development**

In 1898, a number of citizens of Bandung established a private society called “*Vereeniging tot nut van Bandoeng en Omstreken*”, whose members included the Resident and Bupati. This organization was intended to organize European and upper-class natives to show more concern in the urban development phases and improvement of Bandung, by upgrading and providing more urban facilities within the city. The fast-growing European population also brought some positive architectural influences in this period, such as the romantic ideas on the beautification of the urban landscape, hygienic values, the quality of public open spaces, and the like<sup>23</sup>. Greenery and building rules and regulations program were two of their focuses in upgrading the urban quality. Some of the parks were built during this phase, including the “*Pieters*” park in front of the town hall which was dedicated to the “*assistent-resident*” Pieter Sijthof. The laws regarding the density of urban quarters were also put into the building regulations. Some other public facilities like hospitals and schools were built to meet the needs of the growing middle / high-class population in Bandung. Furthermore, tourist guide books were published to promote the city of Bandung for tourism.

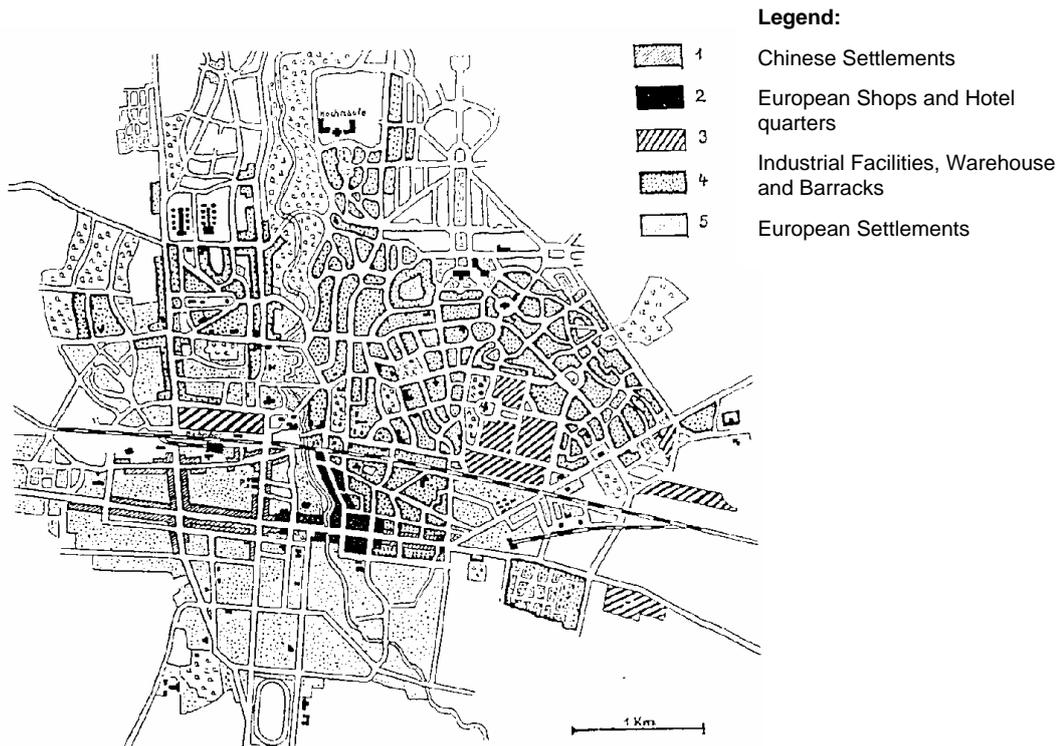
Although these concepts were intended to control all urban buildings and housing, they were mostly implemented in the new housing compounds inhabited by foreigners and middle / high-class natives. Some of the urban kampongs and even the Chinese quarter remained in the dense neighbourhoods.

In this period, a large number of villa type houses (*Europeesche Huizen in Europeesche Zakenwijk*) with big terraces and large front yards along the big street were developed in a more comfortable green neighbourhood, especially in the north part of the old city core of Bandung. Kampongs were thus concentrated in the south part, and the Chinese quarter was situated as a transition area in between. These new orders changed the

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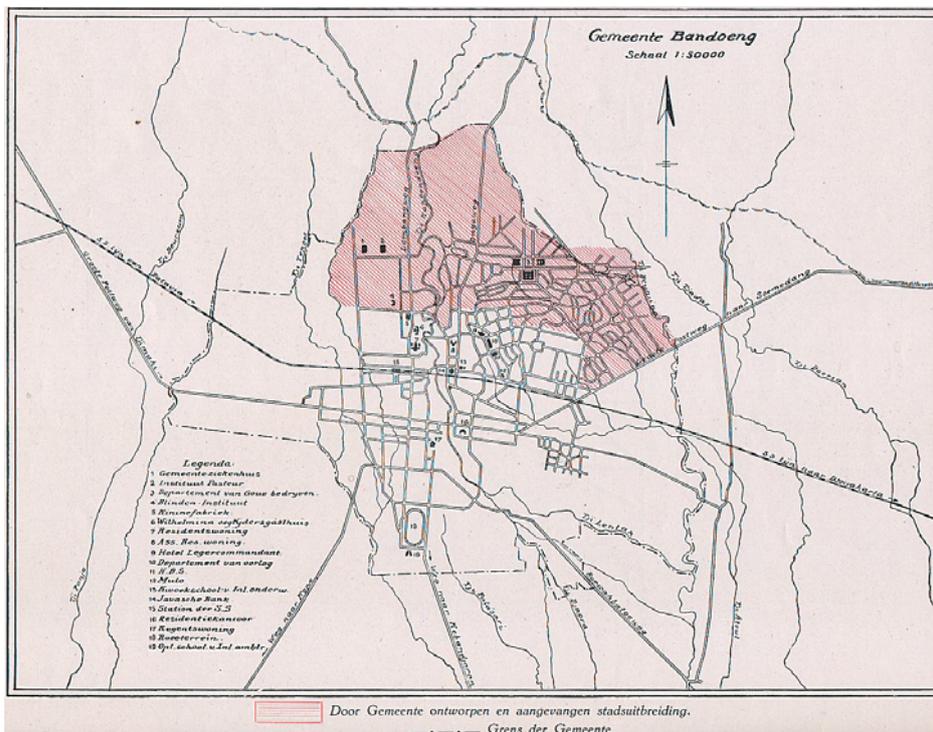
<sup>22</sup> The stone / brick houses or houses with pillars were one image of a *kota* (town) in the traditional perception, especially in the Javanese culture. Therefore, although Bandung was not as big a town / city like those in European countries, it was in the Indonesian traditional sense keenly assumed to be the centre of a region (*hoofdplaats*).

<sup>23</sup> See Haryoto Kunto, 1984. P. 835-837.



Source: A. Lehmann, 1936.

**Figure 3.14.**  
Basic Morphology of Bandung in the Early 19<sup>th</sup> Century



Source: Gemeente Bandoeng, 1918

**Figure 3.15.**  
The *Uitbreidingsplan Bandoengnoord* (Extension Plan of the New Colonial Settlements of the North Bandung)

image of the “*Indische*” town, which used to be characterized by the *alun-alun*, native kampongs and the Chinese quarter (fig.3.14.). The expansion of the villa houses was the initial development of **the North Bandung** known as “***Uitbreidingsplan Bandoengnoord***” (fig.3.15.). These villa houses were mostly inhabited by the foreign population of the north part of the city.

### 3.3.2. Bandung as a “*Gemeente*”

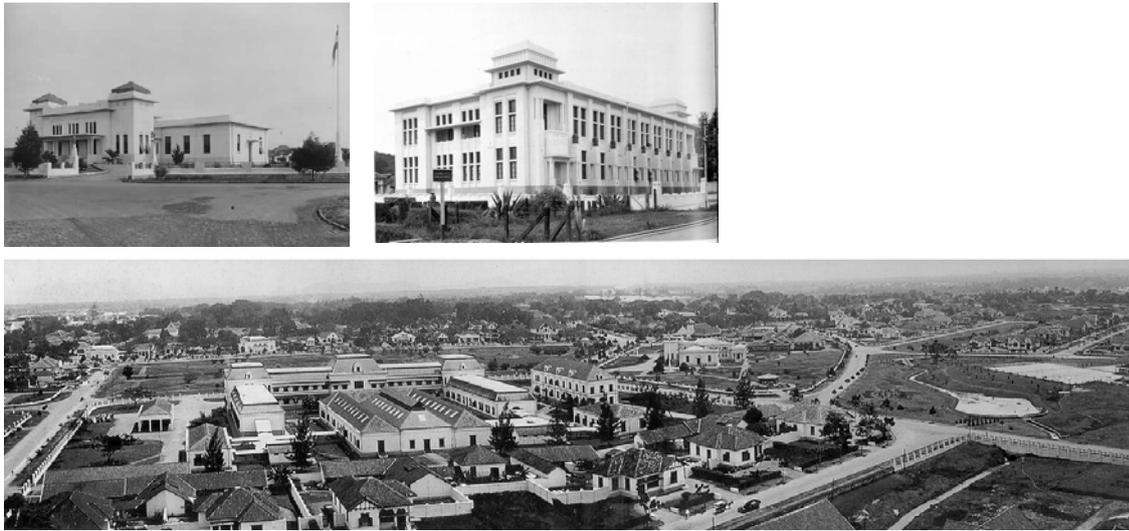
Among other colonial cities, Bandung officially received the status of municipality or “*Gemeente*” following the implementation of decentralization law in Indonesia in 1906. With this new status, Bandung had a clearer administrative boundary and autonomy in its relations with the central government. After 1916, Bandung was managed by a Dutch mayor or “*Burgemeester*”, later headed by an “*assistent-resident*” for the first ten years of municipality. This system left over an officially segregated urban zone for the Europeans, the Eastern-Alliance, and the Natives. The municipality only sought to the administrative affairs of the first two groups, and the third group was administered by the native authority of the local ruler (*Bupati*)<sup>24</sup>.

This status consequently brought some changes in the cityscape, with the appearance of new events, places, and buildings. The town hall was moved to the villa house of the first Dutch coffee planters located in the north of Pieterspark<sup>25</sup>. It then functioned as the new civic centre for the European community. The residence of the Mayor was consequently moved to another place, in a house that was previously the residence of the Military Commander of West Java. The town hall became a starting point of the development of the North Bandung area, which was intended for the European community. The new building for the town hall was built in 1929 by the architect De – Roo. It showed the basic type of the “*Indische*” residence, characterized by a singular building as a main volume and a colonnaded terrace and garnished with more Art Deco elements. This style was later applied and modified broadly in the neighbourhood (fig. 3.16.). Further, new public facilities such as offices, a school, and churches were built surrounding the Town Hall to add or replace the older buildings. Most of these were designed by the famous and best architects living in this period and used various architectural vocabularies from the simple ones to the mixed styles. Conservative neo–classicism mixed with light Hindu-Javanese motifs for example was applied to the Central Bank building, whereas the simple public

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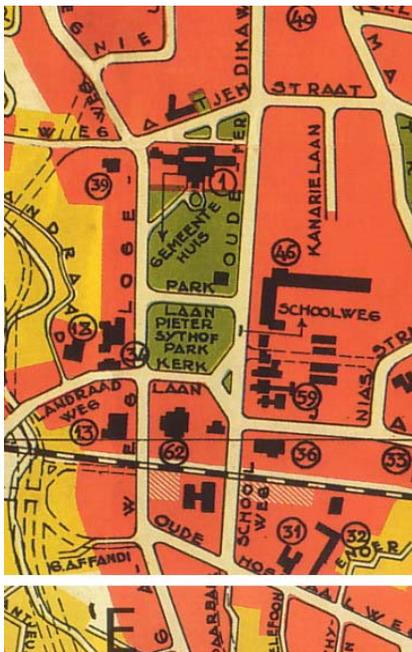
<sup>24</sup> Siregar, 1990. See also Cobban, 1970. P 126.

<sup>25</sup> This building is the former house of Andries de Wilder who lived there in the 1810’s. Later, it became the residence of the coffee and quinine plantation director, and next it was changed to the house of the “*assistent-resident*”.



Source: Bandoeng Beeld van Een Stad, KITLV's Library

**Figure 3.16.**  
Residence of Military Commander and the Military Complex



The Catholic Cathedral 'Bethel Kerk' (1926) and Protestant Church 'R.K. Petrus Kerk' (1925) were designed by C.P. Wolff Schoemaker



The Javasche Bank (1918) and the School 'HBS van de Ursuline - St. Angela' (1926) were designed by Cuyper E.H.



Source: Gemeentelyken Dienst van Stadontwikkeling, January 1933, Bandoeng Beeld van Een Stad, KITLV's Library, Bandoeng Tempo Doeleoe, 2005

**Figure 3.17.**  
Bandoeng's Town Hall Complex

work classicism (*B.O.W.* style) with efficiency and rationalization of climatic modification applied in the roof shape, ventilation openings, etc. appeared in the school St. Angela. The Catholic Church was also built. This church was designed in a straight-on European neo-gothic form, the other side facing the town hall. A protestant church replacing the old one was built in a more neo-Byzantine style, whose design was very much influenced by a famous Dutch architect, H.P. Berlage (fig.3.17.).

The original "*Alun-alun*" although remained as an old core of the city. Its meaning gradually degraded into an ordinary urban open space for popular leisure, like sports and commercial activities due to its closeness to the Chinese quarter. The vacant lands surrounding this square were later filled by other leisure amenities such as a cinema, shops, restaurants, private and government offices such as a post office, banks, and other trading offices. This square functioned as a melting point for European, Chinese, Arab merchants, and Indonesian administrators. The famous *Jalan Braga* occupied by the high-class shopping street for the merely European society was connected by two urban nodes, the traditional square of *alun-alun* and the *Postweg* with the civic centre around the town hall. It would then contribute to the reputation of Bandung as "*Parijs van Java*", a feature that appeared because of the European-style shopping arcade with its European image of urbanity along this street (fig.3.18.).

As the new municipality was developing, the layout of the "*Indische*" town was gradually weakening. The functional transformation also changed the spatial segregation. Leisure and commercial areas, which were earlier only allocated in the Chinese quarters, expanded. The cultural symbiosis only remained in the use of oriental ornaments on buildings but did not survive in the urban structure.

### **3.3.3. The Plan towards the New Capital City of "*Netherlands-Indie*"**

The continuous development of Bandung attracted more economic actors, not only for establishing and developing their business but also for pleasure. The good climate and natural beauty of Bandung became some of the reasons that made it an excellent place for living. Many European officers retired there while Bandung was also ideal for healthcare. This brought Bandung in a situation in which the European population rapidly grew especially after the development of supporting facilities to accommodate the new needs of the population, including hotels, guest houses, health resorts, sport fields, parks, shopping boulevards, etc. Bandung was then approaching the golden age of modern urban economy. In 1910, the Public Works department of the Bandung municipality was established to take care of the city development. Some rules regarding building codes



Source: Bandoeng Beeld Een Stad, KITLV's Library.

**Figure 3.18. View of Braga Street**

The Braga Street represented the European high-class's shopping arcade with European image of Urbanity. This area contributed to a reputation of the Old Bandung as 'Parijs van Java'. Buildings along this street were designed with strong art-deco elements.

and regulations to control the urban development in southern Bandung (*Indische Kota* - the old city centre) were produced by this department in 1911.

The rapid growth of development in Bandung was assumed by the Dutch government to be economically potential. The city was also considered suitable for the government and education centre, and was therefore purposed as the new capital city of the *Netherlands-Indies*. In line with the preparation, the Ministry of War was transferred from Batavia to Bandung in 1914. During 1911 – 1917, large military facilities consisting of compounds of barracks, office buildings, and officers' houses, were built at the north-eastern side of the city. This new development was called the "*Archipelwijk*"<sup>26</sup> quarter. It was set in a gridiron pattern and became the part of the initial development of a large series of extensions in the north of Bandung. In addition, the airport was opened in 1915 on the north-western side of the city. The neo-classical building for the officers and a vague "oriental" palace for the army commander were two buildings that represented the architectural character in this area. These two buildings were adopted in a simpler form in the surrounding smaller housing units.

### **3.3.4. The "*Uitbreidingsplan Bandung-noord*" - New Extension Plan of Bandung and its Implementation**

#### **a. The Basic Idea of Planning**

"*Uitbreidingsplan Bandung-noord*" or the plan for the city extension was planned soon after the construction of railway projects (fig.1.2.). In 1917, the urban development plan of Northern Bandung was initiated by the Public Works Department of Bandung. The design was made by the A.I.A.<sup>27</sup> consultant bureau from Batavia.

This new city area was designed based on the "Garden City" idea, with the intention to create a "Tropical Europe" for the European population. This period has become the most interesting part in the development of modern architecture in Indonesia. Dutch architects and scholars developed a new discourse known as the "*Indisch-Tropisch*"-architectural style and urbanism in Indonesia in the 1930's. Inventions and innovations in architectural design became more formalized and intensified, especially after the establishment of the architectural profession first under the Public Works (*B.O.W.*), which was followed by the establishment of an association of the "Private" Architects and "Local" Architects at the municipal level between 1814 and 1930.

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<sup>26</sup> The streets in this military quarter were named after islands in the Indonesian archipelago.

<sup>27</sup> A.I.A.. = *Algemeen Ingenieurs en Architecten*, an architecture and engineering consultant bureau.

The phase of 1920 - 1930 was considered as the starting point of the “recent-modern” period in Indonesia. One of the topics intensively addressed in this discourse was the issue of the “Indonesian identity” regarding architecture and urbanism. Some scholars and famous Dutch architects, such as Thomas Karsten, Maclaine Pont, Thomas Nix, C.P. Wolf Schoemaker, etc, showed their serious commitment in such discourses. The discourses were not mainly focused on physical aspects of architecture, urban design and planning but also on socio-cultural and human aspects of the community. The ethnic politics movement in this phase gave them great advantages. Some of their concepts were materialized in the urban planning system, supported by the ethnic policy of the colonial government through liberalization of education, decentralization of governance, and abolition of ethnical segregation policy. The first architectural school was even established in Indonesia (the *Technische Hogeschool Bandoeng* - now Bandung Institute of Technology) to support their efforts. This school was affiliated to the technical engineering school in Delft in the Netherlands.

The concept of the garden city was also often brought into their discussions, especially regarding the question of how to implement the concept with respect to the local context. Further elaborations about the adoption of the garden city in the Indonesian / tropical context will be made later in the next sub-chapter.

#### **b. The Initial Stage of the Extension Plan**

Prior to the implementation, the municipality had established three special authorities within its administrative structure; the *Gemeentelijk Grondbedrijf* (the municipal land authority) *Gemeentelijk Woningbedrijf* (the municipal housing authority), and the *Gemeentelijk Bouwbedrijf* (the municipal building construction authority) to deal with growth and development in general and particularly with the extension plan of North-Bandung

The ***Gemeentelijk Grondbedrijf*** or land authority was established in 1914. This authority aimed to guide city development by the enforcement of a municipal land policy<sup>28</sup>. This authority was not intended to make profit, but it had several practical purposes. The authority was responsible for guiding the rapid growth of Bandung in a right and stable manner and for avoiding and limiting land speculation in order to control the basic price of the land. It considered the technical and hygienic conditions of the city to ensure the beauty and health of the people. The task was to ensure the provision of land parcels in various sizes (the smallest for the native houses, the biggest size for the luxurious villa

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<sup>28</sup> See more explanation in Thijssse, 1937. P. 125.

houses, parcels for public buildings (schools, institutions, markets, and shops), parcels for industries and the train connection, parcels for rice fields, parks, agriculture, animal breeding, nursery of sugar cane and other vegetations, as well parcels for sports and leisure purposes<sup>29</sup>). The authority also planned and provided the site service lands for the development of Bandung.

In 1915, the authority began to buy land in the northern part of Bandung as per the plan to move the capital from Batavia to this city. Although in the second half of the 1920's the Dutch government had to face financial problems due to the recession, the municipality continued to buy large amounts of land. This land was later mostly used for residential projects after the plan to move the capital to this city did not succeed. The big parcels were then sold to individuals and small developers who built only a limited number of houses (for example with 2 - 5 units), which were mostly marketed to the European population. Some of the site and service land with smaller parcels in various parts of the city were also sold to the native.

The ***Gemeentelijk Woningbedrijf*** or the municipal housing authority aimed to initiate the construction of housing especially for the lower class (*kleinwoningbouw*) by private developers<sup>30</sup>. This demand was increasing together with the increasing number of Indonesian natives who worked for the Dutch government both as lower-grade civil servants, and as maids and gardeners who worked to help the European in their households. This native population was socially placed in a lower position compared to the Dutch or other foreigners and aristocratic natives. On the other side, due to their position to work for the Dutch, they were somewhat isolated from the ordinary lowest class natives who lived in kampongs. This group hence was considered for subsidies in the public housing provision since they also couldn't afford to buy houses constructed by the private developers. Following this plan, the *Gemeentelijk Woningbedrijf* made several practical experiments and demonstrations by developing small houses in an appropriate neighbourhood, which were intended for the lower class. However, this program was only first implemented in 1919.

The ***Gemeentelijk Bouwbedrijf*** was a building authority established to control the urban development of Bandung, with its main responsibility of controlling the constructions of governmental buildings, including offices and the housing for employees besides managing the possibility of uncontrolled speculation in the housing sector<sup>31</sup>. This

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<sup>29</sup> *Stadgemeente Bandoeng*, 1931. P 17-18.

<sup>30</sup> *Stadgemeente Bandoeng*, 1930. P.46.

<sup>31</sup> De Bruijn, 1927. P.49.

authority had a big role in the development of Bandung by constructing more or less 450 residences for the high - low class governmental officials and 365 houses for the railway company.

Before the implementation, the government together with consultants carried out several studies intended to improve public health and hygienic conditions in the old city centre and its surroundings that tended to be over-crowded and disorganized due to their growth. The priority was to rebuild the urban infrastructures (water supply, waste, drainage, electricity, gas, etc.) and to improve the housing conditions (design, building materials, utilities, sanitations, etc.). The Kampong improvement program, the so-called "*Kampong Verbettering*", was also implemented to improve the quality of the urban infrastructure and construction (mainly building material) of the lower-income native houses. Such a program was not only implemented in Bandung, but also in some big cities in Indonesia which had similar development problems, like Jakarta, Semarang, and Surabaya. New typologies of low-cost houses were introduced in this program such as single-detached, couple, quadruple, six-eight-unit row houses, etc. Moreover, the central government also developed hygienic building types, especially for middle and upper classes of the community. These concepts were adopted and used by municipalities to guide the design and implementation in their respective cities. Some architects from the military, municipality, and private consultants were employed to develop these guidelines, whose designs considered the aesthetical and conceptual qualities of the townscape. The "*Tropisch-Indisch*"-style hence continued to evolve, incorporated within the contextual aspects of tropical climate and of local or vernacular architectural typology.

### **c. The Implementation Stages**

Within this new garden city, various modern functions such as schools, hospitals, museums, research institutions, etc. were erected in the middle of large modern villas with the distinct hybrid character of the tropical-neo-vernacular style. The extension plan of Bandung alone mainly showed two parts of the development areas, heading to the northern part of the city. The north-east part was oriented on the location of the Governor Palace - Gedung Sate. The other area in the north-west sector had no dominant structure, and was divided into several neighbourhoods / enclaves with its own centre to give orientation and unite several quarters (fig.1.1.). In general, the plan started to transform the structure of the town from an extended ribbon pattern following the great post road (*Groote Postweg*), with a secondary road perpendicular to it, to a more radio-concentric development of roads connecting the great post road with the major road towards the north.

The implementation itself could be divided into two development phases. The first phase developed in the colonial era and the second part has developed since the independence of Indonesia. These two phases had different approaches, which brought different types of products of urban design and urban morphology.

In general, the development in the first phase (colonial era) could be seen as two parts as it could be recognized from the development plan. The first part, called “*Europeesche Zakenwijk*”, relatively remained in the inner city area and the second part was colonial buildings and dwelling enclaves in the outer (relatively rural) area but still in the north of Bandung.

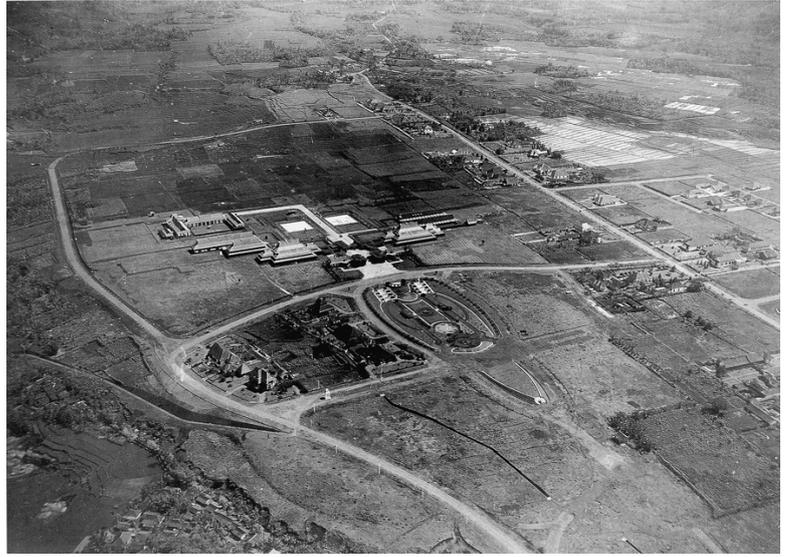
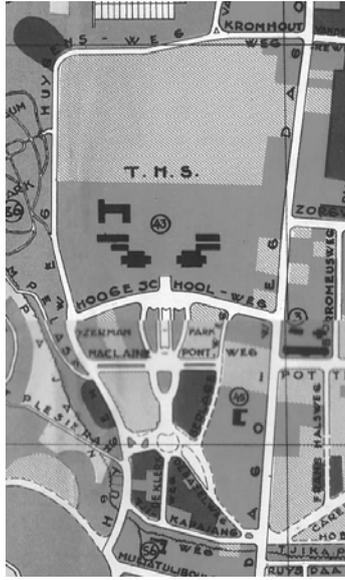
The “*Europeesche Zakenwijk*” alone, where this study is conducted, can be divided into three parts:

- The government complex and villa houses

The first phase of development of the North Bandung started before the city got the status of municipality in the early years of the 20th century. The development was actually started with the construction of the complex of central government facilities as its focal point. It was followed by the development of villa houses along the *Oude Merdikaweg* (Merdeka Street). Later, the colonial government built a prestigious education compound, the Technical Institute (*Bandoengsche Technische Hogeschool*) in 1918. It was constructed on approx. 30 ha of land in the northern area of the city, which was a peripheral location at that time. The layout of the campus and the main buildings were designed with remarkable architecture style and a very sensitive landscaping by H. Maclaïne Pont, a famous Dutch architect. The Great Sundanese vernacular roof shape was modified and taken for the main pavilions, which were placed in the sloping green landscape, and gave the image of lotus flowers in green terrace plains. The idea of designing this area was relatively new in this era; hence, this complex then became one of the landmarks in the north Bandung area (fig.3.19.).

- The military complex and military dwelling quarters

This part was built in 1914 to accommodate the war department, which was removed from Batavia. This quarter consisted of offices, military houses both for high-ranking officers and dormitories / barracks for the troops. Some warehouses and workshops were also constructed. However, shops and other dwelling facilities were not provided in this complex, due to security reasons.



Source: Gemeentelyken Dienst van Stadontwikkeling, 1933, KITLV's Library, Personal Documentation 2005.

**Figure 3.19.**  
**Prestigious Complex of *Bandoengsche Technische Hogeschool***

- The Governor General Palace, Government Office Buildings, and Officers' Dwelling Quarters

In 1921, several administration offices of the central government were transferred to Bandung. To accommodate their needs a large number of prestigious buildings for offices and staff houses were designed and built in the most northern location of the north Bandung's new development areas. This area was further divided into two development segments.

The first segment was the complex of the Governor General Palace. This complex had actually never been completely realized, except for the governor's palace and some of the staff houses around it. This segment was like a triangle attached to *Dagoweg* (now Jalan Juanda) and centred on the monumental north-south axis of the planned government offices complex.

The elements of this complex were oriented towards the governor's palace, which had a long axial layout heading south - north for a beautiful view at the Tangkuban Perahu Mountain and functioned as a ceremonial esplanade<sup>32</sup>. This plan was linked up with the most northern main street (*Dagoweg*) of the master plan. The governor's palace has very spectacular architectural features. This building, which was designed by a famous B.O.W. architect, J. Gerber, seemed extraordinary as compared to the buildings designed or restrained rationally by the public works (*B.O.W.*). In this period, vernacular architecture was adopted not only in its layered roof shape but also in details such as the application of ornaments. The building mass, which was large and white with solid volumes, and had strong horizontal lines of the building modules, also had given a monumental image to this building, so that it became the most important and recognizable landmark in this area (fig.3.20.)<sup>33</sup>.

The second segment was the officer's dwelling areas surrounding the governor's palace. Some sub-segments can be defined by taking *Dagoweg* (Jalan Juanda), *Riauwstraat* (Jalan R.E. Marthadinata), *Houtmanweg* (Jalan Supratman), *Groote Postweg* (Jalan Jenderal Ahmad Yani) as boundaries as seen in fig.1.1.. In this segment, many different types of houses were built. They varied from a very big villa

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<sup>32</sup> Tangkuban Perahu boat, the natural landmark of Bandung, means overturned boat. It has a famous legend of the cosmological drama "Sankuriang", telling how the city of Bandung was formed like a basin and the Tangkuban Perahu was shaped like an overturned boat.

<sup>33</sup> The image of the governor's palace, later called and recognized as Gedung Sate, is very strong and inspired the provincial government to adopt its façade and elements in governmental buildings both at the provincial and the local level in the entire West Java.

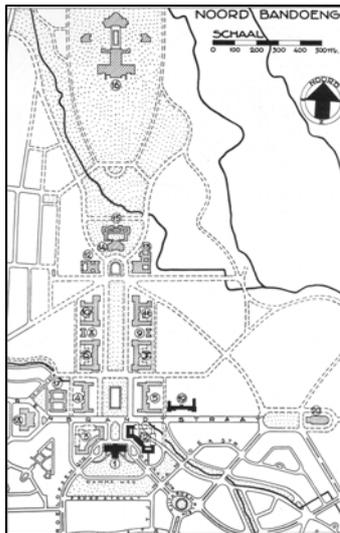
type both for high-ranking government officers and individuals from the highest social class to the lower-class officers' dwellings.

The development in Outer Bandung itself relatively spread out along Tjipaganti, Ciumbuleuit, and Lembang Street. Most of the buildings in this segment were big villa houses functioning as resorts and weekend houses that belonged to individuals, the government or state-owned companies.

#### **d. The Lower-Class Housing and Kampong Improvement Projects**

The most important part of the "*Uitbreedingsplan*" of Bandung, which distinguished it from the development of colonial cities in other countries, was the construction of housing for the lower class. The *Gemeentelijk Woningbedrijf* of Bandung started to build many small dwellings five years after the small-houses program had been launched (fig.3.21.). Some innovations in design, both in architecture and construction methods, were implemented in those projects. In Bandung, the *kleinwoningbouw* projects were situated both in the northern and the southern parts; Astana Anyar (1920 – 1921) contained 22 houses, Tjihapit (1920 - 1921) contained 127 houses and 12 shops, Teloekboejoeng (Burgermeester Coopsweg) (1923 - 1924) contained 121 houses and 2 shops, Gempol (1923 - 1924) consisted of 102 houses plus 2 shops and 1 house was added later, and Andir (*Nieuw-bouw in Bandung Zuid*) (1924) consisted of 201 houses. Thus until 1924 this authority had built 387 houses. Later, the housing complexes in Arjuna and *Houtwijk-Saninten* were also constructed. Although the quantity of the housing units produced by the authority was relatively small, the innovations in design, both in site planning for the low-income neighbourhood and the construction methods, were considered as interesting aspects to be explored and studied (fig.3.22.). The layout of these lower-class housing complexes was always fitted out with the grand plan of the *Europeesche Zakenwijk* to strengthen the image of the garden city.

The plan to move the capital of the Netherlands-Indies to Bandung did not succeed due to the recession during 1930's. Along with it the Pacific War was declared. These two conditions created a chaotic political and economic situation that further accelerated the flow of the population to the urban area of Bandung. The migrants from the countryside also quickly filled-up the empty spaces, green areas, and inner pockets of Bandung and its periphery. Inner-city and peripheral hamlets ("*kampungs*") underwent rapid densification and environmental degradation processes. The deserted Dutch settlement area was soon filled and was taken over by the Indonesian.



Source : Gemeentelyken Dienst van Stadontwikkeling, 1933, KITLV's Library, Personal Documentation 2004

**Figure 3.20.**  
**Complex of Governor's Palace**



**Legend :**

1. Complex Astana Anyar
2. Complex Tjihapit
3. Complex Teloekboeyoeng
4. Complex Gempol
5. Nieuw-bauw in Bandung-Zuid
6. Complex Houtwijk
7. Complex Arjuna
8. Kampoeng verbetering

**Figure 3.21.**  
**Locations of Kleinwoningsbouw Project in the North Bandung**

Source: Siregar, 1990



Source: KITLV's Library

**Figure 3.22.**  
**Different Types of Kleinwoningsbouw project in the North Bandung**

### **3.4. The Adoption of “Garden City” Concepts as Basic Principles of City Planning in the North Bandung**

As mentioned earlier, the concept of the “*Tuinstad*” or garden city was frequently brought up to promote the city of Bandung, especially the North Bandung area, in this period. The discussion in the following sub-chapter might be necessary to understand what aspects of the garden city were adopted and how far in the planning of North Bandung.

#### **3.4.1. The Basic Principles of the Garden City**

The idea of the garden city originally came from a movement in Europe at the end of the 19<sup>th</sup> century. It has inspired many planners not only in European countries, but also those who worked overseas in their colonies in this era. The idea was adopted and modified in their respective cities, so we can easily find the terms of the garden city in other languages such as; “*Gartenstadt*” in Germany, “*Cite-jardin*” in the French-speaking countries, “*Ciudad-jardin*” in Spanish-speaking countries, “*De-en Tosh*” in Japan, and *Tuinstad* in the Netherlands and its colonies.

Historically, the famous concept of the garden city was initially introduced by Ebenezer Howard, an officer of a court in London, the United Kingdom. However, some years earlier similar ideas had appeared in many cities in other countries<sup>34</sup>. The principal idea of the Garden City movement was actually to set up ideal settlements and improve the living and working conditions of the Industrial proletariat through urban planning and design (Frampton, 1985). In 1919 the “Garden Cities and Town Planning Association” defined that:

*“A garden City is a Town designed for healthy living and industry, of a size that makes it possible to have a full measure of social life, but not larger, surrounded by rural belt, the whole of the land being public ownership or held in trust for the community”*

Osborn (1946) elaborated that the major components of Howard’s idea were:

- The planning distribution including efforts to allocate industries and the population at the urban fringe in order to give the inhabitants sufficient jobs and proper urban facilities so that they can develop their cultural perspective and find a balanced and harmonious life style.
- Eliminating uncontrolled expansion in order to ensure the access of the population to workplaces, markets, shopping and social centres.

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<sup>34</sup> In 1516 Sir Thomas More appeared with the concept of the Utopian City. In 1898, Chicago called itself a garden city. In 1850, the city of Christchurch was known as the garden city of New Zealand. The garden city concept was also used for the rural dwellings in the outer area of New York (Long Island) designed by Alexander Stewart in 1869.

- Creating a comfortable neighbourhood by giving the inhabitants the possibility of having a private garden, enough green areas, and other public facilities in the neighbourhood through this certain site planning, zoning, and allocation of parcels.
- Preserving the connection of the city with surrounding rural areas. The extension of a city was assumed to depend on the existence of the surrounding rural areas. The effort to have the rural areas as a green belt would correspondingly preserve them. Consequently, the peasants could distribute their crops at the market in the city and in return the city population could benefit and take advantage of rural vistas.
- Controlling and managing the urban planning. The basic framework of urban planning has to be coordinated and managed accurately, to relieve the control of zoning, the development of the road structure, the maximum allowed density, and the quality of buildings, while still enabling the population to have the right and freedom to choose the various designs and forms of their dwellings. This should be linked with the planning of open public space and urban landscaping.
- A neighbourhood / district can be divided into some units, and each is allowed to independently develop its social kinship.
- The whole of the land located in the city, including the farming area, being public ownership or held in trust for the community in order to manage and control the social function of land.
- Developing cooperative. This organization was one of the endeavours to improve the economic development within the community by utilizing the existing social structure without losing the individual freedom to choose business preferences both in industries and trade.

In Howard's original concept, it was mentioned that an ideal city was supposed to be inhabited by a maximum of 32,000 people, and the design did not allow further extension (using a greenbelt to restrict growth). A garden city was to be regionally situated as a satellite town and linked to the major centre by means of railways. Thus a "garden city" was basically a self-sufficient city<sup>35</sup>.

However the original vision of Howard's garden city has been much modified during its later implementation and the initial principles have been further elaborated like it was in Letchworth and Hampstead in the UK. However, his idea to merge the features of the

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<sup>35</sup> Benevolo, 1977 and Ward, Stephen, 1992.

village (rural area) and the lifestyle of a city was later taken up by several planners such as Gideon (1967)<sup>36</sup>. It was thought that this idea was suitable only for cities, which have a slow development growth like those in Australia and the UK. In reality, it is considered unsuitable and incapable to cope with the problems faced by the fast growing big cities of today. The concept therefore radically changed from the holistic city – wide scale to the size of the residential suburb. These garden suburbs could potentially be seen as mono-functioned dwelling zones with a modern urban zoning system. Some of the planners also have been trying to refine the design principles at a smaller scale, at the level of the neighbourhood by elaborating its elements such as: type of houses, configurations of land parcels, streets, crossings, nodes, squares, etc. Later on, the garden city or garden estate became a common name for planned low-rise dwelling districts featuring greeneries such as trees, little parks, front gardens, wide green city boulevards, etc. as one of their most important design elements.

#### **3.4.2. The Design Characters of the “*Tuinstad-Bandoeng-Noord*”**

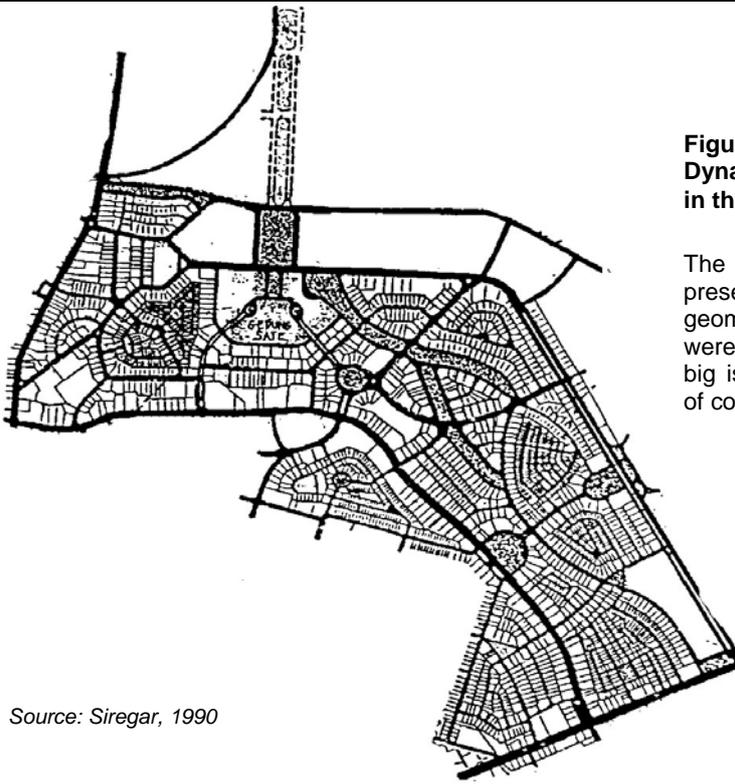
Basically, the garden city was designed to preserve the ratio of the open space intended to keep the image of living in a green landscape. The low-density dwellings<sup>37</sup> combined with greeneries were meant to create healthy neighbourhoods. Some particular designs on the built environmental elements also were used to produce an architectural aesthetic in the planned neighbourhoods. For example, serial visions were created and perspective effects optimized through the use of enclosures, vistas, skylines, while a rhythm of façade was created by parcels or building modules. The accentuations of the neighbourhoods were strengthened by the application of nodes and axes in which the hierarchical arrangement of winding roads and parks was used in the layout (fig.3.23.). Careful landscaping and the use of vegetation were used to fortify the idea of a continuous park and the image of a tropical garden. These design principles were also applied in the planning of the garden city in the north of Bandung.

The layout of the dwelling units on the parcels was strictly ordered in the plans set up on the garden city principles. The setback regulation principally sets the buildings away from the roadside and the neighbouring parcel's perimeters. Moreover types, forms, and facades of houses, especially types of roof sloping, fencing, and planting were clearly defined. Such building regulations also were put into the orders in the North Bandung plan. In case of Bandung, the design applications were particularly assembled with

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<sup>36</sup> See further discussion in: “*Space, Time and Architecture*” by Gideon, Sigfried, 1967.

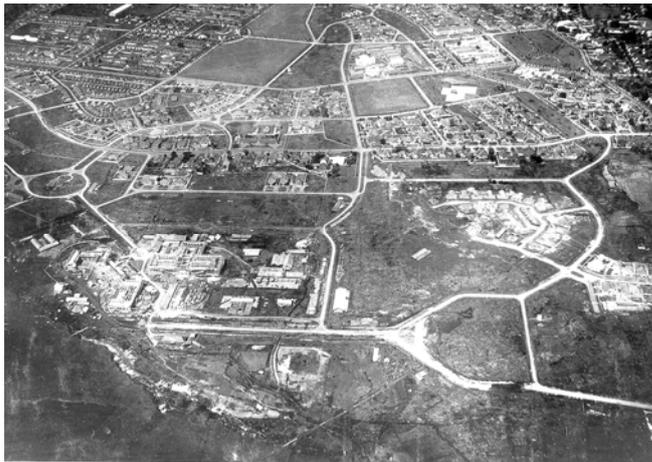
<sup>37</sup> For example with application of the ratio of BC this means that the individual houses take up not more than 30% from the total size of the unit parcel.



**Figure 3.23.**  
**Dynamic Design of the Garden City**  
**in the North Bandung**

The overall feature of garden city presented a mixture of organic and geometric lines. Dwelling settlements were seen like small islands inside the big island with different forms and sizes of compounds.

Source: Siregar, 1990



**Figure 3.24.**  
**The Aerial and Panoramic View of**  
**the North Bandung**



The urban landscape played a very important role in Bandung's garden city concepts. Landscape design was applied consistently to create a green cityscape. The concept moreover was used to fortify the idea of tropical garden and was an effort to adopt the locality.



Source: KITLV's Library

specific features to foster the intention of creating an ideal environment of the “Tropical Europe”. The grouping of small dwellings inside the compound in several dwelling quarters under a “complete and finished roof” that will be the study case in this research shows an effort to achieve this kind of aesthetics.

Thus, the structure attempted to unify urban design elements by harmonizing the correlation of buildings and buildings with their environment, especially the natural features. This was also shown in the consistency of strictly keeping the main concepts and applying building codes and regulations in building form / fabric, material, façade and their compositions.

#### **a. Defining and manifesting the image and urban symbolism**

The concept of urban symbolism was adopted by Dutch architects in an effort to bring localities into the garden city planning. In the plan of North Bandung, the abstract belief was really manifested and appeared in the physical features of the city structure. This concept set a major orientation of the city to the direction of Tangkuban Perahu Mountain, which was assigned as a city legend and natural landmark of this town by the indigenous people. Therefore, all of the structures of the built environment, especially the pattern of the main axis, were designed in the mountain direction. Streets and roads were positioned towards North–South, and East – West, and were followed consistently by other elements of the built environment.

#### **b. Geometric and organic structure**

In the beginning, the development in North Bandung was carried out as per the street structures, which were more ribbon-oriented. Later on, the combination of geometric and organic design syntaxes characterized the main overall feature of the garden city environment which is shown in a number of implementations in several other Indonesian towns. This idea seemingly followed the street pattern in Dutch towns in this phase, where romantic design and mechanical grids were combined to break the monotony (fig.3.24.)<sup>38</sup>. The geometric forms in the urban structure were strengthened by the use of a symmetrical pattern, axis, and nodes. However, the foremost pattern seemed to be an organic one, which referred to natural features. It was intended to create a sympathetic atmosphere. This morphological structure allowed the flowing of space and could invite users and visitors to experience some continuous serial visions by simply walking or driving around the neighbourhood without any main destination. During this one was also

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<sup>38</sup> The design of Amsterdam South by H.P. Berlage 1902 also shows an example of large-scale housing for the lower-income group. The pattern deliberately avoids a boring mechanical grid layout by substituting a romantic design derived from the ‘*jardin anglais*’ or English garden.

able to discover geometric syntaxes, focusing on fragmentary points of interest like parks, important buildings, landmarks, etc. which as a result also created the series of attractive vistas. Such a structure was implemented hierarchically from the larger to the smaller level of neighbourhood.

The complex of the Governor Palace (Gedung Sate) and the TH Bandoeng (ITB) for example, had also been planned with a strong symmetrical pattern and axis. These geometrical syntaxes were preferred in order to create a monumental atmosphere, and seemed to be inspired by many classical – middle age forms of European parks and gardens. The axes of these complexes were set up parallel with *Dagoweg* (Juanda Street). Although such structures seemed to be the dominant elements on the plan, however, the elements were still connected with one another so as to match the main design theme. These two complexes could be seen as big nodes accentuating the main plan of the “*Uitbreidingsplan Bandoeng–Nord*”. Some minor nodes with geometrical and symmetrical pattern or simpler pattern could also be recognized in the small-scale neighbourhoods such as the dwelling quarters where loose connections and repetitions were implemented in the neighbourhood layout to create overall coherence.

The organic pattern in the North Bandung could clearly be seen through the use of winding and curving road and street patterns combined with parks as nodes in its plan both for the large-scale and the smaller scale neighbourhood units. The lot units were arranged following the curve lines, which resulted in a continuous organic morphology and different shapes and sizes of parcels at once. These organic lines also created a unity that seems to cover and dominate the geometrical order. The combination of geometric and organic structure was also used in this plan, which for a certain extent was intended to create a “promenade urban architecture” through a concept of “town-country” environment<sup>39</sup>, where the serial vision in the city can be created. The complex of the Governor Palace and its adjoining area, for example showed such an arrangement. Through winding roads surrounding this complex one can suddenly experience the overwhelming monumental landmark in which axial and symmetrical patterns were strongly preferred.

#### **b. Formality and informality**

The organic and geometric patterns applied in the garden city were originally applied to represent the concept of formality and informality in a city. Formality was usually used to emphasize prestigious areas, to define landmarks, and for other important accentuations

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<sup>39</sup> Siregar, 1990. P. 175.

of the plan. It usually appeared in the governmental complex or the public facility / community centre, such as in the design of the garden city applied in its country of origin, the UK. Similar examples can be found in Letchworth, Welwyn, Speke – Liverpool, Bourneville etc, and in the cities of other countries such as Radburn - New Jersey, Orgemont in the suburban industrial area near Paris and Surenes in France, as well as in the proposed Tokyo De-en Toshi by Professor Yoshiku Uchida in Japan in 1919<sup>40</sup>.

In case of North Bandung, this extension area was initially planned in conjunction with the intention of moving the capital of “*nederlands-indie*” to this city. Therefore, it could be considered that the Governor Palace complex represented a new major symbol of power that created the strong image of formality in this area; although the existence of the palace weakened the role of a city hall complex. Moreover, the dwelling quarters provided in this new district also strengthened the formal image. The outer image therefore was primarily meant to accommodate relatively high-ranking government officials by showing a dignity and exclusive image of “Europeanism”, which was reached through the application of wide roads with large boulevards and relatively less organic patterns. However, the inner pockets inhabited by the native were designed in a less-formal way.

Organic forms showing informality were usually used in the structure / design of the dwelling quarters. This organic organization expressed the feeling of self-confidence, peacefulness, and ease, which were the key words in advertising the North of Bandung in this era. This also promised to create a comfortable, healthy, and spacious dwelling atmosphere, which in this case was strengthened among others by a composition of the winding streets, by setting and allocating open / communal spaces and green areas, and bringing out the open layout to the lower-class neighbourhoods.

### **c. Hierarchical environment**

The hierarchical structure was one of the principles implicitly mentioned in the original garden city concepts. In further practice, the structures were elaborated in larger elements of the built environment to create a finer morphological composition (physical), and even further regarding their social purposes. Focusing on the morphological aspects, the districts, neighbourhood units, types of dwelling units, parks and open spaces, sizes of parcels, roads, streets, are among other elements the ones that play important roles in shaping the city structure. This could be elaborated in the detailed layout and dimensioning of the elements. From the original extension plan of Bandung,

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<sup>40</sup> See also the discussion in Ward (ed.), 1992.

some terms regarding typology and hierarchy of streets and parks were used as shown in table 3.5. and table. 3.6.

The tissue elements mentioned above connected one neighbourhood to another and integrated them into the urban network and urban structure as a unity. However, in the same time they could be decomposed in order to help further analysis of the urban morphology / structure into the hierarchical organized space.

The hierarchical composition of the roads in the case of North Bandung was not only based on the dimension but to a certain extent also on the structural pattern. The arrangement and allocation of different sizes of parcels was ordered, which appeared consistently together with decent types of dwellings. The dimension and layout of the parcels also represented the hierarchical physical structure and social levels in this plan. The bigger parcels were inhabited by the high-grade officials with higher social levels and were usually situated in the outer ring along the main street, whereas the smaller parcels inhabited by the lower-social level or the natives would be laid out in the inner compound. The integration of different types of housing units by mixing the groups of the different social levels in one coherent neighbourhood in some dwelling quarters in this area shall be seen as a conscious effort of the Dutch government to narrow the social gap with the natives, which was one of the most critical programs at that moment. Such an approach was considered as suggestive illusory planning adopted also in some designs based on concepts of the garden city, which conveys a brief image of luxury and comfort of this quarter especially to outsiders.

Besides strengthening the image of the city in the garden, the use of parks and squares of different types and sizes, both in organic and geometric forms was intended to unify and bond other tissue elements. Those were aimed to hierarchically distribute not only roads and streets, but also the houses and groups of dwellings in the larger area.

#### **d. Inner – outer environment**

The outer – inner ring concept was often seen in some garden city plans. This composition also could be found in the plan of North Bandung in various combinations both in the small compound of a neighbourhood to the larger scale of a district or town. This concept was associated with a hierarchical principle where the outer segments were usually composed of bigger parcels and housing sizes / types and were gradually diminishing to the inner segments. This was considered for the social classes. Thus, the outer ring was allocated to the higher class while the social status decreased to the inner direction.

**Table 3.5.**  
**Types of Streets**

<b>Type of Streets</b>	<b><i>Straat</i></b>	<b><i>Weg</i></b>	<b><i>Boulevard</i></b>	<b><i>Laan</i></b>	<b><i>Gang</i></b>	<b><i>Brandgang</i></b>
<b>Location</b>	Applied in the three zones planned by the Dutch, mostly applied in the military complex	Applied in most urban quarters	Applied only in the Governor Palace area and the surrounding quarters	Applied in the residential quarters (northern part) and governmental facilities quarters (eastern part)	Applied in the inner area of residential blocks	Applied between housing units (in the back or left/right side of houses) in the housing blocks
<b>Width</b>	9-13m	9-14m	15m	8-13m	3-6m	0.60-2 m
<b>Vegetation Stripe</b>	Applied to the front side of governmental and residential building	Applied to the front side of governmental and residential building	Applied to all boulevards' stripes	Applied along the street in the residential quarters	Not applied	Not applied
<b>Pedestrian Path</b>	Along the street / building in the commercial zone	Along the street / building in the commercial zone	Not applied	Not applied	Not applied	Not applied
<b>Building</b>						
<b>Function</b>	Residential, government facilities and commercial	Residential, commercial, and industrial quarters managed by the local government	Residential and governmental quarters with huge building mass	Residential	Residential	Residential
<b>Set back</b>	Front, left and right of main building but in the commercial function	Front, left and right of main building but in the commercial function	Front, left and right of main building but in the commercial function	Front, left and right of main building but in the commercial function	Front side	Not applied

**Table 3.6.**  
**Types of Parks**

<b>Types</b>	<b>Park</b>	<b>Platsoen</b>	<b>Plein</b>	<b>Stadsuin</b>	<b>Boulevard</b>	<b>Front yard</b>	<b>Junction park</b>
<b>Location</b>	St. Pieters Park, Ijzermanpark, Insulinpark, Jubeleum park	Taman Sari (Jubellium Park), Cibeunying Park,	Orchideeplein, Hautmanplein, Limburg Stirumplein, Pendawaplein, Rotgansplein, Sabangplein, Cjitaroemplein, Orangenplein –	Kebon Bibit, Taman Sari, Plesiran	Governor palace and the surrounding area	Housing quarters –	City nodes, street junctions –
<b>Size</b>	City scale 2 ha <	City scale 1 ha <	District scale 500 m <sup>2</sup> – 1 ha	City scale 2 ha <	City scale, width 2 – 3 m along the median and street sides	Unit parcel scale, 20 – 40 % of parcel	Neighbourhood scale, < 200m <sup>2</sup>
<b>Function</b>	Community activities, social centre, private property, part of building complex	Flowers and plants (horticulture) breeding, botanical garden, <i>publieke wandelplatz</i>	Social / communal public space, sports / leisure centre	Flowers and planting (horticulture) breeding, nursery, botanical garden	Strengthen or defined special area	Neighbourhood's scale greeneries	Accentuation of city structure, traffic order purposes
<b>Facility</b>	Gazebo, ponds, belvederes, benches, ponds, fountains, statues, lamps, open stage, pedestrian paths	Benches, lamps, ponds, statues, greenhouse, pedestrian paths	Sports facilities: jogging track, football field, etc.	Greenhouse, pedestrian paths, benches, statues, ponds, fountain	Street furniture: lamps, post boxes, etc.	Street furniture: lamps, post boxes, etc.	Fountain, statues, lamps,
<b>Vegetation</b>	Tropical plants, hard wood trees ( <i>boomkweekerij</i> ), flowers, bushes, and grass	Tropical plants, hard woods plants, flowers, bushes, grass	Grass, flowers, bush, trees along its outer edges	Tropical plants, hard wood trees ( <i>boomkweekerij</i> ), flowers, bushes, and grass	Flowers, trees, grass	Flowers, fence bushes, small trees	Flowers / bushes

In such a composition, the role of streets or open spaces was important in order to define the intermediate space, to help create a harmonious layout and composition of the neighbourhood or the groups of compounds in a larger area. The inner – outer concepts also helped to create a serial vista and an “illusory planning”. The concept was intended to use the environment of the well-off to upgrade the neighbourhood.

#### **e. Islands - compounds concept**

The compounds of both dwellings and other functions performed in the garden city plans could be seen as compositions of islands, which were connected or bound by different types of avenues, streets, nodes, parks, and squares, and other tissue elements. The city as a whole town hence sometimes appears as attractive mosaic or constellation of island units (fig.3.23.).

In the plan of North Bandung, none of the islands was similar both in size and in shape, although they were actually composed by a simple and typical back to back of parcels and houses. In some compounds, the islands were seen large and deep. To avoid the formation of deep parcels, the main islands were sometimes crosscut by secondary roads and this resulted in some smaller islands. The island concept was strongly connected to a hierarchical principle where other tissue’s elements were used but in some cases such a concept also appeared ambiguous.

#### **3.4.3. Building Typology and Architectural Elements: The Image of the Villa Estate in the “Tropical Europe”**

Patterning the typology of dwelling units is an important method in this research, as it will contribute the ideas to maintain the image of the city and to define the level of importance to conserve the urban structure and its elements. Hence, the building typology and architecture elements will be explored in this sub chapter.

The North Bandung area was mainly intended for residential purposes, however, public buildings and public facilities such as hospitals, public administration offices, schools, religious buildings, shops and markets, recreation places were also constructed to utilize the city (fig.3.25.), (fig.3.26.), (fig.3.27.).



Source: KITLV's Library, *Bandoeng Beeld von Een Stad*, 1989.

**Figure 3.25.**  
The Architecture of Religious Buildings in the North Bandung



Source: KITLV's Library, *Bandoeng Beeld van Een Stad*, *Personal Documentations*, 2004.

**Figure 3.26.**  
The Architecture of Governmental and Military Buildings



**Figure 3.27.**  
**Building Typology for Social and Public Facilities in North Bandung**

*Source: KITLV's Library, Bandoeng Beeld van Een Stad, 1989.*

Concerning the Dutch colonial building types, Thomas Karsten has made a classification, which is as follows (tab. 3.7.)<sup>41</sup>:

**Table 3.7.**  
**Housing Typology<sup>42</sup>**

	Urban	Rural	Public Building ( <i>Algemeen</i> )
Single / detached buildings	Villas ( <i>landhuizen</i> ) Small houses ( <i>kleinwoningen</i> ) Kampong houses	<i>Lodji</i> / boarding houses in special settlements <i>Desa</i> kampong houses	Public buildings Industrial / companies' buildings Temporary buildings
Row buildings	Shops and shop houses Row houses		

Regarding the architectural features of Dutch colonial buildings, Jessup (1984) has generally classified style in three major categories: the Empire Style, Neo Classic, and “*Dutch-Indische*”. The last mentioned style strongly characterized the dwelling units in the North Bandung. In its further development this area was considered as the greatest architectural and building technology laboratory of the colonial architecture in Indonesia, because it was able to foster local symbols and contexts including climate, materials, technology.

The extension of the Dutch colonial settlements in North Bandung was designed in a modern, well-methodized, and distinctive style, in which composition and proportion were stressed and strictly enforced in the dwelling neighbourhoods. These aspects helped to harmonize the built environment in the city as a whole. The dwelling units to infill those neighbourhoods empirically showed different repetitive patterns and rules of thumb both in their forms and in their architectural elements.

Although the plan of North Bandung also included several small housing complexes, big villa houses and greenness have dominated the appearance of this city. The “villa” house type, which in fact referred to a low-rise dwelling from one to three storeys, were located along the main and secondary roads, whereas the small houses were mostly hidden and

<sup>41</sup> *Indische Stedebouwkundige Richlijnen Verenigingen Voor Lokal Belangen – Technische Medeeeling* bo.16.

<sup>42</sup> The shadowed column is the types of urban housing that will be in-depth explored as a main focus in this research.

encircled by the villa houses. The villa type in North Bandung was also intended to function as a dwelling, with a main volume and lower secondary wing attached to the left and right side or to the rear of the main building. Some open spaces could be found on both the back and front part of the house. Sometimes, the wings were absent and replaced by pavilions or the combination of both forms. In this sense, the layout of the house seemed to adapt the court house that used to be applied in the *landhuis* or Javanese traditional house. The front boundary was generally defined by fences made of ironworks, greenery or low walls, to distinguish the property from public property. The construction of fences however still allowed for transparency, openness, and continuity of visual sequences in the neighbourhood. The back, from the mid-left and right-side boundaries of the villa houses, was usually walled, which signified safety, privacy, and enclosure. The small opening in the back wall directed to the *brandgang* was made for the service. The relatively closed and safeguarded backside but prestigious open villa outside seemed to reflect the ambivalence of the Dutch colonial life in this time<sup>43</sup>. In the smaller parcels such a composition was adopted although it had been simplified either by reducing the space volume or number of rooms and by simplifying the architectural performance on their facades (fig.3.28.).

In small housing (*kleinbouw*) complexes or “kampong-like” formal housing, as a particular character of the garden city of the North Bandung, different type of houses and houses groups were set along the streets and walkways around or behind the neighbourhood centre. A semi-public space was often developed as a neighbourhood service centre; even sometimes Chinese shops were also located. Each neighbourhood had a number of small detached houses with private sanitation. Some small groups of smaller semi-detached houses had private service cores. The smallest blocks of grouped houses had communal sanitation.

The houses were built in different techniques and forms. The material used in these houses varied from a concrete skeleton structure with brick walls to a wooden structure with bamboo mats, or wooden structures in-filled with stone or concrete reinforced with bamboo, bamboo mats as a base for plastering etc. The wooden construction followed the traditional room and roof pattern, while the frame / infill construction often had a cottage-like appearance (fig.3.22.).

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<sup>43</sup> Siregar, 1990. P. 181.



Source: KITLV's Library, *Bandoeng Beeld van Een Stad, Personal Documentations, 2005.*

**Figure 3.28.**  
**Some Different Types and Architectural styles of the Dwellings in North Bandung**

The designs of this housing were guided by a set of regulations concerning set back, building coverage, roof sloping, etc. These regulations were made for health, security, and aesthetic reasons. The high roof for example was not only intended to fulfil aesthetic purposes, but also to respect the tropical climate. This became one of the strict orders applied to housing projects. The roof shapes were a very significant feature in the North Bandung area, since some architects particularly stressed the articulation of the roof to introduce local traditional architecture and distinguished it from the genuine European architectural style<sup>44</sup>.

These attempts were intended to give Indonesian towns new forms and to distinguish the forms of the old images from the small country houses in the Netherlands. Therefore this idea was considered innovative since the Dutch had often come to duplicate images of cities in their home country when building new towns or facilities in the previous era. The structures of these new housing complexes also were aimed to distinguish it from the city structure of the old local kingdoms.

Some of those attempts finally produced unique architectural characters, and even were able to present several grand designs of the Indo-European architectural vocabulary, such as presented in the complex of *TH Bandoeng* and the Governor Palace. These two buildings expressed a very ideal manifestation of this new stream. Such efforts should be understood in connection with the spirit to explore a new way between modern and traditional architecture, between European and local architecture that occurred in the late colonial era. In the broader sense the Indo-Europeanism was in fact not merely focused on architectural aspects but also a kind of attitude, a new spirit looking for identity, which resulted in a different cultural, social, and political manifestation.

### **3.5. Decolonization: The Rise and Downfall of Colonial Town**

#### **3.5.1. Bandung, the Years Prior to Independence**

The Dutch colonial era ended when the Japanese started to invade the countries in the South-East Asian region including Indonesia. During the Japanese occupation in 1942-1945, the administrative system was changed and replaced under the control of the Army. At this period, the city of Bandung was extended reaching 5,413 ha. This expansion was, in fact, not followed by a certain development plan and on the contrary, the Japanese made the economic situation even worse and much more instable. The Japanese destroyed many buildings to accomplish their war intentions; even many

buildings which were enriched with beautiful decorations were demolished. Some of the dwellings were even altered and used as jails for the Dutch. The situation became worse with the deterioration of public and private property due to the complete lack of maintenance. In this period, the number of the population in Bandung started to increase rapidly due to the instability of the political situation. This led to a tempestuous changing of the urban structure of the inner-city of Bandung.

The Japanese also established an administrative system called RT and RW<sup>45</sup> to control and govern the social system. This system has been inherited and used by the Indonesian government until now to organize the neighbourhood units administratively.

### **3.5.2. The Phases of City Development after Independence**

#### **a. A Turbulent Period, the First Two-Decades after Independence**

Indonesia proclaimed its independence on 17<sup>th</sup> of August in 1945. Soon after the British troops took over the authority and prepared for the re-establishment of the Dutch government. A temporary agreement made afterwards resulted in the division of Bandung into two areas, the north and the south. These segments were separated by the railroad. The city was thus again segregated; the natives were concentrated in the south and most of the foreigners in the north. Some of the Chinese people were forced to move to the north. However, many remained in the South.

Continued by the independence war during the period of 1945 - 1950, the city was finally seriously deteriorated. Many clashes against the return of colonialism took place in several regions including Bandung. In 1946, a new agreement was reached, which mentioned that armed people were prohibited to enter the boundaries set up 11 km from the city centre. Consequently, the Indonesian troops repositioned to the rural hinterland followed by a rush of the natives. Although in this city the clashes lasted less than half a year, it brought serious damages to the city. Bandung was even called "*Lautan Api*" (the sea of fire) because of the terrible devastations caused by the guerrilla strategy of sabotages and scorched earth by Indonesian battlers.

The Dutch took over the power for three years again. The area of Bandung was again extended to 8089 ha. After the De-Hague Conference in 1949, the Dutch had to leave Indonesia. This conference resulted in a change of Indonesia into a federal country that contained some autonomous states. West Java was one of the states with Bandung as

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<sup>45</sup> Every neighbourhood unit was administratively divided into RW (Rukun Warga), which consisted of a maximum of 20 RT (Rukun Tetangga). The RT, which was the smallest neighbourhood unit, consisted of a maximum of 50 households.

the capital city. Following this political transformation, the chaotic political and economic situation occurred. The rush of urban in-migration from the countryside was rapid and quickly filled-up the empty spaces and green areas in the inner-city of Bandung and its peripheral areas. The areas including *kampongs* (hamlets) in the periphery underwent rapid densification and environmental deterioration. Some of the deserted Dutch settlements were also soon filled.

In 1950, Indonesia became a United Republic, and Bandung got the status of a province of West Java under the centralized governmental system in Jakarta. During the early years after this transformation, some of the Dutch people who worked as professors, teachers, plantation managers, and businessmen, still resided in this city. Most of the others had left as refugees in 1954. The former Dutch companies and properties were nationalized and taken over by the Indonesian government. Most of the private companies were sold to well-off Indonesians, such as to high-grade government and army officers, and many members of the Indonesian aristocracy. In case of North Bandung, the land and residences were managed under special commission of the *Dinas Perumahan* (housing authority). The houses were rented to old and new Indonesian bureaucrats and officers. New housing projects were still conducted in North Bandung although on a small scale to fill the housing plots following the development plan of Bandung in the colonial era. But it was mainly intended for government officials and army personnel.

After establishing the republic, some of the rebellions still appeared. The rebels of Darul Islam that claimed the establishment of the Islamic state in West Java had several clashes with the national army in the countryside of Bandung. These had led rural people to evacuate to the city as refugees. These country people wildly resided in every vacant land inside the city including public open spaces, plots for the greeneries, state-owned idle land, and even along fire escape lanes (*brandgang*). These incessantly rapid invasions resulted in a tremendous densification of existing *kampongs*, even created and extended new squatters, since the government was not prepared to provide adequate planning and public facilities. Some of these new kampongs were attached to the former dwelling complexes in North Bandung since these new migrants thought that they would get better opportunities of finding domestic jobs as servants or other informal jobs if they stuck to the former city inhabitants.

This rebellion had lasted for more than 10 years, before it was repressed in 1962. Although insecurity in the countryside was redeemed, the flow of migrants to Bandung cannot be controlled up to date. This situation worsened as the left-wing party

encouraged anti-Chinese sentiment, which stimulated some riots. Most of the Chinese people living in the rural areas were forced to move to the urban centre and accelerated the densification process in Bandung.

In the middle of this era of turmoil, Bandung showed a new image to the world as the main venue of the first Asian-African international conference and the proclamation of “The Bandung Declaration” to form the Non-Aligned movement in 1955. This conference was initiated by Soekarno, and was conducted in Bandung instead of in Jakarta as the national capital city. Bandung was considered a suitable venue to house this international gathering and because the city was considered to be a symbol for anti-colonialism. The *Concordia Societeit* at the *Groote Postweg* was then converted into the main venue for the conference, and a number of hotels and facilities were renovated and built. The event made Bandung renowned as a centre for national and international conference and this status has been further endorsed until now.

#### **b. Bandung and Its New Image**

Bandung has been further reputable as an educational and scientific centre not only for West Java but also on a national scale. Not only was the ITB complex expanded, but also other new educational and research institutions. Most of these new institutions have been built in the northern area. Therefore, the demand for the development of related educational facilities such as boarding houses to accommodate students, food stalls, shops, etc., has been increasing. These facilities have been mostly provided by the private sector. Many of the colonial residence buildings have then been functionally transformed into private lodging for the teachers. Lecturers and well-off students, and those who come from middle – lower class usually rent rooms in nearby *kampongs*. This phenomenon has caused further but unidentified densification, since most of the students usually do not register themselves in the local administration offices. Until now there is still no mechanism to record and control them.

The modernization of Bandung was initiated in 1961 through the renewal and redevelopment of the City Square (*alun-alun*) in the south part. Not only Jakarta but Bandung also was influenced by Sukarno’s “Nation Building” political development policy, which accelerated ambitious projects in Indonesian big cities. This idea transformed the city into a large-scale city, especially the old city centre in the south due to massive new constructions, the definitive changing of parcelling, the networking system, and urban structure.

The development was rather terminated by the political chaos in 1965. Nevertheless, it lasted only a year and this city did not suffer significantly from physical demolitions since the rebellion happened mostly in the rural areas. On the contrary, the development was increasing especially after the political stabilization a year after, in 1966, when the central government founded a five-year development plan abbreviated as REPELITA. In the early 70's Bandung slowly started its recovery phase and beautified the city. In this period economic development and diversifications intensified, and they went along with the development of job opportunities and the rise of incomes within the community. The provision of housing and urban infrastructures thus has been a significant topic in the urban development in Bandung. The oil boom in the early 70's also expedited the upgrading of the city as well as the boom of construction that lasted until the late 70's. In association with this condition, the enormous physical and functional transformation occurred especially in the southern part. Commercialization and modernization took place initially in the core of the old city and later led to the north through the main city corridors, particularly along Merdeka – Dago, Riau as well as Cipaganti - Setiabudi Street, Pasir Kaliki Street, and Cihamapelas (fig. 3.29. and 3.30.).

The period of 1983 – 1988 was marked as the “Shock Period” due to the decline of the oil price and resulted in an appalling economic crisis<sup>46</sup>. This situation brought about strong influences regarding the urban development of Bandung. In the early 80's urbanization began and it reached the urban periphery parallel to the worse densification.

In 1987, the city extended its administrative boundaries towards the Greater Bandung Metropolitan Plan (Bandung Raya). Plans for the city include higher concentrations of development outside the current city centre. It is an attempt to dilute some of the population in the old core and to provide more housing plots for the rapidly growing population, which was impossible to be allocated in the inner city. Consequently, the transformation of agricultural area in the periphery for housing purposes became apparent. The extension happened incrementally and the housing enclaves have been sprawling sporadically and unstructured and mark the cityscape. Since the flow of population into the city has been continuing without any override of the city to neither stop nor control, densification has been continuing in the residential quarters in the inner city areas. The parcels in the city have been meagre and prices have been skyrocketing

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<sup>46</sup> Based on interview and discussion with Tjuk Koeswartojo, in October 2005.



Source: Personal Documentations, 2004 – 2005.

**Figure 3.29.**  
**Actual Features of Urban Architecture in the North Bandung's Corridor of Cihampelas Section**

Some different functions have been occurring, following the pressures of capitalization and commercialization. As new images are needed for the new uses, new building types and architecture appear to replace residential function in some sections of the former colonial dwelling quarters in North Bandung. High competition in economic activities has motivated business owners to create any possible actions and happenings to attract the visitors. In some areas a 'Las Vegas – like' image has dramatically come into sight. The inadequate provision of infrastructure to support new uses has invited new problems such as parking and traffic congestions, problematic locations for informal economic activities, uncontrolled densification etc. such as shown in the images above.



Source: Personal Documentations, 2004 – 2005.

**Figure 3.30.**  
**Actual Features of Urban Architecture in the North Bandung's Corridor of Cihampelas Section**

The left over unique dwellings from the colonial era have been suffering from destructions in many levels as seen in the features bellow. Although some efforts to revitalize the buildings have been taken including the replication of the details in the new constructions, somehow the urban environmental quality continues to deteriorate rapidly due to inadequate means of control.

through the land market mechanism, weak control instruments, and a political situation that is too accommodating<sup>47</sup>.

### **c. Economic Boom and the Crises**

Until the 90's, economy had been booming in the south-east Asian region including Indonesia. Development in the construction sectors accelerated again and along came land speculation. Effects of economic activities in the big cities appeared, also in Bandung due its advantage of location. The structural and social transformation was followed by a spatial one. It was revealed due to the spatial demands for housing, traffic / transportation, workplaces, and other urban amenities<sup>48</sup>.

In practice, the developments in Indonesian big cities have never been utilized by sufficient development planning and regulations. In Bandung, land speculation and uncontrolled development have totally changed the historical cityscape in the old centre in the south and have resulted in many destructions of the urban structure. The development has gradually led to southern corridors. The most problematic phenomenon is the increasing number of informal housing and economic activities, where the low / lower-income population mostly engage. Due to scarcity and land speculation, the lower-income groups have long been marginalized since the city government has not provided proper measures and planning systems to accommodate this group adequately in the city. Today, their activities strongly characterize the townscape both in the southern and northern part of Bandung, even though the northern part of Bandung is still considered to supply elite quarters (fig. 3.31.).

In the inner city, office buildings, banks, malls, shops, retail stores, logging houses for workers and office employees, and other supporting facilities to accommodate the demands of the population have been constructed but mainly by private enterprises. The main corridors of Bandung like along Braga, Riau Street, Dago and Merdeka Street, Ahmad Yani Street, etc. (fig. 3.32.), where the main traffic flows through the city, have become the most favourite spots for business development and are considered to be positive for economic activities. High-rise buildings have also been built everywhere along these streets without respecting the historical urban heritage, and this tends to be wilder

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<sup>47</sup> The laissez-faire politics has given wider opportunity for corruption and manipulation that disadvantage the implementation of urban planning as well as law enforcement. See also M.L. Leaf, 1994 and T. McGee, 1994.

<sup>48</sup> The development in industrial fields has strongly marked the economic character of this city. The textile and garment industry are most prominent today on a small - big scale.



Source: *Personal Documentations, 2004 – 2005.*

**Figure 3.31.**  
**Profile of Inner Urban *Kampong* in the North Bandung**

Due to the scarcity of land and the practice of land speculation, poor people take advantage to occupy and densify former open spaces and vacant land in the inner urban area. The slumming process continues to deteriorate the image of green garden of the ex-colonial dwelling settlements in North Bandung.



Source: Personal Documentation 2004 – 2005, *Beeld van Een Stad*, 1989.

**Figure 3.32.**  
**New Townscape along Braga and Groot Postweg Ost-West Corridors in the Old Core of Bandung**

Process of commercialization has rapidly changed the remaining art-deco buildings. New building types and architecture emerge following the demand of today's image of modern business in the old city centre. Due to the absent of regulations, the development becomes uncontrolled and result in degradation of cityscape.

in the upcoming years due to the floating functional zone<sup>49</sup> implemented in this area by the city planning.

The development of educational institutions was booming in this period, just like the money machines of business. Many new institutions have reused residential buildings, and some of the existing institutions were extended due to the increasing demand to accommodate new students. Since in many cases horizontal extensions of the buildings are not possible, many of them have been forced to extend their building vertically. This new function has also demolished existing buildings in the former residential area. Many institutions, mostly private educational institutions, have been built in the city centre with modern architecture to attract students from other towns and islands. Due to the absence of regulations, uncontrolled construction that does not get along with the garden city principles has been increasing.

Heavier traffic and parking are among other significant problems that have been arising in these areas. Therefore, the city has extended the routes of traffic to the secondary street corridors, which belonged to the former inner-compound residential areas. The development and commercialization hence have expanded along these secondary streets. This intensification of traffic has been considered to need expansion of networks and sizes of streets and roads. This assumption has continuously placed an environmental burden on former ideal neighbourhood, since this development often neglects the former hierarchy of the city structure.

In 1997, a monetary crisis hit again and worsened the economic situation in Indonesia, resulting in a big-scale lay-off in manufactures and industry sectors. The number of unemployed people was increasing. Jobless people then tried to look for alternatives to survive by working in informal sectors' activities in the city. Footstalls, street trading, street artisan and workshops, Peci cab driving, begging, scavenging and rubbish recycling, and home-based industries (small and medium enterprises) were among others alternatives they diversified in order to earn money. These people have invaded open spaces and idle land inside the city, i.e. locations considered advantageous for their businesses. Their growth has been increasing from time to time because they were able to offer advantageous alternatives of consumer goods to the city population who suffered from the monetary situation during the crisis. Many of the pedestrian zones, like sidewalks, overpass bridges, greenery strips, boulevards, parks, squares, even traffic nodes have been occupied illegally by these economic activities (fig. 3.33. and 3.34.).

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<sup>49</sup> The floating functional zone is a temporary land use policy meaning that the buildings along certain zones / corridors can be used for any functions with the purpose to get appropriate land use for the future planning.



Source: *Personal Documentations, 2004 – 2005.*

**Figure 3.33.**  
**The left-over Greeneries in the North Bandung**

Some left-over greeneries in north Bandung, such parks and green belts in the area of Bandung Institute of Technology and some main street sections, are still relatively well-maintained although mostly are lessening in size, as well as number and types of vegetation.



Source: Personal Documentations, 2004 – 2005.

**Figure 3.34.**  
Types of New Uses Occupying the Green Areas of Former Garden City

Illegal settlements, informal sector activities, the extension of roads and development of infrastructures and construction of public/social facilities are among other factors in transforming and lessening the size of green area in North Bandung. The visual quality also continues degrading from time to time.

In fact, the government of Bandung has not had a certain action to accommodate this phenomenon. Although on the one hand such activities could revitalize the city for 24 hours, their existence, uncontrolled occupations, and rapid growth on the other hand have damaged the visual, functional and environmental quality of many urban neighbourhoods.

#### **d. The Reviving Phase**

In early 2000, the economic situation was getting better. Although to some extent the economic and political situation was still in turmoil. It has been followed by slow recovering of businesses, including the ones in the property and construction sector. Although the buying capacity of the population was still relatively low, there were many investments especially in housing construction for the middle to high class, mix shop house complexes, as well as shopping centres / malls. From this year onwards the city of Bandung is again thriving. Commercial activities are vibrant but indeed - uncontrolled.

The development of educational facilities has been very enormous in this last decade. There still is the same vibrant collegiate atmosphere that was there when the Dutch government first established the North of Bandung as a study place. Now this city housed around 74 private and state schools of higher education, whereas before the crises in 1997 the number was only about 35. Although later some of the institutions have moved to the urban periphery, since most of the supporting facilities are built in the north part of Bandung, hence students prefer to reside in the inner city area near the old campuses. Thus students from all over the islands have been continuing to densely populate the inner city area.

Although the environment has been changing as per quality, the beautiful landscapes of Bandung and surrounding areas are still attractive magnets for people who look for leisure facilities at the weekend. As it was in the colonial era Bandung thus remains a favourite tourist destination. However, industrialization and modernization has been modifying its tourist attractions towards the lessening of nature's potentials, whereas there are other options for both domestic and international visitors. Conference halls and hotels, cafes, pubs, special wellness treatment hotels, and many kinds of themes have been chosen including the effort to bring the old image of Bandung to the foreground again. The atmosphere of Bandung also brings inspiration to various reputable Indonesian and foreign artists to reside both inside and outside of the city areas in order to attain more creations. They have created great excitement about new artists' colonies, which have become some of the attractions the city might offer to visitors.

The enacting of the decentralization system in the governmental system in early 2000 has been a significant point for the development of the city. From this point, the local government has been trying to draw more revenue to its cash box by opening the door to investments of both local and international enterprises and companies. The textile and garment industries have been the most dominant supplying most among the manufacturing companies and contribute to a vigorous business climate. They have attracted many people from the countryside to migrate into Bandung and its peripheral areas<sup>50</sup>. The recent expansion of the city borders has been as a consequence added to the southern lowlands of Bandung, which now becomes a measly industrialized area and holds wretched dwelling estates due to inappropriate town planning and control mechanisms<sup>51</sup>.

In the recent years, Bandung has become a "Mecca" for shoppers, and has therefore been reputable as "*Kota Wisata Belanja*" or Shopping Tourism City - because of its numerous factory outlets<sup>52</sup>, which offer garment products. Bandung is also well-known for culinary tourism since it offers many different kinds of foods, both local traditional and international, at an attractive price compared to the situation in Jakarta. Most of these attractions are particularly accommodated by shops, shop houses or big shopping centres, and malls along the main corridors in the northern part of the city particularly in Jl. Ir. H. Juanda (Dago Street), Jl. R.E. Martadinata (Riau Street), and Setiabudi Street. Visitors from other cities, especially from Jakarta, who wish to escape the heat and pollution come to Bandung for its cooler and pleasant climate, to shop, or just to look for some particular gastronomy, that are Bandung's specialties. As a consequence, traffic in Bandung usually reaches peaks during the weekends.

The tourism sector is developing rapidly and has been changing the use of land in this city. To accommodate visitors some hotels were built and even some of the residential buildings in the northern part are changed or modified to meet this demand. In 2003, for example the number of hotels with various ranges of classes reached the number of 210.

In relation to the 50th anniversary of the Asian-Africa Conference in May 2005, during which many representatives from overseas' countries were present, Bandung started

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<sup>50</sup> According to data from *Bapeko* – Bandung (the Development Planning Board of Bandung) the population growth was recorded to reach 4.37% with 133 person / hectare in 2005.

<sup>51</sup> According to the report made by *Bapeko*, the largest of the dwelling quarters was 29,914.9 ha in 1991 and in 2001 grew to 33,025.1ha, whereas the industrial area was recorded to cover 2,356.2 ha in 1999 and developed to 2,478.8 ha and has reduced the green and farming areas, more or less than 10% of the total area of Bandung per year.

<sup>52</sup> Products that were made as export items that did not get exported are sold at a cheaper price in outlets (in local speaking: 'factory outlet').

some city beautification programs. Prior to this event the 2.8-km Pasupati Bridge, linking the east and west part of this city and a highway between Jakarta and Bandung was completed, which cut the travel time between these two cities by at least one hour. This holds a big consequence for Bandung as nowadays the people from Jakarta are flooding into this city not only at the weekends and holidays but also during the weekdays. This results in more terrible traffic congestions within the city centre. The most crowded sections are particularly along Dago and Riau Street, where most of the clothing factory outlets and restaurants are found. Parking attendants have turned the road shoulders into ad-hoc car lots, worsening the congestion. On the other side, new uses occupy buildings that used to be residential. As old faces are often torn down, parcels are resized and regrouped, and what were idyllic residences are now bustling commercial facilities, such as shops, chains of supermarkets, giant malls, boutiques, and bank buildings. The historical cityscape thus has been practically uprooted.

### **3.5.3. City Order : Planning and Development Policy of Bandung and the Realization**

Legal practice and administrative rules and regulations concerning urban planning in Indonesia not only depend on the form of the nation but are strongly influenced by the transformation of socio-cultural and historical aspects within the society. The different practices of regulations have therefore also directed the transformation of the city structure and left its mark on the morphology of Indonesian cities. Existing and formerly implemented regulations, laws, procedures, methods and planning instruments therefore should be viewed and reviewed to understand how they shape the cityscape.

#### **a. The Master Plan 1965 – 1985**

This master plan was created by the city government concerning its regional development just before the changing of the regimes from the old to the new order in 1965. It produced two levels of planning: the planning of the Bandung Region and the planning of the City of Bandung<sup>53</sup>. There it was shown that the city centre with its status of municipality acted as a core of the larger region, whereas some small centres functioned as satellite towns (fig. 3.35.). The concepts were considered to copy those applied in the satellite city of Kebayoran Baru in Jakarta, where the growth of inner-city area was limited whereas development was more focused on its satellites (Cimahi, Ujung Berung, Lembang, Dayeuh Kolot). A green buffering area was created to separate the industrial area and the satellites towns, which were located 10-20 km from the city core.

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<sup>53</sup>After Siregar, A.S. 1990, P.116.

The streets were planned to connect the satellite towns to the centre. Due to the topography in the northern part, it is only possible to build transportation connector roads (bypass roads) among the satellite towns, which are situated in the flatter land in the South.

Although more details on the respective development were not elaborated, this master plan included the concept plan of density and the intensification of land use in the inner-city area. The main intention was to fill up the existing area in a homogenous way. The model chosen in the master plan in which the area was surrounded by greeneries actually seemed to adopt western 20<sup>th</sup> century town planning. However, this concept did not meet with the real facts of the segregated colonial town structure which still remained in Bandung in this phase. The idea to shape the city in its existing form and boundaries actually did not denote to re-define the colonial city as a new and modern metropolis, but more to conserve the city structure.

The master plan was lacking the strategic ideas of the former colonial town planning in its urban architecture. Urban architecture as one of the most important aspects in the cityscape was not properly discussed and performed. There were no regulations which could guide some significant aspects, such as how to construct the spatial and functional synthesis between the existing city structure and the current demand and of how the population could be moved from the extreme dense urban quarters. Therefore the master plan also could not answer the questions of how the existing dwelling quarters in the old city structure could fit together with the new ones, and how logic the extension of the city perimeter was.

In conclusion, the master plan of 1965 thus seemed to be an ongoing abstract since only few of its concepts and principles could be brought in practice. The ethnical segregation in the colonial structure was in this phase officially replaced by functional categories: higher education, the provincial and municipal government, which were placed in the north, whereas commerce and offices were allocated in the areas along the central rings and industries in the south.

#### **b. The Master Plan 1971 – 1991**

In the late 60's the economic situation boosted and was even more by the oil boom in the late 70's. It was the point where the Indonesian government enacted the first five-year development plan and started to make some ambitious development ideas intended to

push economic recovery<sup>54</sup>. At the same time the new master plan of Bandung of 1971 was set up and brought into practice (fig. 3.36.).

This master plan still set Bandung as a centre at the regional level surrounded by some satellite towns. The land use was divided functionally like in the former plan, with more attention given to housing development. The northern hilly part of the city, which was formerly the European quarters, was designated for administration, education and tourism. Commercial uses were found along the main streets (mainly along Asia-Africa and Otto Iskandardinata Street in the southern ring). The southern part was also allocated for industrial area. The city government also established four development districts in order to simplify and to manage the development. Those were Cibeunying<sup>55</sup> (for administration and education), Karees and Tegalega (for industry and trade), Bojonegara (for industry and education) and the city centre (for tourism and trade).

Other problems also occurred since some of the smaller programs were brought into practice without sustaining the plan made by the general master plan. The BUDS<sup>56</sup>, has planned the “*Bandung Raya*” (Great Bandung)<sup>57</sup>, but the BUDP<sup>58</sup> had no sufficient structural dimension on the uses, urban architecture, development techniques and methods, and detailed plan to bring it into the action plan.

Thomas Klaas’s proposal was among other programs the one that might be specially noted concerning the endeavours in conserving the historical quarter in the old city centre in the southern part of Bandung<sup>59</sup>, particularly in Braga and *Alun-alun* area. This study has mentioned that the decay of Bandung’s old city centre was essentially caused by the intensive densification particularly in the former unplanned area (Kampongs), the decreasing size of open and green spaces, and the overloaded traffic due to the increasing number of vehicles, and modernization. This all has led to the deterioration of

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<sup>54</sup> The five years development term is called *Repelita I* (1969 – 1974).

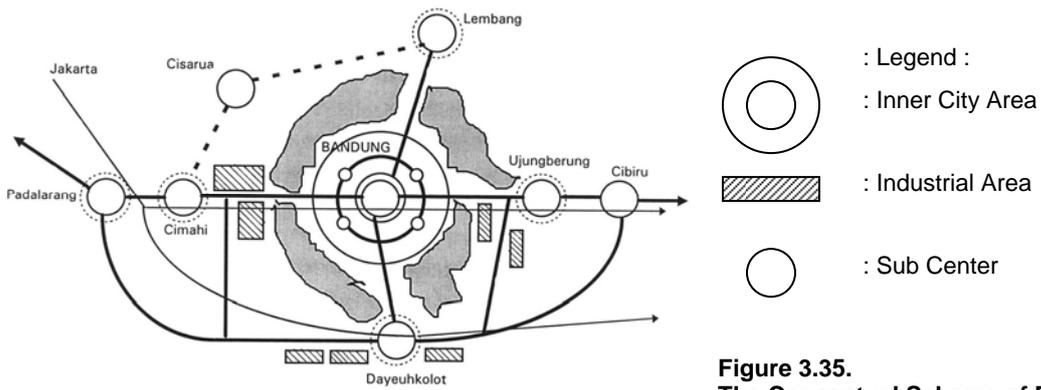
<sup>55</sup> The Cibeunying area is where the whole new Dutch colonial dwelling development area (*nieuwe europeesche zakenwijk of the Uitbreidingsplan Bandung-noord*) was located.

<sup>56</sup> BUDS was initially the abbreviation for Bandung Urban Development Strategies first issued in 1974 and then extended in 1977 – 1978 as Bandung Urban Sanitation Study. It contained a concept of development for Bandung as Metropolitan area, whose programs placed more focus on infrastructure and sanitation improvement, funded by the ADB loan and implemented in 1976.

<sup>57</sup> This program was initiated by the provincial government of West Java, with the technical assistance of Belgian and Dutch experts. The main aim was to establish the coordination of the development policy at the regional level, which focused on the growth of population, urban transportation, and land use. The planning action was in fact only partially implemented.

<sup>58</sup> BUDP = Bandung Urban Development Project I and II (1986 – 1984) were two continuing projects funded by the World Bank and ADB intended to manage the development of the Bandung metropolitan area especially in infrastructure development, followed by some renewal and sanitation projects at the implementation stage.

<sup>59</sup> Thomas Klaas’ study was made in collaboration with the planning department of ITB. He made renewal programs proposals on the historical old city centre especially in Braga in 1978-1979.



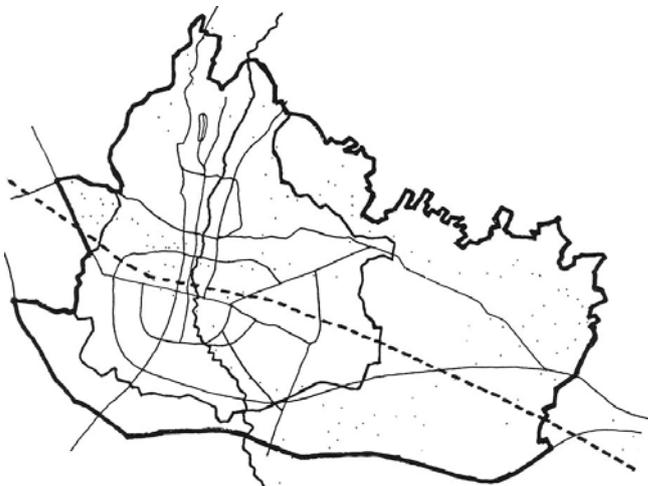
Source: Masterplan of 1965.

**Figure 3.35.**  
The Conceptual Scheme of Bandung's Masterplan of 1965



Source: Masterplan of 1971.

**Figure 3.36.**  
Bandung's Masterplan of 1971



Source: Masterplan of 1985.

**Figure 3.37.**  
The Extension Plan of Bandung in 1985

the old urban quarter functionally, visually, and environmentally. The level of density, structure of buildings, green spaces were thus defined as a recommendation of this study. However the standard was basically defined following the conservation orders in the old European city centres, where most of the old city cores have been allocated for pedestrian use. The renewal of the Braga area as a pedestrian zone that was the purpose of this study thus was criticized as an unrealistic project, since this street was the only way to connect the southern and northern part of Bandung. This problem remains until today.

In conclusion, instead of bringing new and innovative ideas of urban planning, most of those programs in fact did not really satisfy urban realities. As shown at the implementation level, more conflicts and problems have even surfaced. In the infrastructure plan i.e. new streets were planned without proper consideration of potentials and future urban development. Moreover, detailed plans and strategies to cope with many problems of urbanization were still absent, as this master plan did not mention housing aspect, which was actually a significant concern during this period. There was also no real and practical effort on how to transform a former colonial town into a real dense metropolitan centre and how to put new residential areas up in the existing structure. Instead of detailing the master plan of 1965, this new one has oversimplified the former one.

### **c. The Master Plan 1985 – 2005**

The master plan of 1971 was supposed to be implemented for 20 years forward, but in the fourth term of the *Repelita* it was exempted in 1985<sup>60</sup>. This master plan brought some conflicts due to the gap between the old and the new master plan, particularly due to the extension plan of the city area. The master plan of 1971 mentioned that in the frame of the Bandung Metropolitan development, the city should not be extended but rather the development in the city should be intensified (fig. 3.37.). However, during the implementation of the master plan of 1985 – 2005, the urban size almost doubled from 8,098 to 17,000 ha. The background of this extension was the demand for housing caused by the rapid population growth. Functional zoning was still put as the basic concept of this master plan (i.e. for dwelling, commerce, industry, etc. and mixed uses). This master plan continued to segment Bandung. The division nevertheless was focused more on functional zoning and activities than on concrete physical-spatial aspects. Architectural aspects were somewhat absent. Moreover, the district plan seemed to

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<sup>60</sup> See also the evaluation of *RIK (Rencana Induk Kota)* master plan of 2005.

define the respective zones as separated and isolated entities without orientation to their neighbouring districts. This extension resulted in many consequences and therefore the master plan was revised in 1990/1991. The new master plan proceeded until 2001. In 1999/2000 it was again evaluated and revised to respond to the current development, which was influenced by globalization issues especially addressed by AFTA/WTO.

In the new master plan, new arterial roads and highways were developed along the urban periphery to create alternative urban corridors along the city's outskirts. This ring road has gotten urban impulses and resulted in a "wild" development along its corridors. New developmental areas in this master plan were mostly allocated for dwelling purposes, except the locations along the major roads, which were allocated for mixed-use. Some changes were planned to functionally replace existing urban entities, such as the plan to remove much of the military's property, which was formerly situated in the inner city area.

Suburbanization thus has become one of the major problems in urban development. It has especially occurred in the southern and north-western areas due to the development of housing estates in the urban fringe areas. Densification inside the inner-city area (municipality) has kept continuing because the master plan only planned major roads as structural frameworks into which the individual housing estates were inserted. Furthermore, the changes of functions along the main corridors have accumulated more problems since no clear regulations on building regulations and land divisions were mentioned. Single-storey buildings on the relatively narrow parcels for example have gradually developed into five-storey constructions with mixed functions (shop houses, offices, shops, boarding houses), or in the opposite some parcels were unified into huge buildings used for super malls, shopping centres, or rental office buildings, and other commercial purposes.

#### **d. The Master Plan 2004 - 2013**

In 1997 Bandung was assigned as the centre for national activities (*PKN*) by the national government<sup>61</sup>. This status has required the city to accommodate more facilities and amenities. Two years later in 1999 a new governmental system was established by the enacting of decentralization. The new system has also changed the development policy in Bandung. Thus before the master plan of 1985 – 2005 was accomplished, the city has made several revisions to conform to the new development policies. The revision confirmed by local law No. 2/2004, was also intended to cope with the rapid transformations in Bandung. The revision took a long time due to conflicts of interests and

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<sup>61</sup> Government Degree No. 47/ 1997.

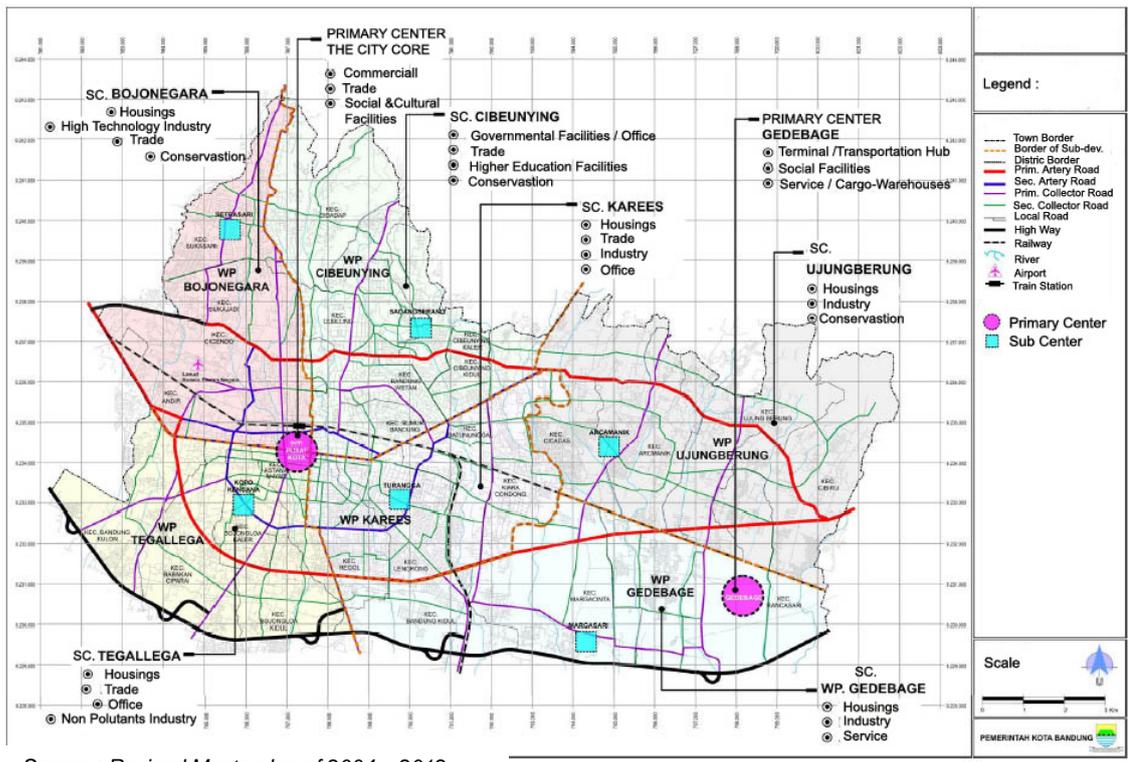
protest against the new plan to transform green and preservation area in North Bandung. However this new master plan has proposed few significant development plans.

Briefly, the master plan 2004 – 2013 has divided Bandung into three major areas of development (east, north, and west) to help manage urban development. The eastern part has been assigned as a major site for development and urban extension. The development in the western and in particular in the northern part is strongly restricted and controlled. This division has been further detailed and resulted in six sub-development areas: Cibeunying, Ujung Berung, Bojonegara, Karees, Gedebage, and Tegalega (fig. 3.38.). Each area is given particular major functions to distribute the development with its own core as a sub- (secondary) centre of the city. There are two primary centres, one is situated in the former old city core (*Alun-alun* area) and a new one is located in Gedebage. In fact, the plans to allocate the primary and secondary centres are not supported by adequate plans for the urban linkage system, i.e. no hierarchy of roads, transportation system and modes have been presented (fig. 3.38 and 3.39.). This situation has brought many problems especially for traffic and congestions in many crucial spots, particularly within the areas where the activities are concentrated. The new master plan also offers incentive and disincentive to generate and to control the developments but this system is not really effective in practice. Many investors still prefer to build urban facilities in the western part since this area is considered more advantageous although actually the infrastructure is no more sufficient to sustain their businesses<sup>62</sup>.

Some achievements could be considered as a progress in this master plan namely; this master plan has addressed preservation issues as significant aspects of city planning. Several historical inner city sections have been designated as conservation areas. They are classified into 6 quarters; (1) The Old City Center Quarter including Cikapundung-Braga, complex of old regency office, and *Alun-alun*, (2) *Pecinan* (Chinese) Quarters, including Jl. Pasar Baru, Jl. Klenteng, Jl. Otto Iskandar Dinata, and Jl. ABC, (3) Military Quarters, including Jl. Aceh, Jl. Sumatera, Jl. Jawa, Jl. Bali, Jl. Gudang Utara, and the Military Ware house complex, (4) The Ethnic Sundanese Quarters, including Jl. Sasak Gantung, Jl. Karapitan. Jl. Dewi Sartika, and Jl. Melong, (5) Villa House Quarters, including those in Jl. RE. Martadinata (Riau street), Jl. Merdeka - Ir. Juanda (Dago Street), and Jl. Setiabudi, Jl. Pasteur, Jl. Cipaganti, Jl. Diponegoro, Gatot Subroto, and Jl. Malabar, (6) Industrial Quarters, including those in Arjuna, Jatayu, and Kebon Jati (fig.

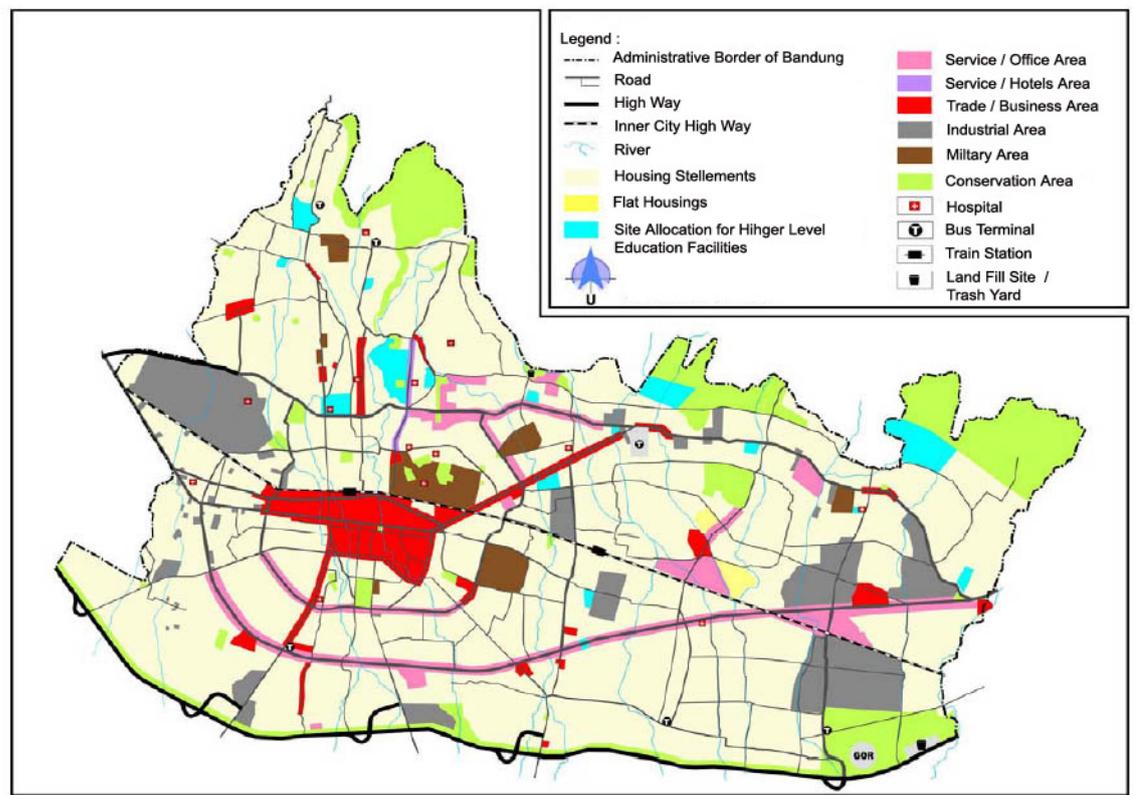
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<sup>62</sup> Some business actors with Chinese origin still believe that the area in southern Bandung is the best regarding the principles of 'Fengshui / *Hongshui*'.



Source : Revised Masterplan of 2004 – 2012.

**Figure 3.38.**  
The Sub Development Area of Bandung



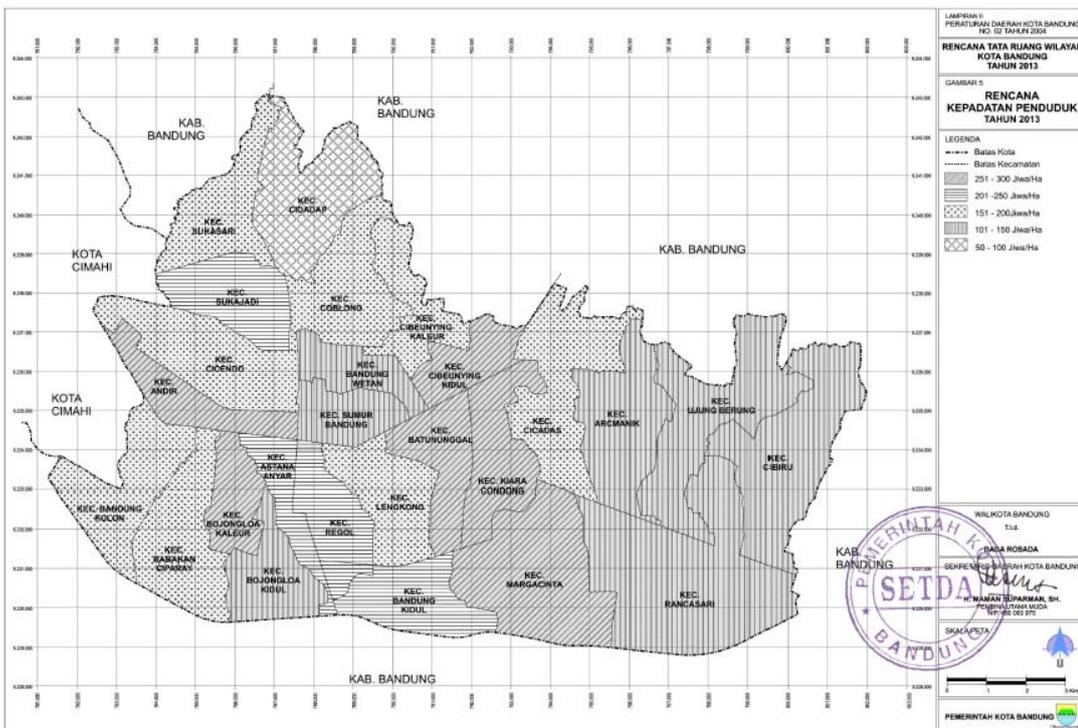
Source : Masterplan of 2004 - 2012

**Figure 3.39.**  
The Land Use and Street Structure of Bandung



Source : Revised Masterplan of 2004 – 2012.

**Figure 3.40.**  
Sites of Designated Conservation Area in the City of Bandung



Source : Masterplan of 2004 – 2012.

Jiwa/Ha = Person/hectare

**Figure 3.41.**  
Designated Density in the Bandung Development Plan

3.40.). This master plan has implicitly mentioned that the vertical development in the conservation areas, especially in the former dwelling neighbourhood, shall be restricted.

With regard to conservation efforts, some conflicts in this master plan still occur somehow, since its purpose is superimposed with other interests. The above-mentioned conservation areas have also been designated for other uses in the development plan, such as trade/commerce, service, tourism, housing, urban social and public facilities and governmental purposes. These types of development in fact demand much additional infrastructure in order to support the new functions, which might not be accommodated by the horizontal-orientated development. Since further technical guidelines are still absent, the verticalization and densification continues to happen in the designated conservation areas. In 2004 for example five modern trade and amusement centres were opened and continued with the construction of four malls and hypermarkets in 2005. All of these developments are situated in the city centre and in the area of the north Bandung, instead of in the eastern part such as decreed by the master plan.

In conclusion it seems that the city development in Bandung still has to face more challenges. So far, due to the limited budget, Bandung has only one detailed plan of the Cibeunying sub-development area. This plan, in effect, cannot cope with the rapid transformations especially those which have been generated by the economic sector. The economic activities in this sub area have extended to many forms mainly because there is still no implementation plan which particularly determines what kind of services and activities are permitted. The situation has been worsened by the uncontrolled growth of informal activities since the economic crisis keeps going on.

#### **3.5.4. From A Well-Planned Colonial City to A Metropolitan Area: The Problems and Potentials of Urban Development**

##### **a. The North of Bandung, major problems of the transforming garden city**

The extension of urban area in Bandung, evidently, cannot be separated from the intensive growth of population. The transformation of Bandung from former well-planned colonial city to a bigger metropolitan area has become an unavoidable process. Development therefore shall address related sectors to accommodate the growing basic needs of the urban population so that the city can function well. In the case of Bandung, the demand for more space to accommodate the development becomes a critical problem due to the geographical characteristic of this city<sup>63</sup>. Furthermore, the effort to

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<sup>63</sup> The size of built area available is only 67.96% of the total of size of the Bandung Metropolitan Area (source: RTRW 2004).

intensify the inner city area is also handicapped by the gap of the colonial plan and the current urban realities. Some designated area for particular functions in the colonial era in North Bandung are no more suitable with today's context, for example the large military warehouse or logistic complexes which are currently still situated in the inner city area. Problems have been arising especially when it comes to the question of how the old structure can be linked to the new functions and new development. The discussion below might describe the ideas of the major causes of the transformation in the North Bandung.

Bandung was planned as a "growing city" with a concentric pattern, whose centre initially was situated in the *Alun-alun* and the surrounding area of *Groote Postweg*, including *Pecinan* and the Dutch settlement. The concept of de-concentration was implemented by developing sub-centres in the small surrounding villages in order to avoid the migration of the villagers to the city centre. These sub-centres were utilized with urban facilities, such as planned traditional markets and dwellings. The sub-centres and the facilities were well-linked to each other with adequate transportation systems, especially railways.

Moreover the use or functions of the city were developed in stages. At the beginning the city was oriented as town for local governmental facilities, trade and distribution. Later on, Bandung was extended not only to accommodate the development at the local level, but also to support the central government. Therefore, other functions such as the centre of trade, centre of education, technology and research in the field of medical, geology and vulcanology were later added. The function was extended to industrial town and tourism in the next phase. All these functions were utilized by sufficient infrastructures, which were accomplished before the facilities to house the new functions (i.e. buildings) were built. Thus before the World War II, Bandung had become a significant development node in Indonesia.

The development of the North of Bandung had additional concepts, where the particular image of the city was highly expected to be brought into practice. North Bandung was planned as a modern town by optimally integrating the natural potentials with the built environment, with consideration of orders regarding the spatial arrangement/site planning, land use, building codes, integration of infrastructures, standards of constructions and innovation of technology which was environmentally friendly. The garden city concept implemented in this area, therefore, strictly controlled the percentage of open space, landscape and architectural pattern in the cityscape. The elements of urban design were integrated with the open spaces with the patterns, which were often built by involving the abstraction of urban symbolisms. All of these concepts resulted in an ideal environment, where the economic and social aspects could be manifested in the

physical forms, and in parallel to the built environment managed to acclimatize the more ideal social environment and to push economic development of the city.

In opposite to the situation during the colonial era, today Bandung has mountainous problems. In fact the city government has tried to create a similar motto in Indonesian terminology for city as "*Kota Bermartabat*" with the aim to achieve a "*Gemah Ripah Wibawa Mukti*" city, to promote the development of the city<sup>64</sup>. However, the motto remains only political jargon and is too abstract and unpractical to be manifested in the city planning.

The ideal garden city has been changing from time to time. The discontinuity of urban planning and the development in the colonial and post colonial era have been continuously occurring. Not only do physical transformations prevail, but the changes also have degraded the ideal structure of the social and economic aspect of the society, which was one of the major aims in the past. The new master plan seems to develop the city without comprehensive considerations, especially in the building of social and economic structure concerning the staging process. The current development is too fast and the current master plan cannot manage to cope with the rapidly increasing demand of the population. The revisions of the master plan, which is required for this purpose, to some extent, cannot be made due to the limited budget and complicated bureaucracy. The development to anticipate urban growth therefore has often been done peace meal, without definitive structure especially with regard to the socio-cultural aspects. It has created a situation where structures of the city have no dimensions of socio-cultural and economic balance. Such development does not bring a holistic solution for urban problems. The developments also proceed uncontrolled since the instruments of control are still absent. Indeed the real general major problems in this transforming garden city are manifested physically and might obviously be noticed in the urban-space as follows:

- The decreasing percentage of green area, including the percentage of open space in dwelling units since the building coverage has become higher due to the intensification of land use. The very permissive control of enforcement has resulted in the degradation of the former image as city in green<sup>65</sup>.

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<sup>64</sup> The motto of Bandung is "*Gemah Ripah Wibawa Mukti*" as shown in the City of Bandung's logo. It means "*rich soil prosperous people*". The mayor of Bandung Dada Rosada has endowed a new motto "*Bermartabat*", which is an acronym of *Bersih* (clean), *Makmur* (prosperous), *Taat* (obedient), in. "(religious sense), *Bersahabat* (friendly). The motto is itself can be literally translated as "Dignified".

<sup>65</sup> Now the size of open and green space is only 243.79 ha or 1.45% of the total of the Bandung Metropolitan (source: RTRW 2004) area. The new master plan required 8% and it was revised to 10% of the total area at the end of 2004.

- The desertion of the hierarchical structure of the city has resulted in chaotic orders for the provision of urban services, facilities and amenities.
- The concentration of economic socio-cultural activities in particular spots in the city centre has generated an intensive densification particularly in the area situated along main roads or along main transportation routes.
- Traffic problems have been increasing, since the number of vehicles is growing about 11 %/year, but the development of roads and transportation facilities is only 2%/year, which is a very big gap and results in congestion and parking problems.
- Types of pollutions: air, water, soil, and noise, especially in the southern old city centre and now have been creeping over the north especially during the weekends.
- Uncontrolled construction of both private and commercial buildings continue to happen due to the inconsistency of the master plan, particularly because of the insufficiency of building codes and building regulations with some of them still absent.
- Housing problems are surfacing in the city centre due to the inadequate housing provision, limited size of available land, and the uncontrolled changes of urban land use. This situation is followed by other problems, such as those of the larger occupations creating incremental settlements and shaping up slums and squatters.
- The wild growth of informal economic activities also has become a crucial urban problem. The on-going economic crisis has brought a big number of lay-offs and inadequate distribution of job opportunities/alternatives in the formal sector.
- Many developments of industries in the inner city have degraded the visual, functional, and environmental quality of neighbourhood in urban space, because categories of industries have not been clearly mentioned and the existing regulations are not seriously enforced.

In the ex-Dutch dwelling quarters in the North of Bandung in particular, some significant issues have been appearing mainly due to the transforming economic activities. The commercial uses have concentrated and occupied the area along the main and the secondary roads. The conversion and the additions of the new functions are considered

very high and various<sup>66</sup>, which in most of the cases require the changing or adjustment of the buildings' performance to support their marketing strategies. Many of them occur sporadically. In fact, the changes of functions often happen radically because some of the new business/investors in Bandung seem to go along with the prevailing trends instead of considering the durability or sustainability of their business. They often abandon the image the city would recreate. Many facilities in the dwelling quarters, as a consequence, have been forced to accommodate a broader scale of demand at the local, even regional and national level, and no more function as a facility at the neighbourhood level as initially planned. The construction of big-scale commercial activities, such as super blocks, giant blocks of rental offices, malls, hypermarkets, complexes of shop houses, schools and other educational facilities, for example, have resulted in other derived demands to accommodate the building's users, workers or students. The facilities are always located in the neighbourhood surroundings. Therefore new constructions have been intensified in the current inner settlements. It is evident that many new functions have been evicted and changed the former urban character, disharmonized the composition of buildings, façades and the skyline. Many important spots, which initially were landmarks of the neighbourhoods, are torn down, or blocked with new constructions and the uncontrolled installation of signage. Many open public spaces in the dwelling quarters have been illegally occupied and privatized not only by informal activities but also by the formal ones due to inadequate facilities and infrastructure to support their businesses. The development of many small – middle-scale enterprises in the dwelling areas, which were not planned in the former plan, has created more problems, since the existing infrastructures cannot support these new activities.

#### **b. Development potentials**

Besides the mountainous problems, however, Bandung still has much potential, and the city might improve its performance. With regard to urban architecture as the focus of this research, the development potentials can be reviewed in some sectors as follows:

- **Tourism**

Bandung still embraces big potentials to develop the tourism sector to continue the idea of the past. The natural features and the built environment of Bandung are still appealing

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<sup>66</sup> Based on interview with Frances.B.Affandi, chairperson of Bandung Heritage Society, an average of about 10-20% of the buildings in the former Dutch dwelling quarters in the North of Bandung have been changed or added with new functions in a year.

to attract the people<sup>67</sup>. Conferences, gastronomy, fashion, and shopping tourism which became attractions in the past, still can be found in different forms in the city of Bandung.

There has been a new trend in these last few years to develop urban heritage tourism in some Indonesian cities, as there is an increasing awareness and interest of the young people regarding the history of the cities in Indonesia. The city of Bandung also has considered architectural features, with a large amount of colonial buildings, as an alternative to develop its tourism sector. Some heritage trails have been created. This effort also has tried to change the valuable colonial buildings to accommodate new functions in order to revitalize the buildings and to help historical buildings to be able to maintain themselves. Many villa dwellings have been changed taking on new functions such as factory outlets, cafes, restaurants, hotels with different ranges of classes, home stays, travel agents, and other related tourism activities. All these efforts are the only way to obtain profit in order to cover the high costs of building maintenance that has become a problem in preservation.

In some cases where the building dimensions are no more suitable to accommodate new functions, as new uses require larger dimensions, the destructions or evictions of buildings should be placed as an avoidable choice. Therefore, such playing “foreground” and “background” theory can be utilized to harmonize the cityscapes. With this concept, new buildings with multi-cellular and universal international style like uses for shopping centres, super blocks, etc, which are set behind the buildings portray local characters. This concept also can be implemented on a larger scale, at the neighbourhood level. Thus interesting building facades or main urban structure/fabrics can be protected to represent and to witness all phases of the history of the city. These kinds of methods have been proven to succeed the conservation in some other cities in developed countries, like for example in Singapore, which once had similar problems.

The conservation efforts in Bandung are still challenging somehow since today tourism activities have created some destructions of the historical buildings and urban quarters due the absence of laws to manage and control the development. Many buildings which have been considered to have valuable architecture in Bandung have been continuously deteriorating. In the 70's there were about 2,500 significant buildings, in the 90's the

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<sup>67</sup> It can be showed by the number of tourists which increased rapidly as it reached 1,762,415 in 2003 or increased by 86.23% from the number in 2002 (946,344).

number of valuable buildings remained 495, and in 2000 the number has decreased to 206<sup>68</sup>.

Another problem is the existence of informal sectors. Although informal economic activities have helped to sustain life by providing job opportunities in Bandung during the crises from 1997 – 2000, and helped to support the local economic development in the tourism sector; they still keep growing in an uncontrolled way and have damaged the functional and visual quality of the city.

The development of the tourism sector with conservation purposes, therefore, still requires organized and institutionalized planning and constituents to bridge the related stakeholders, such as investors, buildings owners and other supporting community. Moreover, adequate laws, a detailed implementation plan that can manage and support activities both formally and informally shall be established to sustain the concept. The concept shall also create a linkage of supporting resources and potentials in the city of Bandung.

- **Education and research**

The education sector and research are two activities, which date their existence to the colonial time. Nowadays, the growth percentage in the development of the educational field and research facilities is very high. These developments will keep increasing in the years ahead. This can also be seen as a big potential for the economic development of the city. Many institutions like to choose to build their facilities in the North of Bandung due to its climate, the infrastructure, and other supporting facilities such as available housings for students and researchers.

Like regarding the development of tourism, these new functions are often injected in the former dwellings quarters and required some adjustments to meet the new uses. Similar methods of conservation therefore can be utilized to accommodate this new demand.

- **Housing**

Housing provision has been a general problem in the Bandung Metropolitan area. However, this sector can be seen as the potential of the urban development besides development in the other sectors like tourism and education. There is a need for housing development to accommodate the people who support and are involved in activities. It is evident that the people like to live or look for accommodation at the nearest place of their

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<sup>68</sup> Based on Interview with Frances B. Effendi, Chairperson of Bandung Heritage Society (NGO that made the list of significant colonial buildings in Bandung).

destinations and working place, or at least in the places, which provided the best accessibility.

So far, students, tourists, and workers also prefer to live in the inner city quarters considering the poor infrastructures and accessibility to the suburban area or the extended development areas, which are rather placed in the urban fringe. This results in the transformation of private housing in the dwelling quarters especially in the northern part into other forms adjusted to additional population demands although the main function is still connected to/or serves housing purposes. Boarding houses, flats, apartments, home stays, and other forms and types of residences have been appearing especially in these last two decades. These develop mainly near the spots where the magnets of activities are sited. Buildings codes and regulations as control instruments thus are definitely needed to protect the urban/built environment from further damages and to keep the image of the city, which the city desires to achieve further.

- **Industry**

Many kinds and forms of industries, especially the SME rapidly develop in the inner city area and spread out sporadically in the residential units. This phenomenon cannot be avoided especially after 1997 and during the economic crises; the point of time where people started to look for alternatives to sustain their lives by diversifying formal economic activities to those on a smaller scale in order to suit their financial capacity. Besides of threatening aspects it can also be seen as potential to economically support the funding of the conservation. In this case, the categories of industries/enterprises should be well divided to avoid the destruction of preserved buildings/quarters and to protect the quality of environment, function, and visual aspects of the urban area. Regulatory and control instrument are therefore very necessary.

### **3.5.5. The City of Bandung : Understanding Conservation, the Basic Law / Rules and the Implementation**

Some discussions on the methods of conservation have been continuing for the last two decades among Indonesian scholars and related government agencies, particularly on defining the significance, criteria, and classification of the buildings or sites that should be put onto the conservation lists. The role of careful historical reading/analysis therefore plays an important role. These actions are obtained to understand the connection between buildings/urban elements with historical events as the symbolic bond of the past, the present, and future.

The Bandung Urban Heritage Society as a local NGO with a big concern for the city has also stated that although the historical values are considered a major reason for conservation, this effort has to be addressed and accommodated in the new perceptions and values that are developing in the society. Thus, the significance of the old buildings or quarters in the urban area is consigned to their memorial contribution to shape the character of the built environments and their neighbourhoods, not merely to romanticism. The bond with the old-historical buildings or quarters should become an investment for other activities, which are able to bring a new living perspective to the community. The efforts therefore have to respond to the problems of local economic development and those related aspects, not merely should they focus on cultural and civilization aspects.

The appreciation of socio-cultural aspects as cultural assets of a nation manifested in the built environment is evolving and needs time. Until now the objects of conservation are understood as built and natural elements which are assumed to be the cultural richness of the nation and are significant in order to develop knowledge and understanding of history, knowledge/science, and culture of the nation, and further should be protected and preserved to nurture the pride and identity of the nation. To set the fundamentals of conservation efforts, therefore, common perception of all related actors is necessary. To socialize this aim within the community, the organization has agreed that the efforts are actually related to the education and the intellectual development process in the society. The effort in Bandung hence is still challenging since the community, even the urban policy decision makers, often do not understand the essence of conservation itself.

Indonesia, in fact, has already the formal laws to protect historical buildings and other elements of the built environment but mainly at the national level. This effort actually had been initiated by the Dutch colonial government, which set the monument ordinance called "*Monumenten Ordonnantie*" No.19/931 (*Staatsblaad 1931/No. 238*), which was later replaced by "*Monumenten Ordonnantie*" No.21/1934 (*Staatsblaad 1934/No. 515*). These acts had been used by the Indonesian government even in the new order after independence. Nevertheless, of course, in the course of time some of the laws were considered irrelevant due to the nature of the nation, governmental system, and demands of current development.

Therefore the government of the Republic of Indonesia issued The Act of Republic Indonesia (RI) No.5/1992 (*UU No.5/1992*) about preservation in 1992, which was followed by Governmental Law of RI No.10/1993 about the technical implementations of the act. Both laws present the details related to the terminologies of conservation in Indonesia. Some other laws were also made to support the implementation, among

others: Decree of Education and Culture Ministry No. 087/P/1993 about the registration of objects of conservations, Pronouncement of the Culture and Education Ministry of No. 062/U/1995 about ownership, occupation, transfer of rights, and eviction of preservation objects/sites. Pronouncement of the Culture and Education Ministry of No. 063/U/1995 about the protection and maintenance of preservation objects / sites, Pronouncement of the Culture and Education Ministry No. 064/U/1995 about research activities and determination and preservation of objects/sites, and the Indonesian Charta on the historical buildings inventory.

Some of following pronouncements in that preservation act can later be used as basic considerations in this research. The objects of preservation are assumed to be all area elements of both the natural and built environment on a scale with an age of more than 50 years. Their antiquity or significance of preservation is certain as they represent their particular period and are assumed to have significant value for the history, science, and culture of the nation. Article 3 of UU No. 5/1992 also declares that the objects of preservation include the “still assumed objects preservation”, or consider valuable objects or sites whose owners are still unknown. In addition, based on article 15 clause 1, none is allowed to destroy the objects of preservation, including the sites and their neighbourhood. Article 18 clause 1 underlines that the responsibility to maintain the objects and sites of preservation is held by the government, and article 24 clause 1 affirms that the government takes function of control of those objects and sites, whereas the community both as a group or as individuals should take part in such activities. Article 26 defines the fines which are to be of maximum penalty in amount of IDR 100 millions<sup>69</sup> or 10 years of jail to anybody who wittingly destroys the preservation objects and their sites/environment or steals, takes away, replaces them, or changes the form, colour, or renews, or separates those objects without permit from the government as mentioned in article 15 clause (1) and (2). In addition to these laws, a Building and Construction law<sup>70</sup> also has been enacted on 16<sup>th</sup> December 2003 to support the local government in arranging local regulations in defining the clear vision and mission of preservation.

With the enacting of decentralization in the governmental administration system in 1999 some cities have tried to adopt national laws to be adjusted in their context and locality. This actually might the provincial or city level give a wider chance to manage their historical buildings or sites in their respective authority.

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<sup>69</sup> IDR 10,000. (Indonesian currency) is equal to ca. EUR 1.0.

<sup>70</sup> In Indonesian, *UUBG* is abbreviation of *Undang-undang Bangunan dan Gedung*.

To respond to all of these laws, the West Java Province and the city of Bandung, consider the work of the Department of Culture and Education (Museum and Archaeology section), Board of Regional and Town planning (*Bapeko*) and the local agency of tourism with the assistance of Bandung Heritage Society who have listed the local preservation objects including buildings and sites, which through careful research are put in the protection list. For the Bandung area, this NGO has made an inventory in 2001, and defined 421 Buildings as preservation objects, which was proposed to be enacted into a local preservation law. Some criteria are used to define those objects such as; aesthetic aspect, style and art of buildings, buildings are assumed as master piece and / or represent the unique or exceptional architectural styles and type/forms, represent a certain period, bear symbols, meaning, and values of the urban development and relate to significant historical events both at the local, national and international level as well. However, only 48 were approved by the local agency of tourism in 2004<sup>71</sup>.

The existing national laws, in fact, have not been competently implemented and well-socialized to support the preservation efforts in Bandung. It becomes worse since parties like to take advantage due to the delay in legalization at the city/local level. Consequently, it is difficult to take legal action against or penalize the parties who break the conservation stipulations. Further to this, in all cities in Indonesia there has been no court held for such infringements so far. The damages of some historical buildings and quarters in the inner-urban area keep going on since those proposed lists have no legal force. The considered related local rules to support conservation such as building codes and regulations in Bandung in the practice also have not enough capacity to control the transformation and the ongoing destructions, besides the coordination of related supporting agencies who have the authority of control also is still considered poor.

### **3.5.6. The Role of the Community**

Currently, the participation of Bandung's community is also growing in a better way. Many of the development programs and plans are socialized prior to their legalization or legally approval by the related authority. Nevertheless, there are still some constraints in enhancing the participation in case of conservation efforts, due to various problems and conflict of interests. Despite the fact that the efforts to enhance participation in Bandung are stronger from year to year, the participating groups have been considered limited. Many of the efforts are still being considered unsuccessful because of various factors.

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<sup>71</sup> Based on interview with the chairperson of BHS – Frances G. Effendi and referred to Bandung local newspaper "*Pikiran Rakyat*" Tuesday, 23 March 2004.

The Bandung heritage society, an organization with a big concern for the conservation of urban heritage in this city mentioned that besides unsuitable concepts, such a situation created an endeavour only focusing on physical aspects and does not congregated the individual property within the community. The negligence of the spirits of the built environment, which should also involve the community as urban users, has a big role in such a failure. Adhisakti further pointed out that many experiences that the Indonesian cities had including Bandung proved major failures to appear mainly due to the absence of people's participation in the decision-making and regulatory process, which is very much required in such programs. This situation might further result in the discontinuity and non-sustainability of such endeavours<sup>72</sup>. The existing community is in fact a major factor that should be considered in conservation efforts since the community is not only the object but also subject of development. The challenge in Bandung is therefore how to profit the community and improve their quality of life and environment. So far, there are still no adequate tools (such detailed and understandable building codes and regulations, etc.) and methods to achieve those aims, which are inactive and could optimize the potentials and resources within the society.

Regarding the various levels of knowledge and the contemporary structure of urban community, the people's participation to support such an ideal situation in Bandung is seemingly still not a simple and easy one. In the last decade, the related conservation efforts such as the renewal, improvement, and redevelopment programs have mainly been made with top-down approaches due to limited terms of projects and complicated bureaucracy. The people-centred management, which is often suggested as a method to meet such condition therefore also cannot be obtained instantly as it takes a relatively longer process.

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<sup>72</sup> Based on discussion with Laretna T. Adhisakti (Chairperson of Indonesian Heritage Conservation Network - *JPPPI*). See also further discussion in the Indonesian national news paper "*Kompas*", Sunday, 13 November, 2005.



## **Chapter IV**

### **Case Study**

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### Case Study

In order to understand the transformation of the ex-colonial dwelling settlements in North Bandung and to recognize problems and potentials for conservation purposes, some case studies below have been selected to represent the different character of the colonial dwelling settlements and which now have to face the dynamic process of urban development. Case Study I and II the *Gempol* and *Houtwijk* quarter represent transformations of colonial dwellings with vernacular enclaves. The Arjuna Quarter represents a transforming colonial dwelling quarter in the industrial area, whereas the Tongkeng quarter might give a clearer view of a transforming colonial military dwelling settlement. The last case will portray the transformation in the villa dwelling quarter along Dago-Merdikaweg.

#### 4.1. Case Study I

##### **Gempol and Houtwijk Dwelling Quarter; Transformations of Vernacular Enclaves in the Villa Estate**

##### **4.1.1. Introduction to the Gempol and Houtwijk Dwelling Quarter**

The Gempol and Houtwijk quarters were two important parts among the colonial city segments in North Bandung called '*Europeesche Zakenwijk*'. Both quarters were developed as supporting facilities for the *Gedung Sate* complex. *Gedung Sate* itself was initially planned as a palace and main office for the Dutch Governor General<sup>1</sup>. Studies on these neighbourhoods cannot be separated from the surrounding areas since they relate to the broader context of the extension of the European (i.e. Dutch) dwelling settlement.

There were various income groups living in the Gempol and Houtwijk quarters. Significant transformations have taken places in the Gempol and Houtwijk area in the last four decades, occurring particularly in the inner part of the dwelling compounds occupied by the lower-income residents. Despite the reputation of both areas of being prestigious and inhabited by a medium-high income society today, the environment and architectural quality is gradually degrading. These challenging issues, which include functionality, visual and environmental aspects have caused a tremendous character loss within these neighbourhoods.

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<sup>1</sup> It is related with the plan to move the capital of *Nederlands-Indie* from Batavia to Bandung. However, the plan failed and the plan had only been partially completed.

The analysis of the transformations in these areas might provide necessary input for the development programs in the context of urban conservation. In order to identify the transformations, it is necessary to first of all understand the initial concept and the perceived image of these quarters. A more comprehensive description of the concepts is as follows:

### **A Modern Neighbourhood with an Adoption of the Local Context**

Similar to most of the dwelling quarters in North Bandung, Gempol and Houtwijk housing complexes were connected with one to another by means of roads and open space within the '*Europeesche Zakenwijk*'. Both quarters were designed with a well-defined parcelling and site planning. This concept was considered advanced and modern planning criteria in Indonesia during the colonial era as the traditional dwelling structure did not introduce such a method<sup>2</sup>. Areas initially functioning as residential areas were strengthened by domestic activities. Public facilities, such as open space, shop-houses, and small markets were integrally developed as supporting elements for both neighbourhoods.

Gempol and Houtwijk were designed as healthy and well-planned areas. This was shown by the superior infrastructure provided by the Dutch government presumably intended to mimic the European Dwelling areas. The infrastructures included electricity, telephone lines, gas, water, sewerage and drainage system, and garbage collection and processing.

The Dutch, however, tried to adopt the traditional values into the planning concepts in these areas. The atmosphere of traditional dwelling "*kampong*" was brought into the segments where the native officers resided, and was presented in the structure of these neighbourhoods. The planners enhanced local architecture and style, and put the use of traditional constructions and materials on the elements of dwelling units into practice. Those architectural features were presented in much varied housing types rather than a dull mass housing complex. This concept was also embraced as a new experimental type of housing design or project during this period. Even public baths and toilets adopted from local pattern appeared in these quarters. The integration of different types of housing units considering different groups of social levels in one coherent neighbourhood, showed a conscious effort of the Dutch government to have more intensive contact with the natives. The concept of integration was also an attempt to

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<sup>2</sup> In traditional settlements land usually becomes communal property under the "*hukum adat*" or customary law.

narrow the social gap and segregation, which was one of the most critical problems in this period.

### **The Image of the Villa Estate in the Green Environment**

Every compound within the *Europeesche Zakenwijk* always had a pattern within which the functional, visual, and environmental quality were created and maintained. The most important thing was to keep the image of living in a comfortable green environment. These principles were also implemented in both dwelling quarters. Urban landscape composed of open space especially parks and streets thus played an important role. The greeneries and open space functioned as a means to accentuate, integrate and separate zoning and other elements of neighbourhood. Open space was used as active space, thus observers could go through it and at the same time also could be observed from inside the plots. They also had social purposes, as communal space where the inhabitants from different social class could mingle. Besides the boulevard and the side green belt along the main streets, greeneries in these quarters were created inside the parcels. A fenceless neighbourhood concept was enforced and it resulted in a flowing, open and spacious environment. The borders between public and private open space in the front plot were defined by the use of different plants or pedestrian paths. Moreover, this condition had visually given a better and more open view both from outside and inside the housing units. The side green belts functioned as a means of control to avoid the expansion of buildings to the front perimeter of the parcels since fenceless design could allow such advantages.

Aesthetic aspects were very important to create a meaningful and beautiful urban architecture in both quarters; therefore some pattern and building regulations were strictly enforced. For example, the allowed building coverage for the larger villa houses situated along the outer rings was not more than 30 – 40%. The concept of outer and inner ring road was applied to build the image of a luxurious villa estate despite the fact that these quarters contained several dwelling types and various parcel sizes. The outer rings protected the inner ones and shaped them like compounds. The dwellings along the outer rings were allocated for big villa houses for high-income earners whereas the smaller parcels with simpler housing types situated in the inner rings were built for medium and low-income inhabitants. The outer-inner rich concept can be considered as an illusory planning approach. This concept only allows hasty visitors to observe their

wealth from outside, whereas to discover the simpler dwelling forms, one has to go further and have a more in-depth observation<sup>3</sup>.

It was only allowed to build low-level buildings in these quarters, except for the corner buildings. This order was intended to enhance a visual urban quality in the neighbourhood. The ordered and harmonious rhythm was created by the arrangement and modules of parcels and the type of buildings. The corner buildings were built in special designs to give accentuations and become landmarks for these neighbourhoods, besides creating a tuneful skyline. Orientation of buildings was created to possibly give the best view both from and to the parcel units. This was visually focused on the totality and integrity of the concept, and therefore created a flowing but attractive serial vision.

### **Hierarchical Neighbourhood**

Both dwelling quarters consistently applied the concept of hierarchy in the design of neighbourhood, which basically was arranged as per levels of income<sup>4</sup>. Therefore, these quarters generally consisted of three zones allocated to high-ranking officers, the middle, and the lower ones. The hierarchy was also applied parallel to the structural pattern of streets, composition and size of parcels, as well as the types of dwelling units. Usually, the dimensions of streets along the outer rings were the widest and were gradually slighter towards the inner parts. The inner quarters were intended as pedestrian scale neighbourhoods. The smaller streets were classified as *weg* and *gang*, applied as linkage in the inner neighbourhood. The '*brandgang*', an approx. 2 -3 m wide small flowing lane, was implemented along the "back-to back" parcels. *Brandgangs* were used not only for the emergency escape in case of fire but also for sanitation purposes. In colonial times, *brandgangs* also unintentionally functioned as social space, particularly for the domestic maids to have contact with one another through the openings facing these lanes.

Housing complexes in these quarters were also comprised of various types of dwelling units. The large parcels with big villas were situated along the outer part and intended for high-ranking officials. The buildings were usually permanent, using high-quality material and attractive architectural details. Nevertheless, the dwelling units inhabited by the

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<sup>3</sup> Further discussion after Siregar (1990) and field discussion held in an excursion in conjunction with workshop on "*Perkembangan Arsitektur Perumahan di Indonesia*" (The Development of Housing Architecture in Indonesia) in September 2004 in Parahyangan University - Bandung assumed that such a layout was rather to regulate and even to reduce the direct access between the outer and inner parts allowing contacts between the Dutch and the native residents. This fact shows that although objective criteria in design including health, visual and functional quality were improving, and were explicitly evoked in the planning objectives, an implicit but a clear racial segregation still appeared. So far, there is no reference giving a clear explanation of the basic objectives of the inner-outer concept. It might be assumed that the planners tried to adopt the existing urban structure at the colonial period, where the native settlements or kampongs were used to be hidden behind the blocks or buildings of the well-planned Dutch quarters.

<sup>4</sup> This social level was also derived from the ranks /positions at the workplace.

lower classes were also well-designed. Although they used simpler materials and the buildings were mostly semi-permanent, the details still got a lot of attention both architecturally (aesthetically), structurally, and functionally.

#### **4.1.2. The Position and Role of the Gempol Quarter within the City**

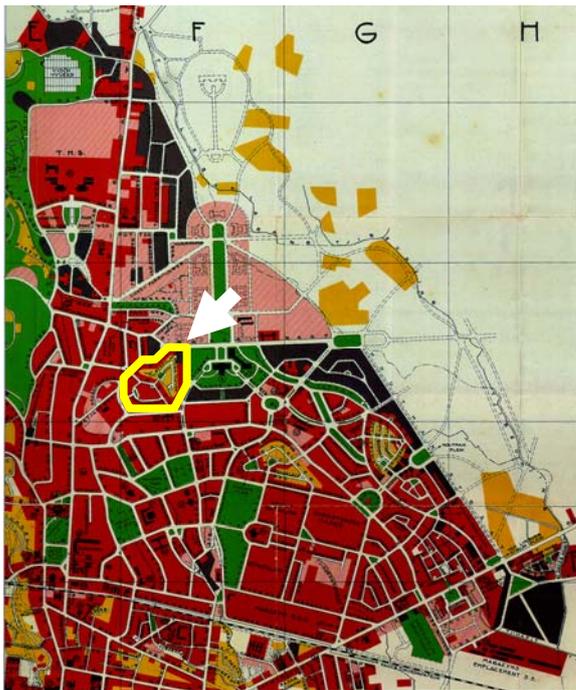
The area of the Gempol quarter is now located inside the administration area of Bandung Wetan District. This quarter was designed by P.E. Werner, a Dutch architect who won the tender to build this part and was constructed by the *Burgerlijk Openbare Werken* (the Public Works Department of the Dutch Colonial Government) in the 1920's as a part of the extension plan (*uitbreidingsplan*) of North Bandung. The position of this quarter within the '*Europeesche Zakenwijk*' complex can be seen in figure 4.1 whereas figure 4.2 shows its recent condition. The Gempol complex is seen like a geometrical island bordered by Kebachstraat (now Jalan Trunojoyo), Gelriasstraat (now Jalan Bahureksa), Lofsenstraat (now Jalan Banda) and Wisman weg (now Jalan Cilamaya) and Frisia Straat (now Jalan Tirtayasa) that divided this neighbourhood into two parts.

This quarter was also one of the *kleinwoningsbouw* (small house) projects intended for *kleine luiden* (lower ranking employees). Although the whole *Europeesche Zakenwijk* was known as a reputable prestigious area, this quarter also contained smaller housing units in the inner compound. The integration of different social levels was implemented in the layout of this quarter. This concept in fact fostered another dimension of an ideal social environment aimed at by the "Garden City". The most interesting aspect, however, was the implementation of a traditional structure as inhabited by the native officers. It seemed that the designer tried to accommodate the way of life of native officers that previously lived in *kampongs* in a formalized environment with modern facilities.

#### **4.1.3. Physical Elements of the Neighbourhood**

##### **a. Land use and zoning**

The initial major function of this neighbourhood was residential. Most of the buildings were therefore used for dwelling purposes. Although there were sites allocated for governmental activities, the locations were actually meant for housing purposes for the superior-ranking government officers. Many facilities such as public open space, parks, and shop houses were built integrally as neighbourhood elements in this neighbourhood. As seen in its structure, the Gempol area basically consisted of three zones based on income classes. The outer ring segment was intended for the higher class, whereas the inner ring consisted of two zones designed for the middle and lower social level. This outer segment encircles and hides the inner parts behind and encloses the inner



**Figure 4.1.**  
The Location of the Gempol Quarter within  
the Old Plan of Bandung

Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.



Source : Image©200, DigitalGlobe©Europa Technologies, Google Earth 2007.

**Figure 4.2. Aerial Photo of the Gempol Quarter, 2006**

segment to keep the image of an exclusive villa neighbourhood when viewed from outside (fig. 4.3.).

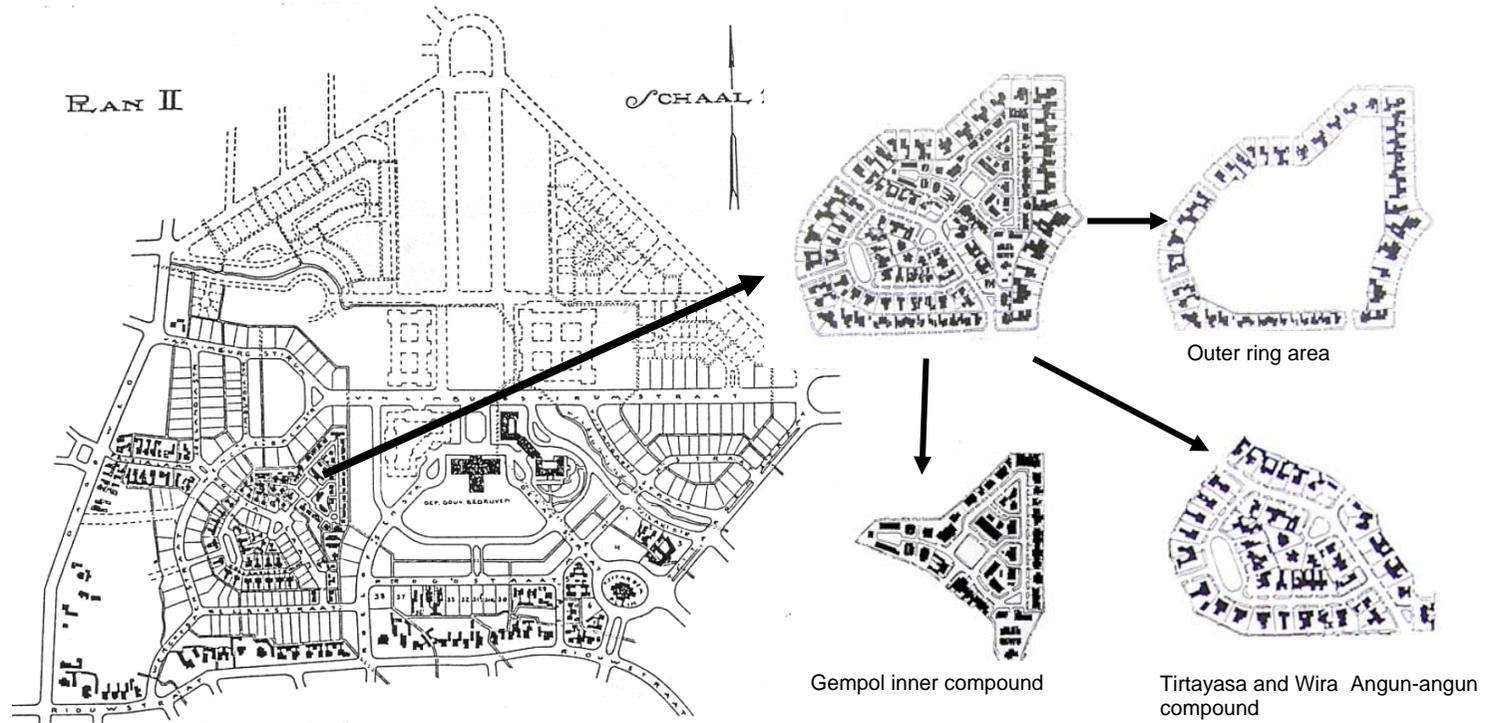
Entirely, this area could also be seen as a large block consisting of smaller islands. The inner compounds in this area were clearly separated from the outer one. The inner areas contained three parts; the housing along Tirtayasa Street, the housing clusters located in the Gempol and Wira Angun-angun area. Housing along Tirtayasa Street functioned as transitional space as it defined the edge of the medium class and the lower one, which was located in a more particular and rather isolated inner pocket. The backside walls of the buildings situated in the outer ring were mostly more than 3 m high. The 2-3m-wide *brandgang* clearly defined the edge of the outer and inner zones.

#### **b. Land parcelling, typology and structure of the streets**

The order of land parcelling in this area was clearly defined. Dwellings with a bigger size ( $\pm 400 - 800 \text{ m}^2$  with  $\pm 20 - 30 \text{ m}$  width of front parcel) were located along the outer part whereas the units with a smaller parcel ( $\pm 144 - 400 \text{ m}^2$ ) were situated in the inner ring behind the crown of large villa type houses with modules of a front lot of  $\pm 8 - 16 \text{ m}$ .

Order was enforced in this area to maintain the image of the garden city. Building coverage (BC), floor area ratio (FAR), and building setback were strictly implemented to control the spatial development and to improve the visual quality (4.4.). The maximum BC was 40%, and only one-floor constructions were allowed, except for houses situated in the corner parcels. On the corner plots, the ratio of floor area was higher and this allowed particular designs of dwelling units, which were often used to give accentuation and landmarks to the neighbourhood.

Streets were designed hierarchically (fig. 4.5.). The outer ring was composed by Jalan Banda (*Lofsen Straat*), Jalan Bahureksa (*Gelria Straat*), Jalan Trunojoyo (*Frisia and Kebach Straat*), Jalan Cilamaya (*Wisman Weg*). Jalan Banda (*Lofsen Straat*) had a boulevard type and functioned as one of the street patterns accessing the *Gedung Sate* (the governor's palace) complex. In the inner compound for the lower class, smaller *weg* and *gang* were applied. Tirtayasa Street that separated this island in the middle into two more inner parts created the intermediate space through which two inner islands could be accessed. Tirtayasa Street had a visibly higher hierarchy compared to those in the two inner clusters of the Gempol and Wira Angun-angun area. The '*Brandgang*' was implemented in the "back-to back" dwelling units as a flowing open space and was used for sanitation purposes and as a fire escape. *Brandgangs* which circled the back side of



Source : Bandoeng, 1906-1931, officiële jubileumuitgave ter gelegenheid van het 25 jarig bestaan van de gemeente Bandoeng, op 1 April 1931.

Source: Personal analysis.

**Figure 4.3. Zoning and Structure within the Gempol Quarter**

1. Begonia-rose; 2. Roode Bougainvillea; 3. Plumbago-licht blauw; 4. Geschoren Kembang spatoe; 5. Acalypha-geel-groen; 6. Myosotis-donker blauw; 7. Blauwe den blauw-grijs; 8. Verbena-paars; 9. Vinca-wit; 10 en 11. Thuyahelder groen; 12. Galphinia-geel; 13. Salvia-rood; 14. Begonia-rose; 15. Verbena-licht blauw; 16. Galphinia-geel; 17. Plumbago-licht blauw; 18. Blauwe den-blauw-grijs; 19. Verbena-paars; 20. Vinca-licht paars; 21. Galphinia-geel; 22. Kembang Mentega-groen; 23. Roode Bougainvillea; 24. Coreopsis-geel; 25. Vinca-wit; 26. Acalypha-rood; 27. Den Papoea-donker groen.

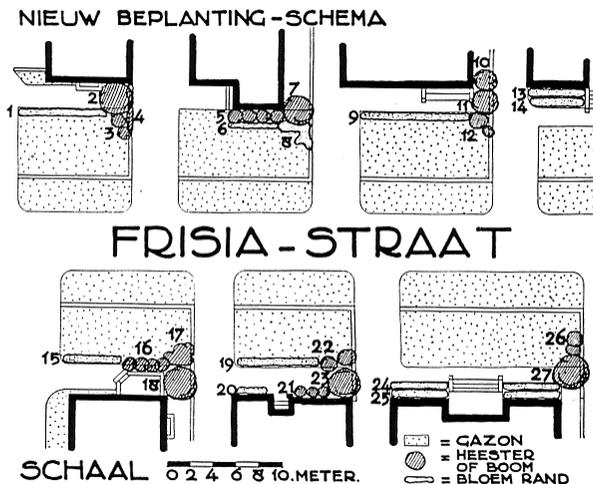
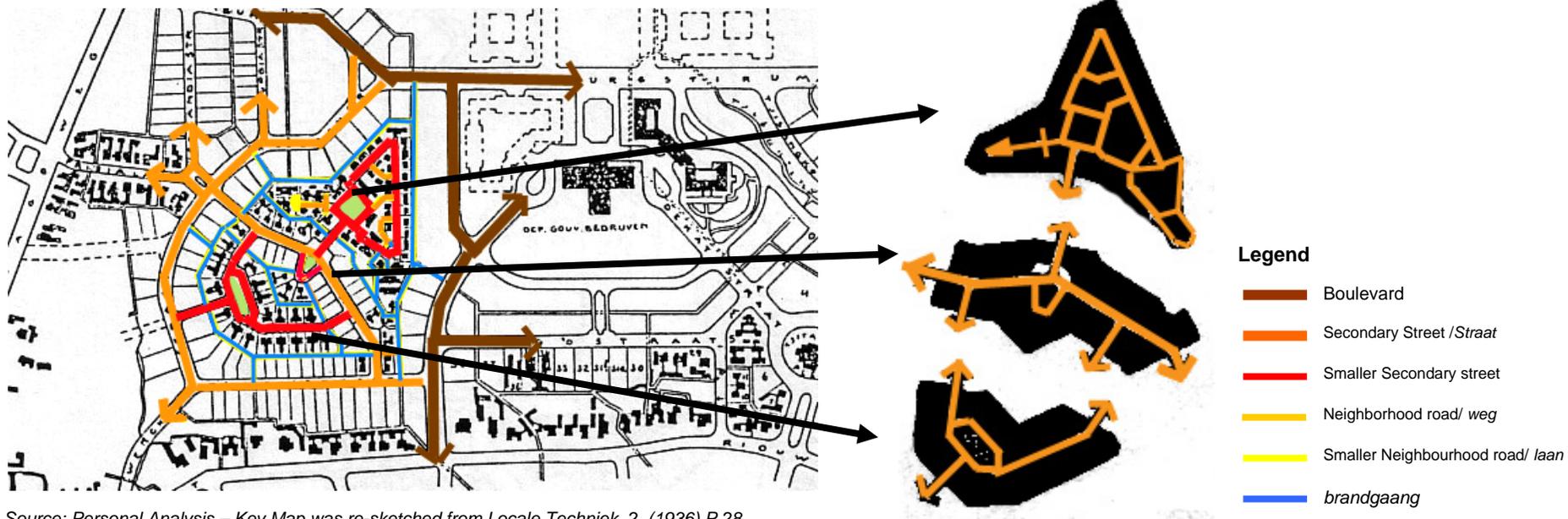


Figure 4.4. Street plan and Placement of Vegetation of the Frisia - Straat

Source: IBT /Locale Techniek 2, 1936. P.29.

Figure 4.5. Streets Pattern and Hierarchy of the Gempol Quarter



Source: Personal Analysis – Key Map was re-sketched from Locale Techniek 2, (1936).P.28

the outer housing units and the inner compound spatially defined the border between the outer and the inner part of the Gempol quarter.

There were three access points from the outer ring streets to enter the inner area. The considered main entrance to this area was from Jalan Trunojoyo, from which five crossing roads accentuated with a small node were located. The two southern accesses from Jalan Trunojoyo and Bahurekso in fact were intended as exit ways. The cluster in Wira Angun-angun could be accessed from two roads from Jalan Tirtayasa, while the inner compound of Gempol could be accessed only from one main entrance sited in the middle of Jalan Tirtayasa. The streets' layout thus showed that the housing clusters in Wira Angun-angun and Tirtayasa were designed to be more open and accessible, whereas the compounds for the lower-income people located in another inner quarter seemed to be more exclusively isolated. This image was also strengthened by the construction of two gates to mark the entrance to the inner area. These gates however seemed to represent the control from the Dutch living in the outer area of the natives living in the inner pocket.

Streets in the Gempol quarter were designed to create a good serial vision. The positions of the houses were arranged systematically with a closing perspective technique, for example by implementing an axis that ended in the greenery nodes. The nodes often functioned both as accentuations and means to integrate the islands appearing in the structure of the neighbourhood. The high walls and the flowing *brandgang* surrounding the inner area, especially those located along the compound for the low-income officials, created no spatial links between the backsides of houses along the outer ring and backsides of houses located in the low-income area.

The houses, especially the small units for the lower-income inhabitants, were intentionally arranged to have a good composition of the structure of the inner part. Single-detached and couple (twin) houses were located irregularly in a fenceless neighbourhood. This arrangement brought up a dynamic rhythm of visual quality of the inner quarter too (fig. 4.5.).

### **c. Typology of dwelling units**

Intended originally as a residential area, the Gempol quarter consisted of various dwelling types. Houses were positioned on the parcels with certain orders. Setback was applied strictly from front streets, from the right and left perimeter of parcels. Couple and single-detached big villa types with back or side wings were located along the outer ring. The big villa houses were built for high-ranking government officers. Most of the villa

houses were built permanently with good quality brick or masonry and finished with high-quality building materials. Architectural details were garnished with “*jugendstijl*”. This Art-deco style was often used as aesthetical elements both in the exterior and interior of the dwellings. The style was also applied in housings for the middle class, but in simpler forms. In most cases, main buildings were designed with hipped roofs, or a combination between half-circled and hipped roof. The top rim line was either parallel or upright to the street lines. Roofs were finished with wooden tiles. Such varied shapes of the upper part of buildings with the high and sharp sloping roofs ( $\pm 45^\circ$ ) had been designed proportionally with the building. This design architecturally had created a harmonious rhythm characterizing the visual sequence of the whole neighbourhood (fig. 4.6.).

Smaller houses with couple (twin) and single-detached types were implemented for the middle-class houses along Tirtayasa Street and the housing compound in Wira Angun-angun. Position, layout, and dimension of housing units along Tirtayasa Street thus acted as a transitional space for this area (fig. 4.7 and fig. 4.8.).

More variety of housing types could be found in the inner area of Gempol (fig. 4.9.). This part was developed in 1923<sup>5</sup> and was considered a rather particular compound. This area was inhabited mostly by natives and, presumably, designed with the intention of creating a “traditional atmosphere of kampong settlements”. This part had in total 101 dwelling units consisting of more varied buildings types: small and larger single-detached houses, couples (semi-detached houses), quadruples (clustered with 4 units), as well as 4, 6 and 8 units row houses, which functioned as residential (table 4.1.).

**Table 4.1.**  
**Typology and Proportion of Housing Units in the Gempol Inner Section**

Single Houses Large		Single Houses		Couple Houses		Couple Shop Houses		Quadruples		Row Houses					
										4		6		8	
B	U	B	U	B	U	B	U	B	U	B	U	B	U	B	U
2	2	12	12	16	32	1	2	5	20	5	20	1	6	4	32
Total Number of Buildings = 45								Total Number of Units = 126							

Note:

B = Building  
U = Unit

Single houses were built in the lots with 16 – 18 meters front width. The roof rim was set up upright to the streets. The couple-houses were situated in the lots with 8 – 18 meter front width. Couple houses were placed irregularly with the small single houses in the

<sup>5</sup> De Bruijn, 1927. P.251.

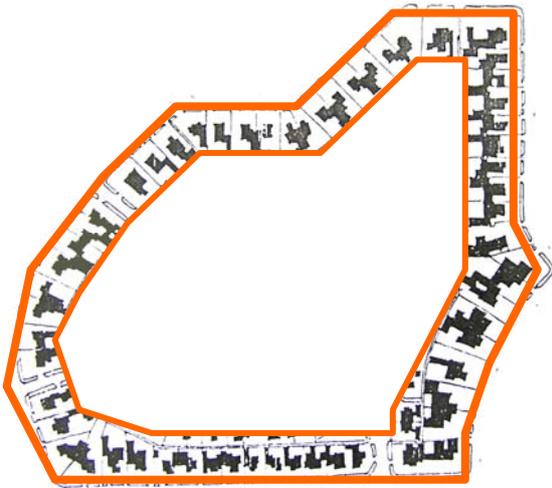


Figure 4.6. :  
Some Typology of Dwelling Units in the Outer Ring area of the Gempol Quarter: Large Single-detached Villa Houses



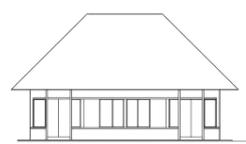
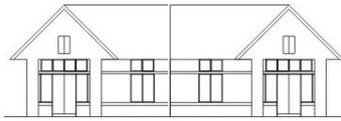
Source: Personal survey and documentations, 2004 – 2005.



Source: Personal survey and interpretations, 2004 – 2005.

**Figure 4.7. :**

**Typology of Dwelling Units in Outer Ring Area of the Gempol Quarter: Medium Size Single-detached Villa Houses**



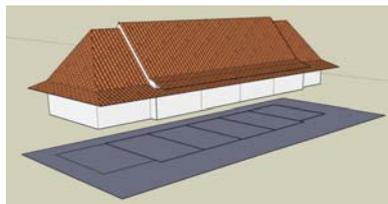
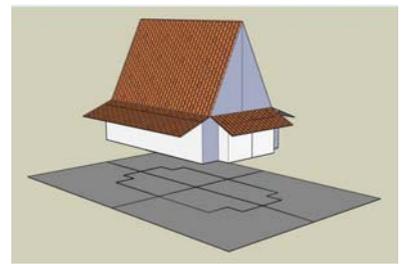
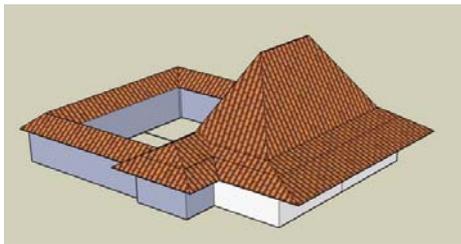
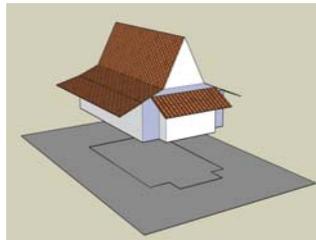
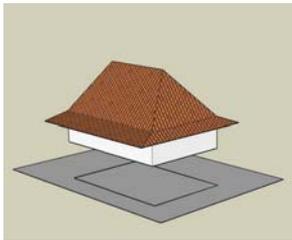
Source: Personal survey and interpretations, 2004 – 2005.

**Figure 4.8. :**  
**Typology of Dwelling Units in Second Ring Area of the Gempol Quarter**



**Figure 4.9. :**  
**Typology of Dwelling Units for Lower Income Officials in the Inner Enclave of the Gempol Quarter**

- Legend:
- Single house
  - Row house 6 units
  - Couple house
  - Row house 8 units
  - Quadruple house
  - Couple shop house
  - Row house 4 units
  - Shop house
  - Public bath / toilette



Source: Siregar, 1990 and Personal survey/interpretation, 2004 – 2005.

inner pocket of Gempol. Roofs of couple houses were pitched forms, whose rims were parallel with the front edges of the lots. There were 32 total units of this housing type in the inner compound of Gempol.

Six quadruple houses were built in Gempol's inner pocket. The constructions and architectural features of the quadruple houses looked like the "*fachwerkhaus*" – a timber house built in the countryside of Germany and the Netherlands. A very high shield-hipped shape roof was implemented for this type. The form of the roof allowed a vertical development in the interior. Every individual unit in this type had only one room. A small terrace with a small canopy could also be found in the original design.

The row houses had pitched roofs. Underneath the roof, the units of the row houses were integrated. Accents were made by up-lifting the middle parts of the row houses. These forms helped allowing for a good air circulation inside the units. Row houses had back and front yards, and each unit could be accessed directly from the front streets. The end-side units were particularly designed to have two front elevations such as corner houses. A couple shop-house contained of two units was built as neighbourhood facility in this enclave. A public bath and open space were placed in this area as an adoption of the local "*Kampong*" lifestyle.

#### **d. Open space, parks, and vegetation**

Open space including nodes, parks, and streets in this quarter functioned as a means to give distinctions in the structure of neighbourhood. Besides, open space in Gempol quarter was intended to integrate and separate zoning and its elements. The permitted BC was 30% to 40% for the larger villa houses along the outer ring road so that more open area could be created by the space in the back and front yard of each unit. Buildings were set with a minimum distance of 15 meters from the front perimeter in the villa houses, and of 6 meters for parcels with medium size. The sidewalks were set together with open drainage along the front edge of each plot. Besides keeping the percentage of open space area, the setting (orders of setbacks) and design of streets were purposed to avoid expansions of the buildings to the front yard. This concept resulted in a positive flowing and spacious dwelling environment. Borders between public and private open space in the front plots were only defined by the different plants. The plants moreover were set only on the defined spots in the front yard. This open neighbourhood thus allowed the inhabitants to have an unblocked view from the openings inside the parcels to outside parts. However, the design still managed to keep the privacy of the inhabitants, because a certain distance was set between the public area and the buildings façade in each parcel.

In the dwellings for the lower class in the inner compound, open space physiologically and visually played a more significant role as parcels had smaller sizes. The concept of open space had adopted the openness of the *kampong* structure, where definitive borders of parcels were not introduced. However, in order to create the sense of a spacious environment instead of living in a commonly dense kampong, the setting of constructions on the parcels were really regulated. This was aimed at maintaining healthy sanitation and environmental quality within the neighbourhood. Open space in the inner part was apparently designed with the pattern of a traditional Javanese town. The square fostered the concept of the *alun-alun* but on a smaller scale and functioned to unite other physical elements of the neighbourhood. Most of the open space was used actively as communal or social space, where people could get in and carry out some collective activities inside the courts.

Vegetation became a significant element to create the image of “living in green”. This aspect had received much importance in the landscape planning of the Gempol quarter. The renewal program of the Gempol area issued in 1936 had revised the planting system. One aim of this program was to keep the streets from being widened (fig.4.8.). Vegetation was planted both in the outer and inner ring of the Gempol quarter. Greeneries resulted both as a boulevard and green belt. They were implemented to mark the boundaries of private and public property. Big trees were straightened up along the major and secondary streets and in certain spots in front of housing parcels. Smaller trees and flowers (bushes) appeared in certain points on the front yard of villa houses. Trees and flowers had been defined by urban landscape regulation, and the building authorities had strictly controlled this aspect. Within the low-income compound, big trees were not set in the private small plots, but they were planted only in the public open space as communal greeneries.

#### **e. Infrastructure and utilities**

The Gempol quarter was also well-equipped with sufficient infrastructure. Electricity, telephone lines, gas, and water supply were provided by the Dutch government. Networks for sewerage and drainage were well-designed, even for the low-income dwelling enclave. All of those elements were integrated in the infrastructure system in the town scale.

The dwelling units, especially in the smallest plots, did not have any personal toilets considering their limited space. Therefore public baths and toilets were provided for the

lower-income group in the inner part of Gempol. These facilities as those in the native dwelling settlements functioned as a social means for the inhabitants in this compound<sup>6</sup>.

#### **f. Other architectural characters**

The architectural elements which were used to build characters in the Gempol quarter could be classified into two levels; at the neighbourhood level and the individual level. As every compound within the *Europeesche Zakenwijk* always had certain orders to maintain the functional, visual, and environmental quality, some special pattern appeared in this neighbourhood. In order to correspond with a good urban architecture attached in the grand concept of the garden city, attractive vistas and serial visions were created by shaping a harmonious skyline and locating some focal points in this quarter. The skyline, particularly in the inner part, was attractively shaped by the peaks of housing roofs whose shape had been adopted from the traditional Sundanese house but with the sharper angle of 45% of the European i.e. Dutch houses. Rhythm and flowing serial vision resulted from the arrangement of different modules of parcels and the type / size of housing units both in the outer and inner parts.

Street furniture such as street lamps, post boxes, benches, gates and guard stations were used to beautify the neighbourhood and gave orientation for visitors. Details were also implemented in the open space such as seen in the design of sidewalks where the use of different materials and patterns (such as the pattern of pavement, different certain plants and flowers) were applied to distinguish public and private property but without rigid or solid physical boundaries. Housing units were built with the orientation toward open space from where visitors could visually observe objects in this area without any hindrance. Corner buildings were particularly designed to give focal points and a means of orientation at the neighbourhood level. The arrangement of the buildings was set to possibly give the best view both from and to the parcels.

Housing units in the outer part had a stronger art-deco style with a geometrical pattern of decoration elements, whereas in the units for lower-income groups, local aesthetics were used to give more tones of the country and a kampong ambience. A kampong image could be visually captured, especially from the articulations and shape of the roofs. Traditional patterns were seen in the application of craftworks with floral motives in windows, doors, roof gables, as well as the use of woven bamboo for ceilings and partitions. Except for single and couple shop houses, all types of the housing units in this

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<sup>6</sup> In the kampong areas private baths were rarely applied in private houses. Public baths therefore functioned as meeting and melting points where the folks could share and communicate with each other. Public baths were often located in the river bank or nearby the communal wells or springs.

area were made of wooden material, composite panels for the walls, and traditional ceramic tile roof.

#### **4.1.4. Socio-cultural and Economic Characteristics**

Intended for residential purposes, the Gempol quarter was mainly characterized by domestic activities. Demographically, the population in this quarter had a homogeneous composition as per their occupations. The inhabitants were mostly civil servants employed by the Dutch colonial government. Socially, the residents were classified into different social levels based on their positions as government employees. This social structure was visible in the physical features as mentioned earlier. The inhabitants were also divided into two groups according to their nationality; the Dutch employees who occupied the outer dwelling units and the natives who resided in the inner pockets. The society thus was separated between the Dutch and the natives, and lacked any community organization, which could definitively mix these different groups. The connection of the Dutch and the natives was merely relationships of employers and the attendants/subordinate<sup>7</sup>. Thus, in the broader sense, the aim to mix neighbourhood for avoiding ethnical segregation as intended in the ethical politics, had not really been brought into practice. The existence of communal or public open space in this area somehow could help and allowed those different classes to have more contact and communication.

Economic activities were supplementary to its main function as a dwelling environment. Four units of shop houses in the inner compound of Gempol were, therefore, built to provide the daily necessities of the inhabitants, particularly of the natives, living in the inner quarter.

Maintenance of both public property and infrastructures in this quarter was completely handled by the Dutch government as the inhabitants did not privately own the dwelling units. Therefore community participation was considered low in this case.

#### **4.1.5. Transformation within the Gempol Area and Its Actual Conditions**

##### **Regarding Conservation**

##### **a. Socio-cultural and economic changes**

Changes in socio-cultural and economic aspects cannot be separated from the transformations of physical elements. The social structure in this area started to change especially after the political transformation following the occupation by Japan in 1942. Most of the Dutch officials living in this area were evicted. Many buildings were used for

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<sup>7</sup> Based on discussion with Tjuk Koeswartojo in October 2005. See also Siregar, 1990.

military and residential purposes by the Japanese government. This included a dormitory for the Dutch hostages as the Dutch had become the enemies of the Japanese. However, the Japanese did not dramatically change the morphology and the elements of the neighbourhood. Most of the buildings remained in their original state during this occupation.

After 1950, the housing complex in the Gempol quarter that used to be the property of the Dutch was taken over by the Indonesian government. The management of the complex was consequently transferred from the Dutch government to the housing authority of West Java Province. This quarter was then used for the officials working in the *Gedung Sate* and civil servants working at the provincial level. The outer ring was still used as a housing facility for high-ranking government officials, whereas the inner one served for the middle and lower-level officials respectively. This situation consequently created a new phenomenon. This quarter was then purely segregated by social segregation.

In the course of the further development some houses were privatized, and people were allowed to own these properties with certain requirements. Officials had been given the certificate of right to use and build dwelling units but the land was still owned by the state. The inhabitants, thus, had to pay a certain tenant fee for the land whose rates were based on size and location of the plots. This permit had to be extended every year. Such a privilege nevertheless was initially prioritized for government officials working for the governor's office or agencies at the provincial and city level. Since the local government did not have the financial ability to maintain all of the governmental properties and due to the privatization of some units in this area, the maintenance was then independently self-managed by the community living in this neighbourhood.

The political turmoil between the years of 1960 -1970 created a situation where the local government of Bandung failed to control city development. This condition gave the inhabitants a loophole to transfer the status of ownership and land rights for some units to individuals or to offer them illegally at the open housing market<sup>8</sup>. Since that year then, those drastic changes in this area have been continuing until today. Changes also go together with the rapid growth of the population in Bandung and the surrounding area. Nowadays, this area seems to be more heterogeneous as can be seen from the structure of the population as per their income and social level. The occupations of the inhabitants are much more varied. The open land and housing market allows for the

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<sup>8</sup> Many cases happened because of the collusions made by personnel working for the local housing authority office.

more mixing of social groups in the inner part, previously allocated for the low-grade officials. Thus it is possible for middle and high-income groups to buy parcels inside the inner area. The higher-income groups are even able to possess more than two parcels to acquire larger space.

Pressures of domestic developments and demands within the rows of the inhabitants have created more various economic activities within this area, especially after 1970. It goes along with the changes of the lifestyle and the preferences of architecture that are strongly influenced by modernization. In practice, the concept of modernism was mainly referred to western images, which was in a broader sense also assumed as “leaving the old things behind” (including the local traditions) by the inhabitant. Individuality as one of the social characters of urban life has been increasing in this area, making it harder to conduct good communication within the community. Poor social contacts handicap the efforts to maintain architectural aspects and townscape quality, as these efforts require understanding and commitment among the inhabitants in the society. Such changes pay much emphasis to physical features, which are seen in the additional use of space within the neighbourhood. This will be described in more detail in the following discussion.

#### **b. The physical changes**

- **Land use and zoning**

The Gempol area physically remained in its original condition even after the occupation of Japan, during the post-independence period, and until 1950, because building regulations and codes (SVO and SVV) were still strictly enforced. Until 1970, the physical changes in this area were considered insignificant, as the economic growth was relatively slow. During this phase, in general, the political situation in Bandung did not focus on producing new development plans within the inner city quarters. Moreover, new building regulations were also not much produced.

As mentioned earlier, changes in this area began principally after 1970 when the political transformation continuously penetrated the urban development planning in the inner city dwelling quarters. Rapid development and growth in this period have transformed the area both functionally and morphologically. Many buildings in this quarter have been changed from dwelling into non-dwelling use, which consequently created new types of buildings. Former remarkable features such as details, ornaments, the use of materials and construction even completely changed. As a result, the area gradually loses its characters as most were replaced with new mainstreams. The new planning policy, particularly in the transportation system related to the routes of public transport in the

inner city also generates a functional transformation of many buildings especially along the main roads.

Transformations of land use and zoning are affected by the general development plans of Bandung. Although the Gempol area is not located in the secondary corridor of the city, today this quarter is still considered a strategic area since this neighbourhood comprises good access to main transportation routes, urban amenities, and center of activities in Bandung. This quarter, especially the outer ring, remains a prestigious area, whereas the inner part has been transforming into a dwelling quarter with a higher prestige.

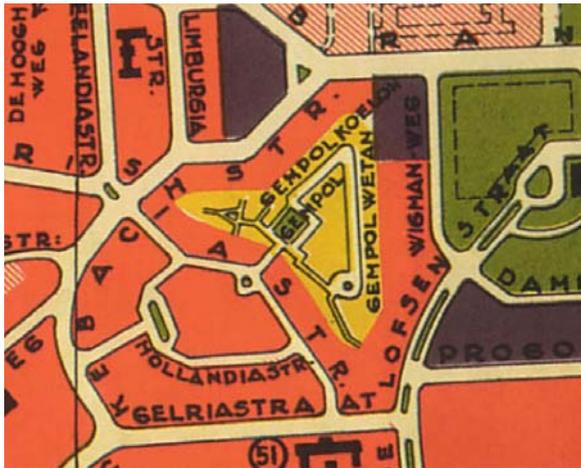
Following these tendencies, various new functions have occurred both in the outer and inner rings of Gempol (fig. 4.10 and 4.11.). Commercial purposes, such as offices, shops or home boutiques, cafés, schools, education facilities, vocational training centres, restaurants, and hotels are gradually being added in the dwelling units; many have even completely replaced the initial residential use. Based on the survey in 2005, the dwellings in this quarter remained only approx. 77 % of the total number of buildings (fig.4.4.). The number of small-scale enterprises has also been increasing in the inner dwelling areas of Gempol. In the inner compound a traditional market has been built incrementally but seemed to be 'informally' legalized<sup>9</sup>. The transformation of land use in the inner compound of Gempol has opened the access to the inner area, for example by the existence of a traditional market. Now the traditional market and shops inside the compound do not merely supply the inhabitants of Gempol but also of the larger area. To some extent these facilities have linked broader urban elements and extended movements of the inner and outer environments.

Although the master plan to regulate land use subsists, lack of control and enforcement present the opportunity of changes of many uses in this area. The transformations have become worse due to inadequate and unclear guidelines. So far, the existing regulations cannot cope with the development tendencies related to land parcelling, tolerable additional usages, and permitted density to maintain the functions and visual quality of the neighbourhood.

Zoning in this quarter was initially made based upon social level. But it has no longer been conducted due to the implementation of free land and an open housing market. Such a market system has enabled the middle and high-income group including non-

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<sup>9</sup> Meaning the local government taxes the land users, provides water supply and electricity. Therefore, illegal tenants / occupants have assumed this situation as legalization of their businesses and of the locations they are residing on.

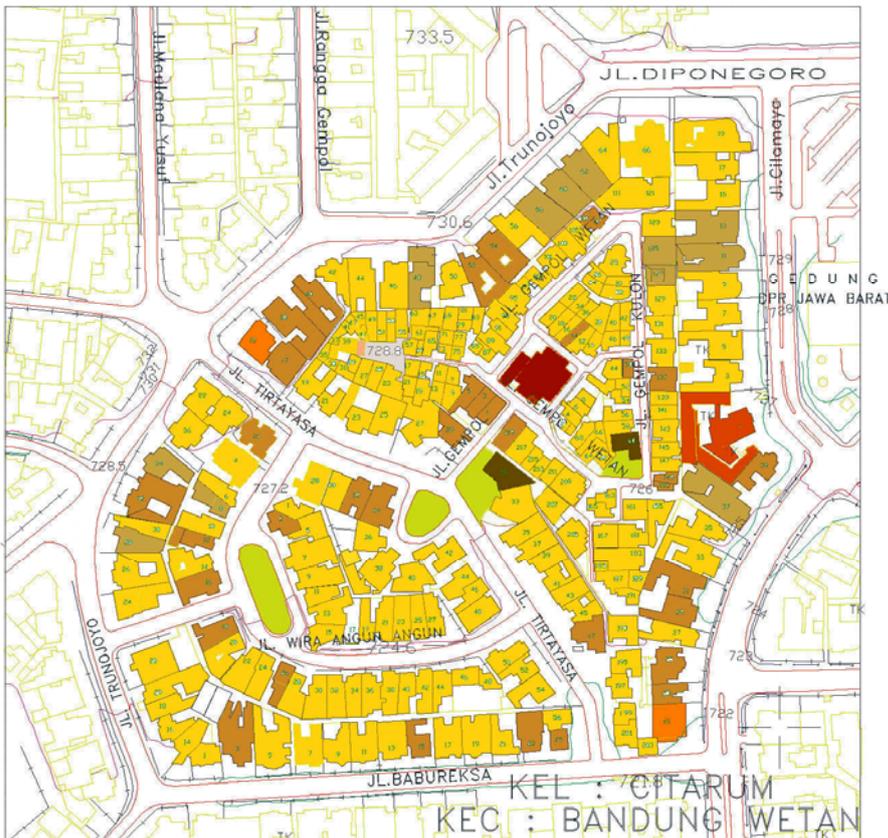


**Legend:**

- Perceelen van het Gemeentelijke Grondbedrijf* (parcels for governmental facilities)
- Stenen Bebouwing* (Permanent Buildings)
- Kampong*
- Platsoon en Openbare Terrein* (Parks and Terrain)

**Figure 4.10.**  
Initial Land Use of the Gempol Quarter

Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.



**Figure 4.11.**  
Actual Uses of Dwelling Units in the Gempol Quarter

Source: Personal survey and analysis, 2005.

**Legend:**

- |   |  |
|---|--|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #800000; border-radius: 50%; margin-right: 5px;"></span> Traditional market                                    | <span style="display: inline-block; width: 15px; height: 15px; background-color: #808000; border-radius: 50%; margin-right: 5px;"></span> Office and residential   |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #000000; border-radius: 50%; margin-right: 5px;"></span> Government administration office / public hall        | <span style="display: inline-block; width: 15px; height: 15px; background-color: #FF8C00; border-radius: 50%; margin-right: 5px;"></span> Facilities for vocational education / training centre, schools |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FF0000; border-radius: 50%; margin-right: 5px;"></span> Hotel   | <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFD700; border-radius: 50%; margin-right: 5px;"></span> Residential buildings  |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #A0522D; border-radius: 50%; margin-right: 5px;"></span> Residential & commercial uses (shop / boutique/ café) | <span style="display: inline-block; width: 15px; height: 15px; background-color: #90EE90; border-radius: 50%; margin-right: 5px;"></span> Park and green open space                                      |

government officials to buy lots in the inner compound. This system has generated subdivisions and the mergers of parcels both in the inner and outer compounds.

In the course of time, some previous residents have gradually moved out of this quarter, as the land value, property tax, and the construction cost have been increasing. Many inhabitants, especially low-ranking officials, have considered selling the rights of ownership of their property in this area, then bought a larger lot in a different location, such as in estate complexes situated in the urban fringe, wherein the distance to their working place is still considered reasonable. The situation has also been urged by the domestic demands for accommodating space as the size of families is increasing. Such a decision is often taken by pensioners that are former government officials because nowadays they have no more advantages if they keep residing in the inner urban area with the compulsion to pay a higher tax than in the outer area for a small plot and housing unit. There are currently not more than 20 % of previous inhabitants living in this area.

The mixture of social classes has been strongly occurring mainly in the inner compound. Although zoning and social structure have obviously changed, however, the basic physical structure of 'outer-inner' and 'islands' neighbourhood concept in this area still remains as evident of its current morphological feature.

- **Land parcelling, typology and structure of the streets**

Transformations of land parcelling, typology and structure of the streets continually appear in this quarter. As mentioned earlier, the free land market allows subdivision and the merger of parcels in this area. Transformation of ownership moreover generates changes of parcel sizes, followed by their shapes. In the outer ring for example, the original number of 60 dwelling units has increased to 67 units due to subdivision and mergers of parcels. The amount of parcels in the Wira Angung-angun compound and along Tirtayasa Street initially intended for the middle class is 70 parcels; meaning they have relatively persevered. However, the sizes of some parcels have already been altered. The number of parcels in the inner compound, formerly destined for the low income, has been augmented from 110 units to 135 units (fig. 4.12.). Fences and walls are used in all perimeters to create a legal definitive border and are used as a means of security in the cul-de-sac area in the inner Gempol.

The ground coverage ratio for building developments along the outer ring road, in the Wira Angun-angun compound, and along Tirtayasa Street has changed. Although the regulation still allows for extensions, most of the buildings now cover more than 50% of



**1923**

Source: Centre of Urban Design Studies - Bandung Institute of Technology



**2005**

Source: Personal interpretation, survey, and analysis 2005.

**Figure 4.12. : Maps of Solid-void Analysis of the Gempol Quarter**

the total lots. Moreover, many have excessively violated the regulation. These transformations have increased the density and further degraded the openness of the area both in their visual and environmental quality.

The dramatic changes in fact have been particularly taking place in the low-income compound. Dwelling units were built uncontrollably and exceeded the permitted ratio of building coverage. As shown by the solid-void analysis (fig. 4.12.), most buildings in this area obviously cover more than 70% of the lots and many parcels are even totally covered with constructions. Extensions of the built area have violated certain regulations, especially building a “set-back” line. The harmonious pattern of land parcels applied in this area is gradually disappearing and replaced with irregular ones. This neglects the visual and functional quality of the neighbourhood. This trend will continue as a result of insufficient law and regulation enforcement. Vertical extensions also have been occurring due to the demand of rooms in household units. Additional new storey constructions are usually set up on the left and / or right wing, and in the backyard. New constructions often demolish former buildings. Many old dwellings have been totally replaced by multi-storied ones.

The level of density in this area has also been gradually increasing, in both senses; ratio of population to the area, the ratio of dwelling units to the available built area, and the ratio of inhabitants to the occupied dwelling units. Additional unofficial uses (non-dwelling use) have permitted additional members living in the households, and many of these new inhabitants are often not registered<sup>10</sup>. Therefore, it is difficult to obtain the real population living in this quarter. Thus far, the demographic figures in the local administrative office are not able to show exactly the actual condition of population density due to the unregistered population. The field survey evidenced that many housing units, especially in the inner compound, are sometimes inhabited by more than eight persons.

The structure of the streets in this quarter is relatively preserved, although the size and the design have changed. The street along Cimalaya, for example, has been enlarged and has become a boulevard in order to accommodate the increasing amount of vehicles resulted from the new development of transportation system and routes. The widening was also meant to help define the zone of the Gedung Sate complex. The small node in

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<sup>10</sup> The owners often offer their dwellings as boarding houses for students or employees, use them as shops and home boutiques, or rent / sublet them to third parties, which are new uses. Those new inhabitants, especially students, workers from other cities and maids are rarely registered in the local administration office since they still keep the registered identity card from their towns of origin. Based on the general spatial town planning / guide lines of Cibeunying Area (RUTRK) 1993 – 2003, the actual projection of population density in this development section is approx. 250 persons / ha.

the five crossings initially used as an accent and sign for the entrance of this area, had been long removed. The dimensional changes and the changes in the design of the streets have also occurred along Trunojoyo and Bahurekso Street, whereas in Wira Angun-angun streets relatively remain in the original pattern (fig. 4.13).

The streets in the inner compound of Gempol originally intended for pedestrians are no longer possible for the usage of four-wheelers. Similar to those in the outer ring and along Tirtayasa Street, the looping paths were relatively narrow. Based on these reasons, now traffic has been made as one-way to accommodate the increasing ownership of private vehicles and to ease the flow / movements inside the area. Nevertheless, parking still remains a problem in this pocket since most of the inhabitants do not have enough space inside their private parcel. This is because this area was not initially designed for such a purpose. Private cars consequently occupy public streets inside the compound. Therefore, parking problems increase particularly in the evening or at night when the owners are at home. Peddlers (*becaks* and *ojeg*<sup>11</sup>), street vendors, food hawkers, etc. utilizing the roads around the market especially in the daytime have made the traffic problem even worse (fig. 4.14).

Today, the *Brandgangs* are no longer functioning as they were formerly intended to do. For security reasons, most of the lanes have been closed or blocked with high fences or walls. In many cases, *brandgangs* have been occupied privately as extension area of dwelling units. Many have been paved with concrete, and some are used for informal activities and businesses such as street arts and crafts, food stalls, street workshops, and other informal-small enterprises. Although such activities are considered illegal, the tendency has been increasing since there is no control from the respective authority (fig. 4.15.). .

Although transformations in this area are considerably intensive, the hierarchical pattern of streets within the whole city structure has not changed radically. The transformations of the street structure are relatively slow compared to construction occurring in the dwelling units. The changes of streets are mainly in their functions (socially and commercially) in contrast to them being a means of traffic and transportation

- **Transformation of dwelling units**

The transformation of the dwelling units is the most significant point among other aspects in this quarter. In general, dwelling units in this area, especially in the outer ring road,

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<sup>11</sup> *Becak*, which in other countries is called rickshaw, is a three-wheelers manually cycled, while *ojeg* is a motorcycle used as a taxi to provide transportation within the neighbourhood.



Source: Personal survey and documentations, 2004 - 2005.

**Figure 4.13. : Street Transformations and Current Condition in the Outer Ring of the Gempol**



Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.14. : Transformation of Streets in inner Quarter of Gempol**



Source: Personal survey and documentations, 2004 - 2005.

**Figure 4.15. : Transformations and Condition of *Brandgang* in the Gempol Quarter**

had not changed significantly from their original forms even until the end 1980's. Only renovations and smooth extensions were made, but so far mostly done in the back part of the parcels or in the right or left wings. Thus these alterations had not changed the basic order of the original forms. Then, together with the economic boom, some new functions have been added along with the new development plan of main corridors of Bandung.

In these last two decades, a new lifestyle that includes clubbing, hanging out in cafés, and shopping in a 'homey' boutique, is prominent in the society, especially among the young people. It has speeded up the functional transformation in this area. Facilities to accommodate these new demands usually have been added or injected in the buildings along the outer ring. Since these new functions have required new images to represent businesses, the architectural performance of the dwellings has been changed by the replacement of building materials, colours, architectural details and styles with the perceived modern and cosmopolitan ones. Although new building types have not much occurred, the area continues to densify.

Actually until around the 1990's, some informal regulations were still being enforced in this area. These regulations gave order on the use of materials, controlled the building coverage ratio, the height and number of floors. These orders were particularly implemented with buildings along Cimalaya and Banda Street. The aim of these orders was to preserve the layout and design of Gedung Sate as landmark of the city of Bandung. Nevertheless, recently many buildings in this outer ring have been constructed higher. The elevation of roofs as an important visual order in this area constitutes also a change. Such spatial extensions consequently have changed the proportion of buildings, affecting the visual quality of the neighbourhood. This tendency has emerged in buildings located along Jalan Tritayasa, too. Most buildings in this part have been spatially extended or completely demolished. The dwellings are replaced with new constructions neglecting former orders (fig. 4.16.).

Building types in the Wira Angun-angun compound are relatively preserved. Transformations have mainly appeared in building elements and shapes. A random survey resulted in the recognition that those transformations have been encouraged by domestic demands and by preferences of the inhabitants according to their lifestyles<sup>12</sup>. Extensions that lead to the densification of this area have also been happening. However, those are still tolerable if they do not violate existing regulations. Yet in some

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<sup>12</sup> Many respondents mentioned that when building or extending the houses the preference of the Mediterranean style has been increasing as a trend within the community.



Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.16. : Transformation of Medium Size Single-detached Villa Houses in Outer Ring Area of the Gempol Quarter**

cases, some buildings have passed the building coverage ratio and the set-back restrictions (fig. 4.17.).

The most rampant transformations in fact have taken place in the initially low-income compound. Various transformations were made, including little adjustments on the façades, expansions on the back and front sides, and a radical change involving a complete demolition and replacement with new constructions with new building types. Extensions have been made towards all possible directions for each of the building types. However, few houses also attempt to change or extend their units by remodelling the former building or keeping the original structure and shape of roof, or reproducing/replicating some of the original architecture details.

Only a few of detached single houses in this area still exist in their original design. Many of them have been remodelled and extended back and sidewise, with flat or saddle roof forms. Many dwellings have also been added with new canopies, awnings, and balconies. New owners, who try to preserve the old housing style, usually keep some original parts of the house, i.e. particularly the form of the roof, and some architectural details in the façade (fig. 4.18.).

Most couple houses have been totally reconstructed or replaced with new buildings. This includes vertical extensions to make two-storey houses as the plots inside the compounds are considered too small to accommodate the increasing number of family members or to allow for new uses. The most popular type of new houses is the pitched or saddle roof house with its ridge parallel or perpendicular to the road. Canopies are added in many houses. Balconies constructed on the second floor have often exceeded the permitted order of set-back lines. The shared roofs are also often cut and leave the other half or quarter part in the original form. These violations obviously have damaged the visual quality of this area (fig. 4.19.).

Quadruple shop houses have changed. They have been extended to all directions, covering even almost 100% of the parcels' sizes (fig 4.20). A similar situation has occurred in the row houses in the cul-de-sac pocket of the inner Gempol and behind the market (originally the park). Transformations are evident especially because the roofs have been slashed to allow vertical extensions. This, consequently, has broken the former unity and visual harmony in the inner parts. However, there are some inhabitants who still prefer to use the former forms by adopting or copying the key designs or details from the original façades and the roof forms. Extensions of row houses have been made particularly in the interiors and / or the back parts of parcels (fig 4.21).



Source: Personal survey and interpretations 2004 – 2005

**Figure 4.17. :**  
**Functional and Architectural Transformation of Dwelling Units in Second Ring Area of Gempol**



Source: Personal survey and interpretations, 2004 – 2005.

#### 4.18. Transformation of Single House in the Inner Encave of Gempol Quarter



Source: Personal survey and interpretations, 2004 – 2005.

#### 4.19. Transformation of Couple / Twin Houses in the Inner Encave of Gempol Quarter



Source: Personal survey and interpretations, 2004 – 2005.

#### 4.20. Transformation of Quadruple Houses and Quadruple Shop Houses in the Inner Encave of Gempol Quarter



Source: Personal survey and interpretations, 2004 – 2005.

#### 4.21. Transformation of Row Houses in the Inner Encave of Gempol Quarter



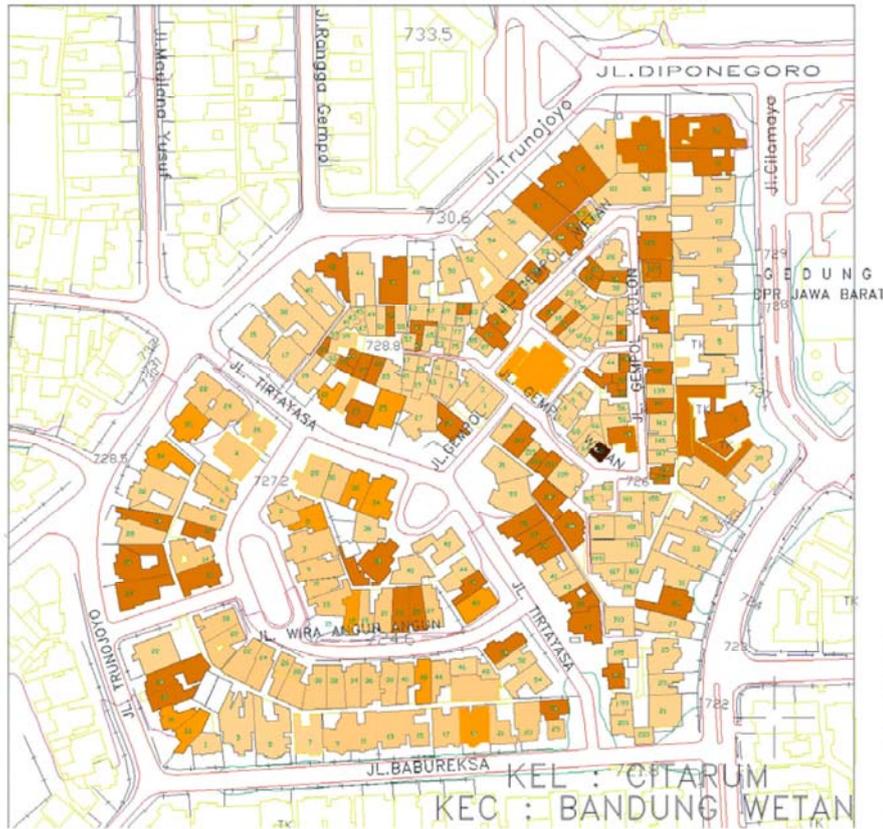
Source: Personal survey and interpretations, 2004 – 2005.

#### 4.22. Densification of the Built Environment and Degradation of Visual Quality in the Inner Encave of Gempol Quarter

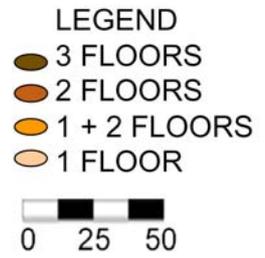
The most drastic visual changes have been undertaken in the former communal square, as a traditional market with new temporary and semi-permanent mixed-used buildings (for commercial purposes and as dwellings) that have been constructed without any order and control. Stalls and kiosks, with one to two-storeys emerge semi-permanently while shop houses do so permanently. These buildings are mostly occupied by local vendors (4.22.).

Physical changes and transformations of the dwelling units continue in the Gempol quarter, which is a common phenomenon in the development of inner urban dwelling settlements in Bandung. As a result, specific characters such as the atmosphere of a planned “native’s kampong” have been disappearing over time. The inner compound of Gempol is now becoming similar to the situation in other current inner urban kampongs in Bandung regarding housing types and density that lead to a rapid and uncontrolled development towards an overcrowded neighbourhood. The new structure of the inner compound is even similarly heading towards the formation of a slum neighbourhood. Degradation of environmental quality becomes a crucial issue. The rapid process of densification obviously harms sanitation aspect, as regulations regarding natural lighting, air conditioning, fire escapes, pipings for sewerage and drainage, etc. cannot be successfully enforced.

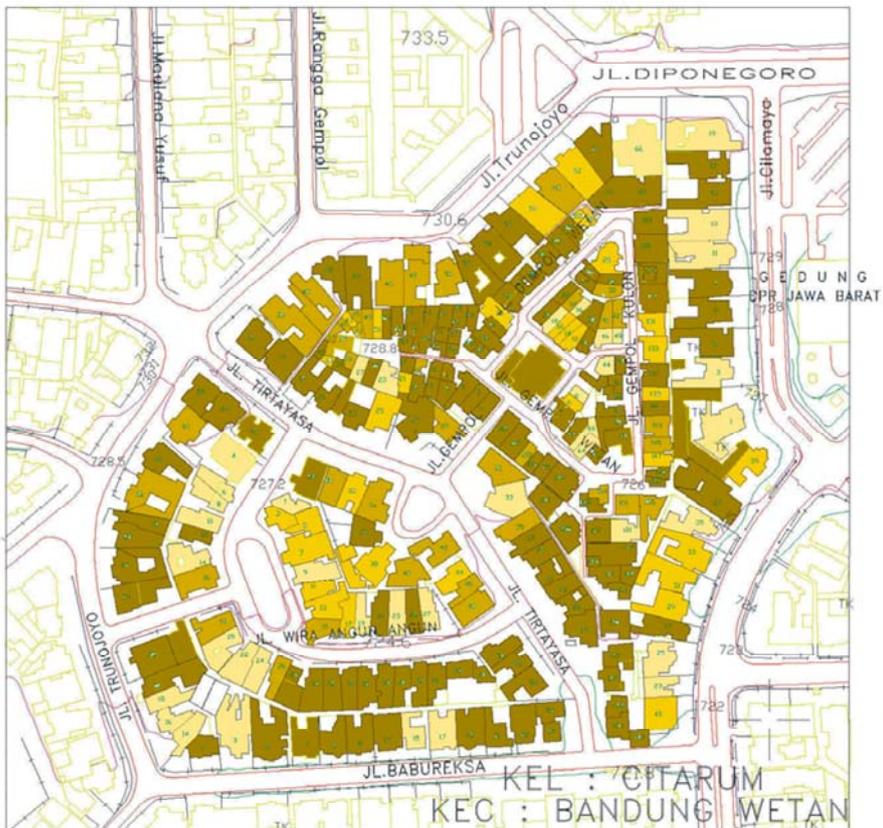
Although new constructions and replacement of building materials have been done with the purpose to improve the situations of devastating buildings or for maintenance reasons, the degradation of environmental quality particularly concerning concepts of former urban architecture cannot be avoided. Architecturally almost 90 % of dwelling units in this area have significantly changed their former designs and forms (fig. 4.23. and 4.24.). Although the field research shows that more than 50% of the new buildings are in a very good or good condition in the sense of their physical appearance subsequent to the condition of constructions and the use of materials, this figure does not mean that the visual quality in this neighbourhood has improved (fig.4.25). Particularly in the inner compound of Gempol, the situation has even become worse due to self-directed extensions, the use of low-quality building materials, and poor construction. Only ten buildings in this part are relatively left in the original designs with only little addition and replacement of building materials for maintenance purposes. The remaining units however have been changed due to additions, extensions, or demolitions.



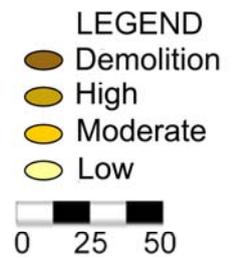
**Figure 4.23. :**  
**Number of Floor of Buildings in the Gempol Quarter**



Source: Personal survey and interpretations, 2004 – 2005.



**Figure 4.24. :**  
**Architectural Transformation in the Gempol Quarter**



Source: Personal survey and interpretations, 2004 – 2005.

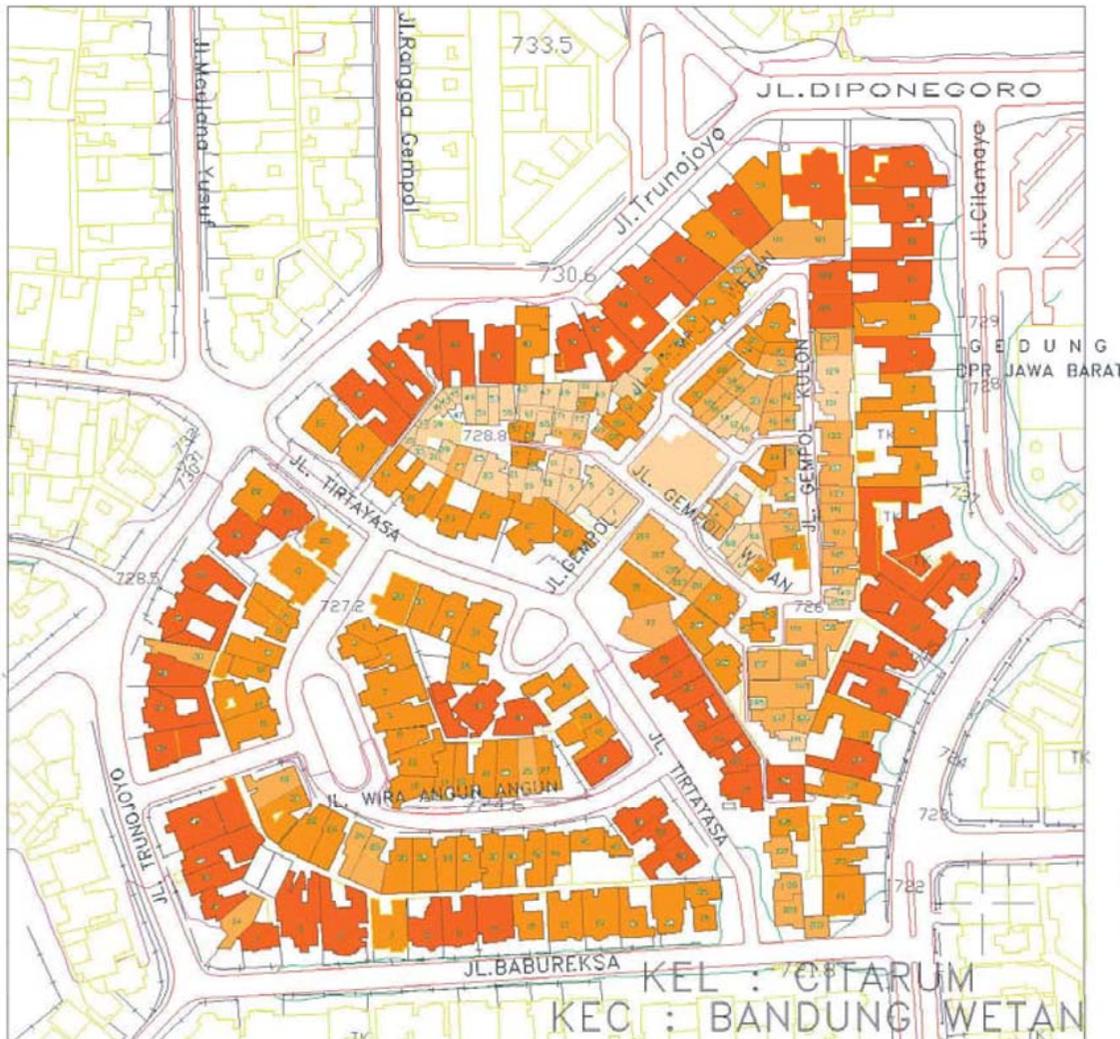


Figure 4.25 :  
Physical Condition of  
the Dwelling Units in  
the Gempol Quarter



Source: Personal survey and interpretations, 2004 – 2005.

- **Transformation of open space**

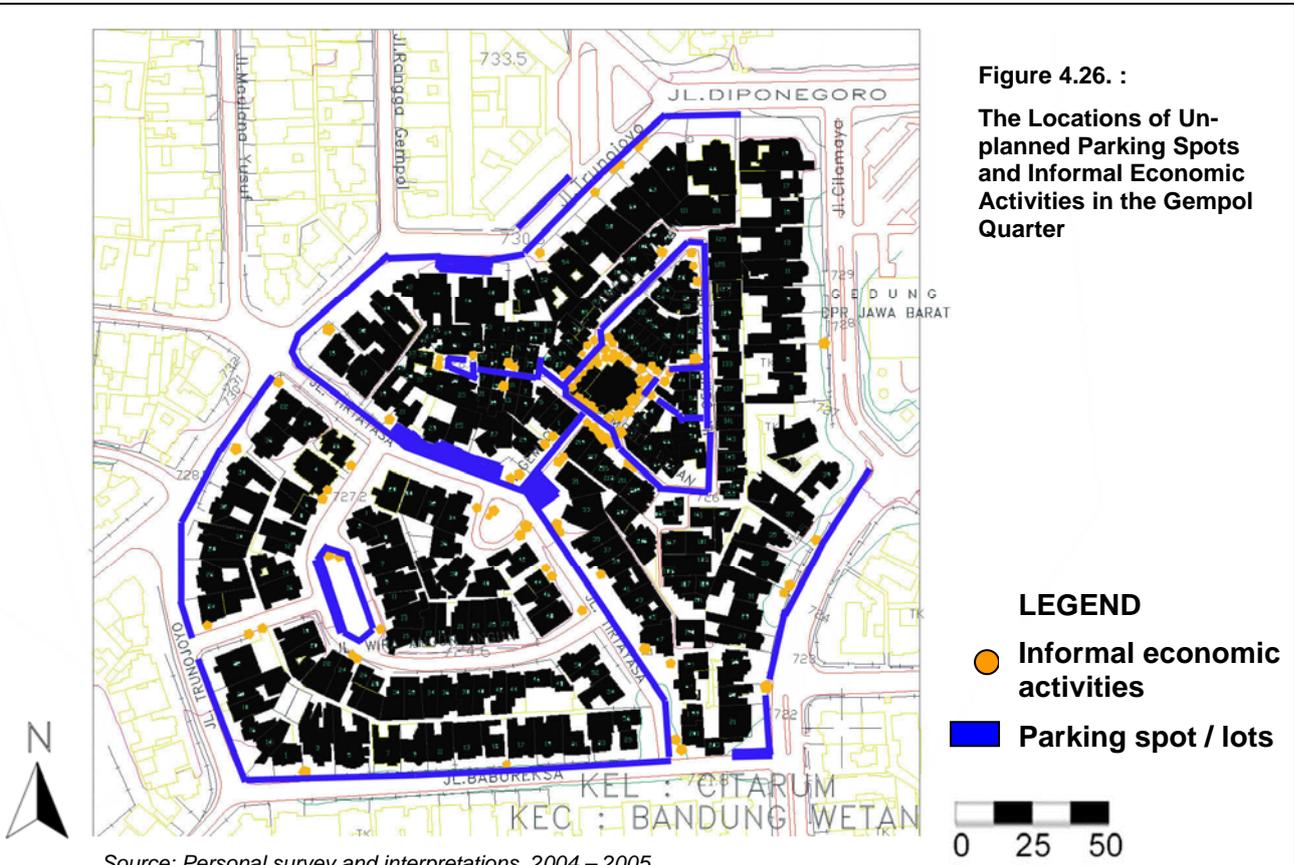
Open public space with urban vegetation / greeneries that was one important element in the garden city, has been continuously disappearing. This is caused by the changes made by the city government in allowing more ratio of built area in a land parcel. As a result, the percentage of open space is decreasing. Fences are used as a means of security and border definition in front and side perimeters of each property. The backside of each property is usually blocked with constructions of high walls. This has resulted in the closing or blocking of accesses to the *brandgang*. Consequently, the means of communication in the back part of the houses were diminished. Moreover, the new constructions remove the functions of the *brandgang* as an open space element allowing airflow from the back part of the dwelling units.

The open and flowing environment in the outer ring is also disappearing today due to the use of fences and even half-massive walls serving as definition of borders of public-private spaces. The use of fences replaces soft or natural elements. The extension of roads in this outer ring has also removed the green belts along the street sides. The greenery strips along Tirtayasa, Bahurekso, Trununojoyo Street have also been replaced by sidewalks. In fact, these pedestrian paths are not properly designed. They are too narrow in size, and are often interrupted with different levels of ramps and steps as they are approaching the openings of the housing units. Some sections of the sidewalks are 'privatized' by the buildings' owners; they are defined by the use of chains or fences along the borders of their illegally extended private properties<sup>13</sup>. Some of the greenery strips also have been used as extensions of parking lots since the dwellings demand more parking places (fig.4.26). These situations certainly create an uncomfortable and unsafe environment for the users, i.e. both the pedestrians and the drivers. Along Cimalaya, only narrow pedestrian paths have been provided although the street has relatively more vehicular traffic. Hence, this sidewalk has not been optimized to serve its function to accommodate pedestrians' activities.

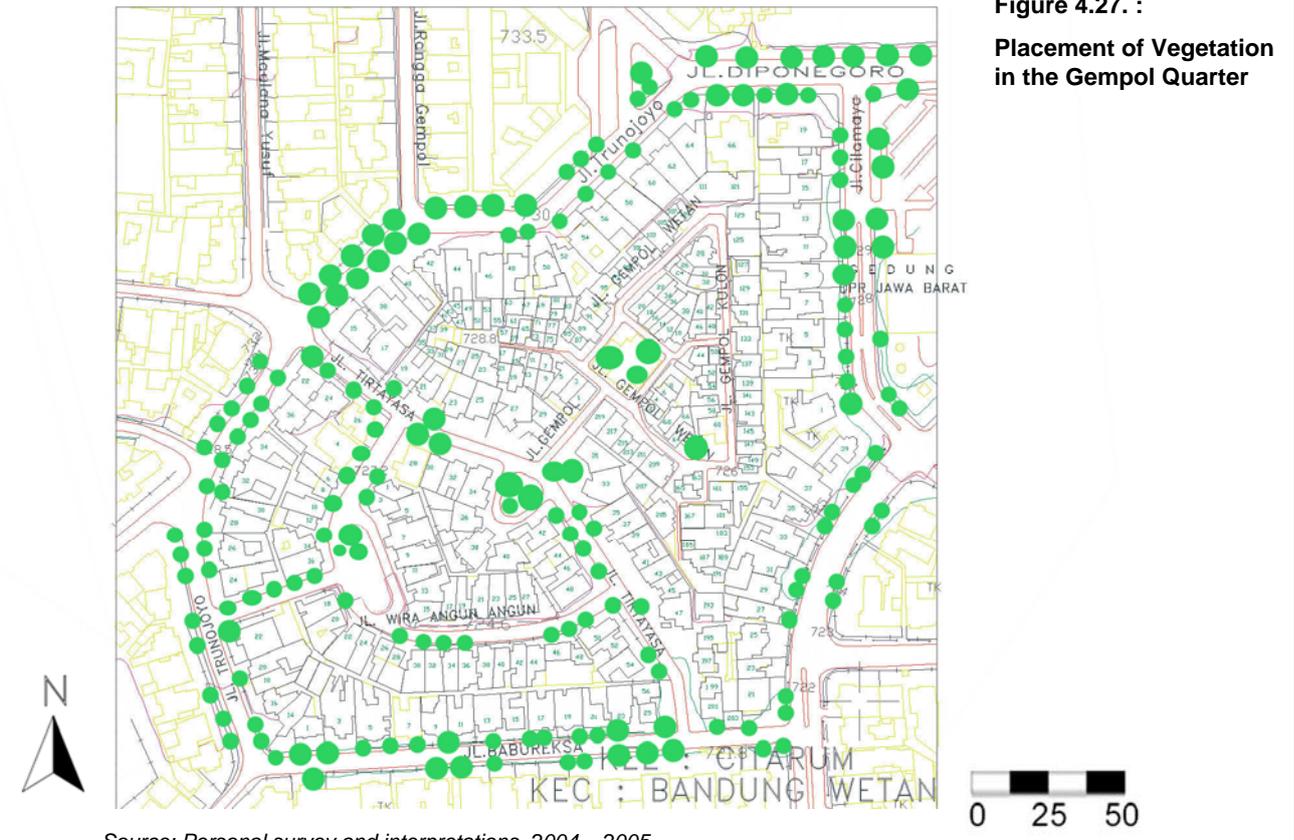
Parks in the inner compound of Wira Angun-angun, however, still relatively remain in a better condition due to the higher social awareness of the community. Although the parks still preserve their shapes and sizes, they have become inactive in their functions. Drastic changes of the public open space become apparent in the inner compound of Gempol. Also, due to the "privatization" of the public open space (mainly as parking area)

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<sup>13</sup> The design of sidewalks seems to stem from the detailed plan made by the local planning authority but it is merely based on the initiatives of the inhabitants along these streets. People do the planting along the strips along the front boundaries of their parcel voluntarily. This is often assumed as a right of occupation or right to extend ones property. Many have then claimed public open space as a part of their private property.



Source: Personal survey and interpretations, 2004 – 2005.



Source: Personal survey and interpretations, 2004 – 2005.

by the inhabitants, the parks and squares have long disappeared. A traditional market that first occurred in the 1960's has replaced the square. The market nowadays has been expanding to cover the whole square. Consequently, instead of being welcomed by an open green space, people entering this area will immediately face semi-permanent buildings. This condition is relatively uncomfortable due to unplanned building conditions and the slum impression created in this location. Another park in the inner compound has also been replaced by a building for a public administration office (*kelurahan*). Although half the plot with two old big banyan trees is still left as an open space, the image of densification is very much obvious. An open space in the cul-de-sac area also has been covered with concrete floor. This hardened inner open yard has now become a positive space and a semi-public court that is used e. g. as a parking lot, badminton court, and a place for drying clothes. On Fridays, this inner court is used as the extension of the praying place for the mosque. This religious facility was built to replace one of the former public baths. Some inhabitants have even made semi-permanent garages in this area by constructing freestanding canopies, with one of the edges attached or hooked in the walls of their houses. The accesses to the enclave are now bordered by high sidewalls or extensions of facades of the houses situated along the alleys. Such a situation has in general resulted in a total damage of the former concept of "openness" and "living in green". The only remaining character in this area is a dense environment with massive buildings and chaotic patterns.

Regarding vegetation, no certain plans or regulation both to preserve and maintain vegetation are applied in this area today. The classification and placement of vegetation strictly implemented in the colonial period to maintain the visual image of the garden city has long been ignored. Inhabitants are now allowed to plant any kind of shrubs and trees inside the front part of their parcels (fig. 4.27.). The transformation of the urban landscape, however, is still tolerable but only in the neighbourhood in the outer ring and in the middle-income compound in Wira Angun-angun.

- **Transformation of infrastructure and utilities**

Infrastructure and utilities are subjected to the transformation process. In general, the supporting infrastructures are the same as those in the colonial period, minus the supply of gas. Structures and systems are the remainders of and developed from the network established by the former colonial planners. However, the capacity of this infrastructure is not able to meet the current demand due to the increasing number of population and, henceforth, the number of households. Water supply is now becoming a significant issue, especially due to the increasing number of small – medium-scale home-based industries.

The drainage and sewerage lanes that used to be applied along the *brandgang* have also been covered solidly for the extensions of the dwelling units, resulting in difficulties to control sewerage.

The market area is particularly problematic in this neighbourhood, aside from the fact that its existence is illegal. The market functions as a mixed-use area and has been incrementally built without certain infrastructural planning. However, water supply, electricity and telephone lanes are provided by the city in this segment to support the activities. Networks for electricity and piping for water supply have often extended the existing system without any plan and even illegally. A drainage and sewerage system does not exist in this area. Therefore, wastewater is led directly into the ground, into unplanned sewers, and drains are made individually by the inhabitants or the hawkers in this area.

Garbage collection and the processing system have become problems as well. With the increased production of waste as a result of the increasing market activities, the capacity of the garbage containers for the domestic waste has become insufficient. The sanitation situation is getting poorer since there is no adequate size of plots to deposit garbage containers, and since the open space has been used for other purposes. The location of the garbage containers in the corner of the market area has impaired the visual and environmental quality of this neighbourhood. This might also result in a spreading of diseases in the surrounding area.

Public toilets with communal baths in the cul-de-sac enclave of Gempol have long disappeared. These kinds of facilities are now provided individually in each unit. This phenomenon also shows a process of individualization commonly occurring in urban life.

- **Transformation of other urban architectural characters**

Orientation and skyline are two important aspects to keep a good visual quality. In this case study, building orientation in the outer ring road is relatively preserved although the views to and from the sites are more blocked by fences or trees. The skyline, however, has changed since the new regulation allows individuals to build more than two storeys. Consequently, the function of the corner buildings of giving the skyline its tone and of shaping landmarks in this area cannot be significantly recognized anymore. Nevertheless, it is still possible for the observer to feel the same rhythm in this environment since both subdivisions and mergers of land parcels neither occur a lot, nor dramatically change the types of parcels and buildings in the big villa houses.

The orientation of the dwelling units in the inner compounds both along the main loop of inner Gempol and Wira angun-angun is also left in the original order. However, the skyline has dramatically changed particularly in the inner compound of the low-income compound due to the lift-up development, new building elements, particularly the roofs and their shapes. The transformations have changed the harmonious visual comfort formerly created by the composition and the layout of the different types of housing units. The situation even worsens in the inner cul-de-sac enclave. In the traditional market area, the completely unplanned development creates a chaotic visual quality, as the architectural orders of town planning are totally neglected.

Hoardings furnished to mark additional or new activities and functions become a new phenomenon in this quarter. Many are set up without considering their proportions to the buildings where they are attached to. The freedom to choose colours, dimensions, and forms tends to distract the harmonious visual quality that existed in the past.

**Table 4.2.**  
**Demographic Data, Non-Physical and Physical Characteristics of Gempol Quarter**

No:	Category			
	<b>Non-physical Characteristics</b>			
<b>1.</b>	<b>Occupation of the head of households*</b>			
	Government Officers (4)	8.0 %	Lawyer / Notary (1)	2.0 %
	Technician / Artisan (4)	8.0 %	Medical Doctor & Apothecary (3)	6.0 %
	Employee of private enterprises (21)	42.0 %	Small Scale Business Owner (4)	8.0 %
	Teacher / academicians (1)	2.0 %	Medium Scale Business Owner (1)	2.0 %
	Artist (1)	2.0 %	Architect / consultant owner (2)	4.0 %
	Beautician (1)	2.0 %	Pensioner (4)	8.0 %
<b>2.</b>	<b>Status / title of Land*</b>			
	Owned / freehold ( <i>hak milik</i> )	24.0 %	Occupation right ( <i>Hak pakai</i> )	6.0 %
	Building right ( <i>hak guna bangunan</i> )	64.0 %	Rented	6.0 %
<b>3.</b>	<b>Income / month of the head of households*</b>			
	0 – 500,000	0.0 %	2,000,000 – 5,000,000	76.0 %
	500,000 – 2,000,000	8.0 %	> 5,000,000	16.0 %
<b>4.</b>	<b>Education of the head of households*</b>			
	>Elementary School	0.0 %	High School	24.0 %
	Elementary School	2.0 %	College / University	48.0 %
	Secondary School	10.0 %	> University	16.0 %
<b>5.</b>	<b>Duration of Living*</b>			
	0 – 5 years	10.0 %	20 -30 years	30.0 %
	5 – 10 years	20.0 %	> 30 years	20.0 %
	10 – 20 years	20.0 %		
<b>6.</b>	<b>Ethnic / Nationality*</b>			
	Indonesian origin	72.0 %	Indonesian Chinese	38.0%
<b>7.</b>	<b>Population density*</b>			
			176.5 p / km <sup>2</sup>	
	<b>Average Persons / Household*</b>	6.9 p / hh	(339 persons in 50 units range from 5 – 12 p/hh)	
	<b>Population by Age</b>			
	0 - 15 years old (58)	17.1 %	30 – 55 years old (120)	35.4 %
	16 – 30 years old (113)	33.3 %	> 56 years old (48)	14.2 %
<b>8.</b>	<b>Average Land Price per m<sup>2</sup>**</b>			
			1.2 – 5.0 million rupiahs / m <sup>2***</sup>	
	<b>Physical Characteristic</b>			
<b>9.</b>	<b>Original Building Typology</b>			
	Big size single detached villa house / bungalow		Medium size single detached	
	Single detached medium size semi villa		Small size single detached	
	Twin (couple house)		Row house 4 – 8 Units	
	Quadruple house		Shop house	
	Two storeys corner house			
<b>10.</b>	<b>Total Parcels</b>			
	Original number of parcel	+ 144 units	Current observed parcels	264 units
	<ul style="list-style-type: none"> <li>• Plus housing compound in inner Gempol with open layout concept / without definitive parcels</li> <li>• Parcels for twin and row houses were located in one lot</li> </ul>		<ul style="list-style-type: none"> <li>• Plus 23 units stalls in unplanned traditional market</li> <li>• 3 units for public facilities</li> </ul>	290
<b>11.</b>	<b>Current Building Usage</b>			
	Residence & Boarding House /rented rooms (211)	72.8 %	Mixed with shops, café, warung, home industries (31)	10.7 %
	House and office (10)	3.6 %	House& Doctor Practice (1)	0.4 %
	<b>Commercial</b>			12.0 %
	Shop, Warung, Wartel (23)	7.9 %	Café (1)	0.4 %
	Bank (3)	1.1 %	Office (3)	1.1 %
	Workshop (1)	0.4 %	Hotel (1)	0.4 %

	Vocational Edu. Centre (2)	0.7%		
	<b>Social / Public facilities</b>			0.4 %
	Gov. Administrative Office	2	Kindergarten	1
<b>12.</b>	<b>Parcel Size</b>			
	0 m <sup>2</sup> – 120 m <sup>2</sup> (131 units)	45.2%	201 m <sup>2</sup> – 400 m <sup>2</sup> (56 units)	19.3 %
	121 m <sup>2</sup> – 200 m <sup>2</sup> (31 units)	10.7%	>400 m <sup>2</sup> (52 units)	18.5 %
<b>13.</b>	<b>Building coverage (current situations)</b>			
	<30% (0 units)	0.0 %	51% - 70% (79 units)	27.2 %
	30 – 50% (68 units)	23.4 %	71 %- 100% (143 units)	49.4 %
<b>14.</b>	<b>Percentage of Public Open Space incl. Street</b>			± 30 %
<b>15.</b>	<b>Condition of Building based on quality of materials</b>			
	Very bad – bad (104)	35.9 %	Good (89 units)	30.7 %
	Moderate / average (42 units)	14.5 %	Very good (55 units)	18.9 %
<b>17.</b>	<b>Architectural key elements</b>			
	<b>Roof shape</b>			
	Pitched roof		Hipped roof	
	Pitched with gable		Mansard	
	Half circle over porch / balcony		Combinations	
	<b>Former architectural styles</b>			
	Art - deco		Modern housing style	
	Rustic details from traditional kampong			
	<b>Other significant elements</b>			
	Veranda / Terrace		Railing with traditional motives	
	Balcony		Roof ridge with traditional motives	
	Stained glass with motives in big villa houses		Wooden tile for roof cover	
	Rustic motives for ventilation and openings			
<b>18.</b>	<b>Condition of Building based on the architecture transformation</b>			
	0 %– 25% (low) – 36 units	12.4 %	51% – 75% (high) 41 units	12.2 %
	26% – 50% (moderate) – 31 units	10.7 %	76% - 100% (demolition) 182 units	37.8 %
<b>19.</b>	<b>Location of informal sector (due to existence of traditional market)</b>			
	Small scale	111 spots	Big scale (semi permanent market)	23 spots
<b>20.</b>	<b>Valuable Building / Monument</b>			
	House - Diponegoro str. 20		House – Bahurekso str. 15	
	House – Cilamaya str. 1,3,5,7,9			
<b>21.</b>	<b>Particular vegetation</b>			
	<i>Asem Londo</i> or Manila Tamarin ( <i>Pithecellobium dulce</i> ) along Cilamaya street		Asam (Tamarin) in inner square and parks	
	Banyan tree ( <i>Ficus bengalensis</i> ) in inner square		Mahagoni along Trunojoyo street	
<b>22.</b>	<b>Other Characteristics</b>			
	<b>Others :</b>			
<b>23.</b>	<b>Willingness for Participation</b>			
	Agree	88.0 %	Don't know /don't understand	12.0 %

Notes :

\*Questionnaires from 50 persons living in Gempol Quarter. Survey was done in year 2005

\*\* Population density is assumed as ratio of inhabitants living in 20 parcels (random) in this area

\*\*\* EUR 1.00 = IDR 11,000

## 4.2. Case Study II : The *Houtwijk/Saninten* Quarter

### 4.2.1. The Position and the Role of the Case Study within the City

This second study case is chosen in order to compare the transformations occurring in a quarter similar to the Gempol area. This dwelling quarter was called *Houtwijk* (or later in this study also called Saninten/Supratman quarter). It was built in 1924, with a coverage area of about 22 hectares. The *Houtwijk* quarter was one of the pilot projects of mixed housing estates in the North of Bandung. Almost similar to the intention in Gempol, the *Houtwijk* quarter was aimed to provide housing for different grades of government officials working for the Dutch government. The Supratman quarter, therefore, was positioned near the Governor Palace complex - *Gedung Sate*. This quarter was encircled by the main street of *Houtmanstraat* (now jalan Supratman), Jalan Bengawan, Jalan Ciliwung, and Orchideelaan (now Jalan Anggrek), and looked like a “fan-formed” island within the ‘*Europeesche Zakenwijk*’ sliced through right in the middle by an axis shaped by Barendstraat (now Jl. Cendana). This axis connected two squares; the *Orangeplein* (now Pramuka Park) and *Houtmanplein* (now Supratman Park) (fig. 4.28. and 4.29.)

This case study shows an example of a mixed but unique traditional and modern built dwelling environment. The *Houtwijk* quarter accommodated the middle and low-income class on a bigger scale than the Gempol area. It was designed with more facilities for the neighbourhood. The structure of a traditional town was adopted in the inner compound with a small market and square which has given a unique character to this area<sup>1</sup>. Like in the first case study, the *Houtwijk* quarter has been continually penetrated with pressures of modernization and commercialization. Strong physical changes have been gradually thinning the former image of the green urban dwelling environment.

### 4.2.2. Physical Elements of the Neighbourhood

#### a. Land use and zoning

The *Houtwijk* quarter was designed for residential purposes. Some facilities such as markets and two big open public spaces (*plein*) were provided to support communal activities both for the inhabitants living in the quarter and for those from neighbouring housing estates. *Houtwijk* was basically divided into two big compounds; in this research they are later called the “Saninten” and “Salam” compounds, and each was again divided into two smaller parts. The outer – inner ring concept was implemented in the site plan of the *Houtwijk* quarter. The outer ring segment was intended for the higher class, whereas

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<sup>1</sup> The semi-traditional market consisted of Chinese shops and a traditional non-permanent bazaar which was like a miniature of the traditional structure in the city centre.



Figure 4.28. : The Location of the *Houtwijk* Quarter within the Old Plan of Bandung

Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.



Source: Image©200, DigitalGlobe©Europa Technologies, Google Earth 2006

Figure 4.29. : Aerial Photo of the *Houtwijk* Quarter, 2006.

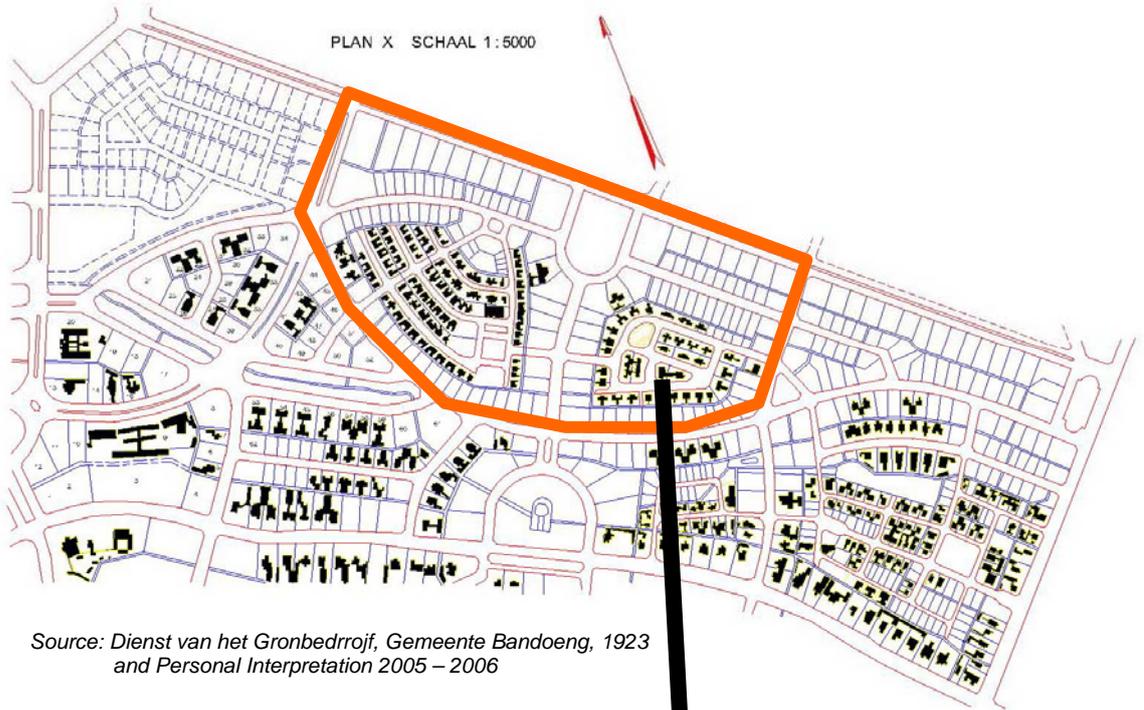
the inner ones consisted of two rings allocated to the middle and lower social level. The inner part of the Saninten compound covered about 8 hectares of the total site, was mainly occupied by small – medium parcels for the low – middle-grade officials, whereas in the Salam compound the parcels were allocated only to middle – high-grade officials. A small semi-traditional market, some shops, educational facilities, and communal space were provided in this area.

#### **b. Land parcelling, typology and structure of the streets**

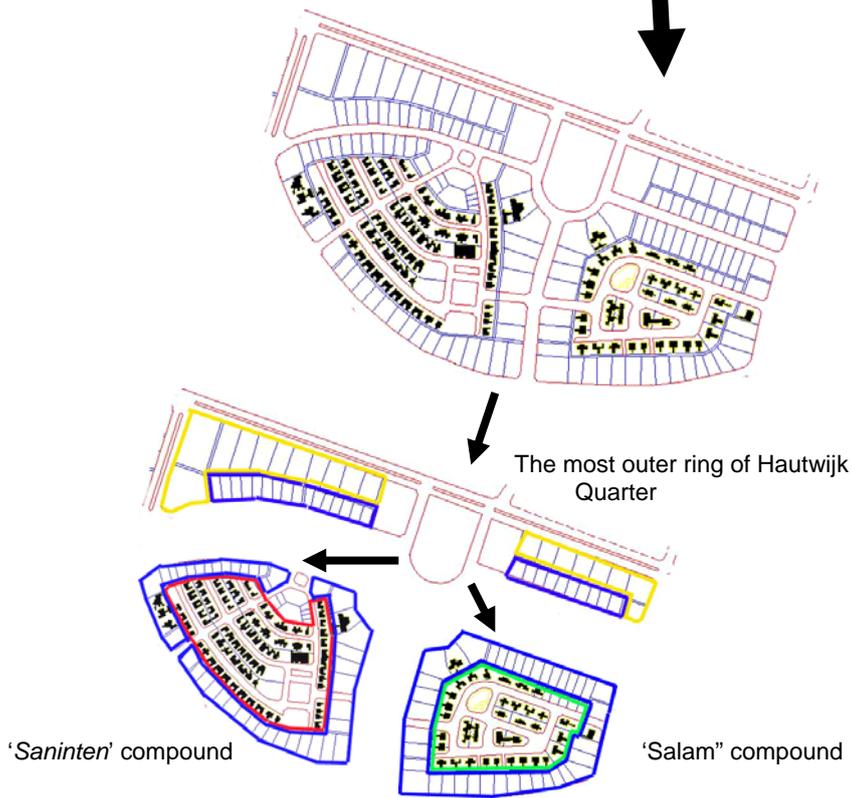
A parcelling system was applied in *Houtwijk* in a sense to create a healthy and comfortable environment. Larger parcels with sizes of approximately 300 m<sup>2</sup> to 1000 m<sup>2</sup> were allocated in the outer ring where the villa houses were situated. The inner compound consisted of smaller parcels for the middle and low-income group. The sizes of the compounds initially ranged from 70 to 150 m<sup>2</sup>. The corner parcels were usually 30% – 40% bigger than the normal plots. Building coverage ratio, floor area ratio (FAR), and building setback were strictly enforced in this area. The maximum BC was 40%. Like those in the Gempol quarter, the corner plots had special orders to allow for special designs, which were further intended to create a good visual quality of the neighbourhood (fig.4.30.).

The street design was based on hierarchy and graded into some classes as: *boulevard*, *straat*, *weg*, *laan*, and *bradgang* (fig. 4.31.). The outer ring of this area was composed of two street grades; the main and secondary streets. Houtmanstraat (Jalan Supratman) and Ciliwoengstraat which were approx. 20 m of width were the main roads constructed with boulevards, whereas Bengawanlaan, and Orchideelaan (Jalan Anggrek) with ca. 10 m of width functioned as secondary streets that encircled and formed this quarter like an independent island among the neighbouring islands. Barendzstraat (Jalan Cendana) as a secondary street divided this island into two parts, and connected Bengawanstraat with Houtmanstraat. Tasmanstraat divided the Saninten compound into two parts, whereas Heemskerstraat functioned similarly in the Salam compound. The structures in the inner compound of Salam and Saninten were patterned by small alleys of approx. 5 – 7 meter width.

The original structure consisted of three main patterns (fig. 4.31.). The symmetric pattern and a strong axis that ended in two large green areas, have given this neighbourhood a geometrical - formal image. The loop forms were obviously seen in the Salam and Saninten compound and the semi-*cul de sac* in Saninten created a dynamic pattern of parcels with different dimensions and shapes. The structure allowed for various shapes of nodes that functioned as parks and communal space inside the neighbourhood.

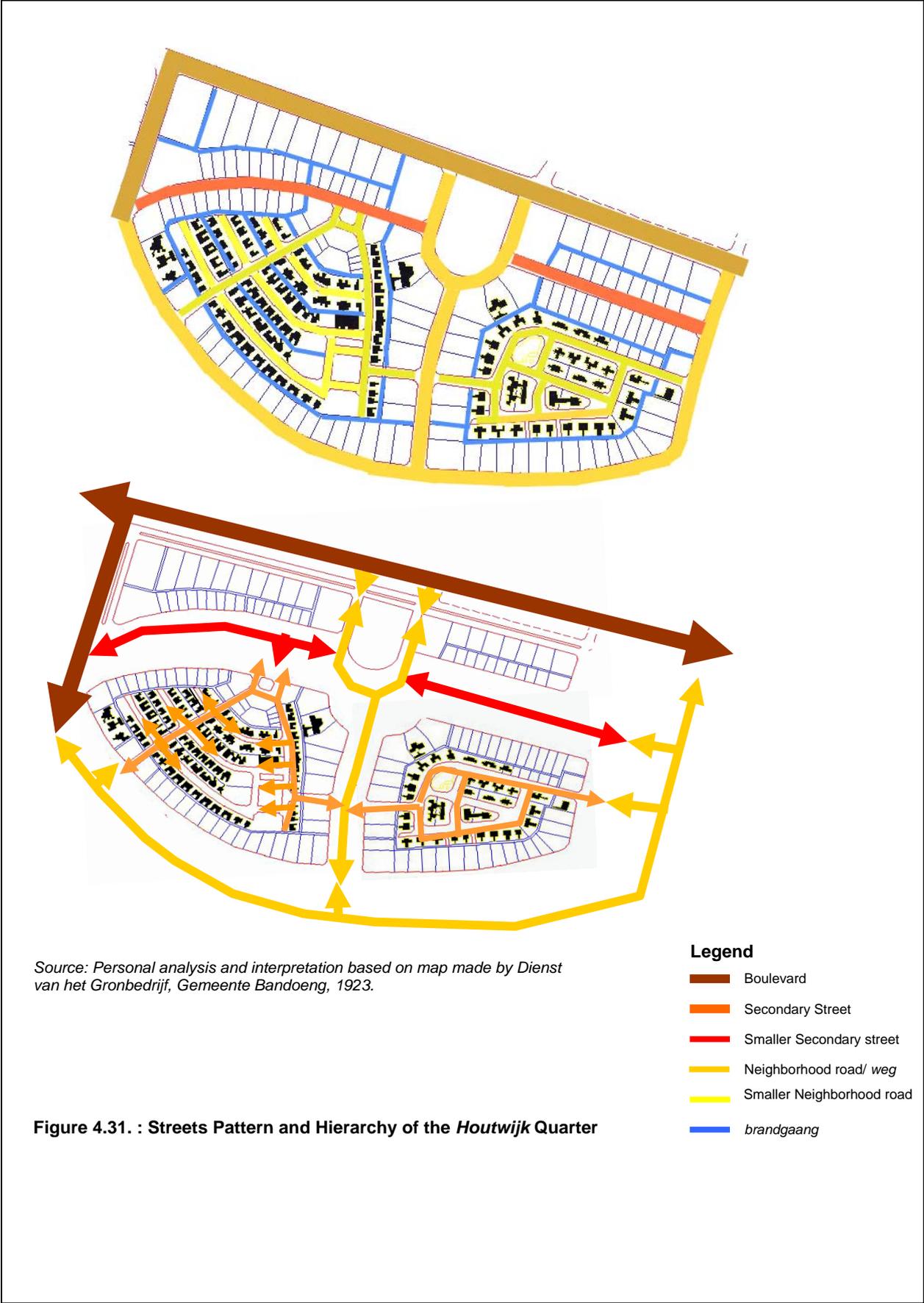


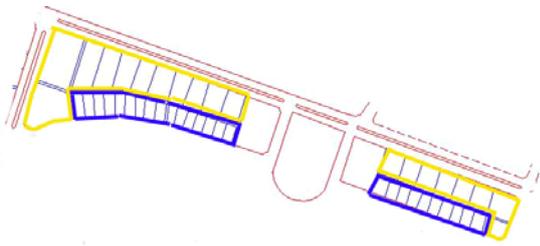
Source: Dienst van het Gronbedroff, Gemeente Bandoeng, 1923  
and Personal Interpretation 2005 – 2006



Source : Personal Interpretation and Analysis 2005 – 2006

Figure 4.30. : Zoning and Structure within the *Houtwijk* Quarter





Source: Personal survey and interpretations, 2004 – 2005.

**Figure 4.32. : Typology of Dwelling Units in Outer Ring Area of the *Houtwijk* Quarter: Large Single- Detached Villa Houses**

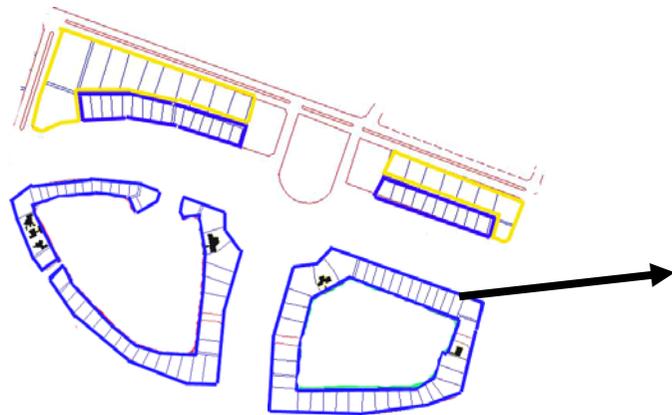
'*Brandgang*', lanes with around 3 m of width, were used to separate the outer and inner ring. The narrower lanes were implemented along the "back-to-back" dwelling units to provide good air circulation and natural lighting. Besides for sanitation purposes, these lanes were used for security purposes like as a fire escape. Parcels along the outer ring could be accessed directly from the main and secondary streets. The inner compounds had indirect accesses. As compared to those in Gempol, the compounds of Salam and Saninten had relatively more accesses to reach their inner enclaves.

The end or crossing points of the streets were treated as one of the important aspects in the site plan. Junctions shaped by three, four, or more streets were designed in various shapes, in which objects such as landmarks, corner buildings with unique designs, or parks were situated. The illusory concept was applied to visually create an image of a villa dwelling quarter and to generate more spatial experiences in this quarter. Single and couple houses were composed irregularly in a fenceless neighbourhood. Particularly in the inner compound, the open neighbourhood concept was aimed to avoid the dullness that might be created from a relatively narrow distance among the houses.

The *Houtwijk* quarter was relatively more open compared to the Gempol area, as can be seen on the more accesses to the inner parts of the quarters of Salam and Saninten. The structure presumably appeared since the dwelling units in the inner compounds were also inhabited by some higher-grade native government officials. However, the layout of the *Houtwijk*'s inner enclaves still showed the defined space with a strong enclosure expressing control and segregation within the quarter in the past.

### **c. Typology of dwelling units**

Various types of dwelling units were built in this area. Single-detached and couple (twin) houses were seen in big villa/bungalow types along the outer ring (fig. 4.32. and 4.33.). Some villa types had pavilions at the back or side wings. Corner buildings were usually allocated for two-storey houses. The  $\pm 45^{\circ}$  angle-high shield/hipped roofs with clay/ceramic tiles as roof covers in the outer ring's houses created a harmonious rhythm, although the roof shapes varied. Brick and masonry were used in these villa houses. These types were characterized by architectural details and ornaments of "*jugendstijl*," presenting a simplified geometrical streamlining of classical motifs on the façades. Art-deco was consistently used both in the interior and exterior. Details were well-finished with high quality materials. Terraces, which were adopted from traditional forms, appeared in some villa houses but in quadrangular or half circle forms. Stained-glass was used as decorative elements of windows, doors, and inner partitions in the villa houses. Fences with about 30 cm of height were constructed to define the borders of



Source: Personal survey and interpretations, 2004 – 2006.

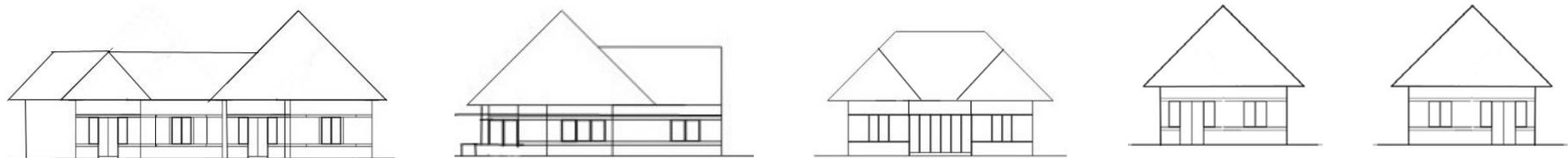
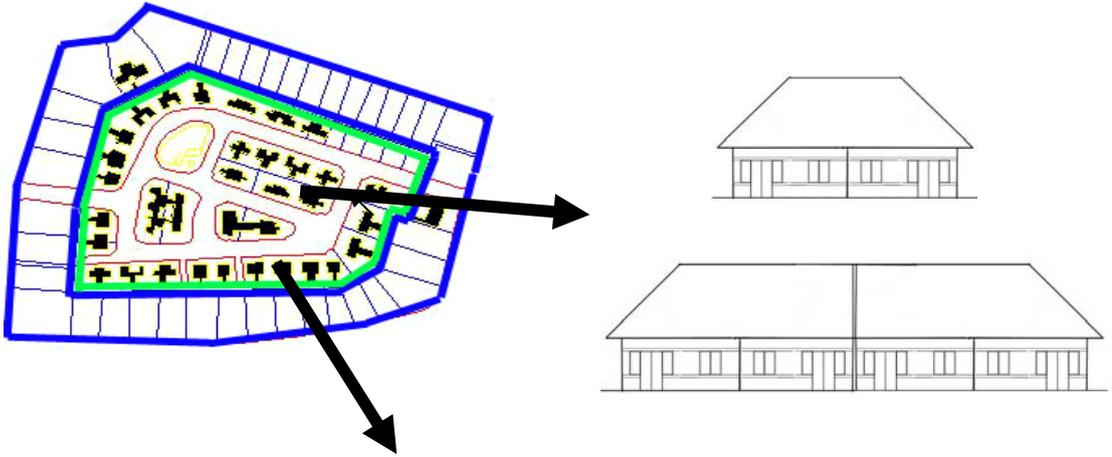


Figure 4.33. : Typology of Dwelling Units along the Secondary Streets in the Houtwijk Quarter

properties, but the massive fences made of brick wall were only erected along the front perimeters. The side walls were about 1 meter high, whereas the back walls were about 2.4 – 3 meters. Corner houses were built in particular designs and had more dynamic building forms such as half-round corners, elevated entrance planes, higher and specially designed roof tops, etc. in order to give accents and orientation within the neighbourhood.

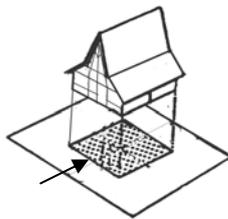
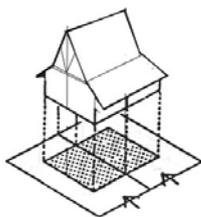
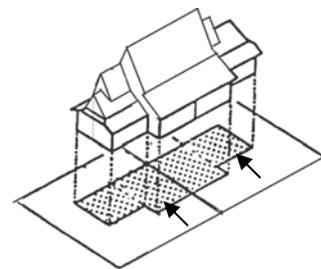
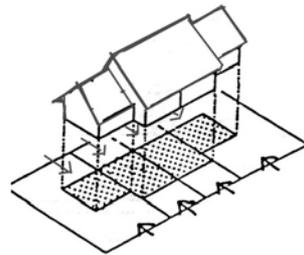
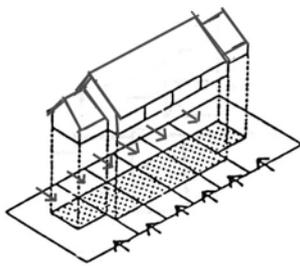
Single-detached, couple (twin), and row houses with 4 - 6 units were used in smaller dimensions for the middle and lower class in Salam and Saninten (fig. 4.34. and 4.35.). Two units of shop houses also appeared in the Saninten compound. Single houses along Rasamala and Kihur Street functioned as the gate to the cluster in the inner quarter. Single houses in Suren Street were built with roof rims parallel to the street encircling open space and functioning as a centre of orientation for this cluster. The houses located in Suren Street were constructed with roof rims perpendicular to the front perimeters. There were 32 units of single houses built on 16 x 18m<sup>2</sup> parcels in the inner cluster. Couple houses were constructed with the roof rims parallel to the front street. There were 58 couple houses situated on 8 x 18 m<sup>2</sup> of parcel size. Row houses were built using a one-roof construction, whose designs were modified on the end wings. Every unit in the row houses had two accesses, from the back and front yard. The shop houses were built in the row-house form with 4 units each.

The materials and architectural elements used in the dwelling units for the middle class in the inner compound were relatively simpler. The roofs were combined of different roof shapes, such as hipped or mansard roofs for the single-detached houses, and pitched roofs with the top rims parallel or perpendicular to the front edges of the parcels (fig. 4.31.). Roofs were finished with flat naturally coloured/unglazed clay tiles. Smaller houses for the lower-income group consisted of couple houses with two-level high pitched roofs ( $\pm 45^{\circ}$ ) with top perimeter lines parallel to the street lines. The canopy slopes shaping the roofs like in a traditional style were formed by smaller angles of  $\pm 25^{\circ}$ . Wooden frames used in the gables also reminded of traditional timber houses in the Netherlands and Germany but those used were simplified. Wooden material and composite panels were used for the walls in the housing units for the lower income group. Windows did not use glasses but they were only window shutters with wooden security bars, whereas some rustic motives were also used for some openings to allow for natural air ventilation. Balustrades with traditional motives were used for the terraces for the dwelling units for the middle-income inhabitants in the inner compound of Saninten.



Source: Personal survey and interpretations, 2004 – 2005.

**Figure 4.34. : Typology of Dwelling Units in the ‘Salam’ Inner Enclave**



**Figure 4.35. :**  
**Dwelling Typology in the Inner Compound of Saninten**

Source: Personal survey and interpretations, 2004 – 2005.

Some public buildings like schools and small markets had strong characters. Shops in the small semi-traditional bazaar had different types of architectural forms. The shop buildings adopted the traditional Chinese shop pattern as can be seen in the gables' forms (fig.4.35.). Those 8 shops were designed all together in a unique octagonal form with two-roof layers. Shop houses were located near the entrance of the inner compound for the middle – low-income inhabitants. The school buildings could not be particularly distinguished from the housing forms in the outer ring. The roof shapes of the school were a combination of long-pitched form and the four highly-sloped shield-roofs at the end points. The roofs of these shops and schools were covered with clay tiles.

The previous monastery “*Zusters Ursulinen*” in Houtmanstraat, designed by Ir.J. Sippel in 1927, featured a typical school building in this era in Bandung (fig.4.32.). Nevertheless, compared to other buildings for educational purposes, this two-storey building had more details and strongly presented the Indo-European style. The main building had a shield-shaped roof and the lantern motive appeared on the roof rims. The monastery complex contained a small chapel, dormitory for the nuns and female students, and school rooms.

#### **d. Open space, parks, and vegetation**

The *Houtwijk* quarter had a dynamic pattern of urban landscape. Different sizes and shapes of open space were seen in this area for functional communal uses or as nodes, besides giving an orientation on and accentuation to the structure in this neighbourhood. In the main outer streets of Houtmanstraat and Ciliwungstraat greenbelts appeared along the side roads and as a boulevard. Big trees were planted in certain points along these major roads and along the secondary streets. In the front yard of villa houses smaller trees and flowers (bushes) were present in some defined spots.

The maximum BC ratio of 40% required for the larger villa houses resulted in a more open area along the outer ring. Moreover, open space was created in the back yard of every dwelling unit. Buildings in this area were set with a minimum of 15 meters back from the front edge. The front set-back applied on medium size parcels was about 6 meters. Walking paths were situated along the outer ring. Open drainage was placed along the walking paths following the front perimeters of the houses. This might be attained as a measure of control in order to avoid possible expansions to the front and back part of lots. In order to mark the ownerships between public and private properties, different plants were used.

Vegetation was clearly defined in the urban landscape regulations. In particular for the front yard the planting positions were strictly ordained. They even included landscape

planning within private properties as this had a possible influence on the process of creating a harmonious visual and maintaining environmental quality. The urban landscape in this area was integrated in the grand design of the garden city in North Bandung.

In the inner dwellings for the middle and lower class both in the Saninten and Salam compound, the concept of the fenceless neighbourhood was applied to give a spacious image. The structure of Kampong was used for the lower-income dwelling units. The alleys in Saninten, however, were relatively narrower compared to those in the Salam compound. The borders of the parcels were not solidly built up or bordered by walls but by plants instead.

Parks were used for collective activities within this neighbourhood, besides they functioned as nodes to connect physical elements of the neighbourhood. Houtman, Orchidee, and Orange *plein* (squares) could be seen to connect the housing compounds in Houtwijk with other surrounding neighbourhoods in the sense of a larger scale of an urban landscaping system in the North Bandung area. Besides environmentally aimed at functioning as lungs of the city, parks in this quarter were placed to strengthen the image of living in the green.

#### **e. Infrastructure and utilities**

The *Houtwijk* quarter was well-equipped with very adequate infrastructure. Streets were well-designed and integrated within the utility / infrastructure networks. A fire escape lane, drainage and sewerage, supply for electricity and drinking water and gas were provided by the Dutch government. Sanitation became a significant consideration and was applied in the entire area although this quarter, particularly the inner parts, also consisted of small dwelling units and was designed like a kampong. Sewerage and drainage had an open system in order to control and maintain the lanes easily.

#### **f. Characters of urban architectural aspects**

Similar orders on the town and neighbourhood scale concerning setback, building coverage, building height, landscape, skyline, the use of material, were strictly enforced in this area in order to create a harmonious neighbourhood. Various housing roofs, both in the outer and inner part, created a very dynamic skyline in this area, but the harmony was still kept by the defined roof angle of 45°. The spatial organization that placed different sizes and shapes of parcels had created a more lively rhythm and series of spatial experiences. Some corner buildings had more details, and particular forms. Usually planes of main doors, roofs, or the overall constructions were heightened. Some

tower forms were made for the corner houses acting as landmarks or as an orientation for this area.

Street furniture such as post boxes and street lamps appeared and functioned to mark the orientation of the visitors in the outer ring. Architectural details implemented in the open space were seen in the design of the side walks. The use of different materials and patterns on the pavements, the use of different plants and flowers were applied to distinguish public from private properties but without rigid or solid physical boundaries. Housing units were built with the orientation towards the open space from where the visitors could visually observe the objects in this area without any blockades. Corner buildings were particularly designed to give focal points and a means of orientation at the neighbourhood level. The arrangement of buildings was set to possibly give the best view both from / and to the parcels.

The villa houses in the outer area employed art-deco patterns as can be seen in the geometrical lines on the decorative elements (fig. 4.32. and 4.33.). Premium materials were used for these houses; for example teakwood for main constructions, frames, doors, windows and the elements of interiors, high-quality brick and masonry for the walls, glass and stained glass with fine motives, etc.. Wooden tiles were used for roof coverings in the big houses. In the units for the lower-income inhabitants, traditional elements were used to strengthen the image of native settlements. The attempt to show designs with respect to the context of the tropical climate could be visually captured particularly from the roofs shapes and traditional motives applied on windows and doors. In the gable roofs, the patterns of construction seemingly represented timber houses of the colonialists' home country – the Netherlands. Those houses used composite and wooden panels for the exterior walls, whereas in the interior bamboo walls were also found. Traditional ceramic tiles were used for the roofs in this kampong compound.

#### **4.2.3. Socio-cultural and Economic Characteristics**

The non-physical characteristics in this quarter were not quite different from those in the Gempol area, as this quarter was also designed for housing purposes with homogenous residents; for colonial government officials. Nevertheless, ethnic and social segregation appeared as normal in the colonial housing settlements. Physical designs like the provision of communal open space somehow could be seen as an attempt to narrow the different social classes and ethnic groups in this quarter. The design of neighbourhood seemed to be a successful effort to harmonize the different classes in the society at this time.

Commercial activities were officially not permitted inside the housing units. These activities were only seen in small semi-traditional market, which was built to utilize the dwelling neighbourhood. Public properties such as parks, streets, and other infrastructures in this quarter were completely managed by the city (Dutch government). There was no tenant association or the like even in the lower-income compounds<sup>2</sup>. Therefore, although the inner parts were designed like kampongs, not all of the lifestyle of the kampong society could be adopted, as other activities and organizations were somehow strictly controlled by the Dutch government. In this case, native residents were to go outside the compound to join the other native traditional customs in the kampong areas.

#### **4.2.4. Transformation within the *Houtwijk* Quarter: The Actual Potentials and Problems towards Conservation Efforts**

##### **a. Socio-cultural and economic changes**

Changes in the social, cultural and economic aspects occurring in this area were almost similar to the situation in Gempol. The transformation of ownership is the most influencing aspect generating the changes of the built environment in this quarter. This has started especially after the colonialization era ended. Soon after independence in the early 60's the city government of Bandung issued a program, which allows the residents who have been occupying or renting houses for more than 10 years to apply for the status of "*hak milik*" (free hold right) or "*hak guna bangunan*" (building rights title) for the parcels. For changing the status of the houses, the residents had to apply to the local housing authority, which was in charge of registering and maintaining the ex-colonial dwellings. The applications were sent to BPN (National Land Affair Agency), which decided on and issued the new status of ownership. Unfortunately not many residents, especially the low-income group, had been well informed on how to go through such procedures due to the ambiguity of available information. Therefore, applications to change the status of ownership were mainly made by the higher-grade officials or some private elites who had had more access to get the information and to get through bureaucracy. No strict law enforcement regarding the transfer of the status of ownership has resulted in changes of the ratio in the housing provision for the lower-income inhabitants. Consequently, this quarter is mostly inhabited by the middle – high-income society today. Now more than 50 % of the parcels in this area are privately owned or

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<sup>2</sup> Based on direct interview on site.

have a building rights title<sup>3</sup>. The low-income inhabitants who still reside in this area are mostly holding the “*Hak Pakai*” or Right to Use-Title for their lands. This permit must be extended every two years. However, the deed of restriction is still absent. Therefore, the rights regarding many small houses are sometimes transferred to another higher-income group. Changes in the urban administration system have also changed the social structure of this area, as now the area is divided into different administration units. Zoning is no longer used as a division of the social level and ethnicity of the society. Pressures of domestic and economic development within the population in this quarter have created more spatial demands on the housing units.

Various economic activities have been emerging in the residential area. Commercial activities with the bigger scale investments like hotels, banks, offices, schools, vocational education institutions, restaurants, etc. have appeared along the main outer roads to replace or to add the residential function. The new functions are always followed by physical changes. Not only commercialization, but modernization also has influenced the lifestyles of the inhabitants, i.e. particularly their preferences in architecture.

The new urban culture in this area has also weakened communication among the community members. Although some communal organizations exist they do not optimally function to maintain the bonds among the residents. The participation to maintain the neighbourhood is often delegated to maids or servants working for their households.

## **b. The physical changes**

### **• Land use and zoning**

Following the master plan of Bandung, today Supratman Street becomes one of the secondary main development corridors of Bandung connecting the North Bandung area with the new development node of Arcamanik, where big numbers of housing estates have been built in these last two decades. Ciliwung Street has become an alternative street connecting Supratman Street with two main business cores in the north of Bandung, which are situated along Riau and Dago Street. Good access to main transportation routes, a prestigious location near the governor’s palace, easy access to urban facilities and amenities have positioned the Houtwijk quarter as a strategic area in the inner city of Bandung. Jalan Supratman even has developed like the main development corridor. Consequently land in this area is increasing in price from year to year, and is followed by a raise of taxes for land and building constructions. The fast development, especially commercialization in the outer ring today, not only has created

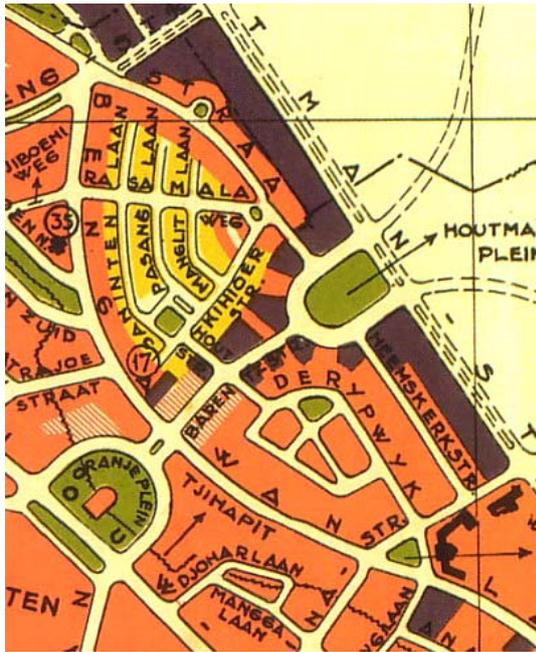
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<sup>3</sup> Based on interviews with the district administration office and some inhabitants who have been living there for more than 30 years.

the outer ring to be a prestigious area but also the entire quarter. Many various new functions are emerging in the inner rings of this area and are mainly responses of the community especially to adjust with an increasing tax. Commercial uses like offices or home offices, small retail shops, home boutiques, cafés, vocational training centres, hotels, restaurants appear to replace or fill in the dwelling units. Although the percentage of dwelling is still considerably high (more than 80%), new uses, mainly commercial ones, have gradually replaced former dwelling uses. Many owners also let the rooms due to economic intentions (fig. 4.36. and 4.37.). Small-scale enterprises are also seen in the former lower and middle-income dwelling units. Nevertheless, it is difficult to get precise data of the number of SME and rented rooms, since most of them are home-based industries and they mostly do not have particular permits to avoid being taxed by the government. The traditional market has been incrementally and gradually expanding. Some of the informal activities also are seen taking part in occupying the public space surrounding the small market area.

Former zoning based on social and ethnic groups is not able to be traced today, as the functions are mixed all together within the neighbourhood. A free housing/land market is unavoidable in this quarter. This situation has allowed the high-income class to occupy and buy parcels formerly allocated to the lower-income group. Based on findings of the survey in this area, taxes and other economic pressures have resulted in decisions to sell or sublet the dwelling units to other parties within the lower-income groups. This transformation of ownership has caused the disappearance of the former composition of the dwelling units. In the outer ring, many houses have been sold to institutions/investors. The new users subsequently have changed many dwellings for commercial purposes. In the inner part, those tendencies are increasing, as shown in the survey on 2004 and 2005 where about 18 dwelling units have been in-filled with new uses, mostly commercial ones, in only a year.

Aside from the transformation of the socially-based structure - zoning system, the basic structure of the 'islands' compound neighbourhood relatively preserves the original morphological feature. Nevertheless, several fusions and subdivisions of parcels have occurred to accommodate new functions, and have consequently influenced harmonious compositions of previous parcels and visual sequences. Unfortunately, the inconsistency in forcing building laws and regulations has failed to control the development in this quarter. The trend of inserting new uses into the residential use therefore keep going on and have even become more uncontrolled from day to day.



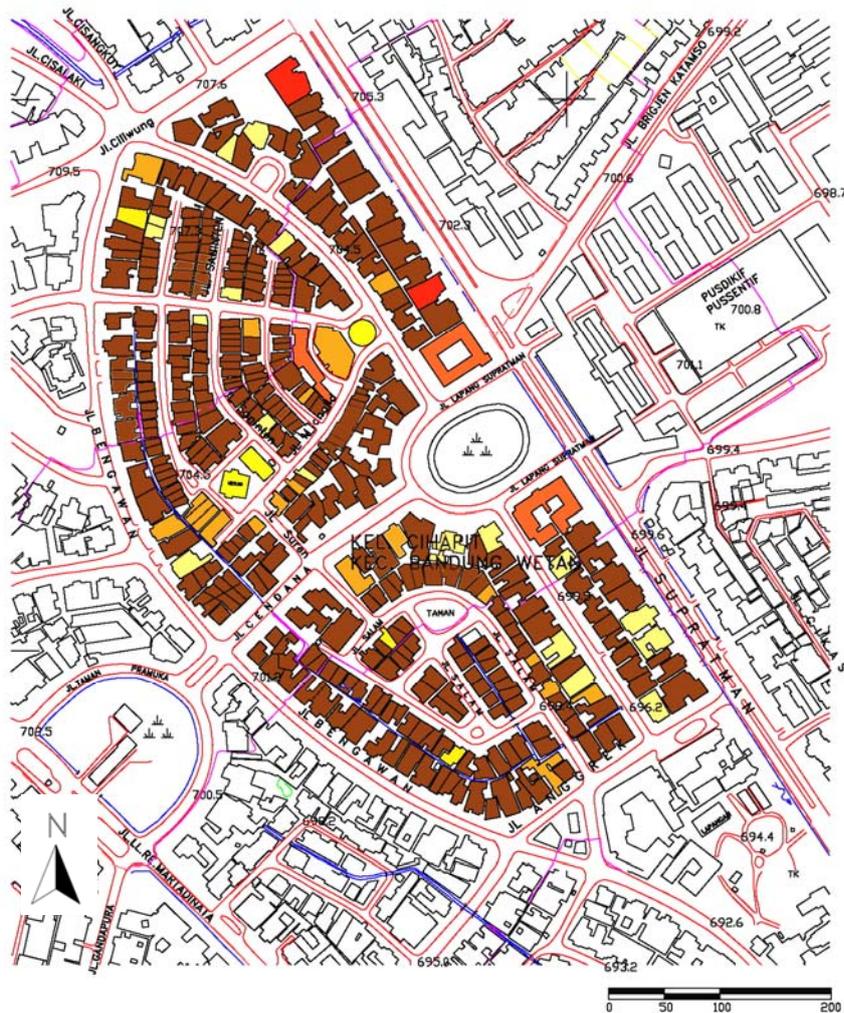
**Legend :**

- Perceelen van het Gemeentelijke Grondbedrijf (parcels for governmental facilities)
- Stenen Bebouwing (Permanent Buildings)
- Kampong
- Platsoon en Openbare Terrein (Parks and Terrain)

**Figure 4.36 : Original Land Use in the Houtwijk Quarter**

This quarter was planned for housing quarter and the status of land was state-owned.

Source: Gemeenteljke Dienst van Stadontwikkeling, Januari 1933.



**Figure 4.37.: Actual uses of Dwelling Units in the Houtwijk Quarter**

Some new functions are added or replace the original uses.

**Legend :**

- Residence
- Shop & residence
- Hotel
- School & vocational education / training centre
- Social facilities (medical service centre& local administration office)
- Private office & residence

- **Land parcelling, typology and structure of streets**

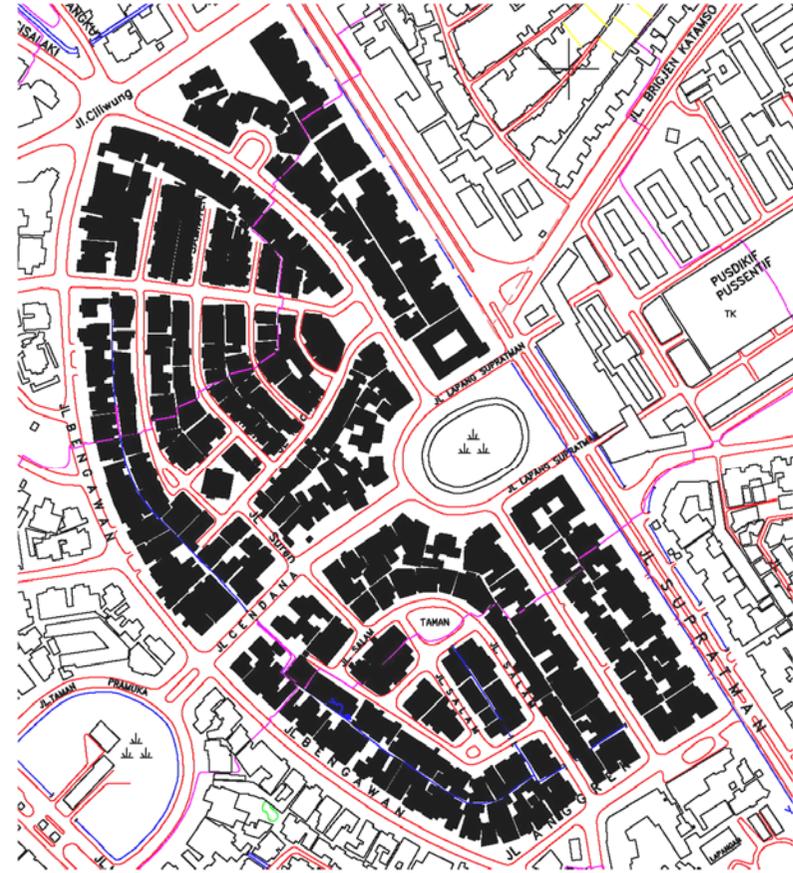
Land parcelling, typology and structure of the streets in this area have been transformed too. Ambiguous regulations in Bandung have also been allowing for transformation of ownership in this quarter. This situation consequently generates changes in the parcelling system as shapes of parcels change due to mergers particularly in the small lots and the subdivisions in the big lots (fig. 4.38.). Parcels in both the outer and inner compound are now defined clearly with fences for security reasons. After several chaotic political situations, especially the incidence of 1998, that has brought ethnic hatred between the natives and Chinese, some of the residents in the inner compounds have started to build massive 2-3 m-high walls encircling their property. Many even build the fences excessively high to reach the front canopy, so that the housing units appear like cages.

Densification has become one of the phenomena particularly in the inner compounds. The ratio of building coverage has now mostly extended to more than 50%, comprising even almost 100% of the total lots in the dwelling units previously allocated to the low-income group (fig. 4.38.). Extensions of buildings occur into all directions and fail to keep building “set-back” lines which were intended for greenery and ecological purposes. Irregular but inharmonious patterns of building forms are now seen as normal performance presenting the visual quality in this neighbourhood. The process of densification is going on as the control of building regulation is inadequate, and has degraded the image of openness in this area. Less percentages of open area also result in more debit of run-off water, which cannot be accommodated by the volume of drainage lanes.

The main street structure is relatively preserved in view of the former forms. Nevertheless, dimensions and designs have changed when observed in detail (fig. 4.39. 4.40., and 4.41.) The main streets of former Houtmanstraat and Ciliwungstraat, for example, have been enlarged and coated with a new hot-mixed surface to accommodate the higher frequency of vehicles that is the result of the change of the new inner-city transportation routes. Barendzstraat (Cendana Street) and Orchideestraat (Anggrek Street) are now widened as some new activities, especially the informal sector, appear in this area. Bengawanstraat, is now often used as an alternative road to reach the other main development corridor along Ahmad Yani Street (previously *Grootepostweg Oost*). This street in the opposite of Cendana and Anggrek Street, remains in its former dimension, although during the peak hours the traffic frequency is heavier compared to



Source: *Dienst van het Gronbedrijf, Gemeente Bandoeng, 1923 and personal interpretations, 2005 – 2006.*



Source: *Personal survey and analysis, 2005 – 2006.*

**Figure 4.38. : Maps of Solid-void Analysis of the *Houtwijk* Quarter**

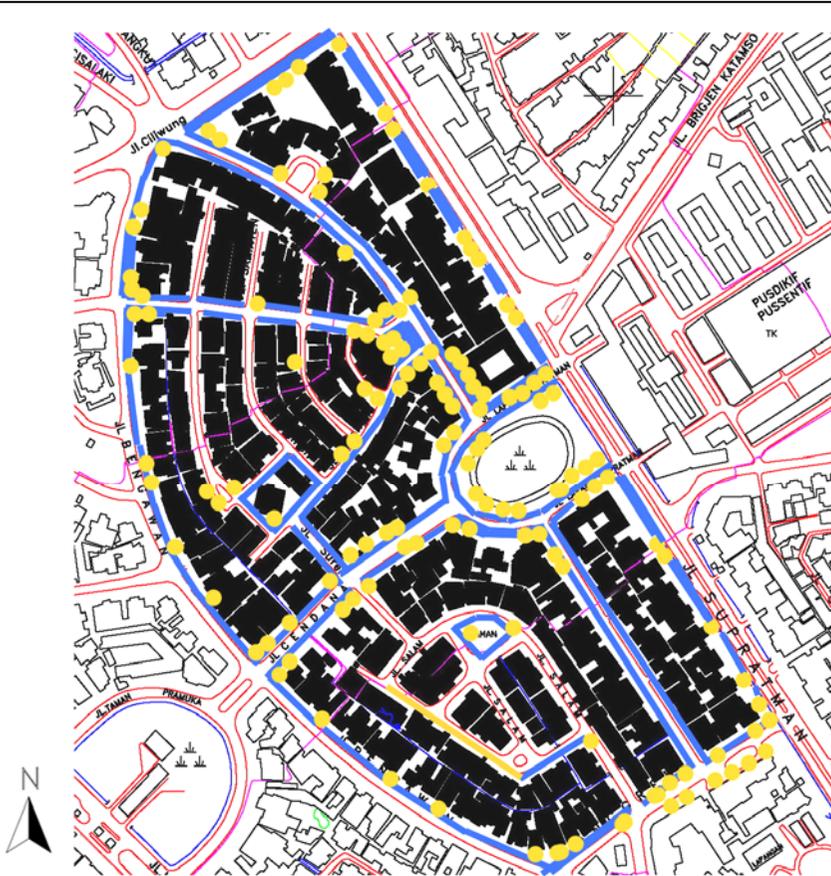
traffic along Ciliwung Street. Therefore, congestions and accidents often take place along Bengawan Street, and mostly happen to pedestrians as there are no sidewalks.

In the inner compounds, the streets have been widened and extended with concrete slabs to cover the sewerage lanes. The loop inside the Salam compound now has become adjusted to two-lane traffic, whereas smaller alleys previously called *laan* have become one-way streets, and the former *wegs* remain as pedestrian paths. The increasing ownership of cars in this area has become a reason to widen the dimensions of the streets to ease the flow of traffic in the compound. Parking has become a big problem not only in the outer but also in the inner roads. Since the streets do not have the capacity to accommodate new functions, parking for offices, restaurants, and hotels are seen to occupy the public realm. The parking problem is increasing in particular along Cendana, Bengawan, and Anggrek Streets. This situation gets worse in the afternoon and evening since there are so many street vendors and food stalls occupying some spots along those streets. In the afternoon, traffic along the streets encircling Houtman plein (Supratman Square) is often worsened by the vehicles from the people who are waiting to pick up their children from the school that is located nearby (4.39. and 4.41.).

Currently, *brandgangs* in this quarter cannot function as intended in the past, as they are mostly closed for security reasons, and the openings are blocked with high walls or fences. Some *brandgangs* are covered or paved with concrete or used illegally as housing extensions. This tendency is increasing as there is no control by the building authority although the regulations have mentioned a certain setback. While transformations in this area are intensive, the hierarchical pattern of streets within the whole city structure is basically preserved compared to the transformations that appear in the housing units.

- **Transformation of dwelling units**

Transformations of housing units are the most obvious aspect to change the image of an architecturally harmonious neighbourhood in this quarter. Although until the end of the 80's units along the outer ring considerably preserved their original forms, the development has started to show rapid changes in these last two decades. Renovation and smooth extensions have been made in the houses situated along the outer ring following new functions added to residential uses. Many buildings also have been demolished and replaced by two-storey buildings. However, some particular orders such as forms and angles of roofs of the villa houses are mostly preserved. Most of the extensions along the outer ring are usually made in the back parts, or right and left of the

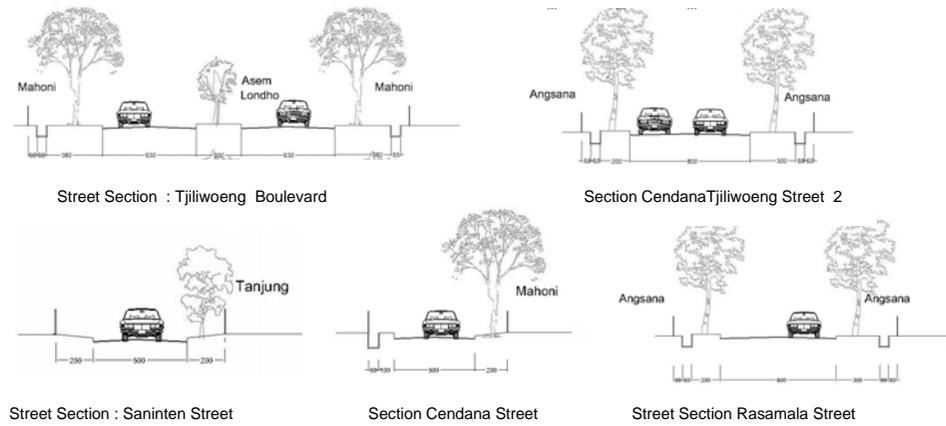


**LEGEND**

- Informal economic activities
- Parking spot

**Figure 4.39. :**  
**Current Street Structure and Locations of Parking Spots and Informal Sector Activities in the *Houtwijk* Quarter**

Source: Personal survey and interpretations, 2004 – 2005.



**Figure 4.40. :** Street Sections in the *Houtwijk* Quarter



**Figure 4.41. Transformation of Streets in the *Houtwijk* Quarter**

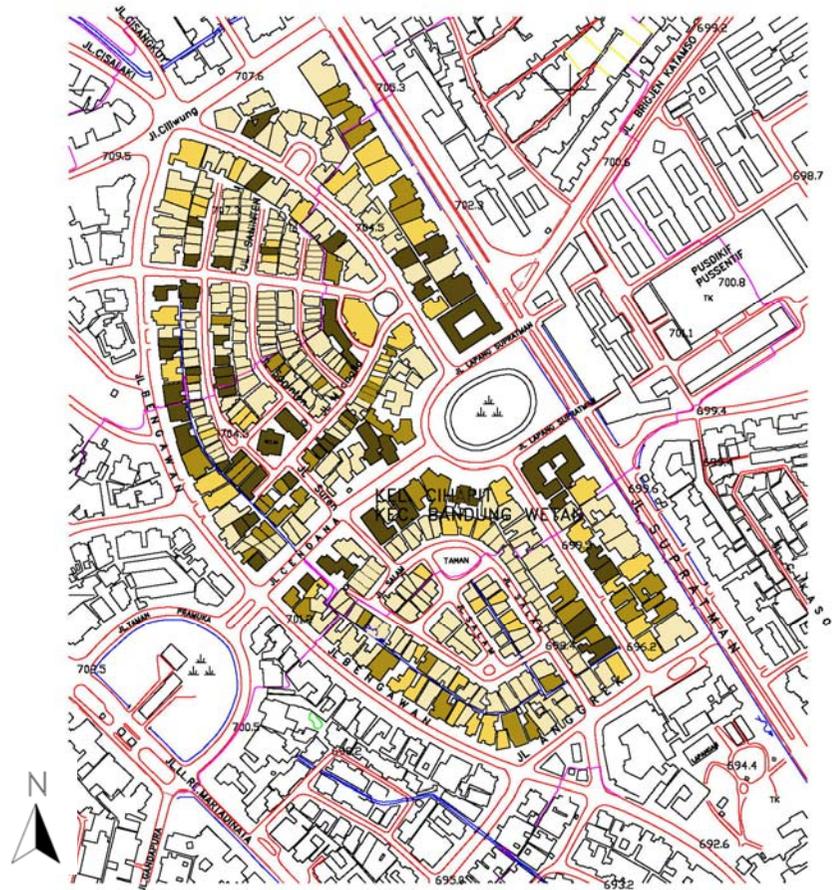
main buildings as wings. Two buildings have considerably new dramatic forms destructing the skyline in this area. These new buildings are hotels with 5 and 8-storey constructions located in Supratman Street. The trend among the inhabitants to build higher constructions especially to accommodate commercial purposes is increasing, as Jalan Supratman is now considered very prospective to develop various businesses (fig. 4.42. and 4.43.).

Besides new preferences of architecture, the new functions mentioned earlier have changed the architectural vocabulary of the dwelling units in this quarter. Such as in Gempol, the use of new materials is apparent in this area. Ceramic tiles are usually used for the exterior such as for façades of offices, hotels and new houses to replace the natural elements, and for maintenance reasons. Decorative elements have been removed and replaced with new ones that are perceived to be more modern - American and Mediterranean styles. Building materials made from metals are often used for the façade of the new constructions. This phenomenon appears more often, particularly in the houses occupied by the Indonesian – Chinese, who have started to be dominant in this area in the recent years.

The degree of architectural transformation in this quarter is relatively high especially in the inner area, as more than 50% of the dwelling units have been changed in their performance or demolished and replaced with new buildings. In the inner compound, the degree of demolition is higher. As shown by figure 4.42., with more than half of the total number of buildings, the façades and forms of the dwellings have been changed considerably<sup>4</sup>. Angles and elevations of roofs have been changed and distract the proportion within the neighbourhood. The extensions are seen both horizontally and vertically. Therefore, the percentage of buildings with more than 2 floors is increasing every year (fig. 4.44. and 4.45.). To provide more space for the family members, rooms are added in the interiors. Although it is stated that each person needs a minimum space of 9 m<sup>2</sup>, there is no certain control on the number of occupants in Bandung, and in Indonesia in general. Therefore, the small and smallest units used for boarding houses are often occupied by 5 more persons. Densification therefore is not only found in the percentage of coverage area but also in the ratio of built area to number of population. New functions have created new building types. Boarding houses, home offices, shop houses, home boutiques, restaurants, guest houses, hotels, offices, and workshops are seen in this area and added to the previous residential use. Those functions usually are

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<sup>4</sup> In the level range of moderate (25% – 50%) to demolition (100%).



Source: Personal survey and interpretations 2004 – 2005.

- LEGEND**
- LOW
  - MODERATE
  - HIGH
  - DEMOLITION

**Figure 4.42 Architectural Transformations in the Houtwijk Quarter**



**Figure 4.43 :  
The Current Visual Performance of the Outer Ring of the Houtwijk Quarter**

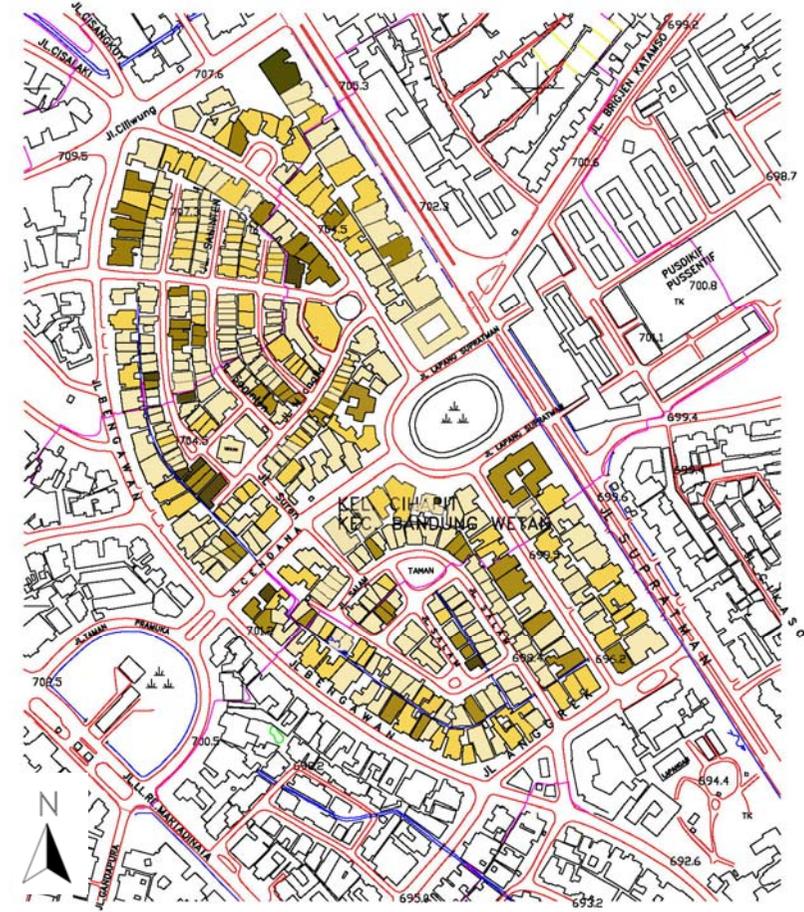


Source: Personal survey, 2004 – 2005.



Source: Personal survey and interpretation, 2004 – 2006.

**Figure 4.44: Verticalization and Skyline in the Houtwijk Quarter**



Source: Personal survey and interpretation, 2004 – 2005.

**Figure 4.45: Number of Floor of the Buildings in the Houtwijk Quarter**

- LEGEND :**
- 1 storey building
  - 1 storey building + 2 storey (extensions at side and back part)
  - 2 storey building
  - 3 or more storey building



Source: Personal survey and interpretations, 2004 – 2005.

- LEGEND**
- Very Good
  - Good
  - In Average
  - Bad

**Figure 4.46. :**  
**Level of Visual Quality Based on Physical Condition and the Use of Building Materials**



Source : Personal survey and documentations, 2004 – 2005.

**Figure 4.47. :**  
**Current Visual Performance of the Inner Enclave of Saninten in the *Houtwijk* Quarter**

injected in the former houses, occupy new extensions of houses, or totally replace the former function.

Houses with pitched or saddle roofs, whose ridges are parallel or perpendicular to the road are the most popular types for new constructions. Terraces and balconies are extended under larger canopies and are often in excess of regulated set-back lines. Flat concrete roofs are seen in some new buildings. Currently, it is rather difficult to distinguish the couple from the single-detached houses, as the shape of parcels and roofs which formed the rhythm in the past gradually disappears (fig. 4.44., 4.47. and 4.48.). The image of an unplanned and incrementally developed urban kampong is emerging in the part allocated for smaller units due to densification, uncountable house forms, and overpopulation. A small part of the inner compound in Baros and Rasamala Street, where sanitation aspects are rather neglected, is even heading towards a slum, .

- **Transformation of open space**

The transformation of open public space is critical in this area. Although some big old trees mostly remain along the main outer road, the area for urban greenery is lessening due to the expansion of pavements and building developments especially in the inner quarter (fig. 4.49.). Massive brick walls or metal fences are used to define individual properties and to replace vegetation. The backyards are mostly blocked by 3 m-high walls, and the side perimeters are bordered with 1 – 2 m high walls. Accesses or openings to the *brandgang* are mostly closed, thus there is no possible contact with the neighbours from the back part. *Brandgangs* which were formerly used for sanitation and security purposes are mostly occupied by extensions of houses.

Parks in the inner compound of Saninten gradually disappear due to the construction of new social facilities. A mosque has appeared in former Sanintenplein, and in former Orchideeplein some control boxes for electricity have been constructed. Houtmanplein has been changed into a sports court. Some small nodes that formerly functioned as a green space have been replaced by a neighbourhood's administration office and guard stations. The maintenance of the parks is inadequate, as some old trees are left without being trimmed or replanted. The growth of informal activities is critical. Their activities appear to occupy parks in the inner compound around the shop houses, and along the ring of Houtman, Orchidee, and Orangeplein. Temporary traditional markets have appeared in this area and extended the number of street vendors. Occupation of public open space mainly as a parking area is made by the inhabitants in the inner compound, since they do not have the space to accommodate vehicles inside the parcels.



Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.48. :**  
**The Current Visual Performance of the Secondary Street of Saninten in the Houtwijk Quarter**



Source: Personal survey and interpretations, 2004 – 2005.

**LEGEND :**

- Vegetations

**Figure 4.49. :**  
**Placement Vegetation in the Houtwijk Quarter**

The placement and categories of vegetation are not defined in this quarter today. The residents have the freedom to plant anything. Big fruit trees often appear in the front yards and block the views from other units. This fact does not become a serious problem as long as it doesn't bother other residents, although regarding the previous landscaping orders this considerably distracts and violates the harmonious visual sequence aimed for by the concept of the garden city.

- **Transformation of infrastructure and utilities**

The infrastructure and utilities of this neighbourhood remain the same like in colonial times except for the supply of gas. Former networks are maintained and extended by the local government to accommodate new demands. However, due to the fast growing number of population the capacity of infrastructure has become inadequate and has created some problems, especially regarding the supply of water and electricity, capacity drainage and sewerage.

The garbage collecting system is organized locally, yet there are not enough temporary pools or containers. Excessive volume of waste is often dumped near the traditional market, which in fact has risked the hygiene of the environment and deteriorates the visual quality of this neighbourhood.

- **Transformation of other urban architectural characters**

Orientation and skyline within the neighbourhood are another big concern. The orientations of parcels and buildings both in the outer and inner rings are relatively conserved in their previous orders. The skyline, however, has changed due to the changes of the buildings' heights and forms. The previous rhythm can still be observed in the outer rings as subdivisions and mergers of land parcels do not occur dramatically and the new roof shapes are made by reproducing the old types. Many inhabitants who have changed the functions of their residences put up billboards which sometimes cover the façades of the buildings. Many are made disproportionately, as the regulations, which order size/dimensions, forms, colours, etc. for hoardings are still missing.

#### **4.2.5. The Gempol and Houtwijk Quarter; Threats and Potentials**

It is evident that the Gempol and Houtwijk quarter have to face some challenging development phenomena due to the shifting values and socio-cultural structure in the society, and the rapid growth of population. The considerably homogenous population per occupation now has been replaced by a heterogenous one. The new mixed social levels of inhabitants have diverted from structured zoning and orders in these quarters, following the free land market. Although the functional changes are still insignificant,

development pressures penetrating these areas have been alarming. Following the fast functional transformations, intensification of the use of land has sped up the densification of the built area horizontally and vertically - degrading the environmental quality, especially in the inner parts of these quarters. The hierarchical concept in terms of physical features is gradually disappearing in both neighbourhoods. The new demand of space to accommodate new functions has to be considered in the implementation plan for these areas, especially when those new functions are not suitable with the former building types. The environmentally-based zoning system must be put as a main consideration, thus zones must be defined with details of permitted uses.

The changes of parcel sizes due to the demand for space might further result in the changing of the structure of the neighbourhood which was a unique one. The concerns for creating a healthy environment are decreasing, as in most of the cases the extensions of buildings both vertically and horizontally rather disrespect the environmental quality, not to mention the visual-architectural. The violations of former architectural orders also are increasing from time to time. This has resulted in the deterioration of the visual quality of these quarters. The characters of the kampong neighbourhood, with the adoption of tropical context and innovation in constructions and the use of materials in the inner compounds in both areas, are disappearing by degrees. A new building and dwelling typology has occurred in a wide range of architectures in both areas. This situation could be assumed to enrich the architectural vocabulary in Indonesia. But in fact, due to the lack of adequate orders and control, such conditions even destroy the townscape and visual quality. This trend will continue to happen if detailed regulations concerning land use, land parcelling, building codes and regulations are still absent.

To maintain the continuity or analogy of the former architectural vocabulary and structure in these quarters, building codes and regulations must therefore have the ability to foster former significant characteristics. The key elements such as building types and architectural details, the rustic details creating kampong atmosphere for the lower income dwellings, the roof shapes, and the use of terraces can be replicated or modified for the new building types following their new uses. In the neighbourhood level, the regulations shall have the capability to create the harmonious connection between the commercial uses and the existing dwelling settlements. In urban architectural terms, these must have the capability to create serial sequences and a good visual quality. Therefore planning interventions such as land parcelling, setbacks, FAR, BC, facades (colour, material, signage, etc.), have to be strictly regulated in detail.

These two quarters are definitely still accepted as good inner-city dwelling neighbourhoods. The main structures in both locations still remain, and being two unique forms they need to be preserved within the townscape. Regardless of the fact that commercialization put a lot of pressure on both areas, the survey in 2005 has attested that more than 78% of the inhabitants prefer to keep these quarters as a residential area and preserve the image of a green and organized neighbourhood. Solutions for illegal occupations and constructions have surfaced among the inhabitants when they were questioned about their perceptions of an ideal comfortable environment. Since the illegal occupations are mainly conducted by the poor living in the inner parts of both quarters, their presence hence should be considered. As long as their existence can support other activities in these neighbourhoods, they should be accommodated with more proper facilities. The renewal programs for their locations can be done to avoid a further slumming process. This also means to preserve the socially mixed concept that formerly existed in these quarters. The percentage of green open space also should be preserved to sustain the image of a green neighbourhood besides ecological purposes.

**Table 4.3.**  
**Demographic Data, Non-Physical and Physical Characteristics of Houtwijk Quarter**

No:	Category			
	<b>Non-physical Characteristics</b>			
<b>1.</b>	<b>Occupation of the head of households*</b>			
	Government Officers (8)	16.0 %	Medical Doctor & Apothecary (2)	4.0 %
	Technician / Artisan / Driver (4)	8.0 %	Small Scale Business Owner (4)	8.0 %
	Employee of private enterprises (12)	24.0 %	Medium Scale Business Owner (4)	8.0 %
	Teacher / academicians (3)	6.0 %	Contractor (2)	4.0 %
	Artist (2)	4.0 %	Pensioner (8)	16.0 %
	Lawyer / Notary (1)	2.0 %		
<b>2.</b>	<b>Status / title of Land*</b>			
	Owned / freehold ( <i>hak milik</i> )	20.0 %	Occupation right ( <i>Hak pakai</i> )	6.0 %
	Building right ( <i>hak guna bangunan</i> )	64.0 %	Rented	10.0 %
<b>3.</b>	<b>Income / month of the head of households*</b>			
	0 – 500,000	0.0 %	2,000,000 – 5,000,000	48.0 %
	500,000 – 2,000,000	36.0 %	> 5,000,000	16.0 %
<b>4.</b>	<b>Education of the head of households*</b>			
	>Elementary School	0.0 %	High School	28.0 %
	Elementary School	2.0 %	College / University	56.0 %
	Secondary School	6.0 %	> University	8.0 %
<b>5.</b>	<b>Duration of Living*</b>			
	0 – 5 years	8.0 %	20 -30 years	30.0 %
	5 – 10 years	12.0 %	> 30 years	24.0 %
	10 – 20 years	26.0 %		
<b>6.</b>	<b>Ethnic / Nationality*</b>			
	Indonesian origin	84.0 %	Indonesian Chinese	16.0%
<b>7.</b>	<b>Population density*</b>			
			169 p / km <sup>2</sup>	
	<b>Average Persons / Household*</b>	6.9 p / hh	(343 persons in 50 units range from 5 – 11 p/hh)	
	<b>Population by Age</b>			
	0 - 15 years old (47)	13.7 %	30 – 55 years old (96)	27.9. %
	16 – 30 years old (128)	37.3 %	> 56 years old (72)	21.1 %
<b>8.</b>	<b>Average Land Price per m<sup>2</sup>**</b>			
			1.0 – 5.0 million rupiahs / m <sup>2***</sup>	
	<b>Physical Characteristic</b>			
<b>9.</b>	<b>Original Building Typology</b>			
	Big size single detached villa house / bungalow		Small - medium size single detached	
	Single detached medium size semi villa		Row house 4 – 6 Units	
	Twin (couple house)		Shop house	
<b>10.</b>	<b>Total Parcels</b>			
	Original number of parcel	170 units	Current observed parcels	329 units
	With 17 large blocks of open compounds consisted of row and twin (couple) houses		Plus 2 public building and 4 Unit Shop House	335
<b>11.</b>	<b>Current Building Usage</b>			
	Residence & Boarding House /rented rooms (285 units)	85.9 %	Mixed with shops, café, warung, home industries (22 units)	6.6 %
	House and office (16 units)	3.6 %	House& Doctor Practice / Drugstore (1 units)	0.6 %
	<b>Commercial</b>			0.6 %
	Hotel (2)			
	<b>Social / Public facilities</b>			
	Gov. Administrative Office & community health centre	4	Kindergarten & School (3 unit)	3
	Small traditional market / bazaar	1	Mosque (1 unit)	1

<b>12.</b>	<b>Parcel Size</b>			
	0 m <sup>2</sup> – 120 m <sup>2</sup> (146 units)	43.9 %	201 m <sup>2</sup> – 400 m <sup>2</sup> (77 units)	22.9 %
	121 m <sup>2</sup> – 200 m <sup>2</sup> (73 units)	21.8 %	>400 m <sup>2</sup> (39 units)	11.4 %
<b>13.</b>	<b>Building coverage (current situations)</b>			
	<30% (0 units)	0.0 %	51% - 70% (125 units)	37.3 %
	30 – 50% (21 units)	6.3 %	71 %- 100% (189 units)	56.4 %
<b>14.</b>	<b>Percentage of Public Open Space incl. Street</b>			+ 30 %
<b>15.</b>	<b>Condition of Building based on quality of materials</b>			
	Very bad – bad (64 units)	19.1 %	Good (148 units)	44.2 %
	Moderate / average (96 units)	28.7 %	Very good (27 units)	8.0 %
<b>17.</b>	<b>Architectural key elements</b>			
	<b>Roof shape</b>			
	Pitched roof		Hipped roof	
	Pitched with gable		Mansard	
	Half circle over porch		Combinations	
	<b>Former architectural styles</b>			
	Art - deco		Modern housing style	
	Rustic details adopted from West-Javanese local house		Houses with Dutch country house pattern ( <i>fachwerkhaus</i> )	
	<b>Other significant elements</b>			
	Veranda / Terrace		Balustrade with traditional motives	
	Stained glass with motives in big villa houses		Wooden tile for roof cover	
	Rustic motives for ventilation and openings		Tower	
<b>18.</b>	<b>Condition of Building based on the architecture transformation</b>			
	0 %– 25% (low) – 47 units	14.1 %	51% – 75% (high) 47 units	14.1 %
	26% – 50% (moderate) – 45 units	13.5 %	76% - 100% (demolition) 196 units	48.4 %
<b>19.</b>	<b>Location of informal sector (due to existence of traditional market)</b>			
	Small scale	131 spots	Big scale (semi permanent market)	1 spot
<b>20.</b>	<b>Valuable Building / Monument</b>			
	Dormitory House / monastery - Jl. Angrek 60		Ursulinen Monastery / Catholic school	
	House - Jl. Bengawan 25			
<b>21.</b>	<b>Particular vegetations</b>			
	<i>Asem Londo</i> or Manila Tamarin ( <i>Pithecellobium dulce</i> ) along boulevard of Ciliwoeng street		Asam (Tamarin) in inner square and parks and along Bengawan and Supratman	
	Banyan tree ( <i>Ficus bengalensis</i> ) in square & parks		Mahogany in Bengawan, Cendana & Angrek, Supartman street	
	Acacia ( <i>acacia mearnsii</i> ) in parks		Eukalyptus ( <i>Eukalyptus</i> ) along Ciliwoeng street	
<b>22.</b>	<b>Other Characteristics</b>			
	<b>Others :</b>			
<b>23.</b>	<b>Willingness for Participation</b>			
	Agree	92.0 %	Don't know /don't understand	8.0 %

Notes :

\*Questionnaires from 50 persons living in *Houtwijk* Quarter. Survey was done in year 2004 - 2005

\*\* Population density is assumed as ratio of inhabitants living in 22 parcels (random) in this area

\*\*\* EUR 1.00 = IDR 11,000

### **4.3. CASE STUDY III: Arjuna Quarter; an Industrial Dwelling Quarter in a Green Environment**

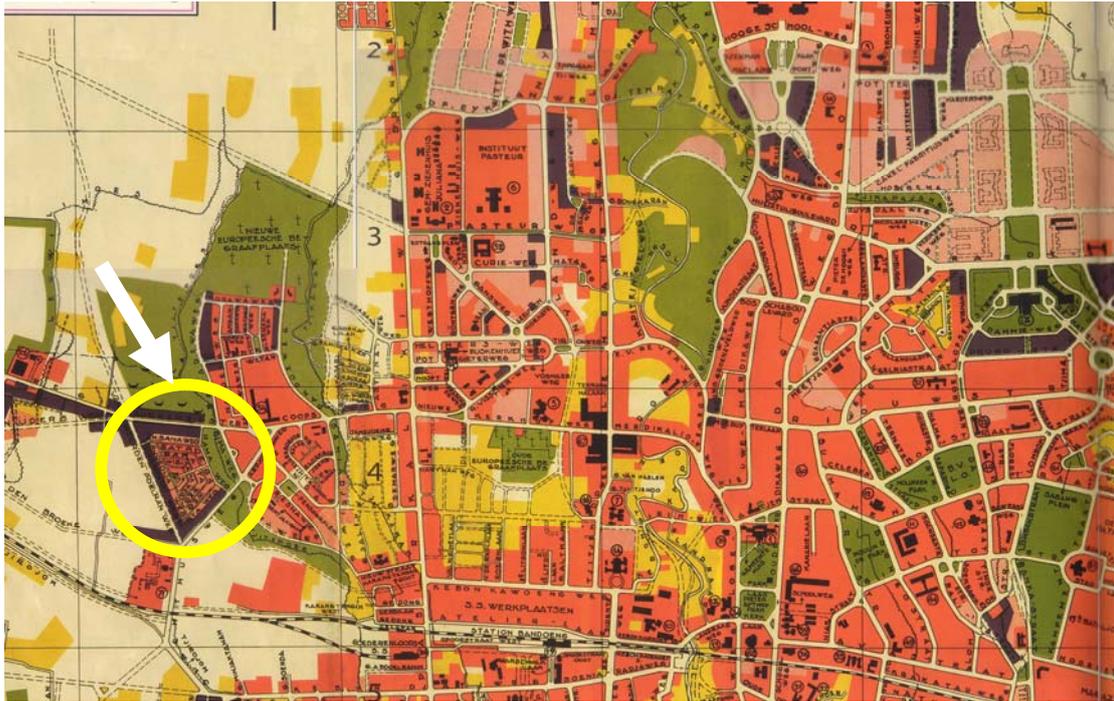
#### **4.3.1. Introduction**

Industrialization was a key feature of the political process of colonialism. Like other colonists, Dutch colonial government brought its influence to Indonesia including the city of Bandung as a potential area for gaining more profit from the industrial sector. This western industrialization had so far had some impacts on the physical structure of the city. In Bandung, some industrial estates were built whereby some were located in the countryside/rural area mixed with farming/plantation activities which were mostly characterized by “*landhuizen*”, and kampongs-alike settlements. The settlements were designed with modern planning. Some were located at the urban fringes with urban housing units to be utilized in accommodating the people who worked in those industrial estates. Building technology and material, design of the dwelling units, and planning of this area, which were considered innovations of this period, were introduced in these settlements.

#### **4.3.2. The Position and the Role of the Case Study within the City**

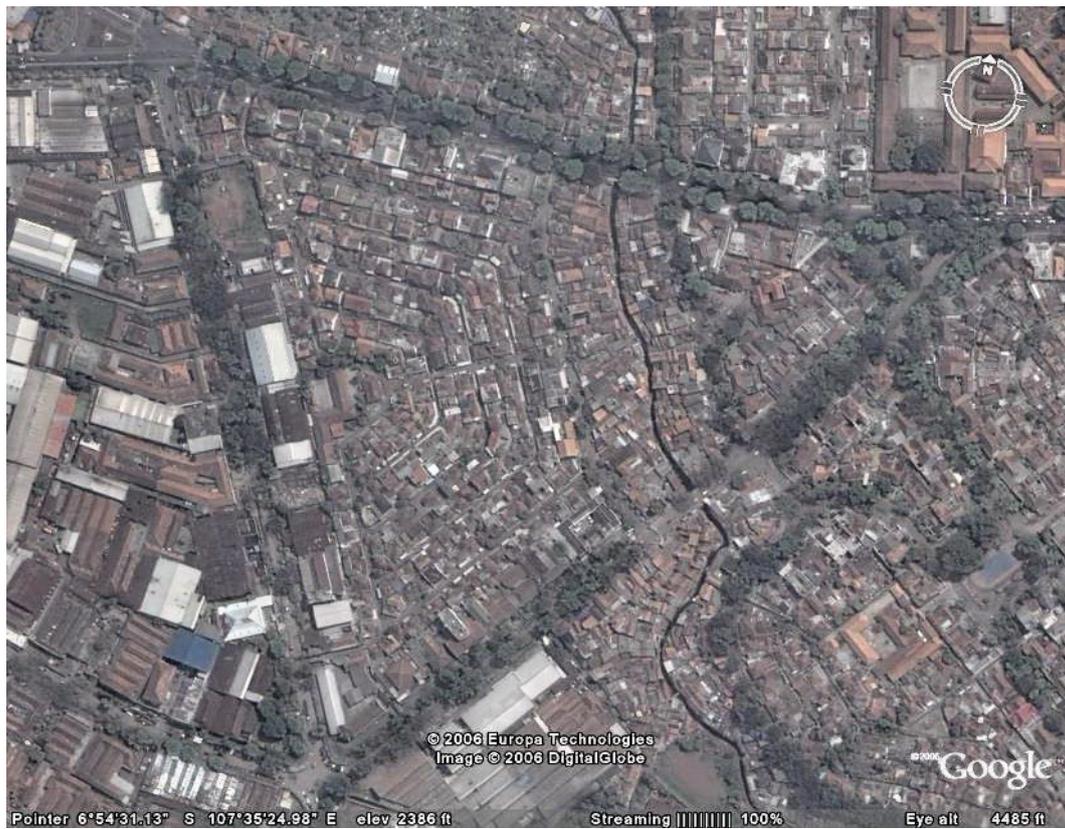
One of the industrial quarters located in the Bandung urban area was the Arjuna quarter. This complex had an interesting design concept as an integral part of the “*Uitbreidingsplan*”, which implemented the ideas of the garden city. This quarter is located in the eastern part of the extension area of North Bandung. The housing complex with an area of about 12 hectares was built in 1932 on an open vacant area between the crossroads of *Farman weg* (now Padjajaran street) and *Planthuis weg* (now Arjuna Street) as a part of the of industrial estate facilities. (fig. 4.50 and 4.51.). The plots were owned by the Dutch government. It contained plots for factories, small to large manufactures/enterprises. Dwelling units were also built to accommodate the low and middle-ranking workers of many Dutch industries surrounding this area, and for those who worked at the nearby airport.

Historically, the Arjuna quarter was one of the first small-scale modern housing development projects built in Bandung, called “*fokkerhuis*”. This complex was planed not only to provide shelter for urban citizens - especially the lower – middle class, but also for the pilot project of affordable small housing projects in Bandung. Besides Arjuna, some other similar projects were built in Bandung such as Astana Anyar, Tjihapit, Teloekboejoeng, and Gempol. This effort was considered very new in this era.



Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.

**Figure 4.50. : The Location of Arjuna Quarter within the Old Plan of Bandung**



Source: Image©200, DigitalGlobe©Europa Technologies, Google Earth 2006.

**Figure 4.51. : Aerial Photo of the Arjuna Quarter**

Initially, the Arjuna quarter was built for and served the industrial workers of the bread and meat factory called Merbaboe, which was located in the vicinity of the industrial estate. The land could be rented for a duration of 1 – 10 years. The Dutch government still intended to keep the status of the land as state-owned in order to facilitate control of development, particularly of the land speculation that was thriving in the urban development area. Apart from the land, dwelling units could be privately owned by paying instalments of 2000 – 2500 Gulden for the small house types, whereas the units with a bigger size along the outer streets were priced at above 10,000 Gulden. Despite the fact that the complex was provided for the lower-income people, it was still considered very expensive at that time.

Bandung was separated into two parts as the result of the resolution between the alliance and the government of the newborn country. The northern part of Bandung was then occupied by the alliance troop and the southern by the Indonesian army. But the Dutch using alliance forces tried to regain their power in Indonesia and they also tried to retract the southern part of Bandung under their authority. Due to this second aggression, known as “*Bandung Lautan Api*”<sup>1</sup>, the hard clash occurred as the natives living in the south together with the army tried to defend themselves against the Dutch and the alliance troops. During this period, many of the Dutch inhabitants in the Arjuna quarter were forced to move back to the capital city, Batavia. This quarter was then used as a temporary site for the Indonesian injured army and refugees until 1949. Due to the unclear and uncertain development in planning and management, many houses were transferred into private property; both legally and illegally which has been the case to date.

The description and promotion of “*Uitbreidingsplan Bandung Noord*” with its garden city concept as an ideal planning of a settlement was frequently mentioned during the Dutch colonial era whenever new districts were developed. The interesting challenge in this case was the application of the principles in the implementation stage so as to link up the picturesque and the former morphological notion with the different or particular functions of the districts / quarters in the urban area. For maintaining the harmony in the skyline of the neighbourhood, different design principles of the garden city were also embraced.

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<sup>1</sup> Bandung was called “*Lautan Api*” or the sea of fire since the southern part was totally destroyed by fire.

### 4.3.3. Physical Characteristics of the Neighbourhood

#### a. Land use and zoning

The Arjuna quarter could be distinguished as an island within the city of Bandung and within the surrounding neighbourhoods, which functioned as industrial zones. This quarter basically consisted of three zones (fig 4.52.). The first zone was residential, acted as a core area in the middle of the enclave. The second zone contained parcels along the outer ring of Arjuna Street, and was intended to accommodate industrial facilities such as offices, medium / large-scale manufactures, enterprises, and warehouses. The third zone was allocated for communal facilities such as parks and greeneries as nodes to dwelling to give accents to the neighbourhood. The integration of a big park together with a river Citepus in the middle gives the impression of a natural landscape and strengthens the image of the “garden city”.

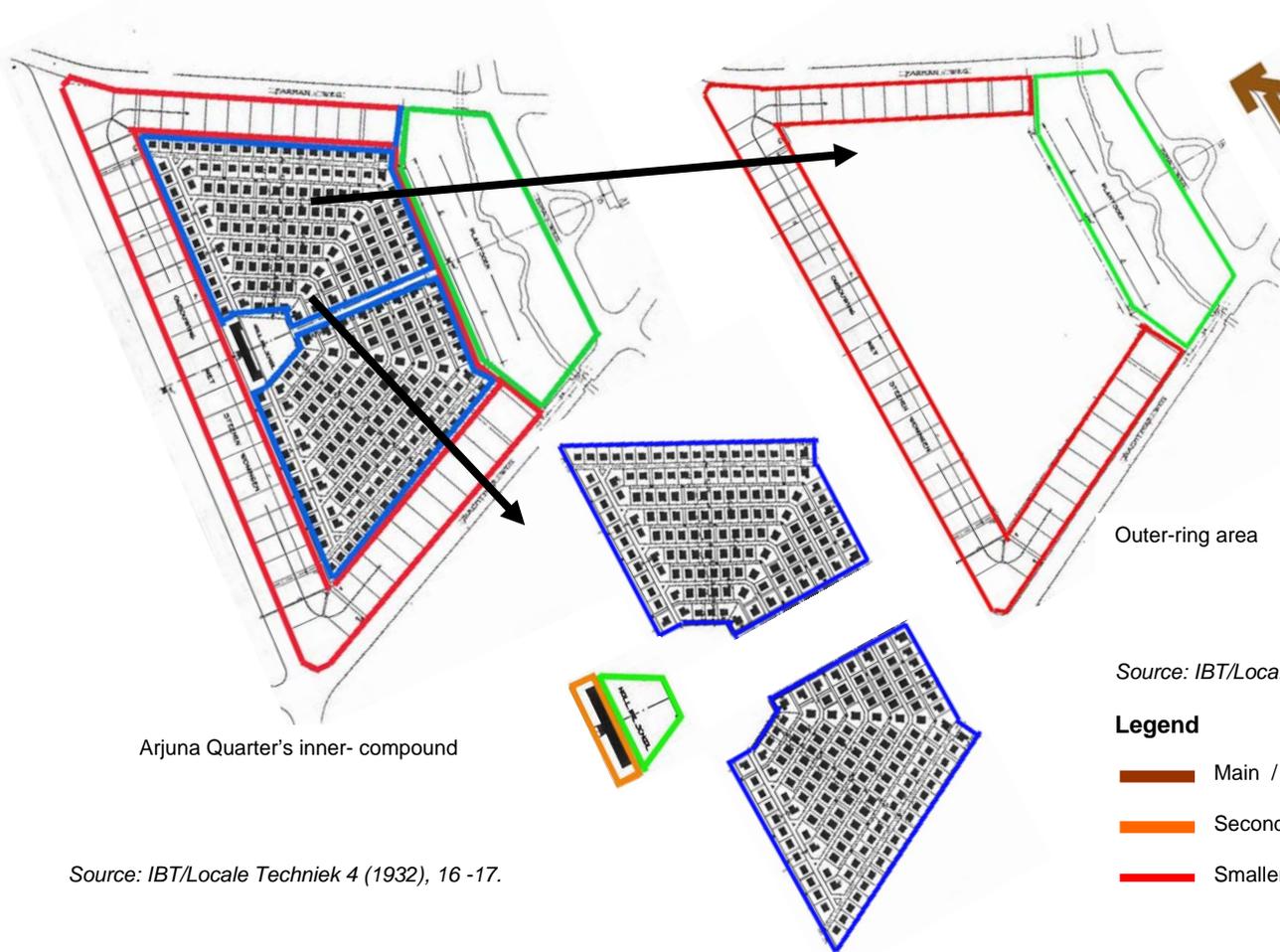
#### b. Land parcelling, typology and structure of the streets

A well-ordered land parcelling system was also applied in the site planning, which was considered new in Indonesian city planning in this period. Dwelling units with a bigger size of  $\pm 300 - 800 \text{ m}^2$  with a maximum width of  $\pm 20 \text{ m}$  of the front parcel were situated along the outer part, whereas smaller units of  $\pm 80 \text{ m}^2$  with a front width of  $6 \text{ m}$  were applied for *kleiningsbauw* located in the inner enclave. The main objective of this order was to create a better visual image of the neighbourhood compared with low-income housing quarters.

This quarter was planned as a low-density neighbourhood, and was intended to create a mixed healthy industrial estate and housing environment<sup>2</sup>. Building coverage ratio (BCR), floor area ratio (FAR), as well as the buildings' set back line were strictly implemented in this area so as to maintain the image of a garden city. The building coverage ratio of 40% - 50 % for example was strictly enforced in the building regulation to maintain the density and the hygiene of this area, especially to optimise the use of natural lighting and ventilation. Moreover, it was only allowed to build a maximum of one floor/a one-level house for the smaller units and a maximum of two floors/a two-level house for the units in the bigger parcel but only along in the outer ring. This consideration was also set in the implementation plan since the quarter was also situated in the restricted flight area (fig. 4.52).

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<sup>2</sup> The smaller dwelling units were also built as a response of F. Tillema (Dutch colonial Ministry of Public Work in Indonesia) to the crucial issue of the pest epidemic spreading out in the urban quarters in Bandung in this period.



Arjuna Quarter's inner-compound

Source: IBT/Locale Techniek 4 (1932), 16 -17.

Figure 4.52. : Zoning and Structure within the Arjuna Dwelling Quarter



Outer-ring area

Source: IBT/Locale Techniek 4 (1932), 16 -17 and personal interpretations.

**Legend**

- Main / primary road
- Secondary street /straat
- Smaller secondary street
- Neighborhood road/ weg
- Smaller neighborhood road/ laan
- brandgaang

Figure 4.53. : Street Typology and the Hierarchy in the Arjuna Quarter

Similar to those in other quarters in the Northern Bandung, this quarter was designed using the outer-inner environment concept as a strategy to enhance the visual quality of the neighbourhood. The outer ring concealed the small dwelling units in the inner part so that they cannot easily be seen directly from outside. This was also aimed at strengthening the image of the industrial district to quick observers when viewed along Arjuna Street, and an elite look was desirable in contrast with the appearance of the dwelling neighbourhoods in the other outer rings of the low-ranking workers. The inner compound was separated from the outer one with about 2.5 m-high backside walls and a 2-3 m-wide *brandgang*.

Not like other dwelling quarters within the garden city of Bandung, the Arjuna dwelling complex obviously shows a more dominant geometrical structure with a combination of a symmetrical and an axial form. The inner area was comprised of some islands in a geometrical pattern with a very strong axis, which divided the dwelling neighbourhood inversely along Dasarata Street. The leaf branch-shaped alleys additionally strengthen the geometrical structure, and form a strong flow in the spatial organization and orientation in this quarter. The dwelling units were positioned “back to back” with the front corridor as the main orientation, whereas in Dasarata Street, houses faced the strong middle axis. Open spaces acting as nodes also strengthened the geometrical structure in the Arjuna quarter. This pattern was moreover utilized with a well-planned infrastructure. Hence this quarter was considered a unique one as compared to other dwelling quarters in the garden city of the North of Bandung.

The hierarchical concept, which was one of the principles of the grand design of the city, was consistently applied in street types and dwelling units in this quarter (fig. 4.53.). The outer ring was formed by the main streets of *Van Weerden Poelman Weg* (now Arjuna Street), *Farman Weg* and *Planthuis Weg* with factory buildings along those streets, whereas on other side it was bordered by a *platsoen* (big park) along *Bima Weg*. Although the construction of this quarter was already initiated in early 1920, the structure of the streets was actually developed in some phases. In 1926 the *Burgermeester Coops Weg* was constructed, followed by Arjuna Street. This structure was not changed as can be seen in the development map of the North of Bandung in the year 1931 and 1938. The triangle shape and the inner-street structure were first completed in 1954.

The dwelling quarter consisted of many types of streets and residential units. The narrowest street called *Brandgang* was situated along the back edge of the house, which functioned as a fire and utility lane, as a property border for each parcel unit and fulfilled hygiene purposes (to control sewerage and domestic disposals). Like in other quarters,

this lane was also used as a side entrance for maids and servants; therefore it socially functioned as an active space particularly for these lower class workers.

The streets were hierarchically classified into three levels and the design was followed by the types of dwelling units (fig. 4.53.). The loop design implemented in this quarter was intended to manage the pattern of circulation in this area. Streets and drainage lanes, especially those placed openly in the front of the parcels, were designed as a means to control the extension of the houses.

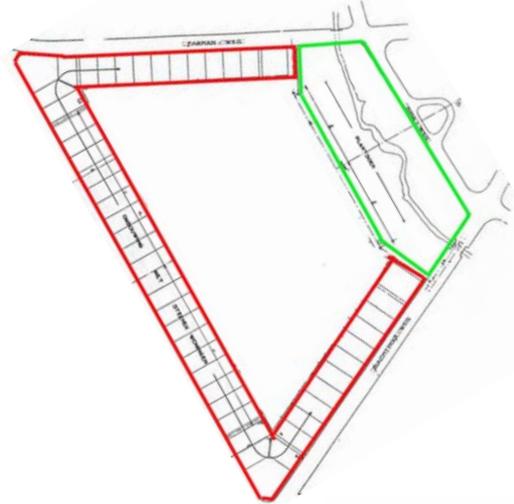
The main streets were about 6 m wide (inter district street) and sited along Van Weerden Poelman Weg (now Pajajaran Street) and Arjuna Street. Secondary streets such as Dasarata, Laksana, Ayudia, Shinta and Rama Street were about 4 m wide and functioned as inter-neighbourhood linkages. Tertiary streets (neighbourhood streets) were about 2.5 m in width sited along Satrugna, Bharata and Wibisana Street. These streets can only be accessed by pedestrians and two-wheelers. The dwelling units along these streets are the smallest among those in this quarter but the smallest types with a parcel size of 80m<sup>2</sup> are sited along Bharata street.

### **c. Typology of dwelling units**

The housing types were hierarchically classified into some category following the hierarchy of the streets. The loop design implemented in this quarter was intended to manage the pattern of circulation in this area. Streets and drainage lanes, especially those placed openly in the front of the parcels, were designed as one of the means to control the extension of the houses.

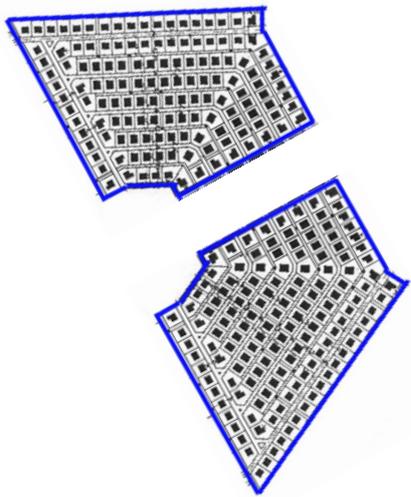
Along the main streets of Van Weerden Poelman Weg (now Pajajaran Street) and Arjuna Street, dwelling units were villa types which had around  $\pm 300 - 800 \text{ m}^2$  area (fig. 4.54.). These functioned as residential units for the higher-ranking employees. Along the other main street of Aruna, medium and big enterprises and some buildings with industrial function were situated on big land parcels of about  $\pm 3000 \text{ m}^2$ . Both the industrial buildings and the residential ones were architecturally characterized by the art deco style, from a simple one with just a few ornaments to those which had a very obvious art deco language and lines. Two buildings, the bread factory and *abattoir* (slaughter house) were designed by the famous Dutch Architect AF Albers (4.54.).

The medium - large dwelling units were located along the secondary street of Laksana, Ayudia, Shinta and Rama. The dwelling units along Dasarata Street functioned as residences with a parcel size of  $\pm 100 \text{ m}^2$  and a front length of  $\pm 10 - 16 \text{ m}$ . They were mostly corner buildings, with the special design of a 2-sided façade and special building



**Figure 4.54. :**  
**Typology of Dwelling Units in Outer Ring Area of the Arjuna Quarter**

Source: Personal survey and interpretations, 2004 – 2005.



Source: IBT/Locale Techniek 4 (1932), 16 -17.



Source: IBT/Locale Techniek 4 (1932), 16 -17 and personal survey/interpretations, 2004 – 2005.

**Figure 4.55. :** **Typology of Dwelling Units in the Inner-enclave of Arjuna Quarter**

forms, and were more than other dwelling types along the row of the street corridors exposed. Couple (twin) houses were situated along Laksana Street, with a front length of  $\pm 12$  m. The houses sited along Ayudia Street were single-detached houses with a  $\pm 12$  m front length of the parcels (fig.4.55.). Smaller dwelling units were located along the tertiary streets (neighbourhood streets) of Satrugna, Bharata and Wibisana, whereas the smallest types in this quarter where parcels where not more than  $80\text{m}^2$  were located along Bharata Street.

The Arjuna quarter had a rustic and harmonious architectural style. The factories and industrial buildings in the outer ring along Arjuna Street were also decorated in the strong art deco style. Simple art deco style was applied in the middle large houses, whereas simple ornaments were found in the smaller dwelling units. This could be considered as a good effort to give low-income housing an architectural touch instead of having a plain mass of housing which was normally seen in other industrial colonial quarters. The richness and detail of the ornaments in the dwelling units within this quarter were also designed hierarchically, the bigger the units the more the details they had.

The concept of the kampong was brought in this quarter, but with hygienic aspects and an international standard of design for housing like those in the modern housing concept. This was considered new for this period. Some architectural elements of the housing units, especially the hipped and saddle roof shapes with unglazed clay tiles as materials, were adopted from local architecture. Wooden walls and partitions made of woven bamboo were used in some parts of the houses especially for the gable and the wall in the back façade. Some dwelling types of a bigger size also had a small veranda, an open gallery outside the house with two pillars or more to support the canopy roof, which was common in the local vernacular houses.

#### **d. Open space, parks, and vegetation**

Arjuna had a big park circled by Rama and Bima Weg, where the river Tjiteroep went through in the middle of this green area. This park was intended to serve as a communal open space. It could be seen as a kind of flowing linkage of the parks within the North Bandung. Inside the quarter, some parks were used as nodes to strengthen and to give accentuations on the morphological structure of the neighbourhood. Greeneries were set up in each private parcel. Only a minor range of particular trees and flowers were allowed to be planted in the smaller parcels in order to facilitate air circulation and to optimise the use of natural lighting during the day. This was significantly evident as an effort to adopt the tropical context. Bushes and flowers were also used to define the

private and public property in this area instead of using massive fences. This aimed at creating openness and a more spacious image in this neighbourhood.

**e. Infrastructure and utility**

Neighbourhood utilities such as sewerage and drainage systems, water supply and electricity existed in this area to meet the living standard that was intended. Private as well as public toilets and bathing units were built to implement the concept of hygienic housing quarters in due respect to the tropical conditions. The drainage system built openly in front of each parcel, facilitated the use and controlled the expansion of buildings, which was a potential tendency in the low-income dwellings. All infrastructures in this area were provided by the colonial government.

**f. Other urban architectural characteristics**

The orientation of building generally followed the street lines, so most of the houses were positioned back to back. The corner building with two façades facing to the front streets usually had particular designs. Along Dasarata Street, that functioned as axis for the inner neighbourhood and divided this area into two parts, houses were faced to this axis.

The image of a harmonious environment in this quarter was integrated by the compositions created by the shapes and dimensions of the dwelling units, the building elements, and materials. Shape and height of roofs, and particular designs applied in the corner houses were important components to create attractive serial vision in this quarter, instead of the monotonous housing block complexes in the industrial areas during the colonial phase.

**4.3.4. Socio-cultural and Economic Characteristics**

Since this quarter was planned as industrial site, activities related to industries were strongly featured in this area. Nevertheless, in the Arjuna quarter, the housing units were simply residential, and domestic activities were more obvious. Residents were mostly workers in the factories and manufacturing industries situated in the outer rings and neighbouring compounds, thus according to occupation the residents were basically homogenous. Also, ethnical segregation and social issues existed within this neighbourhood, like in other colonial dwelling quarters. Somehow the design of mixed-income level and ethnic housing could be seen as a new attempt in the colonial quarter. Provision of communal open space was an effort to blend different social classes and ethnic groups in this quarter during this phase, although activities held by natives were strictly controlled by the Dutch government. Although the designation of the inner areas was to be identical with the Kampongs, not all of the lifestyle of the kampong society

could be brought inside. To carry out some cultural activities the natives had to go beyond their boarder to the traditional neighbouring unplanned kampongs areas.

Officially, commercial activities were not permitted in the dwelling units. A medium-sized traditional market was sited outside the compounds in Arjuna Street but still within walking distance from this quarter.

Public property in this quarter such as parks, streets, and infrastructures were completely maintained by the city (Dutch government). No resident association was found in this area, but in the lower income compound unofficial gatherings were held by the natives under control of the Dutch<sup>3</sup>.

#### **4.3.5. Issue of Transformations and Challenges towards the Conservation Effort**

##### **a. Socio-cultural and economic changes**

The multitude of pressures which are mainly caused by urbanization apparently brings the transformations in this area. Among the influencing factors, the rapid growth of population and economic reasons are the major generators of those changes. This situation influences not only functional changes but also significantly transforms the physical character of the neighbourhood and its elements.

Rapid transformations have been occurring since the Indonesian government took over this quarter after the colonialization era ended. The changes have been accelerated especially by the transfer of ownership to *Waskita Karya*<sup>4</sup> in 1957 whereby the dwelling units were used to accommodate their staffs. From this point forward, the development in this quarter seems to be uncontrolled, especially as the status of land ownership had been partly transferred to private individuals and enterprises both legally and illegally.

The changes of urban planning policies in Bandung are affecting this area. Though the basic structure can still be relatively seen today, the rapid metamorphosis process in this quarter can not be avoided as the development planning of Bandung has put this quarter as a part of inner city development. Outer streets of this area are currently put as one major traffic linkage in the city structure. Although some of the old manufactures and factories in the neighbouring quarters do not actively function anymore as in the past, however this area continues to develop as an important economic generator in Bandung. The development started particularly when Padjajaran Street, one of Arjuna's main streets, was set up as a major link to connect the city centre to Bandung Airport and the sub-city centre of Bandung in Ciroyom in which the big local market and bus terminal are

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<sup>3</sup> Based on direct interview on site.

<sup>4</sup> Indonesian government-owned company under the Department of Public Work.

located. This has made this location economically more important within the city of Bandung and consequently the outer rings have to accommodate more traffic loads and varied transportation modes. Garment manufacturing as today's leading industry in this area has occupied the old industrial buildings in the neighbouring quarters. The big local market has also been attracting some informal sector to support those industrial activities. The number of workers in this area has been rapidly increasing. These three factors have been generating additional demands such as accommodation, transportation, and other supporting facilities (grocery shops, places to eat, etc.). These all become new pressures on the Arjuna quarter. This situation has big impacts not only on the outer but also on the inner neighbourhood. The provision of more infrastructures in this quarter has also increased the land value and has been creating land speculation and accelerates functional changes in this quarter to higher levels.

The social structure within the neighbourhood has also changed from homogenous to heterogeneous, regarding occupations and ethnicity. Consequently this reflects the change of lifestyle, habits, and the need for supporting facilities for the new social structure and development in Arjuna area.

The development of the surrounding area of the Arjuna quarter as important development nodes in Bandung North since 1970 has resulted in the increase of land value and the initiation of land tax and building. Besides accelerating the transfer of rights/ownership, many former inhabitants, particularly those who owned the small parcels, have been forced to move from this area to other locations in the Bandung area, which are considered still affordable to them. Many of them can no more manage to pay tax or meet the demand of space for their growing families.

The transfer of the neighbourhood management has also been followed by a transfer of ownership. The maintenance of the dwelling quarters was formerly conducted by the housing authority. However, it is becoming harder to manage the maintenance, especially after the legal and illegal privatisation of a number of units. This happened due to the changing of the local administration, which was not followed by a clear transfer of tasks and responsibilities to manage this neighbourhood. Moreover, many inhabitants, who are not the owners but only tenants or users, lack a "sense of belonging" to the dwelling units and its environment. This condition creates problems when it requires the owners' participation to improve this area. A survey proves that 74% of the people who rented the rooms or houses do not know their rights and obligations regarding the maintenance of the neighbourhood, since legal aspects are generally absent in the contracts.

Many new inhabitants extend or change the dwelling units particularly when they get the status of *hak milik* (private owning of the land). This also worsens the situation, since there is no more strict control of development from the new government in this quarter. Thus, the Arjuna quarter continues creating a chaotic townscape.

#### **b. The physical changes**

Currently, the Arjuna quarter as a former industrial dwelling neighbourhood hardly avoids transformations due to strong external and internal forces. Functional changes have been occurring almost in all elements of the neighbourhood, such as streets, open space, and the dwelling units.

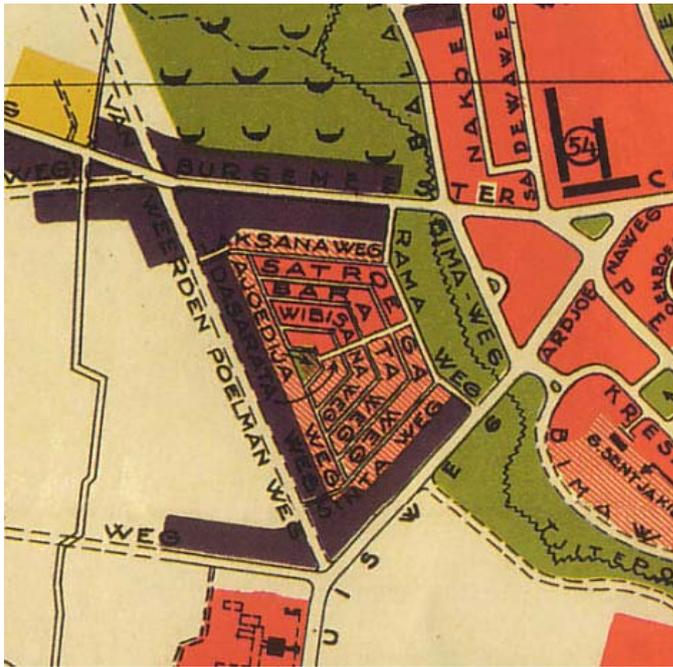
- **Land use and zoning**

As mentioned earlier, changes in this area predominantly started after 1970 after many housing units were privatized, and after the local government had started to implement the new master plan locating some sub-development nodes in the city, whose main accesses are through the Arjuna quarter.

Following these policies, various new functions have occurred particularly in the outer ring where the development for commercial uses has been a speedy one. Banks, offices, retail shops, mini markets, restaurants and food stalls, automobile workshops, warehouses for cargo, and manufacturing have replaced former functions along the outer ring. In the inner ring, new uses are gradually being added substituting residential function. New uses in the inner part are mainly intended to support the increasing demand of the population for domestic necessities, such as small restaurants or food stalls, kiosks, home-based industries/small-medium enterprises (fig. 4.56. and 4.57.) Boarding houses or rental rooms are also the common uses for extending the function of the former private residences. However, some new non-environmental friendly small-scale economic activities are found in the inner part, which are accommodated by the extension of houses, such as semi-agrarian activities (poultry breeding and nursery for plants), and even automobile workshops.

The former zoning system in this quarter was made based on social level and was manifested in the physical structure of the neighbourhood. But such a zoning system has no longer been implemented due to the free land and housing market. The current land market has made it possible that the middle and high-income group including non-industrial workers can buy lots located in the inner quarter.

On the former main park a traditional market was once erected and in these last 10 years many poor workers have occupied this area. Illegal houses have been built in this park



**Legend:**

- Perceelen van het Gemeentelijke Grondbedrijf (parcels for governmental facilities)
- Stenen Bebouwing (Permanent Buildings)
- Kampong
- Platsoon en Openbare Terrein (Parks and Terrain)

**Figure 4.56. : Original Land Use of the Arjuna Quarter**

Source: Gemeentelike Dienst van Stadontwikkeling, Januari 1933.



**Figure 4.57.: Actual Uses of Dwelling Units in the Arjuna Quarter**

Source: Personal survey and interpretations, 2004 - 2005

**Legend:**

- |   |   |
|---|---|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFF00; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Residence  | <span style="display: inline-block; width: 15px; height: 15px; background-color: #8B4513; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Government administration office / public hall                     |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FF8C00; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Facilities for vocational education / training centre, schools | <span style="display: inline-block; width: 15px; height: 15px; background-color: #A0522D; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Residential & commercial uses (shop / boutique/ small restaurants) |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFD700; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Office and residence   | <span style="display: inline-block; width: 15px; height: 15px; background-color: #6B8E23; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Commercial uses and manufactures                                   |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #9ACD32; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Park and green open space                                      |   |

and the new neighbourhood has been developing incrementally and unplanned. However, later this area seemed to be 'informally' legalized, since this area has got the administrative status of a neighbourhood unit<sup>5</sup>. The squatted houses are provided with electricity, a water supply, and telephone lanes by the local government.

Although the master plan to regulate land use exists, lack of control and enforcement present the thread of changes of many uses in this area. The transformations have become worse due to inadequate and ambiguous guidelines. So far, the existing regulations cannot cope with the development tendencies related to land parcelling, tolerable additional usages, and permitted density to maintain the functions and visual quality of the neighbourhood.

The mixture of social groups has been strongly occurring mainly in the inner compound. Although zoning and social structure have obviously changed, however, the basic physical structure of the 'outer-inner' and 'islands' neighbourhood concept in this area still remains evident of its current morphological feature.

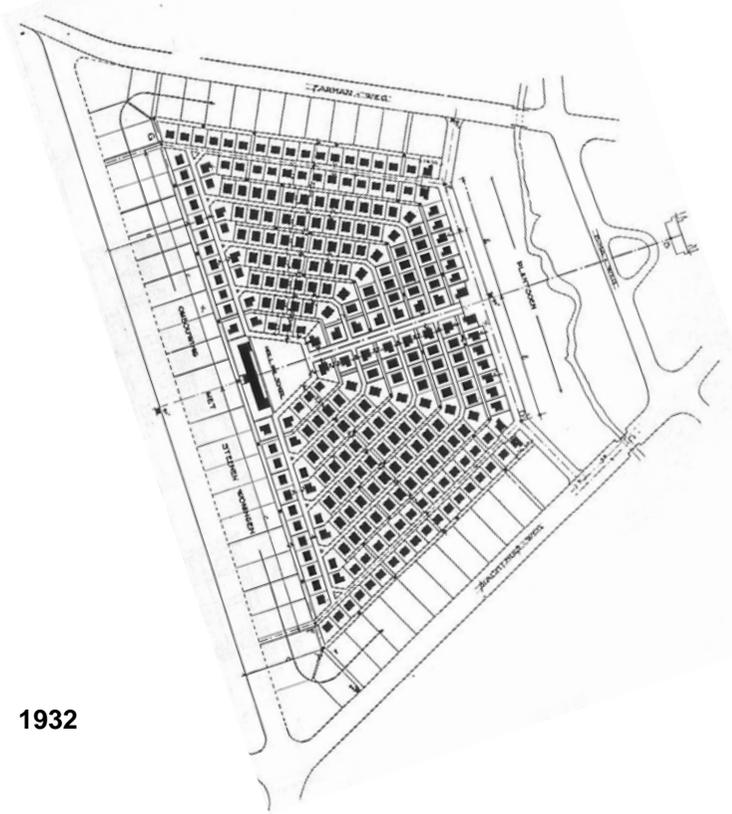
- **Land parcelling, typology and structure of the streets**

Physical changes seem to occur radically in this quarter following the social and economic transformations. The hierarchical concepts, which physically were present in zoning, the structure of streets, and the size of the dwelling units, have been threatened either by mergers or subdivisions of parcels as there is no adequate control of ownership following the free estate market. Besides the deviation of physical elements from the former concept, the transformations also have disadvantaged social intentions, which was formerly manifested in the physical features this quarter. The new inhabitants from all income levels nowadays have the freedom to buy lots in any site without restrictions. Thus at the same time the intention to house low-income workers has already been aborted, since there is no need of restricting the process of transferring the land rights in this quarter from the side of the local authorities

Subdivisions and mergers of parcels occur especially in the inner enclave due to the change of the status of the land to private ownership, as is shown by the map of solid-void analysis (fig. 4.58. and 4.59.). This also results in physical changes of the dwelling units. Formerly the Arjuna Quarter had 276 units of single-detached houses in single parcels. In 2004, the number of parcels is increasing to 269, since they were subdivided or fused. In the same year, the houses with relatively original forms remained only

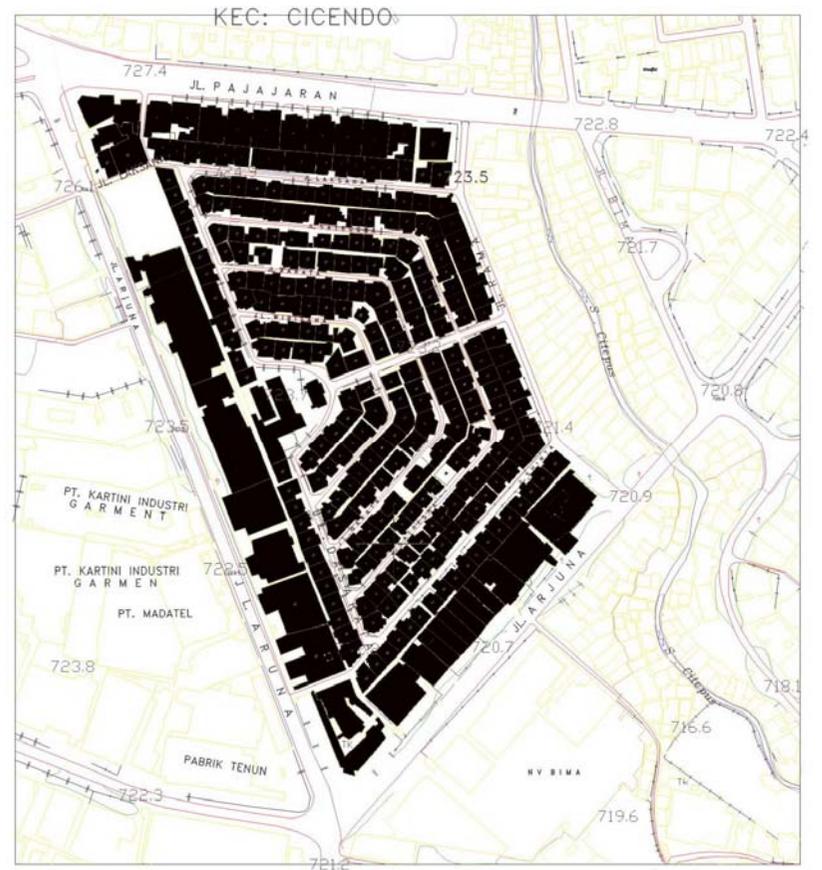
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<sup>5</sup> The new illegal quarter has got a status of *RW (Rukun Warga)*, consisting of some *RTs (Rukun Tetangga)*. The terms of *RW* and *RT* are used in order to name the small and the smallest administrative unit of the neighbourhood in Indonesia.



1932

2005



Source: Personal survey and interpretation, 2005.



Source: IBT/Locale Techniek 4 (1932), 16 -17.

**Figure 4.58. : Maps of Solid-void Analysis of the Arjuna Quarter**

The left map shows a solid-void analysis of the original plan of the low-density area, whereas the right one shows the current percentage of built area. It is obvious that physical densification has been happening rapidly.



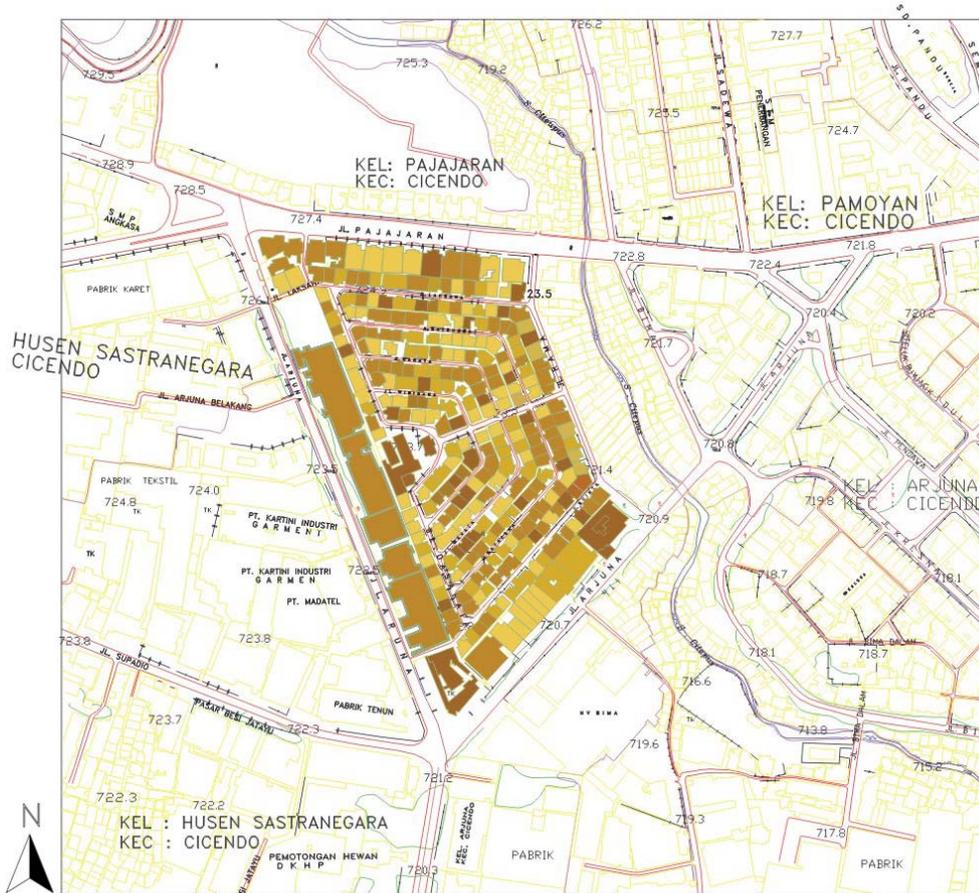
**Figure 4.59 :**  
**Current Parcel Sizes and Site Plan**  
**in the Arjuna Quarter**

SMALLEST PARCEL 69M2  
 LARGEST PARCEL 2795.65M2  
 TOTAL ENCLAVE AREA W/O JL BIMA 90806.41M2  
 TOTAL ENCLAVE AREA 112846.63M2

- >400M2
- 201-400M2
- 101-200M2
- <100M2

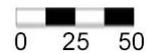


Source: Personal survey and Interpretations, 2004 – 2005.



**Figure 4.60 :**  
**Level of Architectural**  
**Transformation in**  
**the Arjuna Quarter**

- LEGEND
- DEMOLITION
  - HIGH
  - MODERATE
  - LOW



Source: Personal survey and interpretations, 2004 – 2005.

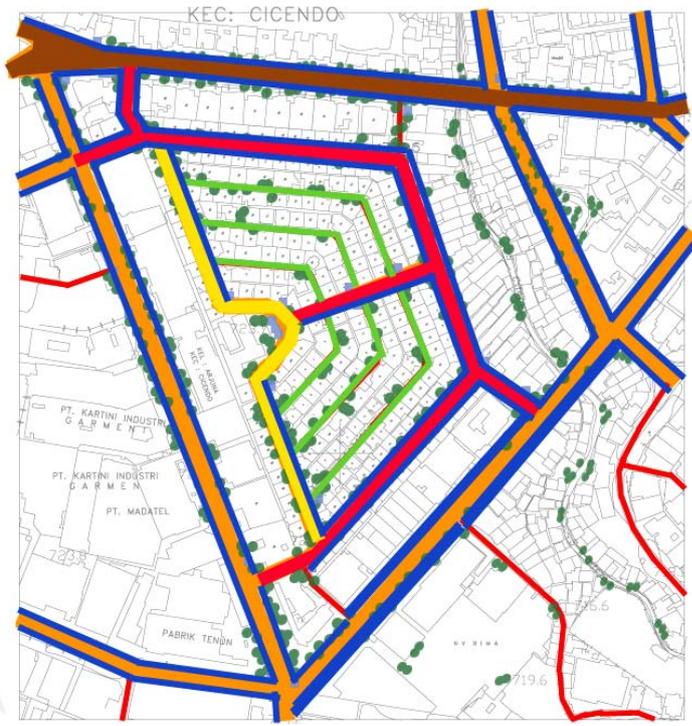
12.5%. The second survey in 2005 showed that the total demolitions reached 26.9% of the total units, more than 60% of houses were changed significantly (fig. 4.60).

In 1977, the structure of the streets was changed as inhabitants with the agreement of the local district authority changed the *brandgang* into a new cross-cut for pedestrians and two-wheelers and the narrower *brandgangs* are paved with concrete slabs. The water hydrants can still be found in the middle of these former fire lanes. In the past, the former building regulations required to keep this lane free with a certain set back from the back edge of the parcels in order to give access from the front streets. Though the units might be extended sidewise, the extension should not block the access to the back yard. In fact, the coverage of the *brandgang* to date generates the illegal extension to this side, and it can no longer be utilized as a fire lane and even has lost its other former function as a social space for the servants (fig. 4.61.). Informal dealers and producers, such as street vendors of food, artisans, owners of vehicle workshops, and the sellers of second-hand products have also occupied the streets along the outer ring. The spots of these activities are concentrated especially in front of big buildings used for industrial purposes. The dealers and manufacturers just occupy these sites by erecting temporary stalls and shacks and such a view dominates along the outer ring road especially along Arjuna Street and degrades the visual quality of this area (fig. 4.62.).

Those functional changes have led to other spatial demands, especially for parking lots. Parking lots therefore occupy the street sides along the main and secondary streets with pressure on the street beyond its capacity. Since the former design did not provide for parking lots, the condition of today results in a big problem for the neighbourhood circulation system. The problem has become worse since the changing of ownership of the middle-income groups in the smallest dwelling units along the tertiary streets also result in increasing ownerships of vehicles demanding the parking place in this area. As there was no allocation for parking lots, both in the individual plots and the communal, many try to extend their building plots beyond their property boundary. This also results in privatisation of public space and further in the degradation of neighbourhood quality.

- **Transformation of dwelling units**

The transformation of function has been followed by changes of the dwelling units especially in the inner enclave. Although the main function remains the same, but based on the survey which was made in 2005, it revealed that about 8.9% of the housing units in the inner enclave have been changed partly for commercial use such as shops, small retails, and restaurants. The transformation tendency is bigger from year to year especially for those sited along the main roads and along Rama Street. In fact this



**Figure 4.61. :**  
**New Street Typology and the Hierarchy in the Arjuna Quarter**

**Legend**

- Main / Primary road
- Secondary street
- Smaller secondary street
- Neighbourhood road
- Smaller neighborhood road
- Parking lanes / plots

Source: Personal survey and interpretations, 2004 – 2006.



Source: Personal survey and documentations, 2004 – 2006.

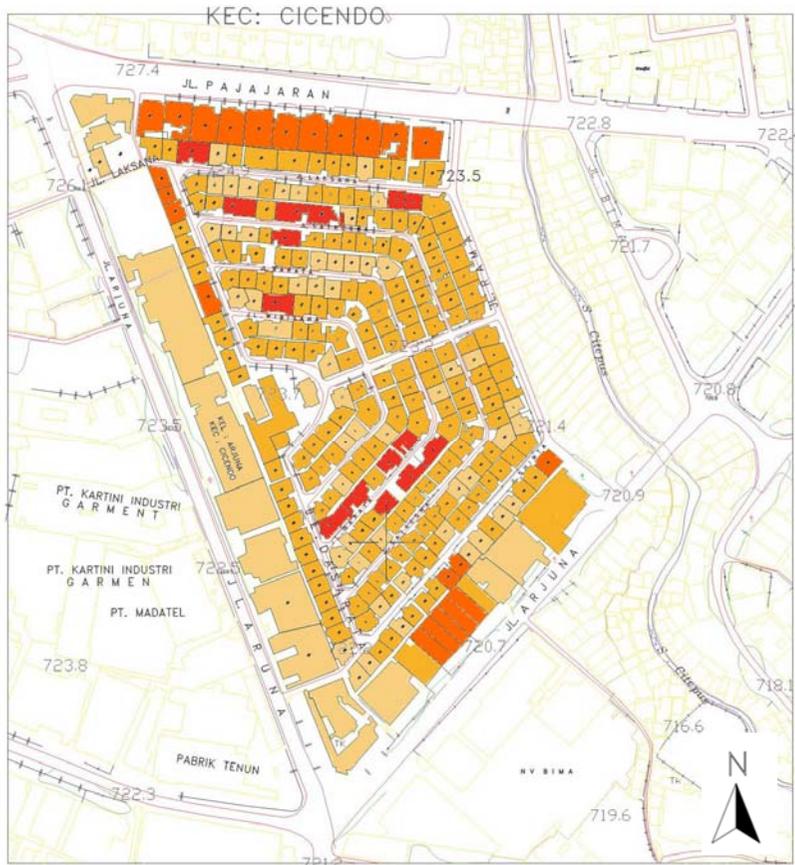
**Figure 4.62. : Functional and Constructional Changes of the Streets in the Arjuna Quarter**

survey cannot describe the real situation of the functional changes. Some housing units, which are still registered as residential, are also partly used as unregistered boarding houses with unnoticeable small home-based industries and home offices or mainly for commercial purposes. Such changes and additional functions result in the remodelling of the housing forms in order to meet the new needs, some were even slightly redesigned or demolished. (fig. 4.60.).

Private occupation is also assumed as a freedom to build by most new inhabitants. In addition with the existence of the dwellings focusing the same orientation as the previous ones, change in most of the façades in the quarter corridor is also seen. Modern/international style is mostly preferred to replace the former façade, besides the Mediterranean style which is today the most popular architectural stream favoured by many urban inhabitants in Bandung. The Spanish and Roman style with big columns and balustrades are also applied for some dwelling units, even for those with a small size. Many different colours and materials are also utilized in this quarter and break the former uniform but rhythmical neighbourhood. The interruption in the setting of the former architecture is evident by the extension of buildings both vertically and horizontally, not to mention the total number of demolitions in most of the cases. Many buildings that preserve the roof shape also have changed their façade. The use of awnings for temporary extensions of the houses, for some purposes like carport, food stalls/small retails and shops also deteriorate the architectural quality in this quarter (fig. 4.63. to 4.66.).

While the former low-rise housing quarter had an ideal neighbourhood characterized by a harmonious rhythm of sky lines and serial vision, today this neighbourhood has failed to maintain such a visual quality due to the transformations of roof shapes and sizes and arrangements of parcels. Only a few of the inhabitants still keep the original dwelling forms, especially the owners who have been living there for more than 40 years. Nevertheless, changes are also seen in some parts, especially in the interior, due to the need for spacious area, renovation, the replacement of building materials. Physically dwelling units in this quarter can also be seen in various conditions, but more than 50% of them are in an average condition, meaning that they do not contribute to the visual quality of the neighbourhood. Only about 2.5% of the dwelling units are in a very good physical condition. Those are mostly new buildings. Most of the original houses which still exist are in fact mostly in a bad or in a very bad condition (fig.4.63.).

The growth of the population is also a major cause for changes in the environment in this area. The increasing number of family members always demands inhabitants to extend



Source: Personal Survey Interpretation 2004 – 2005

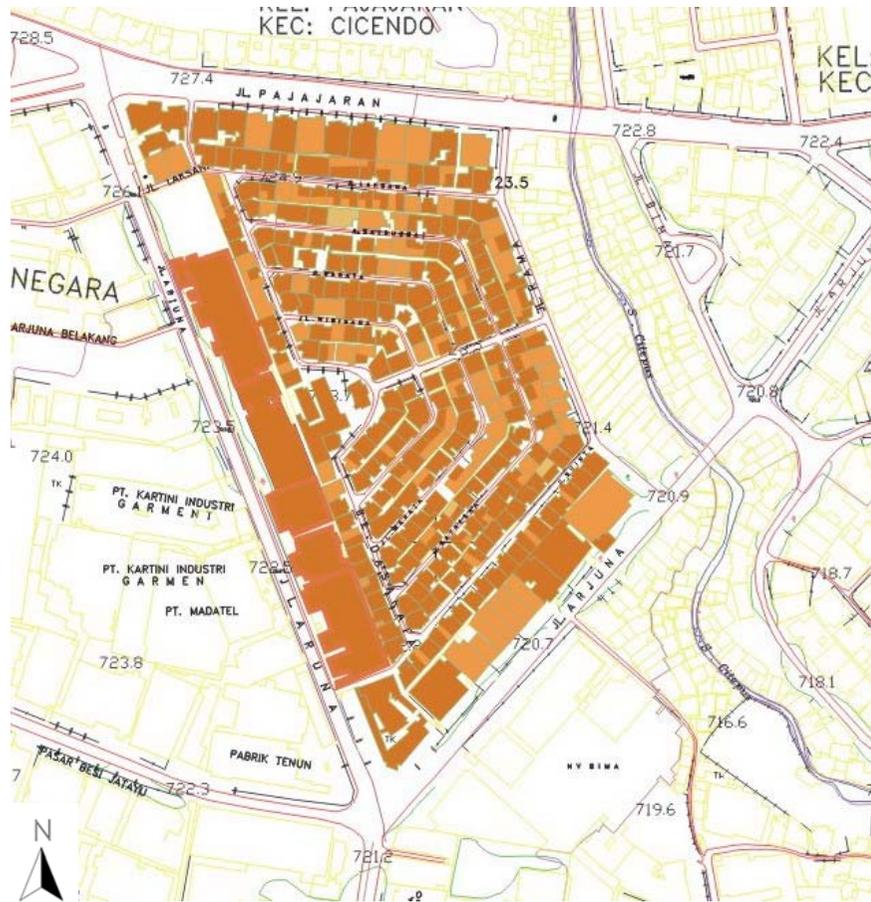
- LEGEND**
- Very Good
  - Good
  - In Average
  - Bad

**Figure 4.63. : Visual Quality Based on Physical Condition an the Use of Building Materials in the Ariuna Quarter**

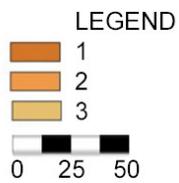


Source: Personal Survey 2004 – 2005

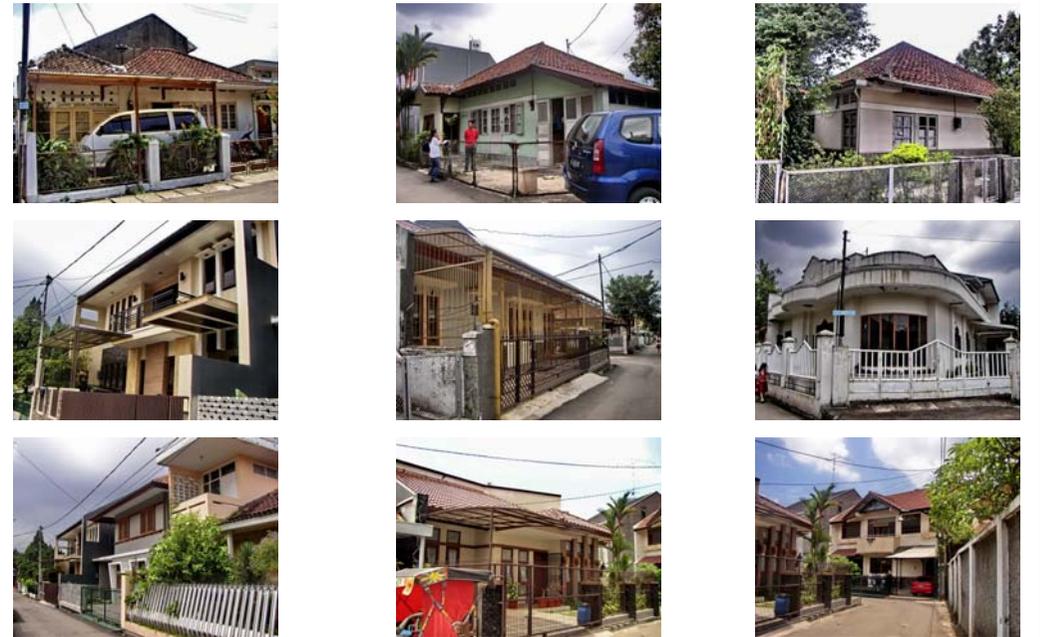
**Figure 4.64. : Current Visual Performance along the Outer Ring and the Secondary Streets in the Arjuna Quarter**



Source: Personal survey and interpretations, 2004 – 2005.



**Figure 4.65. : Number of Floor of the Buildings in the Arjuna Quarter**



Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.66. : Current Visual Performance along the Inner Enclave of the Arjuna Quarter**

the houses to a bigger size. But the densification in this quarter is not only in terms of the number of population, but also of the physical extension of the dwelling units both vertically and horizontally which sometimes is also assumed to lift up the social status. Most of the dwelling units are extended without allowing open and free space around the house. Today, we can hardly see the former pattern of the single-family detached houses. The fusions of some parcels and the extensions also have resulted in the loss of visual dimension.

This can actually be considered as a normal and positive development in urban area. Nevertheless, a proper regulation is still needed in order to avoid overcrowding and the process of slumming. Densification, consideration of hygienic environment, which was once a big concern of planning, now has rather been neglected.

- **Transformation of open space**

The park, which functioned as a communal space and the node to articulate this neighbourhood, was changed to a traditional market in the 50's. But after few years the market was relocated to the southern part of Bandung. Today, this site has been used by the former sellers to dwell in, and there is no open space which remains in this site (fig. 4.67. and 4.68.). The functional transformation of the park has also definitively broken the greenery linkage within the city. Some of the communal facilities, such as small mosques and churches, which were not provided for in the former planning, were also built to accommodate the demand of more homogeneous inhabitants and a multi-cultural society. The inner park acting as the node and orientation of the inner neighbourhood has been changed into a school site and the community administration office (*Balai RW*). As a result no green space is left in this quarter at all.

The Arjuna quarter could be defined as a modern settlement which was in order and strictly controlled. In fact in the last 4 decades its condition had changed the image of the quarter a lot. The loss of the big park is the most obvious evidence for the decay of the environment. The expansion of houses both in the front and back yards replaced the green open space in almost every dwelling unit. Such increase of building coverage certainly results in the decrease of environmental quality in this quarter, especially the quality of the ground water. The debit of the run-off during the rainy season also increases as a result of the solid pavement in the remaining open space. In fact, the former drainage channels are out of capacity to cope with this new situation. However, serious problems of floods never emerge, but the tendency is getting higher due to the inappropriate maintenance of drainage and sewerage systems.



**Figure 4.67. :**  
**Location of Vegetation and Informal Economic Activities in the Arjuna Quarter**

**LEGEND:**  
 ● Vegetation  
 ■ Informal economic activities

Source: Personal survey and interpretations, 2004 – 2006.



Source: Personal survey and documentations, 2004 – 2006.

**Figure 4.68. :**  
**Current Street scenes in the Arjuna Quarter**

- **Transformation of infrastructure and utility**

Designed as an ideal neighbourhood, this quarter was equipped with an adequate provision of infrastructures and utilities following the number of dwelling units and populations. Except for the gas supply, the network and structure of infrastructures provided by the colonial government still exist and have been continuously used by new inhabitants. Additional infrastructures such as telephone lines and a new network of water supply have been attached, added to the existing system in order to utilize this area too by the new government. Yet, the rapid growth of the population inside this housing complex and the functional changes occurring during the post colonial era have not been followed by the development of infrastructure to meet the demands of new functions and the growing number of inhabitants. Electricity and water supply are becoming a significant issue in this area nowadays. The drainage and sewerage lanes cannot accommodate the solid and waste water from the households. The access of *brandgang lanes* is mostly blocked due to the extension of the dwelling units, and consequently the control of sewerage and drainage becomes very difficult.

The development of a big market in the neighbouring area has been generating some other informal activities along the outer ring, particularly in Arjuna and Laruna Street, and the secondary roads of Laksana and Rama Street inside the quarter; they also produce more volume of waste and garbage. In practice, there are no adequate garbage collection services and processing systems, and therefore this becomes a problem for the neighbourhood as well. The existing garbage containers provided by the city are now insufficient and the situation gets worse by the decreased number of garbage deposit plots within the quarter due to which open space like the riverbank of Tepus and some idle lands have been used for these purposes. Besides degrading the visual quality, inadequate and temporary garbage pools might generate pollution, cause diseases, and decay the hygienic quality of the neighbourhood.

- **Other architectural changes**

Due to security reasons, most of the houses are fenced, and the inhabitants prefer not to embed plants and flowers to mark the border of their individual property. After the economic crisis in 1997 which was followed by the amok against the Indonesian-Chinese in big cities, some of the Chinese living in this area built very high (2-3 m) metal fences and the houses remain like big bird cages<sup>6</sup>. Some of them cover the façade of the

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<sup>6</sup> Based on the interview with the local authorities, the number of inhabitants in this area that have an Indonesian-Chinese ethnicity is more than 50% of the total inhabitants.

houses with massive walls made of concrete, masonry brick or with PVC to a height of 2 – 3 m (fig. 4.64.). This process of individualization has degraded the image of the open and friendly environment.

Today's fenced neighbourhood gives another phenomenon. Instead of the former open and low-density dwelling environment, it turns to a neighbourhood with continuously walled corridors and a strong image of individualism. This visually strengthens the image of a dense neighbourhood in this quarter. The construction of high walls with barbed wire or those which are implanted with shredded glass for security reasons along the *brandgangs* and the backside of houses, gives an image of a looming corridor neighbourhood in this area. At the same time, it forms also a negative space since the space in these fire lanes is not anymore able to give a contribution to this quarter as open and social space as it used to function in the past.

#### **4.4.6. Arjuna Quarter; Threats and Potentials**

To wrap up the discussion on this quarter, some remarks can be put forward. It is obvious that this quarter has been facing the complicated phenomena, which are emanating from the disparity between original ideas and the dynamic movements of society, which is to date the real situation. This quarter has undergone a rapid process of change in conjunction with the urban growth and development.

As the environment was planned to be inhabited by a homogenous population, the changes to date, especially in the social structure, like the change towards heterogeneity, result in an unsuitable environment both functionally and physically. The rapid growth of the population is also followed by the densification of this area not only in regard to the number of inhabitants but also in view of the ratio of the built area both horizontally and vertically, which further harm the image of a hygienic and open environment. In fact, the quarter was very unique in its multiple scales of hierarchy, structure and pattern of roads, nodes, and housing typology. The transformations subjected to those elements have also tainted the original image which was inspired by the garden city tradition.

Although some new buildings may have fulfilled the required building regulation, the designs clearly change the former characteristics of the neighbourhood. The former architectural character of the simple semi-kampong houses with some innovation in design and material with a strong tropical context is disappearing. The size of the plots might remain structurally the same. Nevertheless, the basic philosophy of providing the city with the best practice/example for an excellent and hygienic environment is in fact

vanishing, due to social transformations within the inhabitants' structure and the change in the physical forms of the dwelling elements. Despite the fact that the new typology of dwelling units has a different architecture style, to some extent this situation can be viewed as the richness of architectural expression and diversity. In general, such "too various" forms obviously distract the harmony and concept of rhythmic uniformity of the environment which was one of its former aims.

Certainly, this quarter is still accepted as a unique industrial housing quarter since the neighbouring sites are still being allocated and developing mainly for industrial use. The main structure that remains is still a unique form in the cityscape. However, the new demands are considered to be unsuitable within the former types of houses, especially those along the main streets where the dwelling avenues transform into more commercial streets. Regardless of the fact that simple architecture should be considered as an important value that has to be maintained, more than 65% of the inhabitants questioned in the survey area were eager to bring back the image of the green, friendly and organized environment to this neighbourhood. This means that they prefer to keep the former simple architectural style to narrow the big social gap within the society, which is exhibited through the expression or performance of building forms.

Since the problems of transformation, densification and intensification are still going on; measures of control are therefore absolutely needed. Regulations concerning densities, land uses, plot coverage, building envelopes, and other elements of urban design should be included and clearly defined in the building codes and regulations. These rules shall be technically easy to be understood by the targeted community. The technical assistance can, therefore, be provided by the government or related institutions, for example by providing examples or alternatives of building types as reference for the inhabitants, especially for those who cannot hire the professional designers, when they want to develop their houses or make new constructions. The assistance shall include the solutions in engaging new functions and/or extending functions with old forms. The architectural aspects regarding the effort to preserve the image of this area as a comfortable dwelling quarters also shall be clearly defined. As a result, the continuity or analogy of the old architectural language and structure can be sustained.

**Table 4.4.**  
**Demographic Data, Non-Physical and Physical Characteristics of Arjuna Quarter**

No:	Category			
<b>Non-physical Characteristics</b>				
<b>1.</b>	<b>Occupation of the head of households</b>			
	Government Officers	14.7 %	Lawyer	1.0 %
	Technician / Artisan	9.3 %	Medical Doctor & Apothecary	4.0 %
	Employee of private enterprises	39.0 %	Small Scale Business Owner	10.7%
	Teacher / academicians	5.3 %	Medium Scale Business Owner	4.0%
	Pensioner	12.0%		
<b>2.</b>	<b>Status / title of Land*</b>			
	Owned / freehold ( <i>hak milik</i> )	22.6 %	Occupation right ( <i>Hak pakai</i> )	6.6 %
	Building right ( <i>hak guna bangunan</i> )	42.7 %	Rented	28.1 %
<b>3.</b>	<b>Income / month of the head of households *</b>			
	0 – 500,000	5.3 %	2,000,000 – 5,000,000	29.4 %
	500,000 – 2,000,000	61.3 %	> 5,000,000	4.0 %
<b>4.</b>	<b>Education of the head of households *</b>			
	>Elementary School	1.5 %	High School	48.0 %
	Elementary School	5.3 %	College / University	23.9 %
	Secondary School	17.3 %	> University	4.0 %
<b>5.</b>	<b>Duration of Living*</b>			
	0 – 5 years	45.3%	20 -30 years	12.1 %
	5 – 10 years	20.0%	> 30 years	2.6 %
	10 – 20years	20.0%		
<b>6.</b>	<b>Ethnic / Nationality*</b>			
	Indonesian origin	61.3 %	Indonesian Chinese	38.7%
<b>7.</b>	<b>Population density*</b>			
			320 p / km <sup>2</sup>	
	<b>Average Persons / Household*</b>	7.6 p / hh	(570 persons in 75 units range from 5 – 10 p/hh)	
	<b>Population by Age*</b>			
	0 - 15 years old (79 p)	13.9 %	30 – 55 years old (218 p)	38.3 %
	16 – 30 years old (222 p)	38.9 %	> 56 years old (51 p)	8.9 %
<b>8.</b>	<b>Average Land Price per m<sup>2</sup>**</b>			
			1.2 – 2.0 million rupiahs / m <sup>2</sup> ***	
<b>Physical Characteristic</b>				
<b>9.</b>	<b>Original Building Typology</b>			
	Manufacture / Fabric / Warehouse		Medium size single detached	
	Single detached medium size semi villa		Small size single detached	
	Twin (couple house)			
<b>10.</b>	<b>Total Parcels</b>			
	Original number of parcel	307 units	Current parcels	289 units
<b>11.</b>	<b>Current Building Usage</b>			
	Residence & Boarding House /rented rooms	237 (82.0%)	Mixed (with shops, office, food stall, poultry, plant nursery)	26 (8.9%)
	<b>Commercial</b>			(8.1%)
	Shop, Warung, Wartel	4	Mini market	1
	Bank	2	Office	2
	Workshop	2	Warehouse / Cargo	3
	Drugstore / Doctor Practice /Clinic	1	Manufacture	8
	<b>Social / Public facilities</b>			1.0 %
	Gov. Administrative Office	2	School	1
<b>12.</b>	<b>Parcel Size</b>			
	0 m <sup>2</sup> – 120 m <sup>2</sup>	221 units (76.4%)	201 m <sup>2</sup> – 400 m <sup>2</sup> (4.8 %)	14 units
	121 m <sup>2</sup> – 200 m <sup>2</sup>	41 units (14.2%)	>400 m <sup>2</sup> (4.6 %)	13 units

<b>13.</b>	<b>Building coverage (current situations)</b>			
	<30%	6 units ( 2.1 %)	50% - 70%	79 units (27.4 %)
	30 – 50%	22 units (7.6 %)	70 %- 100%	182 units (62.9 %)
			Including for manufacturing	
<b>14.</b>	<b>Percentage of Public Open Space incl. Street</b>			<b>+ 21 %</b>
<b>15.</b>	<b>Condition of Building based on quality of materials</b>			
	Very bad - bad	22.5 %	good	7.9 %
	Moderate / average	64.4 %	Very good	5.2 %
<b>17.</b>	<b>Architectural key elements</b>			
	<b>Roof shape</b>			
	Saddle		Hipped roof	
	Saddle with gable			
	<b>Former architectural styles</b>			
	Art - deco		Modern housing style	
	<b>Other significant elements</b>			
	Veranda / Terrace		Rustic motives for Ventilation and Openings	
<b>18.</b>	<b>Condition of Building based on the architecture transformation</b>			
	0 %– 25% (low)	12.5 %	51% – 75% (high)	33.7 %
	26% – 50% (moderate)	26.9%	76% - 100% (demolition)	26.9 %
<b>19.</b>	<b>Location of informal sector</b>			
	Small scale	43 spots	Big scale	14 spots
<b>20.</b>	<b>Valuable Building / Monument</b>			
	Bread Factory / Sharp Building Aruna str. 57		Tyres / Vulcanizing Factory Aruna str.	
	Abattoir (slaughter house) Arjuna str. 45		Textile factory – Aruna str. 53	
	Semi villa houses in Arjuna Str. No: 95,97,99,101,103,105,107,109,111		Semi villa house – Aruna str. 111	
<b>21.</b>	<b>Protected Vegetation</b>			
	Mahogany (not significant)			
<b>22.</b>	<b>Other Characteristics</b>			
	<b>Other :</b>			
<b>23.</b>	<b>Willingness for Participation</b>			
	Agree	92 %	Don't know /don't understand	8 %

Notes:

\*Questionnaires from 75 Households living in Arjuna Quarter. Survey was done in year 2004 – 2005

\*\* Population density is assumed as ratio of inhabitants living in 75 parcels in this area

\*\*\* EUR 1.00 = IDR 11,000

## **4.4. Case IV: The Military Area of the Tongkeng Barracks**

### **4.4.1. Introduction**

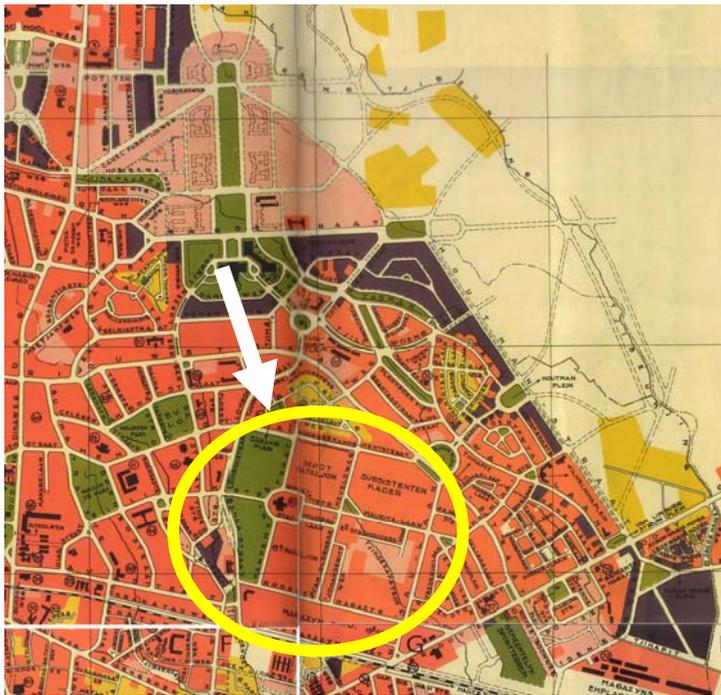
The military quarters in a colonial town were usually permanent and official settlements for military purposes. The military quarters represented the power of the colonists. They usually occupied a strictly controlled large space, since they were built for a particular purpose. These areas were usually organized independently under a particular military authority. The quarters used to have a specific environment, which was built with spatial arrangements that were organized by particular purposes and a certain culture. They were also planned as self-sufficient cities<sup>1</sup>. The military quarters in Indonesia have also similar characteristics. In the early colonial time, those complexes used to be built as quarters inside the walled fortress. The military complex also had particular requirements whose structure basically followed the institutional system of the European society. Thus, the spatial typology found in such quarters can be divided into four main categories<sup>2</sup> : 1) office quarters, 2) officers' quarters with different hierarchical positions, barracks for the Dutch and native troops, 3) warehouses for logistics and workshops, and 4) communal facilities such as churches, bazaar and canteens, hospital, and recreational amenities. The open space can be classified in two functions, one for military purposes (such as for camping grounds, squares for exercise and parade grounds), and the other to serve as a common communal space for the inhabitants. In Bandung, there were two colonial military quarters. One quarter was attached to and integrated into the old town and the other one was situated a bit farther away in the hinterland, Cimahi. Those two quarters are morphologically considered as embryos of the city development. Even now the military quarter in Cimahi is still there and has been modified and further developed as a self-administered satellite city.

These military complexes in Bandung are considered as historical assets of the Indonesian society, although most of them are inherited from the Dutch colonial era. Many buildings inside these complexes, which are still owned by military institutions now, are well maintained but some, in fact, are neglected due to the limited maintenance budget. Today, although the military complexes are still protected as an independent authority, they cannot escape the particularly economic pressures from the surrounding areas that have been developing rapidly. To have a deeper outlook of the transformations in such quarters, one compound in the first establishment of the military complex in the area of the North of Bandung is chosen as a case in this research.

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<sup>1</sup> See also D. King (1976).

<sup>2</sup> Analysed from some morphologies of different Indonesian colonial towns.



**Figure 4.69. : The Position of the Tongkeng Military Quarter within Bandung Old Plan**

Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.



Source: Image©200, DigitalGlobe©Europa Technologies, Google Earth 2006.

**Figure 4.70. : Aerial Photo of Tongkeng Quarter 2006**

#### **4.4.2. The Position and Role of the Case Study within the City**

This case study takes place in the military quarter that was allocated to house the 'Subsintenten Kader' – cadres of the Dutch colonial squad. The compound which is like a geometrical enclave within this military complex is encircled by *Maurits laan* (now Patrakomala street), *Nasau laan* (now Gandaria Street), *Noorderkament straat* (now Tongkeng Luar Street ), and *van Oldenbarnvel weg* (now Tongkeng Street) (fig. 4.69. and fig. 4.70.). This quarter only consisted of five big buildings in its early development phase as shown in the official map published by the municipality of Bandung in 1931. Later, small houses for the troops and officers with different positions and grades were built surrounding those main constructions.

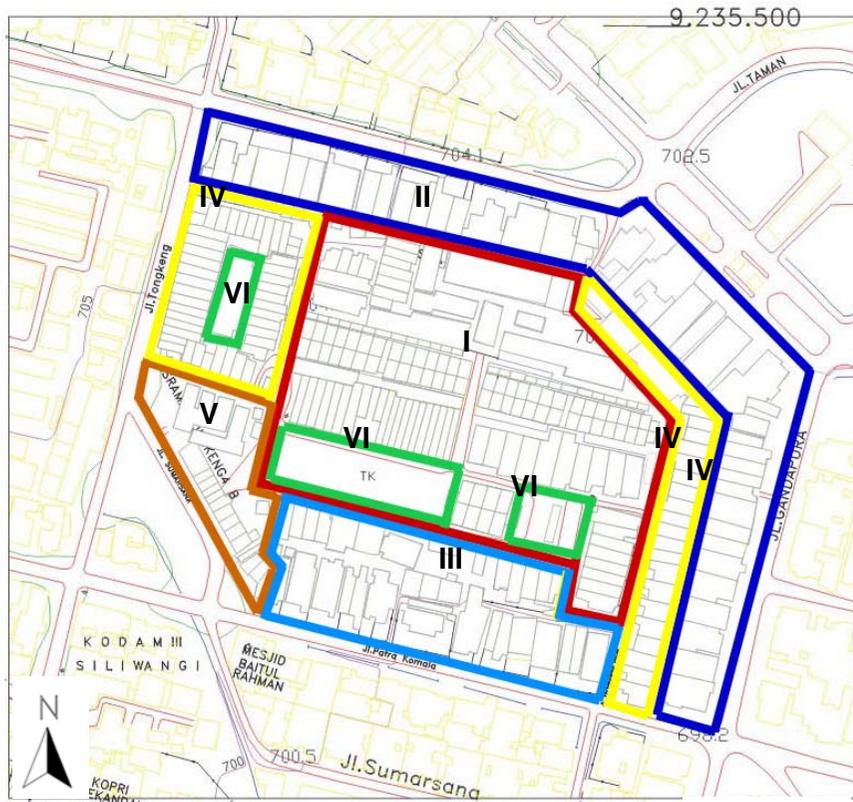
Today this compound is known as Tongkeng Barracks and its location now becomes very strategic within the city. However, increasing pressures have been penetrating this area due to internal and external aspects. Changes are also gradually seen both in the interior and along the outer ring as the main roads around this compound have been changed as major traffic lanes to connect with other city sub-centres. Some parts of this compound have been becoming part of the major reputable prestigious area for business too and therefore the transformations become undeniable. Although changes in this location are considerably slower than in other ex-colonial quarters, this gradually changes physical uniqueness and values, which have long been shaping the identity of this compound.

To have an outlook a comprehensive description is presented as follows:

#### **4.4.3. Physical Characteristics of the Neighbourhood**

##### **a. Land use and zoning**

The compound was initially used for the military, particularly to house troops, the military logistics and some workshops in the Dutch colonial phase. This site was initially designed as a one-block complex with an open layout concept within the military complex in the first development phase of the extension of the North of Bandung. Therefore, zoning for each use was clear enough although they were not particularly defined with massive physical borders (fig. 4.71.). There were six major buildings in the early phase of construction as is shown by the map of 1933 (fig. 4.72.). The residential use was added with the construction of other buildings along the outer ring to house the higher ranking officials as shown by the aerial image taken in 1946 (4.73.). Three separated squares were also seen in the aerial view of 1946. Those were used for military appeals and as parking places for the trucks and vehicles for transporting the



Source: Individual Survey and interpretations, 2004 – 2006.

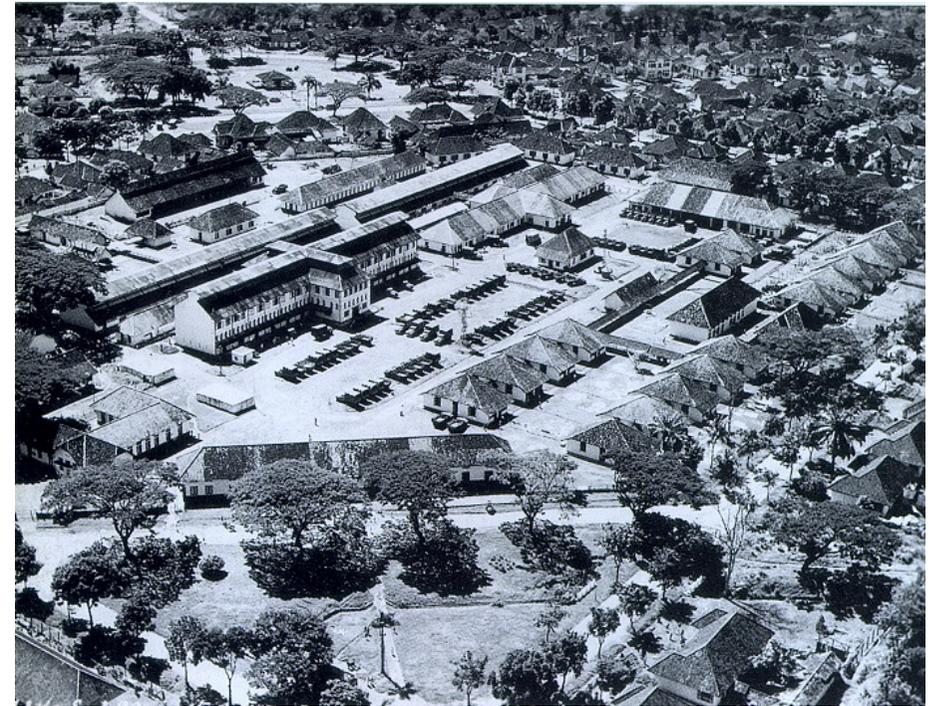
**Legend :**

- Zone I** : Military facilities and dormitory for single cadet
- Zone II** : Official housing for higher ranked military officers
- Zone III** : Official housing for middle ranked military officers
- Zone IV** : Open green space for military appeal and official ceremony
- Zone V** : Military administration office and main gate
- Zone VI** : Official housing for lower ranked military officers

**Figure 4.71. : Initial Zoning and Structure inside the Tongkeng Quarter**



**Figure 4.72. :**  
**Former Site Plan and Building Typology of the Tongkeng Quarter**



Source: *Bandoeng Beeld van Een Stad*, R P G A Voskui, 1999 – from aerial photo - KNIL Opreme 1946.

**Figure 4.73. : Former Site Plan and Building Typology of the Tongkeng Quarter**

logistics. A flowing green belt shaped by the open front yard along the parcels in the outer ring circled this compound and defined it as an island within the constellation of islands composed in the garden city of the North of Bandung.

#### **b. Land parcelling, typology and structure of the streets**

This site was initially planned as a one-block open lay out compound. Formerly, there were only six big buildings scattered but in a certain formal order of the rows in this compound as is shown by the key plan of 1933<sup>3</sup>. Later parcels were defined with some landscape elements, particularly after the dwelling units along the outer ring were constructed.

A parcels' size for a military officers' residence ranged between  $\pm 120 - 800 \text{ m}^2$  with a  $\pm 6 - 30 \text{ m}$  width of front lots. Some of the dwellings with bigger parcels in the outer ring were also part of the section also belonged to Riau Street. The Building Coverage Ratio (BCR) was strictly enforced in this area especially for the officers' residences. With a maximum ground coverage of 40%, this area was also planned as a low density area with low-rise constructions. Buildings, particularly the residences for the military officers found in this compound, had mostly single-storey constructions. Only the barrack in the main building had two storeys, whereas the warehouses for logistics and workshops had higher roof levels although they were also one-storey constructions. The setback order was also enforced especially along the outer ring to give space for the open space and greeneries. The corner parcels usually had setbacks in the two front sides to allow for some particular designs in order to give visual accents to this area.

The structure of the streets in this area was presented in a simple geometrical order. The hierarchical concept was not shown clearly in the street structure inside the compound. The secondary level of roads that encircled the compound functioned as the outer ring. It was composed of *Mauritslaan* (now Patrakomala Street), *Nasaulaan* (now Gandaria Street), *Noorderkamentstraat* (now Tongkeng Luar Street), and *van Oldenbarnvel weg* (now Tongkeng Street). The inner street structure was shaped by the narrower neighbourhood streets and paths. They enclosed the big single buildings and also functioned to separate the different uses within this enclave. There was one main access and three side entrances in order to get into the complex. The main gate was a row block for the guard house. The inner enclave for the logistics and barracks for the lower-level troops therefore were like being hidden from the outside. This concept was also a combination of military strategy and visual manipulation of the garden city.

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<sup>3</sup> The formal geometrical forms were always applied for the military and governmental complexes in the Indonesian colonial settlements.

### c. Typology of dwelling units

There were four basic categories of buildings in this compound: the barracks for the single soldiers, small dwellings for families, and the medium-sized housing for the higher-grade officers located along the outer ring, and the buildings for the warehouse and workshops. The biggest two-storey barrack building functioned to house the single soldiers and it was seen as the main construction among other buildings and became the landmark within this enclave (fig. 4.74.). Other buildings in this compound were one-storey constructions (fig. 4.75.). The single (un-married) native soldiers were housed in the simple barracks made of bamboo and matting. They were situated some distance away from the Dutch troops, which were accommodated frequently in brick-built or wooden barracks. The unit size was  $\pm 18 \text{ m}^2$  with the front module of  $\pm 3 \text{ m}$ . Toilets, bathrooms, and places for washing clothes were provided communally for the single soldiers. These facilities were located behind the two-storey barrack building.

Dwellings for soldiers with family could be categorized into two types too; for the lower and the middle-high grade soldiers. The lower-grade officers were accommodated in row houses built in simpler constructions, forms, and materials (fig. 4.75.). Brick and wood were used for these dwellings and the pitched roofs were finished with ceramic tiles. The front modules varied from 4 to 6 m. Decorative elements were not applied intensively in this dwelling type, but only very simple Art-deco ornaments were found such as in columns, stripes on walls particularly on the front façade, and in the openings' (doors, windows, and ventilation) frames. These units were allocated in parcels with only small private patios. Each unit was not separated by fences, so the front yard remained like a communal open space for the units in each row house.

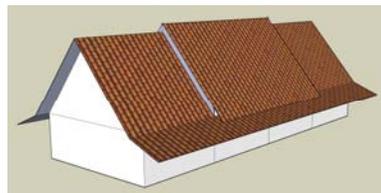
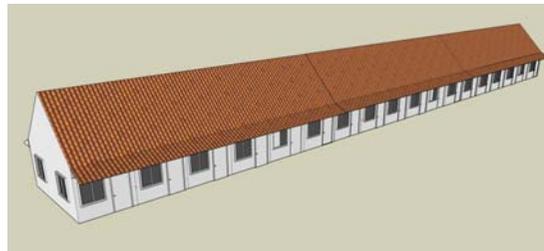
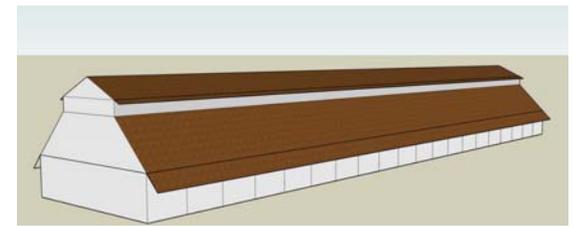
Dwellings for the middle high-grade soldiers were particularly situated in more distinctive areas with more privacy. This group resided in detached semi-bungalows in different types and sizes along the outer ring with large plots and consumed a larger proportion of the spatial area within the compound. Those brick houses were finished with high-quality materials too, such as with other medium villa types in the North Bandung (fig. 4.76.). The elements "*jugendstijl*" were applied slightly for architectural details in both the exterior and interior of this type. The roof shapes for these dwellings were also more varied, mainly pitched with gable or shield roof shapes, or the combinations between those two with roof angles of  $\pm 45^\circ$ . Mansard roofs were also used in some of the dwellings of this type. The roofs were finished with ceramic tiles.

The logistics and workshops had been accommodated in constructions with larger space whose interiors had no permanent partitions and ceilings. The roof levels in these

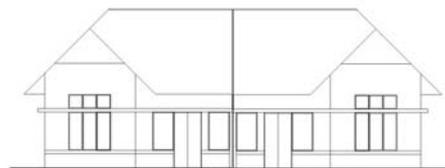


Source: Personal survey and interpretations, 2004 – 2006.

**Figure 4.74. : Main Barracks as Landmark of Tongkeng Quarter**



**Figure 4.75. : Dwelling Types in the Inner Compound in Tongkeng Quarter**



Source: Personal survey and interpretations, 2004 – 2005.

**Figure 4.76. : Building Typology in the Outer Ring (Zone II) of the Tongkeng Quarter**

buildings were higher compared to the constructions that were used for residential purposes. Two constructions of this type had double-layered pitched roofs with high gables. Skylights were put along the space under the upper roofs to allow natural lighting and air to get into the interior that had a relatively big volume. The roof material for these buildings was made of zinc layer which was also used for the main barrack.

#### **d. Open space, parks, and vegetation**

This compound was designed using an open landscape concept. Open space in this area functioned to enclose and separate the constructions within this complex, where the dwellings in the inner compound were scattered systematically in rows. Three squares that functioned as parking places and appeal grounds for the troops became the target of orientation inside this compound. Strong geometrical shapes strengthened the formal image of military institution in this area. Recreational parks such as playgrounds were not found inside this site but in other blocks providing the military community on the whole. There was only one park that existed in front of the compound in the opposite direction of the main entrance. Nevertheless, this park with big shady Tamarind trees mainly functioned as a node, which joined other three neighbouring compounds, and was a transitional space as well. The greeneries were mainly allocated inside the plots of the military officers' dwellings as back and front yards, and the greenbelt surrounded the outer ring as well.

Initially there was not so much vegetation planted in the inner compound (fig. 4.73.). Presumably, this was supposed to be a measure to watch and control the soldiers and the equipments storey in the military hangars. Big trees were planted at certain points along the outer ring. The smaller trees, bushes and flowers were arranged inside the front and back yards of the dwellings for the Dutch military officers only.

#### **e. Infrastructure and utilities**

This compound like other areas in North Bandung was well supported with infrastructure to run its military functions. Supply for electricity, gas, water, and telephone lines were provided by the Dutch government and there were also some reserves for water supply inside this enclave which were managed by the military authority. Sewerage and drainage lanes were also well-designed and used an open system. All of those components were integrated into the infrastructure network of North Bandung.

Public baths and toilets were also provided for the single soldiers in two separated buildings. There were also two other cabins that functioned as public toilets, which were located in front of the appeal square.

#### **4.4.4. Socio-cultural and Economic Characteristics**

As it was initially designed to accommodate two different military purposes including the minor one as housing, this cantonment provided a specific life culture dominated mainly by military activities. The population in this quarter had a homogeneous composition as per their occupations as members of the military staff employed by the Dutch. Nevertheless, in the lower level they were classified based on their positions and their origin (native and Dutch) and thus formed different social levels. This social structure was also observable in the physical features in this quarter as earlier mentioned.

Economic activities could not be found in this area. Bazaars and canteens were placed in the other block outside the area, which was still situated inside the military complex. The maintenance of both properties and infrastructure inside this contentment was completely managed by the military authority. The military authority also had a particular order for building regulations and building codes. Although the principles were mostly the same like those applied in other colonial quarters, the procedures of transferring the right of occupation and of changing the building elements were enforced in a stricter manner mainly for defence and security purpose.

#### **4.4.5. Transformations within the Tongkeng Quarter and the Actual Conditions regarding Conservation**

##### **a. Socio-cultural and economic changes**

This military compound has experienced many functional changes along with changes of the political situation in Bandung. Those situations have also brought different social and cultural changes within the cantonment. During the Japanese occupation from 1942 – 1945 some of the buildings were also used as camps for the Dutch prisoners. Some buildings were also used as temporary hospital. Many significant changes started to appear after independence; at this the point the quarter was transferred to the Indonesian military authority and especially after 1960<sup>4</sup>. Most of the buildings are now used for residential purposes as the number of soldiers, who have to be accommodated, especially the battalion '*Pasukan Kujang*', is increasing from year to year. The units initially planned for the single soldiers have mostly changed to accommodate soldiers with families, and so were the former warehouses for the logistics and hangars for workshops.

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<sup>4</sup> Based on interview with Mr. Saefudin, the Local Administration Chief of Tongkeng.

Initially, this cantonment was the culture of a specific environment situated in the foreign culture of the European-Dutch, whose inhabitants followed their own norms and behaviour. Therefore, the transformation of the inhabitants from the Dutch to the Indonesian soldiers also has brought new codes of behaviour and habits to this area. The hierarchical concept of the dwellings, however, remains applied in this cantonment regarding the social classes of the inhabitants although up to now there is ethnic segregation. The housing units were basically graded after their plots and building sizes. They were particularly encoded by the military authority. The lower the level of the soldier the smaller are the dwelling unit and plot that he gets. Currently, the administration zone is mixed with the outer normal public administration, since the occupancy and ownership rights of many parcels and buildings in the outer ring have been privatized to individual properties. Basically, there are three categories of official residences in this compound. The first category (called *Gol. I*) accommodates the higher-degree military officers, who are still employed or active. The second one houses active military soldiers (called *Gol. II*). Dwellings in this group are prioritized for soldiers with family. The third one (called *Gol. IIA*) was allocated to the single staff and was used for temporary accommodation (as a dormitory).

The permits to occupy those facilities are given by Military Housing Authority. This institution also manages housing regulations and administration in the military zones independently and separately from the public housing authority owned by the Government of Bandung. The Regulations are relatively strict; to change the existing construction one must have the approval from the highest chief officer and unit commandant. The military housing authority will own any changes on the dwelling units including additions or new constructions after the right of occupation ends. Initially, the maintenance was organized by this authority. However, later on, due to the decrease of the military budget, the maintenance had to be borne by the residents themselves on their initiative. In case the dwelling units are considered no more inhabitable or are totally demolished due to natural disasters, the renovation or reconstruction will be the responsibility of this military housing authority. All of the residents apart from the highest grade military officers such as commandant and vice commandant, also must bear all the private costs for e. g. electricity, water supply, the connection of telephone lines, and other communal service charges including the maintenance of communal facilities at the neighbourhood unit level as well as waste and garbage management. The resident also must leave his facility at least three months after his retirement.

Although the characteristics and structure inside the cantonment has not significantly changed regarding its military background and activities, the increasing proportion of soldiers with families to some extent has changed the living culture within the compound. Although the sense of formality remains, the character of a highly-restricted security area has been gradually vanishing. Internal pressures mainly come from the growth of the population within the compound. The culture to have extended family members to be accommodated in one family house also has made the process of densification in this area faster, although actually this practice is indeed not permitted. Nevertheless, due to the lack of control by the related institution, such situations occur and burden the carrying capacity of the living environment in this area.

External pressures, especially of the economic kind and internal ones, i.e. particularly the growth of the population that is also followed by economic needs of the family, cannot be denied at this moment. The scarcity of parcels inside the military complex that must accommodate the whole of the troops and military facilities becomes more problematic from year to year. The strategic position of this area also forces some internal parties to make any possible interventions in the former uses in order to be able to cover the maintenance of this military area. Somehow, the authority still cannot manage to save this compound from further deterioration created by the decrease of the buildings' conditions both visually and architecturally. Mismanagement and loss of control, especially in the unofficial transfer of ownership and occupation rights are among other factors that have led the environmental quality of the compound to rapidly go down.

## **b. The physical changes**

- **Land use and zoning**

As mentioned earlier, Tongkeng area remains a military zone as was revealed by the current master plan of Bandung. In fact, the development in this area cannot avoid influences from the outside of this enclave. Some new uses have been added to the major use as a residential area in the compound. Zoning following the transformation of uses also gradually changes from time to time. If initially there were no other uses except for military residential and internal facilities, economic activities on a small to medium scale have been appearing to fill or substitute many parts of the dwelling units in this cantonment although these uses are officially not allowed. The functions of logistics complex and workshops have also been removed after independence, and this compound has transformed completely into a housing complex (fig. 4.77 and 4.78.)

Due to the discrepancy of control and ambiguous enforcement of current rules, zoning for each land use also becomes diverse. If formerly hierarchical environment was shown obviously in the zoning system, street structure, and the allocation of housing types, today the hierarchical concept can no longer be physically recognized in the inner enclave. The only leftover from the old structure can be found in the outer ring where the semi-villa houses for the middle-level officers are placed. However, now those units accommodate not only residents but have also some other additional uses, mainly commercial such as housing telephone and internet cafes, small restaurants, stationary shops and copy shops, small grocery shops, barber shops, and other small and medium enterprises with home-based industries, even poultry farms and a nursery for plants (*bonsais*) can be found inside the compound. The percentage of residences that have been modified with other uses is also increasing from year to year. A school complex also appears to occupy one block in this area. Other public facilities, e. g. a kindergarten and a small community centre, are also present infilling the former open spaces.

- **Land parcelling, typology and structure of the streets**

Transformations occur significantly in those three mentioned aspects. The open layout concept in the inner enclave has changed shortly after this compound was taken over by the Indonesian military authority. New parcels and streets have been formed infilling the former blocks but without a certain planning system (fig. 4.79.). The new streets and paths are also made without a hierarchical system and seem to develop spontaneously and incrementally (fig. 4.80.). New winding and narrow alleys have been shaped like those in the informal kampong settlements and (fig. 4.81). The former morphological structure of the inner part of this cantonment therefore has been totally destroyed. However, the outer ring still functions to frame this compound and the parcel along this ring remains in the former size. Due to the increasing frequency of vehicles in this area, the outer ring also has been widened, but pedestrian paths are not provided. Therefore, many accidents involving pedestrians are reported in this area due the lack of facilities for non-vehicle street users.

Subdivisions or mergers of parcels also do not appear in this part. Nevertheless, the densification process has been presenting itself ever more clearly in this area from year to year. The building coverage in the parcels along the outer ring shows that it is increasing to 70 – 80 %, such as depicted in figure 4.79.. The image of the low-density area therefore has also been vanishing, even more rapidly in these last 10 years.

In the inner pocket, new parcels have been made to infill open spaces as new official dwelling units were built to accommodate some more soldiers with their family. Individual

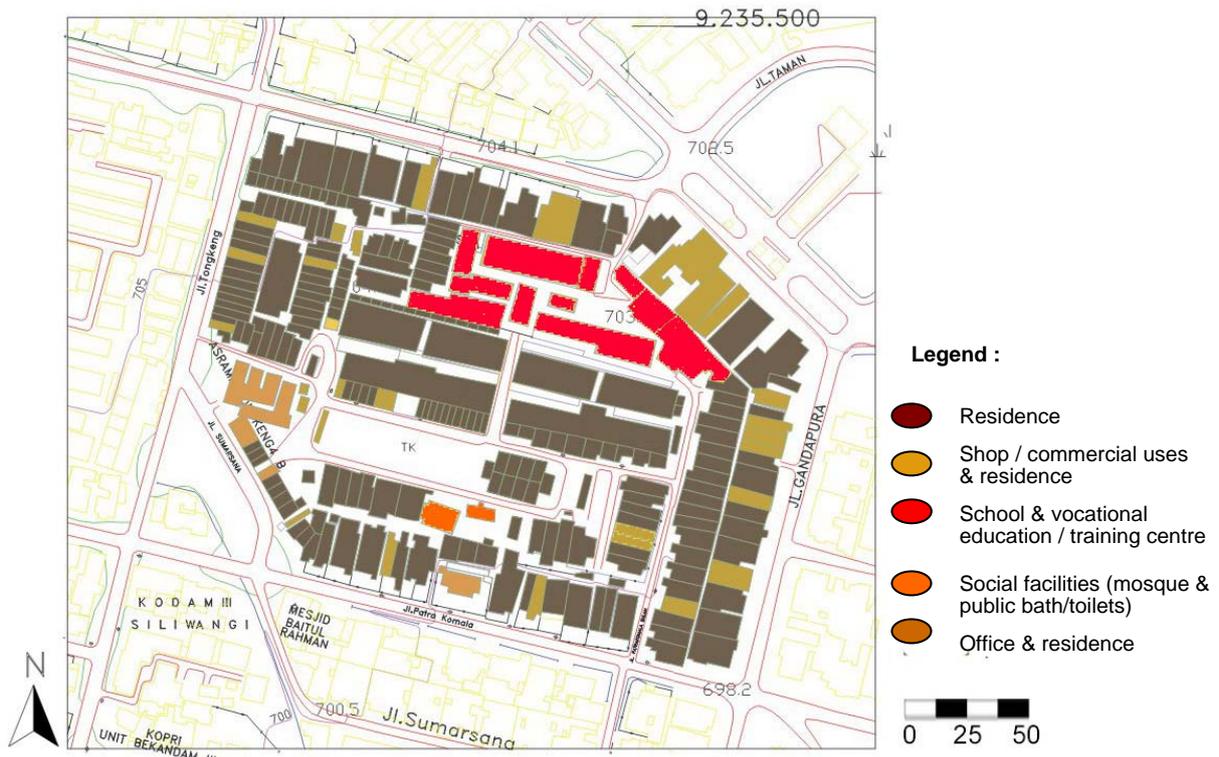


Figure 4.77. : Original Land Use of the Tongkeng Quarter

Legend :

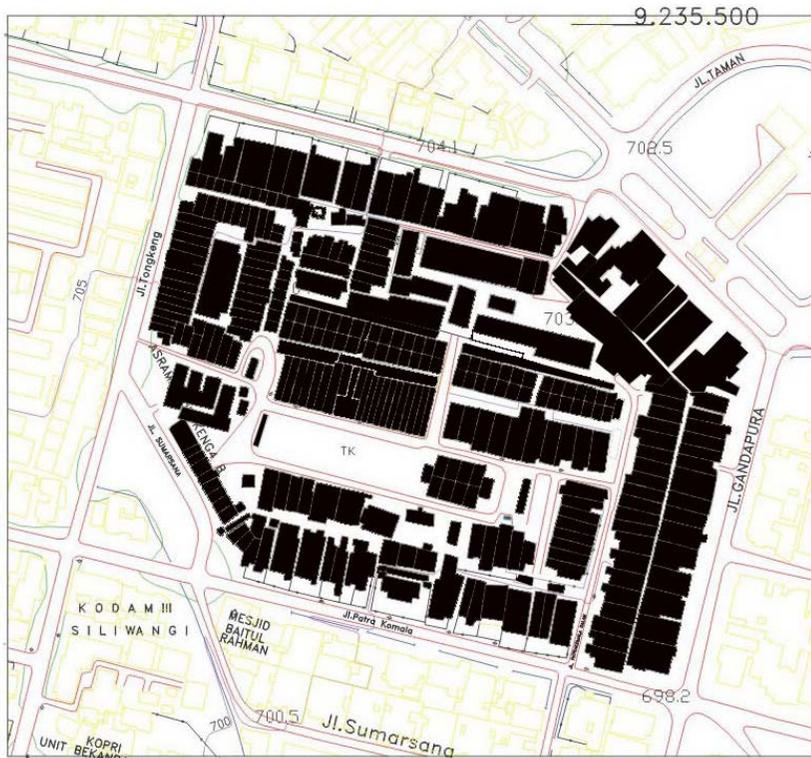
- Perceelen van het Gemeentelijke Grondbedrijf (parcels for governmental facilities)
- Stenen Bebouwing (Permanent Buildings)
- Kampongs
- Platsoon en Openbare Terrein (Parks and Terrain)

Source: Gemeentelike Dienst van Stadontwikkeling, Januari 1933.

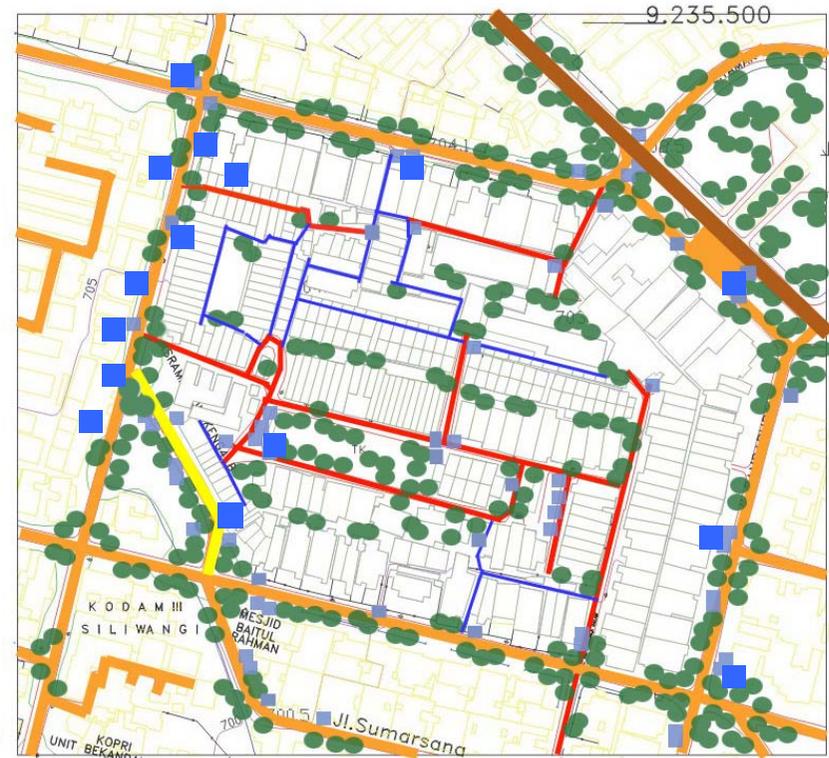


Source: Personal survey and interpretations, 2004 – 2006.

Figure 4.78.: Actual Uses of Dwelling Units in the Tongkeng Quarter



Source: Personal survey and interpretations, 2004 – 2006.



Source: Personal survey and interpretations, 2004 – 2006.



Figure 4.79. : Maps of Solid-void Analysis of the Tongkeng Quarter

Source : Dienst van het Gronbedroff, Gemeente Bandoeng, 1923

**Legend**

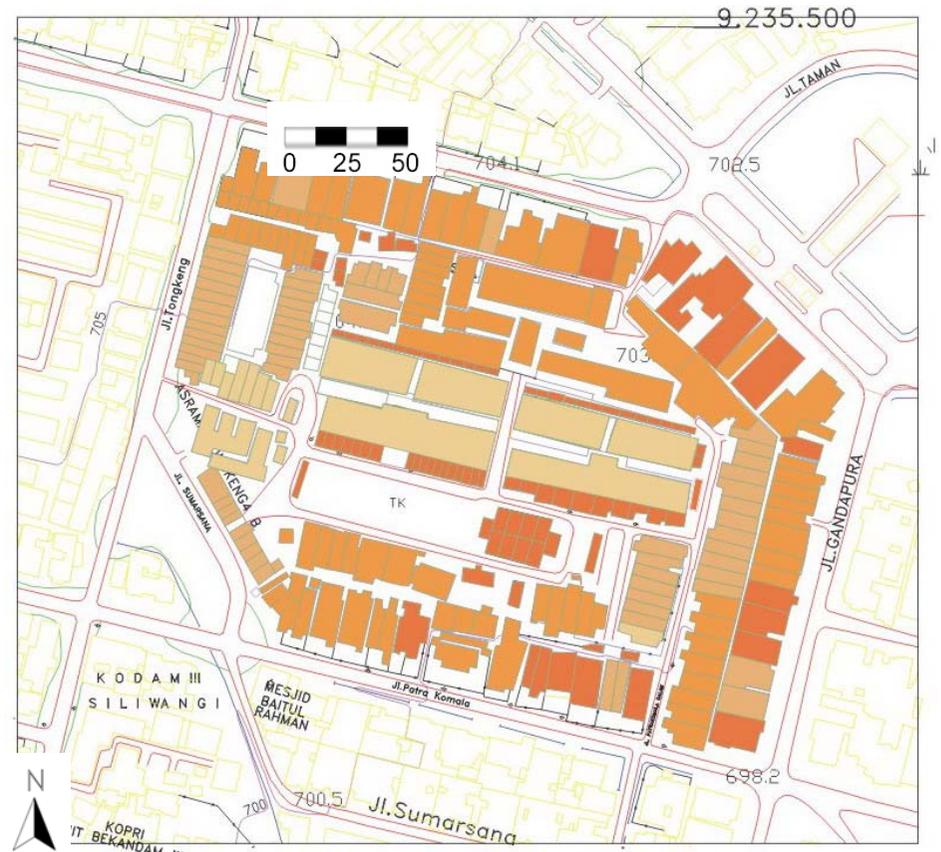
-  Boulevard
-  Secondary Street
-  Smaller Secondary street
-  Neighbourhood street
-  Smaller Neighbourhood path
-  Vegetation
-  Informal economic activities semi-permanent
-  Informal economic activities non-permanent

Figure 4.80. : New Street Structure and Types, Spots of Vegetation and Informal Economic Activities in the Tongkeng Quarter

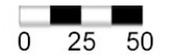


Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.81. : Winding Streets, Narrow Alleys and the Slumming Process in the Inner Enclave of Tongkeng Quarter**



Source: Personal survey and interpretations, 2004 – 2006.



**LEGEND :**

- Very high to demolition
- High
- Moderate
- Low

**Figure 4.82. : Architectural Transformation and Visual Quality of the Buildings in the Tongkeng Quarter**

parcels have been defined by the construction of walls, fences and other physical borders (plants, massive flower pots, etc.). The concept of openness has also vanished and has transformed this to be a dense area not only in the sense of ratio of built and open area but also regarding the population, since former dwellings and dormitory units for singles are now occupied by families or extended families whose members have a number of five to seven on average<sup>5</sup>. For example, one of the row houses which consist of 48 units was formerly allocated to single soldiers only. Now it has been developed to 50 units with two extended but temporary constructions. It is inhabited by 65 households and the other two with the same number of units are occupied by 54 households and 52 households. The two-storey barrack with 16 small units on each floor that were formerly reserved for single officers with small families is now officially inhabited by 42 households. Most of the row houses that formerly contained four units have been extended to 6 units too, and this destructs the original parcelling system.

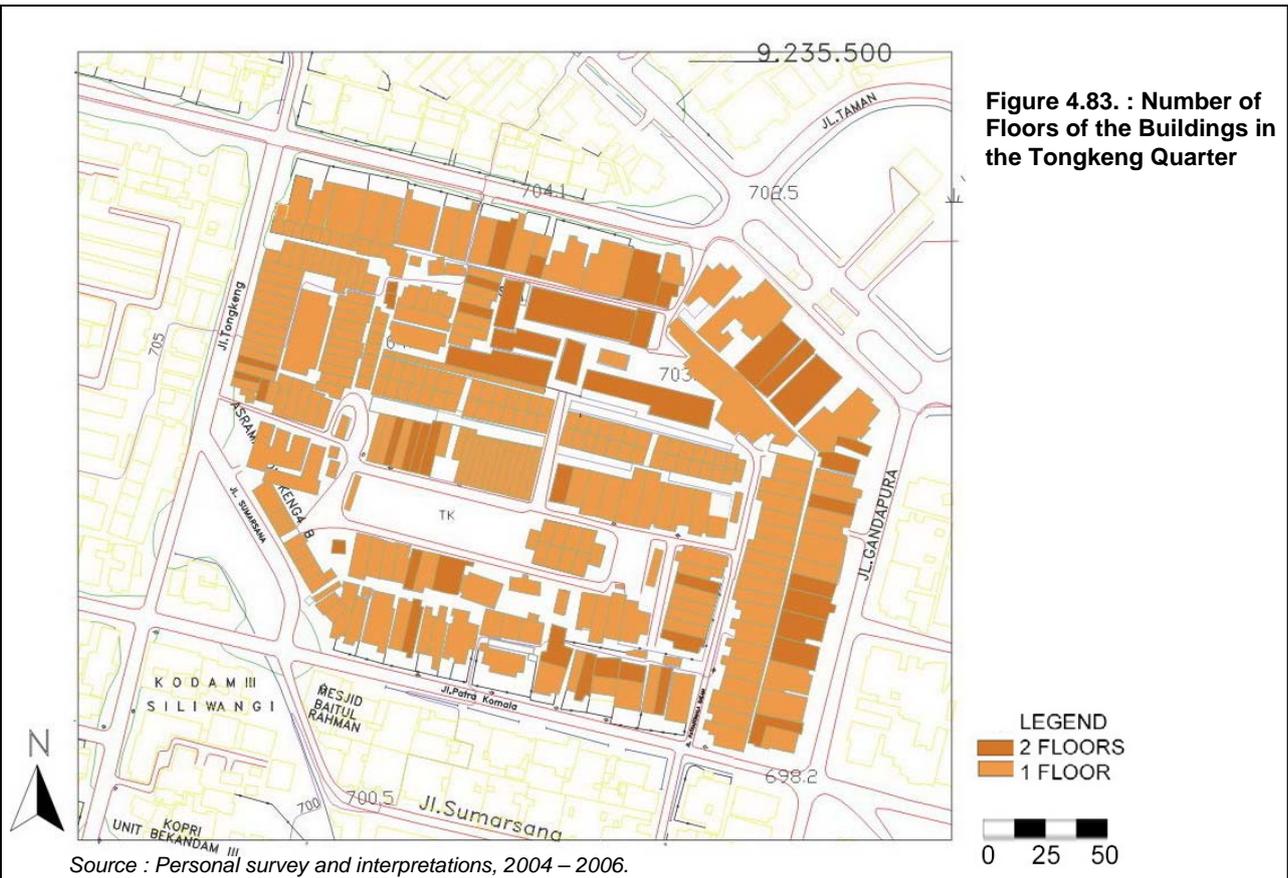
The extensions of constructions both in the outer ring and inside the compound are done vertically and horizontally. Most of the detached single-dwelling units which formerly stood in the middle of the parcels or had certain setbacks with the parcels' edges now seem to have front set backs only as extensions are made in the left and right side wings and also cover the backyards. Vertical extensions are also present in some buildings that are situated mainly in the outer ring. But this tendency also has been seen in the inner compound (fig. 4.83.).

- **Typology of dwelling units**

The typology of the dwelling units has also been changing following additional or new uses in this enclave. Functions are added inside the existing buildings or attached as extension constructions and these consequently change the features of ground plans of the dwelling units in this compound, as well as the proportions and rhythmical harmony aimed at by the former grand design. Many dramatic changes can be seen on the ground floor of the former main barrack for single soldiers, which is now used for family dwellings. Most of the tenants in these units have violated building regulations by expanding the constructions to reach the outer edge that encloses this building block. Those additional buildings are used in many different ways such as bedrooms for their extended number of family members, small shops, garages or car parks, private

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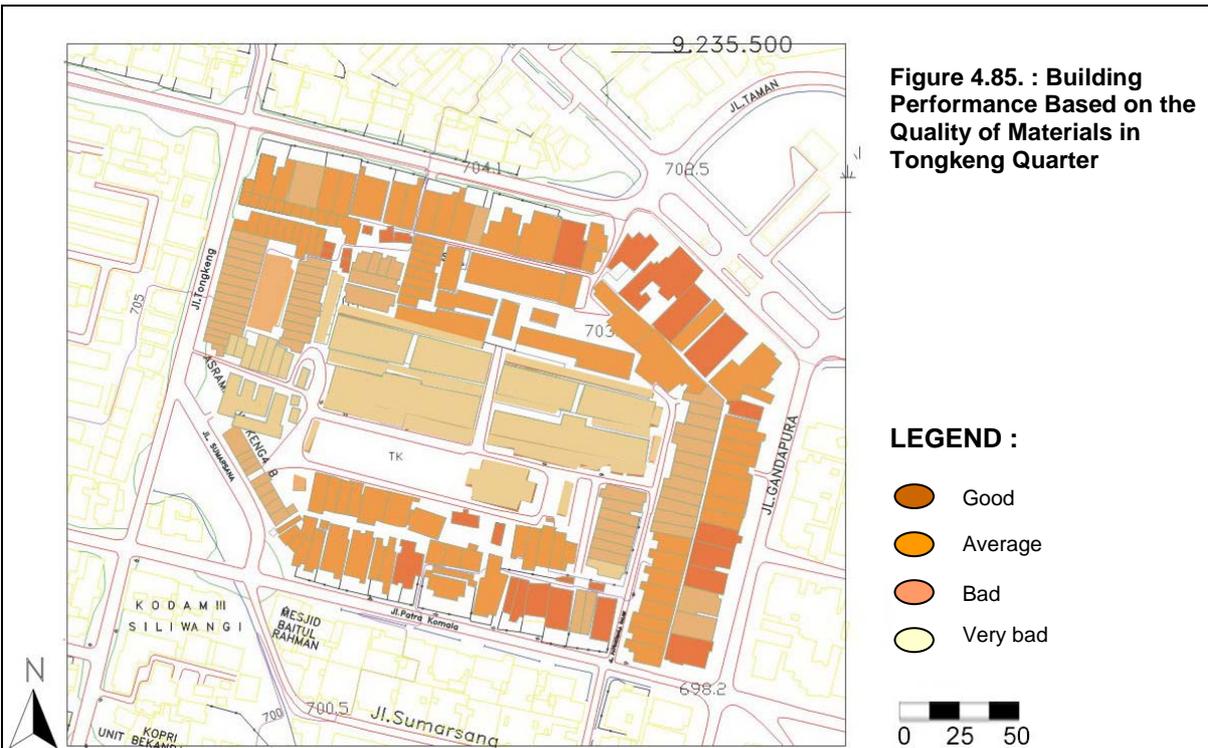
<sup>5</sup> It is very difficult to get reliable data on the population in this area. Besides, this area is divided into many official administration zones (*RT/RW*). The local administration office also cannot present the required population data since many members of extended families live there illegally and therefore are not registered in the local administration office. Many illegal transfers of occupation and ownership rights also make it difficult to get any reliable demographical information on this area.



**Figure 4.84. : Architectural and Functional Transformations of the Landmark in the Tongkeng Quarter (Barrack Buildings)**

telephone booths, even for poultry breeding and as private automotive workshops. Poor constructions and some of materials used have also violated architectural aspects and worsened the visual characters of this area (fig. 4.84.). The use of partitions to cover the units inside this building has blocked the natural daylight and natural air ventilation from getting into the building. The space particularly along the corridors is very dark and moist. The increasing number of inhabitants in this building cannot be properly accommodated by the existing utilities, particularly the supply of clean water and electricity, as well as the domestic waste system do not suffice. The need for more space for domestic activities like drying clothes and communal or living rooms for the families also can no longer be provided by the living units. The narrow corridors inside this barrack have been used to place excess things that cannot be stored inside the cabin units, and this made the poor circulation along this passage. The main hall of this building is also used in various ways, e.g. as a parking for motorcycles and bikes, for food stalls and for temporary depositing domestic junk. As kitchens were formerly also not provided, the setting up of kitchens inside these dormitory units by the residents also brings other serious problems since the building was not prepared for this purpose. The utilities therefore have become unsuitable, particularly since a drainage and exhaust system are missing, and so is the garbage management inside the building. Many inhabitants deposit their garbage just inside the building; this together with the tropical climate generates a poor quality of air. It is therefore, although the main block and the architectural details remain, the spatial quality and hygiene that are both degrading, and the slumming process continues to happen in both the interior and the exterior of this building. This is also worsened by insufficient maintenance and no certain control of the number of family members who are permitted to live in each barrack unit.

The former constructions for logistics and workshops have been functionally transferred into dwellings. There are two grades of soldiers who live in these constructions, the lower and the lowest grade (Gol II and Gol IIA). Some modifications have been made to meet the need for space. Partition boards of wooden and woven bamboo mats have been used to separate the former open layout interiors and to create new dwelling units inside those big workhouse and hangar constructions. Yet, this was done without a certain plan and without considering proper construction, security reasons, and sanitation / hygienic requirements (fig. 4.85.). Violations of building regulations are also seen on a number of units that are extended both vertically and horizontally, and therefore the former type of the constructions cannot be obviously recognized. Some additional economic activities also appear to attach some new functions to those units besides their main function to serve residential purposes. These new economic activities include mainly small



Source: Personal survey and interpretations, 2004 – 2006.



Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.86. : Transformations of the Dwelling Units for the Low Grade Officers/ Solders in Tongkeng Quarter**

temporary grocery shops, food vendors, and even small retails. In the dwelling units for the lower-grade soldiers, a toilette and a washing room are now provided individually in each unit, but two constructions for the lowest grade soldiers do not have any lavatories. Consequently, the residents and their family members have to use the former communal lavatories, which were actually provided for single soldiers accommodated in the big two-storey building. Cooking activities are also a problem since these two buildings were not prepared for dwelling. Due to limited space in those units, many families have extended their houses out of the property borders. They have illegally built small temporary constructions separately on the space located in front of their units for kitchens, placing animal cages, and as storages (fig. 4.86.). This space was formerly an open passage that encircled the buildings. Besides reducing the circulation space in this block, dark narrow alleys were also consequently shaped due to those new uncontrolled constructions.

The row houses for the middle-grade soldiers, which are located in the inner enclave, still can be relatively seen such as in their old forms as row houses. The extensions, however, cannot be avoided, especially back- and sidewise (fig. 4.87.). Boundary walls have been constructed to massively mark individual plots in the back, left, and right sides, whereas hedges or fences from metals or brick are also used rigidly to form the front edges. Each unit of the row houses therefore has its own separated patio and yard now. Many have made extensions of their verandas to the front yards both with temporary and even solid constructions, which was strictly restricted in the colonial time. Basically buildings that are categorized in this type have better physical and sanitation conditions compared to those for the lower and lowest group. Since the location is now located strategically in the inner city where the large number of economic and governmental activities takes place, the business of renting rooms to workers has also been sporadically present in this area. These new uses are actually not allowed, but due to lack of control by the local official administrators this business keeps developing unofficially and this situation consequently makes it not easy to record a population figure for this area.

The middle-grade officers' residences along the outer ring are relatively well-tended due to the individual financial capabilities of the residents in this group to privately finance the renovations and maintenance of those buildings. Nevertheless, units in this area still cannot avoid some pressures, particularly those caused by the increasing number of inhabitants in the households and economic factors that force them to change both the physical forms and functions away from residential use alone. Additional uses as home



Source: Personal survey and documentations, 2004 – 2005.

**Figure 4.87. : Architectural Transformations of Dwelling Units for Middle-grade Officers along the Outer Ring and in the Inner Compound of the Tongkeng Quarter.**

boutiques, restaurants, small grocery shops, automotive workshops and spare part shops, small art galleries, boarding houses, health clinics and drug stores, travel agents', internet cafés and call shops, and many kinds of small – medium enterprises are present in the existing dwellings. Physical changes therefore also appear to both spatially accommodate these new functions and to meet the required image. The extensions of the constructions have also been done both vertically and horizontally particularly in the backyard and right – left wings. The transformation of the rights of ownership in this dwelling type has also given the new owner the influence to change the building performance to meet his preferences since many assume that the old buildings are high-maintenance and are not fashionable<sup>6</sup>. Many buildings in this area have even been completely demolished to get the new image they need (fig. 4.88.).

- **Open space, parks, and vegetation**

Open space that was formerly created by streets and squares in this area has obviously been transformed both in functions and dimension. One small square disappeared and has been replaced with new dwelling facilities, whereas the main two rectangular squares that had the role of a core of this have been merged into one big square which was at the same time reduced in dimension. This square does not function to hold an official appeal anymore but now has more of a social function as a common communal open space (play and sports ground) for the current inhabitants. Therefore, the formal image of this square has disappeared. Informal sector activities, such as many kinds of street vendors, temporary food stalls and street workshops for bikes and small vehicles are also present around and inside the square (fig. 4.89.)

Parking also becomes a big problem in the inner enclave due to the increasing number of vehicle ownerships since this area was not aimed to accommodate private cars. Besides taking up space in the front yards of each unit, parking places also occupy spaces along the streets and around the square inside this former cantonment . Becaks (rickshaws) and motorbike-taxis also use some areas around the main square as temporary terminals. Winding narrow alleys can no longer adequately function as open space although in the former grand design they were made for sanitation purposes and to protect the balance of the environmental quality for this settlement.

Along the outer ring, former open space located at the front and back yards of the dwelling units has also been mostly paved with hard surface (massive concrete paving

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<sup>6</sup> Based on the spontaneous interview to 25 inhabitants the Spanish and Mediterranean architectures have been the most favourite styles followed by the population in this area in these last two decades, and currently, i.e. during these last five years, simplicity of experimental minimalism is the trend.



Source: Personal survey and documentations, 2004 – 2006.

**Figure 4.88. : Current Visual - Architectural Performance in Outer Ring in the Tongkeng Quarter**



Source: Personal survey and documentations, 2004 – 2005

Figure 4.89. : Current Scenes of Streets and Open Space in Tongkeng Quarter

block or cemented). Therefore, the percentage of green open areas is dramatically decreasing. Consequently, although it is not relatively bad, small floods frequently occur on the neighbourhood streets in this area particularly in the rainy season when the debit of storm water and run-off is increasing.

The open and fenceless neighbourhood concept has been vanishing just like the open space in the dwelling units along the outer ring, and it is now in fact clearly defined with massive walls and fences for security reasons. The street along the outer ring also has been widened and has taken the proportion of a greenbelt that encircles this compound. This belt now also functions as sidewalks although it has not been properly well-constructed for this purpose. Big vegetation nevertheless remains and still occupies the greenbelt along the outer ring. In fact, vegetation has been growing bigger and older without adequate maintenance, and this interrupts pedestrians who are passing through this path.

The park in front of the main gate that initially functioned as an introduction space to welcome visitors is also deteriorating both visually and functionally due to the lack of maintenance. This place is also even used to deposit communal garbage and domestic waste, and this has made a bad image of this area for visitors who want to get into the inner enclave.

- **Infrastructure and utilities**

The uncontrolled and rapidly increasing number of population has consequently brought many problems, especially in the provision of infrastructures and utilities since this area was not prepared to accommodate the population, which is now more than tripled compared to the initial quantity. Supply of water and electricity is very much inadequate so that the dwelling units in this compound have been subjected to supply shifts of these services nowadays. The former sewerage system, garbage and waste disposal, which have not been adequately improved, become a big problem since the volume of the garbage produced by domestic activities and wastewater is increasing parallel to the increasing number of residents. Due to the illegal extensions of constructions, the open piping system continuously disappears. Solid waste management has also not been provided to meet the requirements of the growing number of population in this area especially in the inner compound. The drainage channels were mostly blocked by concrete pavements so that the inhabitants can have more space to build something on it. The poor upholding of drainage and sewerage has worsened the environmental quality, particularly in the inner compound as today the daily maintenance of this neighbourhood has been given to the inhabitants and the intensity hence depends on

their self-initiatives. In fact, although the maintenance of utilities and infrastructure within this area has already been organized independently (self-helped) by the administration neighbourhood unit (*RT/RW*), this community organization is not able to significantly help improve the conditions due to the poor awareness of the residents in the inner compound. The image of a slum area has surfaced in the inner enclave and it is getting worse from year to year since the concern to improve this neighbourhood is not supported by adequate financial capacity both by the military housing authority and by the community.

- **Other architectural characteristics**

The developments of domestic demands, particularly those which occur due to economic pressures, have sped up the physical transformation in the sense of architecture in this area. A new dimension of urban lifestyle has also influenced and changed architectural characters in this area in different senses and degrees. Consequently, those changes alter the basic image of this compound as a formal military settlement. Although the outer ring keeps remaining an elite neighbourhood nowadays, the architectural styles inherited by the colonial era in the residences change gradually. The Spanish and Neo-Roman architectures with their columns and architraves seemed to dominate the performance of building façades in the era of the 70's to 80's. Nowadays, the 'locally interpreted' Mediterranean and Minimalist styles start to be the trends that are followed by the residents even within this military area when improving their house performances, particularly those of single-detached units.

As cafés, boutiques, and other commercial functions also appear to add or replace the residential uses, the architecture also changes after these new functions. The façade of buildings for shops for example have more openings, curtain walls of glass for the displays (fig. 4.88.). Such functions usually have been added to or injected into the buildings along the outer ring; however, new building types have obviously not been applied, as there is still some control by the military housing authority although the law enforcement is lax. Replacements of building materials, colours, details of ornaments are the most visible aspects one can find in these settlements nowadays. The installation of hoarding boards in many houses without any particular regulation particularly regarding dimensions, colours, materials and the placement also harm the visual quality in this compound.

Fenced architecture also occurs in this area along the outer ring, especially due to the transfer of rights to private individuals. This new condition gives the residents more freedom in developing the constructions compared to the buildings that belong to the

military housing authority. Detailed building codes and regulations are still missing and this consequently makes the violations of architectural aspects even worse. If in the past architectural aspects on an urban scale played a very important role to create a good urban environment, today this aspect is missing and very much neglected in this area. If there is an improvement program especially regarding building codes and regulations, those new rules usually only focus on single buildings but not on those on a bigger scale.

#### **4.4.6. The Tongkeng Quarter; Threats and Potentials**

To summarize this case study, some conclusions can briefly be explained as follows. The transformation of the military settlement cannot be avoided since the compound is now located in a strategic area in the inner city. Two major aspects of an internal and external kind generate the transformations in this area. Internal pressures occur due to the changing policies in the military institutions, especially those, which allow the changes of uses of constructions and the scheme of dwelling allocations. This will further push the rapid growth of the population and the ambiguity of the right statuses of parcels and residences. External pressures emerge from the town development policy around this area, particularly the economic development (commercialization and capitalization) that raises the land value of this compound. Some economic activities in this area can be seen as potentials in this area too. The increasing population, which is not followed by the adequate provision of houses and infrastructures, has degraded the environmental quality of this compound. The situation is even worse since existing laws are poorly enforced, especially in the inner compound where the residences for the lower-ranking soldiers are placed. This part thus far has been decaying and creating a new slum area in this military settlement. Since the organization of these military compounds is under special authority managed by the military, some strategies are needed to bridge the demands and interests of the private individuals, the military community who lives inside the compounds, and also the community of Bandung who resides around this area. New concepts must be offered to accommodate former functions, particularly economic activities. This might be fostered together with the supply of housing and the improvement of the environmental quality in this area.

**Table 4.5.**  
**Demographic Data, Non-Physical and Physical Characteristics of Tongkeng Quarter**

No:	Category			
<b>Non-physical Characteristics</b>				
<b>1.</b>	<b>Occupation of the head of households</b>			
	Government Officers (8)	20.0 %	Medical Doctor (1)	2.5 %
	Army (17)	42.5 %	Small Scale Business Owner (1)	2.5 %
	Pensioner (8)	20.0 %	Medium Scale Business Owner (4)	10.0 %
	Contractor (1)	2.5 %		
<b>2.</b>	<b>Status / title of Land*</b>			
	Owned / freehold ( <i>hak milik</i> )	10.0 %	Occupation right ( <i>Hak pakai</i> )	60.0 %
	Building right ( <i>hak guna bangunan</i> )	20.0 %	Rented	10.0 %
<b>3.</b>	<b>Income / month of the head of households*</b>			
	0 – 500,000	0.0 %	2,000,000 – 5,000,000	48.0 %
	500,000 – 2,000,000	36.0 %	> 5,000,000	16.0 %
<b>4.</b>	<b>Education of the head of households*</b>			
	>Elementary School	0.0 %	High School	85.0 %
	Elementary School	0.0 %	College / University	2.8 %
	Secondary School	0.0 %	> University	5.0 %
<b>5.</b>	<b>Duration of Living*</b>			
	0 – 5 years	30.0 %	20 -30 years	12.5 %
	5 – 10 years	32.5 %	> 30 years	12.5 %
	10 – 20 years	12.5 %		
<b>6.</b>	<b>Ethnic / Nationality*</b>			
	Indonesian origin	92.5 %	Indonesian Chinese	7.5%
<b>7.</b>	<b>Population density*</b>			
			267 p / km <sup>2</sup>	
	<b>Average Persons / Household*</b>			
		7.2 p / hh	(289 persons in 40 units range from 4 – 10 p/hh)	
	<b>Population by Age</b>			
	0 - 15 years old (57)	19.7 %	30 – 55 years old (95)	32.9 %
	16 – 30 years old (109)	37.7 %	> 56 years old (28)	9.7 %
<b>8.</b>	<b>Average Land Price per m<sup>2</sup>**</b>			
			1.0 – 3.0 million rupiahs / m <sup>2</sup> ***	
<b>Physical Characteristic</b>				
<b>9.</b>	<b>Original Building Typology</b>			
	Medium single detached semi villa house		Small - medium size single detached house	
	Barrack 1 and 2 floor		Row house 4 – 25 Units	
	Twin (couple house)		Warehouses / logistic – workshop building	
<b>10.</b>	<b>Total Parcels</b>			
	Original number of parcel	n.a.	Current observed parcels	267units
			Plus 8 blocks for public building / schools, 1 Mosque, 3 Guard Posts, 3 blocks communal toilets, army office 5 units	287 units
<b>11.</b>	<b>Current Building Usage</b>			
	Residence & Boarding House /rented rooms (135 units)	47.4 %	House& Doctor Practice / Drugstore (1 units)	0.3 %
	Barrack (103 units)	35.9 %	Mixed with shops, café, warung, home industries (28 units)	9.5 %
	<b>Social / Public facilities</b>			
	Army administrative offices & hall	5	Kindergarten & School	8
	Communal sanitations / bath & toilette	3	Mosque (1 unit)	1
	Guard Posts	3		
<b>12.</b>	<b>Parcel Size</b>			
	0 m <sup>2</sup> – 120 m <sup>2</sup> (162 units)	56.4 %	201 m <sup>2</sup> – 400 m <sup>2</sup> (47units)	16.3 %
	121 m <sup>2</sup> – 200 m <sup>2</sup> (55 units)	19.2 %	>400 m <sup>2</sup> (17units plus 6 Block schools)	8.1 %

<b>13.</b>	<b>Building coverage (current situations)</b>			
	<30% (0 units)	0.0 %	51% - 70% (52 units)	18.2 %
	30 – 50% (2 units)	0.6 %	71 %- 100% (233 units)	81.2 %
<b>14.</b>	<b>Percentage of Public Open Space incl. Street</b>			<b>+ 27 %</b>
<b>15.</b>	<b>Condition of Building based on quality of materials</b>			
	Very bad – bad (64 units)	19.1 %	Good (20 units)	44.2 %
	Moderate / average (96 units)	28.7 %	Very good (0 units)	8.0 %
<b>17.</b>	<b>Architectural key elements</b>			
	<b>Roof shape</b>			
	Pitched roof		Hipped roof	
	Pitched with gable in the main entrance		Mansard	
	Gable with two level layers saddle roof		Combinations	
	<b>Former architectural styles</b>			
	Simple Art – deco vocabulary especially in Main Barrack		Modern housing style	
	<b>Other significant elements</b>			
	Corner Building			
<b>18.</b>	<b>Condition of Building based on the architecture transformation</b>			
	0 %– 25% (low) 67 units****	22.3 %	51% – 75% (high) 107 units	37.9 %
	26% – 50% (moderate) 76 units	26.9 %	76% - 100% (demolition) 37units	12.9 %
<b>19.</b>	<b>Location of informal sector (due to existence of traditional market)</b>			
	Semi permanent	15 spots	Non permanent	53 spots
<b>20.</b>	<b>Valuable Building / Monument</b>			
	Main 2 storeys Barrack			
<b>21.</b>	<b>Particular vegetations</b>			
	Banyan tree ( <i>Ficus bengalensis</i> ) in square & parks		<i>Asam</i> in Sumarsana square	
	Mahogany along Gandapura, Patrakomala and Tongkeng street			
<b>22.</b>	<b>Other Characteristics</b>			
	<b>Others :</b>			
<b>23.</b>	<b>Willingness for Participation</b>			
	Agree	95.0 %	Don't know /don't understand	5.0 %

Notes :

\* Questionnaires from 40 persons (head of households) living in Tongkeng Quarter. Survey was done in year 2004 - 2005

\*\* Population density is assumed as ratio of inhabitants living in 25 parcels (random) in this area

\*\*\* EUR 1.00 = IDR 11,000

\*\*\*\* The new extensions / constructions attached to barracks are not counted. These building extensions can be seen in the fig. 4.84.

## 4.5. Case Study V: Commercialization of *Dago – Merdikaweg*

### 4.5.1. Introduction

Dago - Merdikaweg were major roads in North Bandung. Merdikaweg was permanently constructed in the early 1920s as the starting point of the development of *Westersche Enclaves* – an establishment of a colonial city in the northern part of Bandung. Thus, those streets seemed to be the opening gate to the new *Europeesche Zakenwijk* in this period.

Dagoweg, which was extension of Merdikaweg, led from the old city centre in the southern part to the mountainous peripheral area of northern Bandung. Both streets functioned as collector roads that connected and distributed a number of secondary roads of the North Bandung which link compounds of dwelling complexes seen in its island concept. In colonial times, medium and large villa type houses were built along these streets. They were mostly inhabited by rich Dutch and foreign people. Some institutions, public facilities such as hospital, schools etc. had also been allocated along the street to accommodate the various necessities of the Dutch people in the colonial phase.

Both streets actually remained largely unchanged at some stage in the first decade after independence as the administration was transferred to the Indonesian government. These areas had rather mono i.e. functional residence character and were dominated by dwelling activities, and were still dependent on the services offered by the city. Transitions in several aspects occurred after independence whereby the position of the Dutch people in these areas was totally replaced by Indonesian high-society, including high-position government or military officials or rich private company owners. The buildings which remained in residential use along these streets are now mostly inhabited only by the old well-off people, while young professionals, entrepreneurs, and businessmen are more attracted to live in exclusive estates built in the urban fringe which are relatively not so far away from the city centre. Smaller villas and compounds with small houses situated in secondary roads behind these streets now become areas inhabited mostly by high / middle-income dwellers only.

During the 70's and 80's both push and pull-factors started to affect this area as the wealth of citizens increased. Economic transformation, which was particularly caused by developments affecting small and medium-scale enterprises exerted big pressure on the old city centre in the southern part in this phase which later on forced trading centres to

expand in order to occupy sites along the streets in the northern part of Bandung whose roads formerly belonged to the adjacent dwelling area.

These transformations have influenced the townscape of Bandung. The most obvious phenomenon is that the building typology does not reflect functions and activities accommodated inside the buildings. The unstable political situation also creates ambiguous urban planning policies, and fails to give adequate notions on the architectural and aesthetic aspects of the city. Incremental development, which currently tends to be uncontrolled, is the critical problem of urban planning in these areas as new functions and buildings do transform the character of a former residential environment.

Dago – Mardikaweg in fact have a similar direction of becoming commercial and service areas. Nevertheless, some aspects of transformation in this area should be observed in more detail as they show a different historical planning background, level of transformation, and shaping process. A comprehensive description and analysis would help to provide and find necessary input for developing the area based on today's situation and in respect of the efforts to restore the image of the city of Bandung.

#### **4.5.2. The Physical and Non-Physical Characteristics of the Dago-Merdika Quarter**

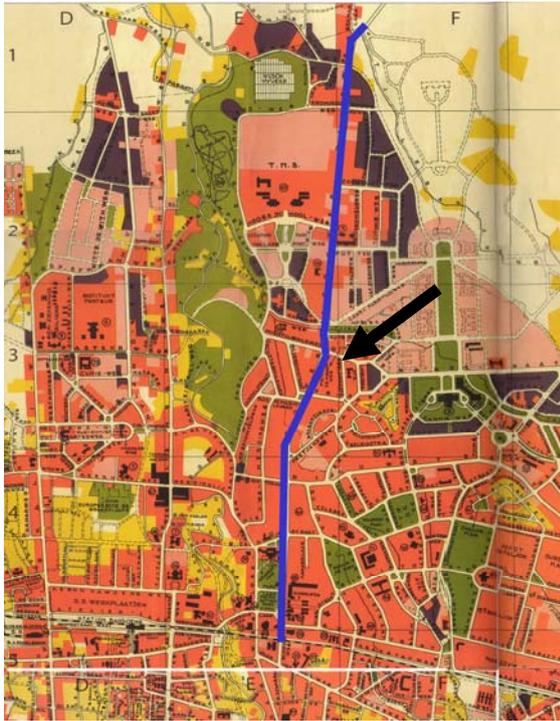
##### **1. Positions and the role of the case study within the city**

Merdika and Dagoweg are two sections of major roads in the north – eastern part of Bandung, leading from the old city centre in the south (Braga area) to the mountainous peripheral area of Bandung North. Based on the observation of historical facts, Merdikaweg existed earlier as an extension of Bragaweg, and was constructed to connect the *Grootepostweg* in the south to the new *Europeeschewijk* (fig. 4.90 and 4.91.). The starting point of Mardikaweg is right on the northern part of the railway, where some government, military, religious, as well as educational facilities were built encircling the Pieter Sijthoff park<sup>1</sup>. The initial Dagoweg existed shortly before 1897. A map documented in 1910 shows that the road construction had been widened and had become permanent. Many sources mentioned that Dagoweg had been constructed before the first visit of Dr. W Docters van Lueewen<sup>2</sup> to the upper area of Dago in order

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<sup>1</sup> Pieter Sijthoff was *Resident Assistent* of Priangan, the founder of the “*Vereiniging tot nut van Bandoeng Omstrecken*”. This association, later known as *Bandoeng Vooruit*, was the first organization, which accommodated the community to take part in the participatory town planning. According to Kunto (1986) Pieters Park was built in 1885 and became the first park in the North of Bandung.

<sup>2</sup> Dr. W Docters van Leeuwen was director of the botanical garden, the “*Kebun Raya*” Bogor. According to Kunto, 1985 van Leeuwen was the initiator of natural conservation programs in Upper Dago, as this highland had some archaeological sites and distinctive natural features. This area was defined as *Soenda Openlucht Museum* (Sunda open-air museum) by the *Nederlandsch-Indische Vereniging tot Natuurbeschermering* (Netherland-Indie Association for Natural Protection) soon after his visit.



**Figure 4.90. : Position of Dago – Merdikaweg – Villa House Quarter within Bandung Old Plan**

Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.



Source: Image©200, DigitalGlobe©Europa Technologies, Google Earth, 2006.

**Figure 4.91. : Aerial Photography of the Dago – Merdeka Street**

to observe the natural diversities of this area. Some sources also mentioned that this street was made for military purposes, namely to control the rebels who liked to conceal themselves with the native dwellers in the Dago forests sprawled in this highland. After the rebels had been brought under relative control, the colonial government started to plan the upper Dago area as a recreation area and it built this road as an access to reach those recreation spots. Many Dutch people started to build buildings mainly for residential purposes and also for government / public facilities.

The expansion of the city along this street was a rather ribbon-like oriented development in the beginning. Later on, some secondary roads were built as subordinates of the artery roads. Dago and Merdikaweg now function as collector roads connecting and distributing a number of secondary roads in the inner area connecting dwelling quarters behind this road.

### **4.5.3. Physical Elements of the Neighbourhood**

#### **a. Land use and zoning**

Zoning was considered to contribute to the creation of character and image in this area as elite villa quarter. The starting point was in the area of Oude – Merdikaweg. This area was allocated for a big park named Pieter Sijthoff, wherein the former *Gemeente Huis* was situated<sup>3</sup>. This part was initially like a node that connected the old Bandung in the south and the new one in the northern part. Public facilities were also seen scattered along Merdika and Dagoweg. Some amenities were seen surrounding the Pieterspark right in the northern part of the border of the old Bandung. They were built before the extension plan of new Bandung was done. Those facilities were used together by other neighbouring housing estates both in the south and northern part. Based on observations made regarding old maps, the traditional market place was not traced along these streets. The rest of the area along this street was in fact allocated mainly for housing purposes, particularly permanent construction. Some locations were also seen to be allocated for government facilities as shown by the map of 1933. Based on a map made in 1946<sup>4</sup>, some locations in Merdika and Dagoweg, which were allocated as built area, still remained un-built.

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<sup>3</sup> Now this Building functions as *Kantor Walikota* or Municipal Office of Bandung.

<sup>4</sup> The map is compiled from Town Plans dated 1933 and 1937, and revised from air photographs taken in December 1945. Unfortunately, there was no data on land parcelling and registration during the survey. This map was published by Svy.Dte.H. QAFNEI in February 1946.

## **b. Land parcelling, typology and structure of the streets**

Some of the lots along Merdika – Dago had already been sold to private owners before the master plan of the North Bandung was finished. It led to the construction of houses in excess of those anticipated in the plan. The parcelling system nevertheless was then strictly applied and put as a significant concern to the built images of luxurious neighbourhood in this area. The parcelling system in this area was also intended to control the density of the built area, the opening to the individual lots, and sewer system. The land cadastral and readjustment had been organized by the local government authority for land matters; the *Grundbedrijf*.

Big parcels mostly in the size of 800 – 1200m appeared in this area. In the extension of Dagoweg in the upper part after Simpang cross, there were also some parcels with sizes of more than 2000m<sup>2</sup> to 3000 m<sup>25</sup>. Layouts of houses on parcels were strictly regulated by the '*roolijn*' orders which principally set the building a certain distance away from the road side and the boundaries of the neighbouring parcel. The front set-back was about 20 and the ones on the side were of a minimum of 5 m<sup>6</sup>. Building coverage, which applied to individual parcels, was 20% percent on average, as it mostly did not cover more than 30% of the total parcel. Although parcels were not made uniformly they had relatively more varied sizes; the '*roolijnen*' ordered to produce street scale architectural aesthetics. Moreover, certain heights of the buildings and the prohibition to build pavilions in certain plots were also mentioned to bring a luxurious image in this uptown. Parcelling also was aimed at keeping the concept of low-density settlements and also to give more space for greeneries. The rest of the un-built space both in the front and backyard was used for gardens and parking places for individual vehicles.

Merdika and Dagoweg are relatively seen as a long straight-lined street (linear). This street also functioned as one of the outer ring roads encircling dwelling compounds in this district. Formerly, these streets had two lanes; one was allocated to horse riders<sup>7</sup>, and the other lane was used for the normal traffic. A green strip was used to separate those two lanes. The neighbourhood along these two street segments also applied the concept of the fenceless environment. Both streets were also functioning as the uniting element to connect the front-to-front houses. Around them, a 2.5 m *brandgang* was found along the back part of the parcels, which was used as a fire lane and for sanitation purposes.

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<sup>5</sup> See also Nix, 1949, P. 16.

<sup>6</sup> Based on the field survey on and measurements of the former buildings, and see also discussion on van Roosmalen (1992).

<sup>7</sup> The horse lane was in fact made for military purpose. It was a route of the Dutch horse cavalry that used to have their training in *Jubileumpark* and took a ride back to the DVO complex in former Borneostraat.

### c. Typology of buildings and dwelling units

There were many building types in these two streets sections. Besides functioning as residences, some buildings in this area accommodated government and public necessities. School buildings, churches, government offices were found surrounding Pieterspark in Mardikaweg. Along Dagoweg, some more big and medium villa houses were located. These villa houses were often used as both private and company residences. A big hospital, 'St. Boromeous', was situated in Dagoweg.

The architectural styles and expressions featured in the buildings along these street sections were very varied (fig. 4.92.). The Dutch building and construction authority seemed to give more freedom to the citizens in designing buildings in this neighbourhood both for individual properties and public facilities during the colonial phase. Later, the Dago area was even said to be a live-laboratory for experimental architecture. Many famous Dutch architects took part to characterize and to give an image to this area<sup>8</sup>. Around Peterspark some schools were built. The *Europesche Laagere School* and a pedagogic school (*Kweekschool*) in *Indische* empire style were built in 1866 prior to the extension of North Bandung. A kindergarten (*Froebel*) was built inside Peterspark near the rhinoceros statue. An elementary school (now SD Banjar Sari) appeared at this point, situated next to a catholic school, the H.B.S Ursulinen. The H.B.S. Ursulinen, an '*internat*' or boarding school with its own dormitories, was designed by the bureau of the architects Hulswit, Fermont and Ed Cuypers, and its construction started in 1922. Another famous architect, Y.S. Deyvis, designed a school, which is now occupied by State Senior High School Bandung I. In a loop located in the by-roads of the upper part of Dagoweg the famous complex of *Technische Hoogeschool* Bandung was constructed in 1918. This '*THB*' was designed by Ir. Henri Mclain Pont. Unique architecture with very strong local characters presented in this building made it one of his best masterpieces of *Tropische-Indische* architecture. A vernacular architecture and local materials were creatively combined with modern western architecture by the architect, and were shown attractively and consistently in the whole parts of building form, structures, decorative details, and also the method of construction. The roof shape was considered as a mixture of the local traditional roof of the Minangkabau house (*Gonjong*) with a vernacular Sundanese house (*Julang Ngapak*). The overlapped roof shape in the main buildings of the West and East Halls made the buildings more attractive. Timber structures were applied very uniquely in both the interior and exterior. Particularly in the bended laminated woods in the interiors,

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<sup>8</sup> Some influential Dutch architects in the North of Bandung were Eduard Cuypers, E.H. de Roo, A.F. Albers, Hulswit, Fermont, and C.P. Wolf Schoemaker, Maclaine Pont, J. Gerber.



Technische Hoogeschool



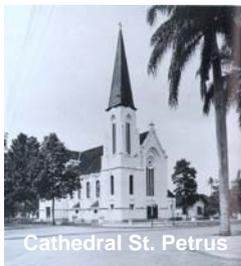
HBS Ursulinen



Kweekschool



**Educational Facilities**



Cathedral St. Petrus



Bethel Kerk

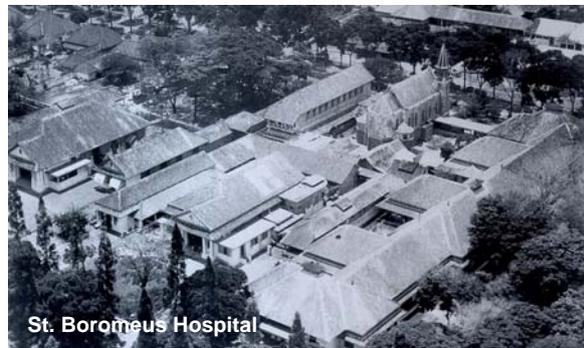


Protestant Church

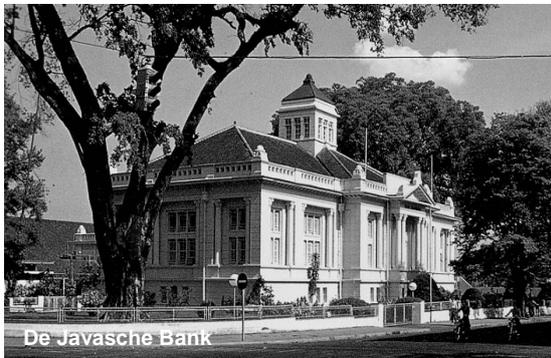
**Religious Buildings**



Gemeente Huis



St. Boromeus Hospital



De Javasche Bank

**Figure 4.92.: Building Typology along Dago – Merdeka Street: Educational Facilities, Religious Buildings, Government Offices and Hospital**

the wooded structure functioned constructively to provide a larger space for the halls and as decorative elements. The colonnades / porches that appeared in these halls were adopted from the pattern of Javanese houses. The ground plan nevertheless seemed to feature the basilica pattern or the early form of the protestant church but without an altar.

Some public buildings were seen along Dago – Merdikaweg. The Javasche Bank building designed by the Bureau of the architects Hulswit, Fermont and Ed Cuypers was situated at the end point of Merdikaweg. Decorative details in this bank building were dominated by the renaissance style. Doric columns were used to mark the building modules. Double columns and Tympanums were added in the façades facing Pieterspark in order to highlight its main entrance. Vertical lines and a *Cupola* placed in the middle of the roof strengthened the existence of this building as one of the landmarks in the neighbourhood. Another government building was *Gementeehuis* situated inside the Pieterspark. This building formerly functioned as VOC office in 1906 and housed the *Resident Assistent* of Bandung, Andries de Wilde (1915), but later on it was demolished in 1927. A new building functioning as a town hall or civic centre designed by Ir. E.H. de Roo was constructed in 1920 and later extended in 1935. The earlier building was facing Atjehstraat, and the main façade of the extension was built opposite the Javasche Bank. The strong Art-deco style was presented in this building. The architectural details used by the famous American architect Frank Lloyd Wright had obviously greatly influenced the design of de Roo for the city hall. Art deco lines were applied more intensively in the extension building, making this part more attractive than the main old construction.

Two churches designed by C.P Wolf Schoemaker were located near Pieterspark. The protestant Church was built in 1925 with the eclectic style of modern classicism with Corinthian columns applied in the façade. A catholic church, the cathedral St. Petrus, was built by M. Kunst based on the design from Wolf Schoemaker. Classic gothic details were present in the cathedral, but in a simpler modern language. The roof of the cathedral had a very sharp angle, with a tower at the right side. This cathedral had many beautiful ornaments, such as stained glass whose motives were describing stories of Christ. These glass ornaments were used to give lighting effects and lighting comfort in the church. A hospital was also built in Dagoweg. The Santo Borromeus hospital was formerly *Insulinde Poliklinik*. It belonged to Dr. Merz and was built in 1921. It consisted of some buildings with a small chapel, patient rooms, wards, which later had been extended with a boarding house for the nurses.

Housing units had more varied forms, since individuals had more freedom in designing their own properties. Medium to big size with one to two storied villa houses and

bungalows could be found in this area (fig. 4.93. and 4.94.). Some housing designs were similar to those found in other dwelling quarters in the North Bandung, where the application of pitch or shield roofs with a 45° angle, mansard or gable roof shapes, terraces, and local architecture, etc. was prominent. Motives derived from Art-deco style were used both in the exterior and interior of the villa houses with varied intensities. Nevertheless, some modern considered experimental architecture was seen in many of the dwelling units. The “*drie kleur*” or “three-colour” building designed by A.F. Albers in 1938 for example represented a strong influence of “*nieuwe bouwen*” architecture developed in the *Niederland-Indie* in the 30’s. This style shows more simple streamlines and avoids using too much decorative ornament. Curved forms and the use of ‘*daak*’ or flat concrete roofs seemed to leave art deco behind, which is richer of decorative details. A similar style was also shown in the “*drie locomotieven*” buildings in upper Dagoweg. Those three buildings are situated in a row on three parcels, and they were all designed by A.F. Albers in 1937 with *nieuwe bouwen* or art style of early modernism. The finishings on the façades with curved corners made these three buildings visually attractive. However, the forms, use of materials, decorative elements and other details did not depict any local architecture. A.F Albers also made the designs of residences in the secondary street parallel to Dagoweg in *Jansteenlaan* in 1939 with modern style. His designs were believed to follow J.P. Out and Le Corbusier (particularly Corbusier’s concepts for Villa Savoye). Although the architectural language was simplified, the designs for the housing units in *Jansteenlaan* have never been considered out of fashion even until today. A flat complex, *Olcottpark*, was also found in *Mardikaweg*, besides a bread factory (small home-based industry) – *Gradthorst* - as other building types in this area.

The early Dutch regulation only permitted 1 – 2-storied buildings with not more than 15 m of height along Dago – *Merdikaweg*. The designs of houses were constrained by regulations regarding the ‘*roolijn*’ (row line of set backs), roof, sloping, etc. that are based on certain criteria such as security, health, and aesthetics. Regulation regarding roof shapes was intended for climate and visual comfort. The height of the building was strictly regulated to keep the harmonious skyline of this neighbourhood. Dwelling units were mostly built to face the front street. Corner buildings were in a particular design. The permitted constructions for corner buildings were up to 3 storeys, which was higher than other buildings inside the parcel rows. Such an arrangement aimed at bringing an accent to the skyline and a landmark in the street scale environment.



Drie Kleur



Drie Locomotieven



Villa Tan



Ansthuis

Source: KITLV, Voskuil, R.P.G.A. - Bandoeng, *Beeld van Een Stad*, 1996, *Alboem Bandoeng Tempo Dulu*, 2005, and personal documentations, 2004 – 2006.

**Figure 4.93.: Big Villa Types along the Dago – Merdika Street**



Source: KITLV-Leiden, Voskuil, R.P.G.A. - Bandoeng, *Beeld van Een Stad*, 1996, and personal documentations, 2004 – 2006.

**Figure 4.94.: Medium Villa Types along the Dago – Merdika Street**

#### **d. Open space, parks, and vegetation**

Green open space played an important part in this area. Pieterspark and Gementehuis - park appeared as a starting point of this street in the south. Four green nodes were seen along the street intended for traffic purposes and away from the otherwise monotonous environment of a very straight street. Two parks attached to Dagoweg were Benhardsplein and Cikapayangplein. The street ended in the natural park in the upper Dago. St. Pieterspark and Gementehuis-park belonged to the type of the ‘*Openbare Park*’ or public park accommodating citizens carrying out communal activities.

“*Wie de Dagoweg in Bandoeng kennt weet dat deze door de damarbomen een majestueze alle geworden is!*”. In this way, the Dutch botanic expert Dr. L. Van der Pijl described Dagoweg. According to him, it had a beautiful majestic scenery with a 1.5-km row of Damar trees (*Araucaria*) along the section of Cikapajang cross leading up to Kromhau cross, separating the horse lane and the street<sup>9</sup>. Mahogonies were also planted along Mardikaweg in order to protect the street users from the tropical heat.

#### **e. Infrastructure and Utility**

Standard infrastructures such as supply of gas, water, and electricity were adequately provided in this area. Streets were well-designed and integrated with utility / infrastructure networks into the city. Fire escape lanes and sanitation (drainage and sewerage) were well-designed to guarantee a healthy and comfortable way of living. Storm water lanes along the front lots were made to be open for maintenance purposes. These lanes were also functioning as a means to control the parcels from being illegally extended to the public realms.

#### **4.5.4. Socio-cultural and economic characteristics**

Villa houses along both streets were mostly inhabited by the well-off people, mostly the Europeans with high positions socially and professionally during the colonial era. Therefore, the population was relatively homogeneous in terms of ethnicity. Although in the first establishment, these dwellings were intended as places to spend leisure time, later the Dago – Merdika area became the most preferred places for rich pensioners from other Indonesian towns to reside in. Since the neighbourhood was relatively close to the Braga area, economic activities did not happen to occupy Dago-Merdikaweg in the beginning<sup>10</sup>.

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<sup>9</sup> Kunto, 1984, P. 129, after *Met Open Ogen Door Stad en Land (With Open Eyes through Town and Village)*, 1850

<sup>10</sup> The Braga area was situated in the southern part of Bandung. It was the most popular area for shopping and amusement centres for the European society were located there.

Public properties such as parks, streets, and city infrastructures in Dago – Merdika quarters were maintained by the city (Dutch government). To contribute to the maintenance of the image of this area as a comfortable and elite one, some of the inhabitants and owners of the buildings in this area joined in an association called the *Bandoeng Vooruit*. The association was a local voluntary organization encouraging the participation of the city citizens in the development of North Bandung during the colonial phase.

#### **4.5.5 Issues of Transformations along Merdika – Dagoweg: the Potentials and Problems towards Conservation Efforts**

##### **a. Socio-cultural and economic changes**

Decolonization brought a lot of changes in this area. Until the early 70's however, the developments in this area were relatively slow and constant and no significant transformations were apparent. During the phase of the early post-colonial period, some ownerships of dwelling units were transformed to the well-off community in Bandung, i.e. private and government officials. Many public buildings were taken over by the local or central government and used for government and public facilities purposes. The administration of this area was later changed. Dago-Mardikaweg now belongs to the three administration zones; the sub-district of Sumur Bandung, Bandung Wetan and Coblong<sup>11</sup>.

Economic activities only started to dominate Dago-Merdikaweg when the local government made a town planning policy in the early 80's. This policy was implemented by removing some economic activities to the north as the developments in the southern part of Bandung became problematic due to over-density. The establishment of a big mall, Bandung Indah Plaza (BIP), in Merdikaweg was considered a starting point to speed up commercialization in this area. Some big shopping blocks, such as Merdeka shopping centre located just right in front of BIP, Dago Palace Mall, and Dago Plaza, were built following the construction of the BIP shopping complex. Nevertheless, this plan was not equipped with adequate infrastructures to anticipate the insertion of these new functions.

Although the social level of the inhabitants has not changed considerably, there have been new communities in this area; the merchants and the tenants who rent the dwellings for service and business purposes. Open market competition in business that rather

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<sup>11</sup> This area also is still divided into smaller neighbourhood units (Rukun Tetangga/RT and Rukun Warga/RW), which made it difficult to get the actual demographic data.

follows capitalism has also brought a certain ethnic to dominate the economic activities in this area, particularly the Indonesian-Chinese. This situation has allowed the Chinese living culture to transform the existing western life pattern, for example by adding some commercial uses to the neighbourhood and residences following the concept of shop houses which exist in the Chinese settlements. Pressures on economic development therefore are now more critical compared to the growth of population in this villa quarter in the early post-colonization phase. The increasing land value has caused Dago-Merdikaweg to be an elite commercial street. Following the increase of land value, taxes on land and constructions in this area are skyrocketing<sup>12</sup>. In these last three decades, the impulse to transform residences into commercially used buildings has been sustained by Indonesian natives, especially the pensioners who cannot afford to pay for the maintenance and tax of their big houses.

A new social structure in the new urban life has also been weakening communication within the community members. A more individualistic society appears as many dwelling units are now occupied by tenants or owners who are not citizens of Bandung. The landlords, occupants, and tenants of buildings along Dago-Merdikaweg have been changing dynamically from time to time. Problems occur especially because people owning the buildings in this street are likely to follow the very dynamic market trend of businesses in Bandung area. Many kinds of industries are changing, often very fast, i. e. within a period of one year. In these last 10 years fashion / garment, culinary tourism, accommodations for leisure / recreation, conventions' facilities, and education are the most leading industries / fields of business in this area. These activities require more spaces and new services, and thus affect the designed functions in this street morphologically. The physical changes will be explained in detail in the following discussions. Informal activities have sporadically appeared in this area within the last two decades. The lack of control in the early establishment of new functions has brought difficulties in managing these additional activities without raising social and political conflicts in the society, which is still becoming one of the most problematic aspects of town planning in this area.

Commercialization also brings a new-life style in this area. The Merdika - Dagoweg is now famous for being a cosy shopping and leisure district for the middle – high-class society. Not only people from within the city like to visit this place, but also this image has attracted people from other neighbouring cities, even from the capital city – Jakarta, and

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<sup>12</sup> The basic land price defined by the local government until 2005 was nearly 2.5 million Rupiahs or equivalent with EUR 250 per m<sup>2</sup>. However, in the open market the land price could reach 5 million Rupiahs per m<sup>2</sup>.

other islands. This area has become the most favourite hang-out place for young people especially during the weekends and on holidays. Some of the small-medium enterprises have taken advantage by providing facilities for the lower-income class who cannot afford to savour the fancy amenities but want to enjoy the atmosphere in this area. Those companies provide facilities similar to those accommodating the well-off society. These small-medium enterprises often build temporary stalls along the streets to house their small businesses<sup>13</sup>. The name of Dagoweg has been changed to become Jalan Dago in 1950, and later on in 1970 Jalan Haji Juanda. Nevertheless, the people, both the local citizens of Bandung and outsiders, still recognize it as Dago. This name sticks firmly to it even in today's society.

The above-mentioned trends of development are not the only ones that are responsible for the changing urban lifestyle of Bandung's society. Modernization, globalization of technology (including the development of building materials and construction methods), and communication have influenced preferences of architecture within the community living or using the buildings in this area. The gimmicks of luxuriously living in Mediterranean houses and minimalism have been particularly influential in the last two decades among the residents. At the same time, business actors prefer to bring a metropolitan image into this area, showing its vibrant economic power through modern international styles of building designs and expressions. All of these situations nowadays have been very challenging for the attempt to conserve the urban heritage in this neighbourhood.

The sense of belonging is seemingly absent among the community living in this area to date. Yet, no communal organization is present to bond the relationships among the residents, tenants and other users. A voluntary association such as *Bandoeng Vooruit* that was active in the past and whose members had a big concern for the environment is also missing. Therefore, it is still a big challenge to work for participation and involvement of the community members regarding conservation efforts in this area.

## **b. The physical changes**

### **• Land use and zoning**

In the early 80's physical transformations soon started succeeding the socio-cultural and economic transformations. Zoning which was strictly enforced in the colonial era to categorize an area following its activities is gradually missing, particularly since

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<sup>13</sup>The SME are mostly representing informal economic activities. They exist sporadically along Merdika – Dagoweg.

Indonesian natives began to occupy the dwellings. The changing population per occupations and ethnics, and the changes of functions in Dago-Merdikaweg have generated more commercial purposes, replacing residences of the high-level society. Only few residential uses are left, while the middle and lower-income groups persisted in the dwelling street inside the secondary dwelling complexes behind the Dago-Merdika area (fig. 4.95. and 4.96.). Although these dwellings located behind the Dago-Merdika Street area are being linked today by the urban network and due to the outer business street, these dwelling complexes have simply been cut off from the former garden estate. The compounds have become a more 'interior' dwelling neighbourhood, where the outer-part functions to house business purposes and the inner-part is left as dwelling estate. This new morphology has affected the original hierarchy of street structure and related dwelling types.

The "floating-zone" principle established by the local government as a planning policy in this area in Bandung had sustained the physical transformations during the phase of the economic boom<sup>14</sup>. During the two short terms of development plans, the area of Dago-Merdikaweg has been allocated for many different services and commercial uses. The absence of detailed guidelines to define the category of services and commercial activities somehow has failed to control the continuing destructions on many valuable elements of urban architecture in this area. Buildings along this street are now being used for non-dwelling purposes even along Merdika Street as the section's functional transformations have covered almost 70% of the total old dwellings (fig. (4.95. and 4.96.). Commercial facilities such as shops, offices, supermarkets, malls, hotels ranging from 5 stars to inn/motel class, cafes, restaurants, beauty centres, educational institutions and vocational training centres are taking a dominant rule. These new functions have transformed this road completely into a business-commercial axis within. The 3 – 18-storey buildings have been erected to accommodate these new uses (fig.4.101.). Factory outlets and bistros are two types of business sporadically appearing along this street since 1990. As many only liked to follow the trend without really understanding a business and marketing strategy; some of these factory outlets and places intended as culinary tourism could only survive for a couple of months. These businesses have been then replaced with similar or even exactly the same services or commercial uses but with different owners/investors. Therefore the changes and developments of services and commercials in this area are very much dynamic.

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<sup>14</sup> The floating zone principal is the urban planning policy applied temporarily to a certain area which allows the utilization of buildings within a certain period of time for any function with an intention to get the appropriate land use.

- **Transformations of land parcelling, typology, and structure of streets**

The streets of Dago-Merdikaweg have not changed structurally and are still preserved as a straight main road connecting the southern node of Merdika and northern highland of Dago. Dago-Merdikaweg as was a prestigious street of large colonial villa houses in the past, but today it has almost completely turned into an assembly of ordinary commercial buildings and institutions. This tendency is not happening along this area alone, but also extending to the dwelling quarters which are located in the second-level roads behind Merdika – Dagoweg; such as in Jaansteenlaan (now Pager Gunung), Zoorgvretlaan (now Hasanudin Street), Boromeuslaan, Bernhardlaan (now Dipatiukur Street), Tamansari Street, Rembrandtlaan (now Diponegoro Street), Cikapayanglaan, Sumaterastraat. Although the main street structure is preserved, this phenomenon has changed the certain logic of the hierarchical street pattern in the broader area; at the city level.

The functional transformations along these streets are consequently followed by drastic physical changes. Since the new functions need more and more spaces, many of the building plots have been expanded to a building coverage of even more than 50% (fig. 4.97. and 4.98.). Some of the remaining big villas in the northern - end part of this street leading to periphery area are now too in a process of changing their function to commercial use especially for hotels, conference and leisure facilities, and luxurious town houses and apartments. Some parcels have changed due to both subdivisions and fusions. The current permitted FAR in this area has allowed these kinds of development. The use of land parcels has been intensified by lifting up the constructions in order to provide more space.

In practice, the developments of new buildings are rather 'individual parcel-oriented', meaning that they don't consider the skyline, rhythm, and harmonious aesthetic on a neighbourhood scale. Fences are also a new phenomenon that came up in the early 70's. Due to security reasons most of the parcels are bordered with fences. Buildings that still serve as dwellings have fences that are more than 2 m high to keep the inhabitants' privacy and for security purposes. Following the use for public and commercial services, the fences in the private commercial lots are relatively low with a height of about 1 m, made of relatively semi-transparent materials. However, the use of fences interferes with the image of an open neighbourhood.

In 1980, the body structure of the street was changed (fig. 4.99.). A strip was made to separate the traffic lane. The development of economic activities and some new functions in this area have created new problems regarding the carrying capacity of the streets.

Traffic jams always occur during the rush hours almost everyday particularly in critical points at the junctions. After the opening of the highway from Jakarta to Padalarang, which shortens the trip duration for the vehicles, the traffic situation has worsened not only during the weekends but also during the working days due to the increasing flow of people from Jakarta and Bogor. The functional transformation has also made this area unsuitable/uncomfortable for dwelling and certain purposes like hospitals and clinics that were the features of the former zone. Parking places are a problem as there is not enough space to accommodate the demands of new uses. Public space like pedestrian paths and parts of lane along the road side are mostly used as extensions of parking places for offices, schools and academic institutions, shops and boutiques, factory outlets, restaurants, malls, etc. (fig. 4.100.) This situation is more critical during the weekends especially in the evening as food stalls and street vendors appear sporadically along this street to cater to many youngsters who like to hang out along this area. Street happenings and functions are often held in this area too during the weekends and create a unique and particular new urban culture and lifestyle.

- **Transformations of building typology**

New building types have also been appearing in addition to residential and public/governmental buildings and so does architecture. New buildings, especially on a bigger scale of development/construction like malls, hospitals, shopping centres, complexes of shop houses, restaurants prefer to present their individual image for marketing strategies and most of them seem to lack an appreciation of the former city history, which appears in the aesthetics of the buildings. For accommodating various new uses, many former villa houses have been redesigned, remodelled, expanded, or totally torn down and rebuilt from middle to high-rise buildings. A “Hommy” atmosphere for commercial purposes seems to be a trend in the new urban life-style, particularly among the middle – high income in Bandung. Therefore, although functions are added or changed, there are some commercial uses like restaurants, boutiques, and even factory outlets which still remain in semi-residential forms instead of making totally new constructions of ordinary shop-house types. As evidenced in the survey on 2004 - 2005, more than 60 % of the villa houses have been totally demolished, only 27 units really remained in their former forms and types with just little changes in reparation and additional levels (fig. 4.102. 4.103., and 4.104.). Transformations of building forms have also consequently changed the building mass compositions (fig. 4.105. and 4.106.). Normally, the units which still remain have been added with side wings or more stored construction in the back and side part. In some cases, the original roofs are cut for

additional construction. Nevertheless, most of buildings, both old and new ones in this area, are in a relatively good condition (fig. 4.102.). The transformation of function in this area is considered fast. Based on the survey in 2005, there were 27 new functions that replaced the residential use compared to the survey in 2004.

- **Transformation of infrastructure and urban utilities**

The infrastructure provided by the colonial government still exists except for the supply of gas. The networks of infrastructure have been expanded to meet the demands of new uses and the increasing population living in this area and the increasing users of the buildings. Although the street has been widened and improved, today it cannot accommodate the increasing traffic frequency. Due to the poor quality of material used to tarmac the main-street surface, the surface has been deteriorating with the cracks everywhere. This condition is even worse during the rainy season, creating muddy puddles especially in the spots where the frequency of the load from vehicles is high with big axle loads. The supply of power (electricity) and water has also been problematic in these last ten years due to the emergence of big shops, factory outlet hotels, rental offices, and malls etc. causing the rotated black-out of power and reduction of water supply particularly in the residential areas.

Drainage and sewerage are not well-provided and do not guarantee healthy conditions and a comfortable way of living. Storm water lines along the front lots have often been covered with concrete slaps to make extensions for parking lots or temporary buildings for private commercial uses, such as security guard posts, drive through services that need direct access to the main road, etc..

- **Transformations of open spaces**

In 1950, Dago and Merdikaweg were widened and the horse lane was moved. As per the instruction of regent Priatnakusuma the rows of Araucaria which was a part of the image in this area were torn down<sup>15</sup>. However, the ratio of green and public open space has also been lessening from year to year. *Plein* and green nodes have been disappearing gradually. Tjikapjangplein attached to one side of Dagoweg and Irene Boulevard has completely been paved. The Tjikapjang River crossing the Dagoweg has been covered with concrete blocks. Since the constructions of Suropati fly-over the Tjikapjangplein and the river has been totally disappeared. The green open space in this crossing leading to Tjikapjangweg has also been changed into a gas station. A green node in the other crossing of Dagoweg with Rembrantlaan and Multatuliboulevard has long disappeared

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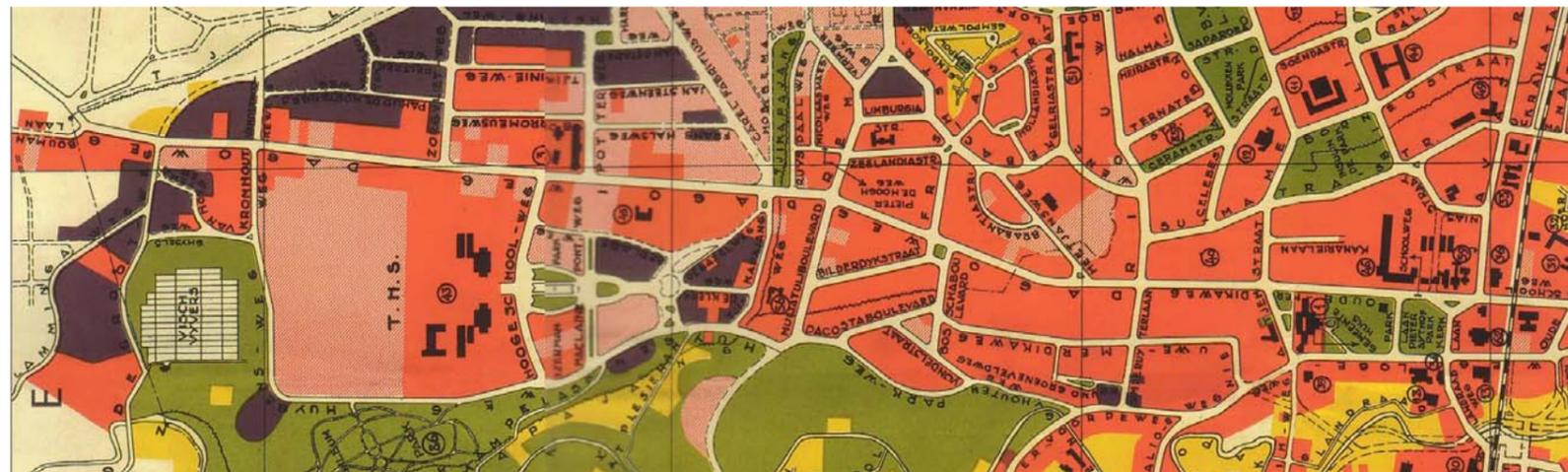
<sup>15</sup> Semerbak Bunga di Bandung Raya, Haryoto Kunto 1985. P. 666.

due to the extension of Dago-Merdikaweg. The Benhardplein has gone and been replaced by a building owned by the state-university Pajajaran. The big rice field in the upper Dagoweg – Ring Boulevard has long been occupied by a traditional market and now becomes critical at this point, with big numbers of informal economic activities being situated (fig. 4.96. and 4.99.).

- **Transformation of other urban architectural characteristics**

Architectural expressions also appear in a big range of varieties and in extreme contrasts, even from one building to another within close vicinity regarding height, form of building masses and tissues, as well as style (fig. 4.105., 4.106., and 4.107.). Metal works, ceramics, and large planes of glassed curtain walls are seen not only on façades of middle-rised constructions used for offices and hotels but even in buildings which remain as dwellings. Nevertheless, some buildings still try to adopt the neoclassical style. Eclectic architectures but without certain orders appeared in the early 80's – 90's as inhabitants tried to mix the modern international style with some decorative elements of Spanish and Mediterranean architecture. The minimalist style has also been appearing as a mainstream applied on new buildings by the new architects in this area since early 2000. The changes are considered to worsen the urban visual and functional quality of this area as well since there are no certain regulations, which are provided to guide such tendencies regarding building density, types of building and activities, parking, and other architectural building codes to technically regulate the visualization of the building façade, height, roof forms, etc. Recently, the building regulation applied by the colonial government for such an area is not suitable anymore.

Problems also occur due to the advertising system. Many economic actors like to take advantage by installing sign boards for advertisement purposes like billboards, posters, etc. in different sizes, forms, and colours along these streets since this area has become very commercial and also very attractive for various businesses with different users from different social classes. The installations of sign boards seem to be uncontrolled. Street corners and crossings which were usually used as spots to place unique houses and buildings which sometimes became landmarks of this area have been mostly covered by giant billboards. Sometimes, big trees are cut down to provide space for this purpose. Street lanes also have been decorated by too colourful banners, flags, neon signs, and big advertisement monitors. Although banners, hoardings, street decorations, etc. are considered as one way of beautification program by the local government, however, in the opposite, they often destroy the harmonious serial vision and the image of the former green aesthetic environment.



Figur 4.95. : Original Land Use of the Dago- Merdika Quarter

Legend :

- Perceelen van het Gemeentelijke Grondbedrijf (parcels for governmental facilities)
- Stenen Bebouwing (Permanent Buildings)
- Kampong
- Platsoon en Openbare Terrein (Parks and Terrain)

Source: Gemeentelijke Dienst van Stadontwikkeling, Januari 1933.



Source: Personal survey and interpretation, 2004 – 2006.

Figure 4.96.: Actual Uses of the Buildings along the Dago-Merdika Street

Legend :

- |   |   |
|---|---|
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #ff8c00; border: 1px solid black; margin-right: 5px;"></span> Residence  | <span style="display: inline-block; width: 15px; height: 15px; background-color: #0000ff; border: 1px solid black; margin-right: 5px;"></span> Government offices and public facilities   |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #ffff00; border: 1px solid black; margin-right: 5px;"></span> Residence with rented rooms  | <span style="display: inline-block; width: 15px; height: 15px; background-color: #8000ff; border: 1px solid black; margin-right: 5px;"></span> Hospital   |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Residence with office  | <span style="display: inline-block; width: 15px; height: 15px; background-color: #ff69b4; border: 1px solid black; margin-right: 5px;"></span> Church   |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #32cd32; border: 1px solid black; margin-right: 5px;"></span> Residence with shop  | <span style="display: inline-block; width: 15px; height: 15px; background-color: #ff0000; border: 1px solid black; margin-right: 5px;"></span> Commercial uses including: rental offices, market, shops, hotels, factory outlet, restaurants, malls, supermarket and big retailers, automotive showrooms, boutiques, banks. |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #00bfff; border: 1px solid black; margin-right: 5px;"></span> Education facilities including vocational educations, training and courses |   |

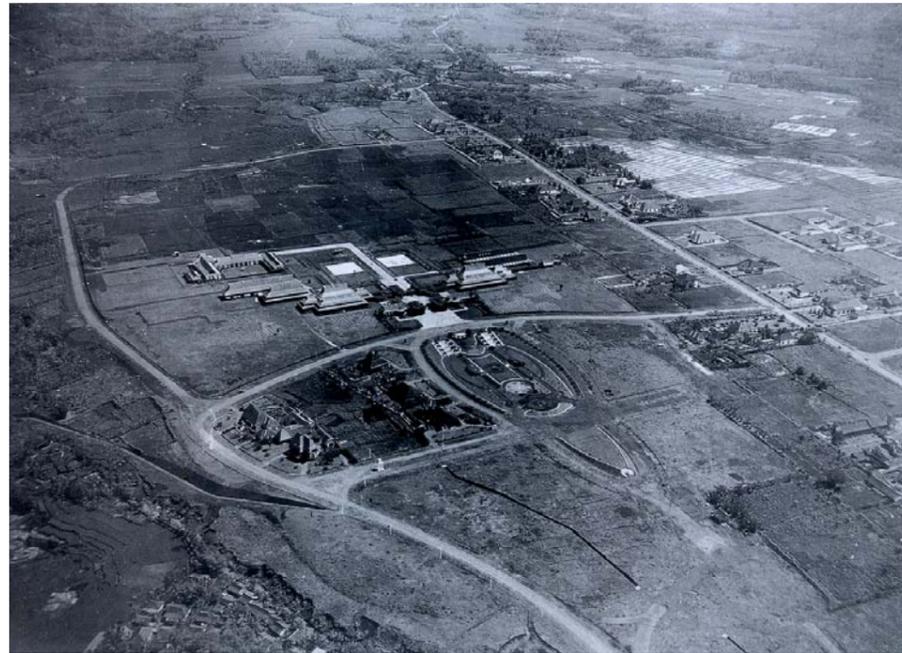


Figure 4.97.:  
The Dago-Merdeka quarter as Low Density Dwelling  
Quarter

Source: Voskuil, R.P.G.A. - Bandoeng, Beeld van Een Stad, 1996.



Source: Personal survey and interpretations, 2004 – 2006.

Figure 4.98.: Solid - Void Analysis along the Dago Street

Legend :

- Built Area
- Open Space



Source: Personal survey and interpretations, 2004 – 2006.

Figure 4.99.: Current Structure and Class of the Streets, Location of Vegetation and Informal Sector Activities along Dago – Merdika Street

Legend: **—** : Boulevard **—** : Secondary Street **—** : Smaller Secondary Street **●** : Vegetation **■** : Informal Economic Activities



Source: Personal survey and documentations, 2004 – 2006.

Figure 4.100.: Visual Sequences of the Dago - Merdikaweg



Source: Personal Survey and Interpretations, 2004 – 2006.

Figure 4.101.: Number of Floors of the Buildings along the Dago – Merdeka Street

Legend:  : 1     : 2     : 3     : 4     : 5     : 6     : 7     : 9

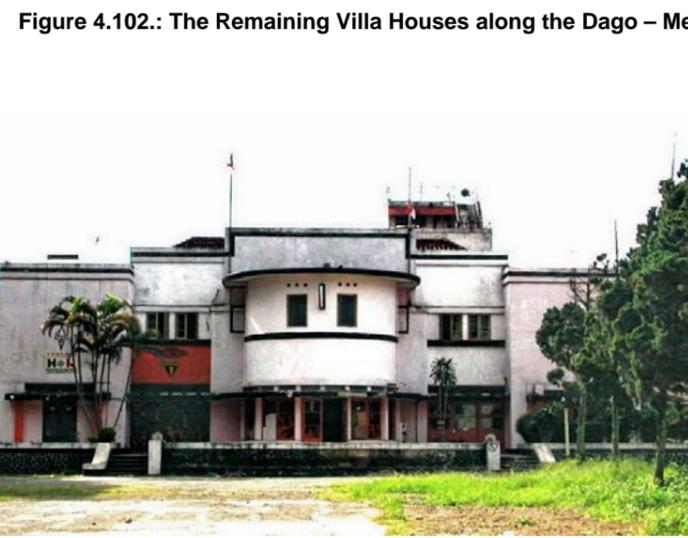


Figure 4.102.: The Remaining Villa Houses along the Dago – Merdeka Street



Source: Personal survey and documentations, 2004 – 2005.



Source: Personal survey and interpretations 2004 – 2006

Figure 4.103.: Architectural Transformation of Buildings and Dwellings along the Dago – Merdeka Street

Legend: : Low : Moderate : High : Demolition



Source: Personal survey and interpretations, 2004 – 2006.

Figure 4.104.: Visual Condition of Buildings and Dwellings along the Dago – Merdeka Street Based on the Quality and the Use of Building Materials

Legend: : Bad : Average : Good : Very Good



#### **4.5.6. Threats and Potentials**

Certainly the Dago-Merdikaweg area is still strongly assumed to be one of the city's most prominent streets in Bandung. The Modernization and commercialization that is unavoidable in today's urban development, however, have changed the prestige of this area to another sense – a business street instead of a luxurious villa residential area. From the findings of the observations in this research, it is obvious that the commercialization process that has been occurring in Dago – Merdikaweg is so speedy and has been followed by rapid physical transformations in this area.

This major functional transformation of buildings along these two road sections therefore can be seen as a normal phenomenon and as a consequence of the interesting position of the road in the cityscape. This situation can actually be considered as a positive development in the economic sector of this area too, but considering the tendency towards uncontrolled extensions of permitted uses, building constructions, and destructions of valuable architectural values in this area, some strategy shall be put into action. Commerce, tourism, and development of educational facilities can be continuously developed as potentials both to improve the local economic development and to finance the conservation program in this area. Housing provision as a crucial problem in Bandung must also be responded to and integrated into the development of this area. The question is now how to harmonize the conservation activities and the activities in commerce, tourism, education and the housing sector in this area since the available land is limited. Intensification and verticalization of the use of land seem to be the only answer to respond to all of these complex problems. For this purpose, proper regulations concerning densities, land uses, building coverage, building envelopes, etc. are required to be integrated into the detailed urban design guide lines particularly made for this area. As an effort to bring back the identity of this area as an important path towards the grand plan of the garden city of North Bandung, the urban elements shall be carefully redefined in order to reconstruct such an image.

In the smallest planning units, i.e. plots, careful design and comprehensive knowledge by architects are also needed. The old type of designs can be brought back to strengthen the image of a comfortable living area by transforming the old type design into the new ones by keeping a certain typology or by applying an analogy of the previous architectural vocabulary that once existed in this area.



Figure 4.105.:  
The Functional and Visual Transformation of Villa Houses along the Dago – Merdika Street

Source: Personal survey and documentations, 2004 – 2005.



Source: Personal survey and documentations, 2004 – 2005.

Figure 4.106.: New Building Types along the Dago – Merdika Street



Source: Personal survey and documentations, 2004 – 2005.

Figure 4.107.: New Building Types along the Dago – Merdika Street

**Table 4.6.**  
**Demographic Data, Non-Physical and Physical Characteristics of Dago - Merdikaweg**  
**Villa House Quarter**

No:	Category			
<b>Non-physical Characteristics</b>				
<b>1.</b>	<b>Occupation of the occupant*</b>			
	Government Officers (4)	16.0 %	Medical Doctor & Apothecary (1)	4.0 %
	Artisan (2)	8.0 %	Small Scale Business Owner (2)	8.0 %
	Teacher / academicians (1)	4.0 %	Medium Scale Business Owner (6)	12.0 %
	Army officer (2)	8.0 %	Contractor (1)	4.0 %
	Artist (1)	6.0 %	Pensioner (5)	20.0 %
	Lawyer / Notary (1)	4.0 %		
<b>2.</b>	<b>Status / title of Land*</b>			
	Owned / freehold ( <i>hak milik</i> )	16.0 %	Occupation right ( <i>Hak pakai</i> )	16.0 %
	Building right ( <i>hak guna bangunan</i> )	64.0 %	Rented	16.0 %
<b>3.</b>	<b>Income / month of the occupant *</b>			
	0 – 500,000	0.0 %	2,000,000 – 5,000,000	32.0 %
	500,000 – 2,000,000	8.0 %	> 5,000,000	60.0 %
<b>4.</b>	<b>Education of the occupant *</b>			
	>Elementary School	0.0 %	High School	8.0 %
	Elementary School	0.0 %	College / University	76.0 %
	Secondary School	0.0 %	> University	16.0 %
<b>5.</b>	<b>Duration of Living*</b>			
	0 – 5 years	12.0 %	20 -30 years	24.0 %
	5 – 10 years	16.0 %	> 30 years	32.0 %
	10 – 20 years	16.0 %		
<b>6.</b>	<b>Ethnic / Nationality*</b>			
	Indonesian origin	40.0 %	Indonesian Chinese	60.0%
<b>7.</b>	<b>Population density*</b>			
			102 p / km <sup>2</sup>	
	<b>Average Persons / Household*</b>	4.9 p / hh	(112 persons in 25 units range from 4 – 13 p/hh)	
	<b>Population by Age</b>		n.a.	
<b>8.</b>	<b>Average Land Price per m<sup>2</sup>**</b>		2.0 – 5.0 million IDR / m <sup>2</sup> ***	
<b>Physical Characteristic</b>				
<b>9.</b>	<b>Original Building Typology</b>			
	Big size single detached villa house / bungalow		2 storeys Flat	
	Single detached medium size semi villa		Office	
	Twin (couple house)		Religious buildings	
	Hospital		School buildings	
<b>10.</b>	<b>Total Parcels</b>			
	Original number of parcel	n.a.	Current observed parcels	240 units
<b>11.</b>	<b>Current Building Usage</b>			
	Residence & Boarding House /rented rooms (42 units)	17.5 %	Mixed with shops, café, warung, home industries (11 units)	4.9 %
	House and office (21 units)	8.9 %	House& Doctor Practice (2 units)	0,8 %
	<b>Commercial</b>			
	Factory outlet / Boutiques	11	Money changer	68.9 %
	Show Room	2	Café & Restaurant & Pujasera (Food Bazaar)	2
	Medical Clinics & drug store	3	Mall / Super Mall	3
	Bank	10	Big shop house / complex	5
	Big Hotel >***	3	Office	8
	Guest house / Motel / Inn	5	Spa	1
	Shops	109	Supermarket	1

	<b>Social / Public facilities</b>			2.7 %
	Gov. Administrative Office & community health centre	13	Hospital	1
	Traditional market / bazaar	1	Church	6
	School / Universities	9		
<b>12.</b>	<b>Parcel Size</b>			
	0 m <sup>2</sup> – 120 m <sup>2</sup> (0 units)	43.9 %	201 m <sup>2</sup> – 400 m <sup>2</sup> (77units)	22.9 %
	121 m <sup>2</sup> – 200 m <sup>2</sup> (73 units)	21.8 %	>400 m <sup>2</sup> (39 units)	11.4 %
<b>13.</b>	<b>Building coverage (current situations)</b>			
	<30% (5 units)	2.1 %	51% - 70% (88 units)	36.7 %
	30 – 50% (41 units)	17.1 %	71 %- 100% (106 units)	44.1 %
<b>14.</b>	<b>Percentage of Public Open Space incl. Street</b>			+ 30 %
<b>15.</b>	<b>Condition of Building based on quality of materials</b>			
	Very bad – bad (2 units)	0.8 %	Good (165 units)	68.9 %
	Moderate / average (31units)	12.9 %	Very good (43units)	17.4 %
<b>17.</b>	<b>Architectural key elements</b>			
	<b>Roof shape</b>			
	Pitched roof		Hipped roof	
	Pitched with gable		Pitched with gable and cut prismatic form	
	Half circle over porch		Flat concrete slab	
	Mansard		Combinations	
	<b>Former architectural styles</b>			
	Art - deco		Modern internationalism housing style	
	Details adopted from traditional / local house		Romantic classic	
	Victorian mixed with traditional motives			
	<b>Other significant elements</b>			
	Veranda / Terrace		Wooden tile for roof cover	
	Stained glass with motives in big villa houses		Half circle porch	
<b>18.</b>	<b>Condition of Building based on the architecture transformation</b>			
	0 %– 25% (low) – 22 units	9.1 %	51% – 75% (high) 65 units	27.1 %
	26% – 50% (moderate) – 0 units	0.00 %	76% - 100% (demolition) 153 units	63.8 %
<b>19.</b>	<b>Location of informal sector (due to existence of traditional market)</b>			
	Small scale	58 spots	Big scale (permanent market)	1 spot
<b>20.</b>	<b>Valuable Building / Monument (fig. 4.)</b>			
	Houses in Dago str. No 45,63, 68, 98A, 104,116,118, 133, 137, 140, 147, 148, 149, 151, 155, 163, 165, 187, 189, 191		High School Building in Dago str. 193 BTHS (ITB) complex	
	Three Villa Houses ( <i>Drie Lokomotiven</i> ) in Dago str. 111.113,115		Office DPD in Dago str. 37, <i>Drie Kleur</i> building	
	Chapel in St. Borromeus hospital		Santa Angela in Merdikaweg 24	
	Office of Catholic Church St. Petrus in Merdikaweg 14, Catholic Church St. Petrus in Merdikaweg 14		Polwiltabes Bandung (ex school) Merdikaweg 16,18,20	
<b>21.</b>	<b>Particular vegetations</b>			
	Mahogany along south Dago and Merdikaweg		<i>Damar (Agathis dammara)</i> in the Dago section heading to the north end	
<b>22.</b>	<b>Others :</b>			
	<b>Willingness for Participation</b>			
	Agree	60 %	Don't know /don't answer	40 %

Notes :

\*Questionnaires from 25 persons using buildings in Dago - Merdikweg. Interview was carried out in the year 2005

\*\* Population density is assumed as ratio of inhabitants living in 22 parcels (random) in this area

\*\*\* EUR 1.00 = IDR 11,000

#### **4.6. Setting Criteria and Estimating Conservation Potentials for Finding the Significance of Conservation**

It is very important to have a deeper knowledge if a certain area is significant enough to be put on the list as a conservation area or not, as the wrong decision even might be contra-productive towards the essential aims of conservation itself and later be burdensome to the city and community. Urban quarters marked for conservation therefore should really possess certain elements that can be classified in an organized manner and which further can be examined in a planning process. Therefore, it is very important to set the criteria of conservation in order to know what kind of the significant parts of the urban area need to be conserved before continuing to define the conservation methods and planning stages. The identification and the setting of criteria also help to clarify the different elements and qualities, which can go through the dynamic process of human aspects living in the designated conservation area. Such a justification can only be obtained if those elements are still clear, unique, and formatted within a certain manner. This initial method can also help to put certain and clear requirements, which are absolutely needed in terms of conservation before the planning phase begins.

##### **4.6.1. Setting Criteria and Estimating the Significance of Conservation**

There will be two directions to undergo the process of judgment in order to easily understand the significance of conserving the areas where this research took place, and what might be possibly adjusted/modified in due time. Besides aesthetics and a historical judgment, the first judgment would be to make a comparison of the researched area with other alike or similar cases which have been acknowledged as best practices. This would simply help understand the problems and potentials of the neighbourhoods in this research. The evaluation of programs, including approaches, methods and models implemented and enforced in those similar cases will be practical to improve strategies for better and successful conservation efforts. The second method would be the assessment of the cultural values and the current physical conditions. The last method will be elaborated in this research to give validation of conservation in the researched areas. The following aspects, which have been basically adopted from Cohen (1999)<sup>1</sup>, can be utilized as measures to help judge and grade the basic components for the conserved areas namely: character and urban setting, locality and sense of place, internal proportion and relations, style and design, construction methods and materials, and the condition / physical quality of neighbourhood elements.

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<sup>1</sup> See further discussions in Cohen, 1999. P 273 – end.

#### **a. Appraisal of character and urban setting**

This valuation includes the identification of local characters and settings. This helps to make a judgment if the proposed function and the site are still clear and the latter has well defined borders. This shows the level of uniqueness that is accepted and still well-marked by the community. The valuation will also include the clarity of edges, paths, land use, size and block division, focal points, and landmarks of the survey area<sup>2</sup>. The degree of destruction of these elements should therefore be carefully understood to guide the strategy in the future development with regards to conservation.

#### **b. Appraisal of sense of place and locality**

Special characters of localities might create unique senses of place, and should make a certain place imaginable and easily memorable. The uniqueness of localities therefore is considered as conservation rationale. The valuation of the sense of place involves the estimation of the qualities of historical and symbolical values, feeling of the local importance to scenic views, and the site's atmosphere and urban space, with links to the city and to nature as well as a sense of protected urbanity. The basic information for this purpose can be obtained through evaluating the historical clues and understanding the perception of the images that persist in the current society.

#### **c. Appraisal of proportions and relations**

This implies to clarify the special connectivity between various built volumes and the space consequently created, including the abstract relationships of the elements existing in the proposed neighbourhoods. The analysis in this section will have to prove a recognized and accepted relationship between structure and space, which is generally understood to give additional values to the environment, public and urban benefit. This research valuation is applied to the percentage of built environment and open space, and the remaining structure of neighbourhoods, which was shown in a solid-void analysis in each case study, map of floor numbers, the descriptive analysis concerning the skyline and the significant linkage with other important elements or activities on the larger urban scale.

#### **d. Appraisal of style, design, construction methods and materials**

This appraisal will help understand if the sites still reflect a good level of specific architectural vocabulary, building elements, design and methods of constructions, and use of materials. Design involves details of artistry as well as proportions and silhouettes

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<sup>2</sup> These elements were adopted as substitutes to the method from Kevin Lynch (1959).

which might be applied in both the single elements and on the bigger scale of the whole observed neighbourhood. This will help conclude if it is still necessary to maintain the authenticity of the workmanships that have undergone a transformation process. The map of building transformations both architecturally and visually based on the use of materials/constructions will help the valuation in this study.

Besides those above-mentioned appraisals, some assessments can be added as considerations to clearly define the criteria in such a way that the area / elements of the neighbourhoods are considered as pioneering. They show achievements in design, technology and characters as well which might be put as milestones and can contribute to the further urban development. The uniqueness of typology and its exceptionality are also put into the criteria.

#### **e. Appraisal of the condition / physical quality of neighbourhood elements**

The appraisal is done by observing the physical quality of the buildings in a visual manner in the surveyed area. This appraisal will help understand the level of physical decay or destructions in the surveyed quarters and help define certain improvement programs concerning conservation as well.

A scale will be later created to constitute an average judgment of the values possessed by the site and to estimate the total conservation potential. All of those aspects will be graded with the maximum grade of 20% for each category to simplify the valuation. To classify the results, a grade of more than 60% will put the case study in a status of one highly recommended for conservation area, whereas those cases with a value of 50-60% will be confirmed as feasible. A sum of less than 50% will be put as reconsidered area, in which new approaches might be expected to improve the potentials and some radical interventions might be applied. Nevertheless, by a more detailed evaluation the sites might also be considered as insignificant for conservation. The valuation of the above-mentioned aspects will be presented in the end part of this chapter.

#### **4.6.2. Conservation techniques and alternatives**

Based on the results of the assessments mentioned earlier, the degree of deterioration and potentials can be identified and later used to determine techniques of conservation that might be put as development approaches or alternatives. These techniques shall define the degree of intervention. Some methods below can be considered for the researched area:

### a. Restoration / Rehabilitation and Reconstruction

This includes activities to restore dwelling neighbourhoods or buildings and other components in the original condition on the large scale. This technique allows the use of new materials but those must be the same like the original ones. The example of this method is illustrated in fig. 4.108. This technique only can be done if the degree of destruction is relatively low. This intends to reconstruct the neighbourhood or buildings into the original condition by replacing the wrecked or ruined components both with old or new materials. The activities nevertheless should apprehend and seize the main patterns and components of the dwelling neighbourhoods.

### b. Adaptive Use and Revitalization

This includes activities to implant new functions in a particular neighbourhood and its components without changing the main / original images and concepts of the environment. The revitalization can be utilized as a measure to generate local economic development and make the old and neglected historical areas to become more liveable and profitable. This technique can be implemented together with a renewal program, which aims to improve the sanitation and infrastructure in order to accommodate the former and new uses. This technique is shown in fig. 4.109.

### c. Renewal and redevelopment with adoption/replication of architectural vocabulary

In many cases there are some historical sites which have been totally destructed and demolished and it is considered too costly to apply the above-mentioned conservation techniques. Therefore, the total demolition of the sites can be done and the replication in different sizes and on different scales can also be used as a method to restore the former image. The example of this method is shown in fig. 4.110.

**Table 4.7.**  
**Possible Conservation Action**  
**Referring to the Degree of Transformation**

No.	Actions / Programs	Degree of Transformations			
		No change / very low	Moderate	high	Total
	Conservation	√	√	√	√
	Preservation	√	0	0	0
1	Restoration / rehabilitation	0	√	√	√
2	Reconstruction	0	0	√	√
3	Adaptation / Revitalization	0	√	0	0
4	Redevelopment	0	0	0	√



**Figure : 4.108.**  
**Some Best Practice of Conservation at Restoration Level**

*Source: Personal documentations*

Clock wise: Emerald Hill and China Town Singapore, Esslingen BW- Germany, and Ribeau Ville in Alsace Region France. The Function as residential area is preserved. Other new functions are concentrated to support residential uses, although these new facilities are also provided for tourism development purposes.



**Figure : 4.109.**  
**Some Best Practice of Conservation with Adaptive Use and Revitalization Model**

*Source: Personal documentations*

Postdam -Germany, and Cour Saint Emilion – Paris, France. New Functions are interjected into the area to rejuvenate former uses so that the areas can financially maintain themselves. Some renewal programs have been made in this area to provide basic infrastructure for domestic uses and to accommodate the demand for facilities with the new functions.



**Figure : 4.110.**  
**Some Examples of Conservation in the Redevelopment Technique with Replication**

*Source: Personal documentations*

Bugis Junction quarter and Boat Quay in Singapore are good examples for redevelopment programs. Although new functions are in-filled and the surrounding area has been demolished to accommodate the demands of the modern society some significant parts of this area, which have characterized the urban living culture in the past, are preserved and replicated/reapplied in several facilities and have become characteristic in today's new built environment.

### 4.6.3. Results of Valuation and a Possible Model for Conservation

All of the aspects of appraisal mentioned earlier will be graded to ease the valuation in each case with a maximum grade of 20% for each category. Each will be examined in terms of aesthetic and historical background. A scale will later be made to conclude an average judgment of the values possessed by the site and to estimate the total conservation potential. A total result of more than 60% will give the case study a status of one highly recommended as conservation area, whereas a result within the scale of 50-60% will confirm the area as a feasible one. A sum of less than 50% will result in a reconsidered area, in which new approaches might be expected to improve the potentials and some radical interventions might be applied. Nevertheless, by a more detailed evaluation the sites might also be considered as insignificant for conservation. The valuation of the above-mentioned aspects will be presented in the end part of this chapter.

The tables below present the results of valuation. The input is based on the findings obtained during the field survey.

**Table 4.8. : Valuation of Case Study I - Gempol Quarter**

Case Study I		Max points	Grade	Result	Degree of Intervention
Character and Urban Setting	Land use	5	☼☼☼☼☼	15 %	!
	Size	5	☼☼☼☼☼		
	Border	5	☼☼☼☼☼		
	Block division	5	☼☼☼☼		
Locality and Sense of Place	Historical symbol	5	☼☼☼☼	13%	!!
	Atmosphere – scenic view	5	☼☼☼		
	Link to city	5	☼☼☼☼☼		
	Protected area	5	☼☼☼☼☼		
Internal Proportion and Relations	Structure of neighbourhood	5	☼☼☼☼☼	11%	!!
	Proportion of Built environment	5	☼☼☼		
	Verticalization	5	☼☼☼		
	Skyline Orientation	5	☼☼☼☼		
Style, design, construction methods and materials		20	☼☼☼☼	8%	!!!
Condition / physical quality of neighbourhood elements		20	☼☼☼☼	12%	!!
<b>TOTAL</b>				<b>59%</b>	

**Table 4.9. : Valuation of Case Study II - Houtwijk Quarter**

Case Study II		Max points	Grade	Result	Degree of Intervention
Character and Urban Setting	Land use	5	☼☼☼☼	15 %	!
	Size	5	☼☼☼☼☼		
	Border	5	☼☼☼☼		
	Block division	5	☼☼☼		
Locality and Sense of Place	Historical symbol	5	☼☼	11%	!!
	Atmosphere – scenic view	5	☼☼		
	Link to city	5	☼☼☼☼☼		
	Protected area	5	☼☼		
Internal Proportion and Relations	Structure of neighbourhood	5	☼☼☼	10%	!!
	Proportion of Built environment	5	☼☼		
	Verticalization	5	☼☼		
	Skyline Orientation	5	☼☼☼☼		
Style, design, construction methods and materials		20	☼☼	8%	!!!
Condition / physical quality of neighbourhood elements		20	☼☼☼	12%	!!
<b>TOTAL</b>				<b>56%</b>	

**Table 4.10. : Valuation of Case Study III - Arjuna Quarter**

Case Study III		Max points	Grade	Result	Degree of Intervention
Character and Urban Setting	Land use	5	☼☼☼☼	14 %	!
	Size	5	☼☼☼☼☼		
	Border	5	☼☼☼☼		
	Block division	5	☼☼☼		
Locality and Sense of Place	Historical symbol	5	☼	5%	!!!
	Atmosphere – scenic view	5	☼		
	Link to city	5	☼☼		
	Protected area	5	☼		
Internal Proportion and Relations	Structure of neighbourhood	5	☼☼☼☼	10%	!!
	Proportion of Built environment	5	☼☼		
	Verticalization	5	☼☼		
	Skyline Orientation	5	☼☼		
Style, design, construction methods and materials		20	☼☼	8%	!!!
Condition / physical quality of neighbourhood elements		20	☼☼	8%	!!!
<b>TOTAL</b>				<b>45%</b>	

**Table 4.11. : Valuation of Case Study IV - Tongkeng Quarter**

Case Study IV		Max points	Grade	Result	Degree of Intervention
Character and Urban Setting	Land use	5	☀☀☀	11 %	!!
	Size	5	☀☀☀☀		
	Border	5	☀☀		
	Block division	5	☀☀		
Locality and Sense of Place	Historical symbol	5	☀☀	8%	!!!
	Atmosphere – scenic view	5	☀		
	Link to city	5	☀☀☀☀		
	Protected area	5	☀☀		
Internal Proportion and Relations	Structure of neighbourhood	5	☀☀	8%	!!!
	Proportion of Built environment	5	☀☀		
	Verticalization	5	☀☀		
	Skyline Orientation	5	☀☀		
Style, design, construction methods and materials		20	☀☀	8%	!!!
The condition / physical quality of neighbourhood elements		20	☀☀	8%	!!!
<b>TOTAL</b>				<b>43%</b>	

**Table 4.12. : Valuation of Case Study IV Dago – Merdikaweg Area**

Case Study V		Max points	Grade	Result	Degree of Intervention
Character and Urban Setting	Land use	5	☀☀	10 %	!!
	Size	5	☀☀☀		
	Border	5	☀☀☀		
	Block division	5	☀☀		
Locality and Sense of Place	Historical symbol	5	☀☀☀☀	16%	!
	Atmosphere – scenic view	5	☀☀☀		
	Link to city	5	☀☀☀☀		
	Protected area	5	☀☀☀☀		
Internal Proportion and Relations	Structure of neighbourhood	5	☀☀	8%	!!!
	Proportion of Built environment	5	☀☀		
	Verticalization	5	☀☀		
	Skyline Orientation	5	☀☀		
Style, design, construction methods and materials		20	☀☀	8%	!!!
Condition / physical quality of neighbourhood elements		20	☀☀☀☀	16%	!
<b>TOTAL</b>				<b>66%</b>	

**Note :**

Degree of Intervention		
! : very low intervention	!!! : moderate intervention	!!!! : very intensive planning
!! : low intervention	!!!! : intensive planning	



## **CHAPTER V**

### **Concluding Remarks and Basic Approaches for the Urban Conservation in the Ex-Colonial Dwelling Quarters of North Bandung**

## **Chapter V**

### **Concluding Remarks and Basic Approaches for the Urban Conservation in the Ex-Colonial Dwelling Quarters of North Bandung**

In order to wrap up the discussion and interpretation of urban development and transformations toward conservation efforts in the earlier chapters, some conclusions and approaches as recommendations will be elaborated in this chapter.

#### **5.1. Understanding the Transformations of Urban Morphology in North Bandung**

Such as described earlier, Bandung as one of the biggest “metropolitan-wannabes” in Indonesia has been trying to conjure up the city in order to embrace the powerful and vibrant image metropolises ‘must’ have. It is unquestionable that urban development becomes more challenging today particularly when the search of identity becomes a part of conservation efforts. These efforts always stumble upon issues of urbanization, assembled with modernization and capitalization in the current realities of urban development. Problems that have been occurring in Bandung are very much complicated as the dualism in urban life is also evident to characterize the city as a result of colonialization in the past. Informality and formality are mixed and this phenomenon is present not only in socio-cultural aspects, but also materialized in physical features of the urban morphology to characterize the so-called ‘metropolis in Indonesian terms’.

##### **5.1.1. Influencing Factors of Transformation of Urban typo-morphology in the ex-colonial housing settlements in North Bandung**

The findings in the earlier chapters have proven that the transformations in the ex-colonial housing settlements in North Bandung are so evident especially after those quarters were officially transferred under the order of the local authority during the post-colonial phase. The expansion of commercial zones from the southern to the northern part of Bandung as one of the urban policies in this era has positioned the quarters selected in this research as inner-city settlements and today they have to survive under big pressures of current economic activities. These activities not only functionally have changed the former major function as residential use, but also have brought big influences in transforming typo-morphological aspects of the cityscape and the urban dwelling culture within the city area. Many new emerging functions, as shown in most of the cases, always demand larger spaces for accommodating their activities. And by some means, these are mostly built after economic principles. Such situations often result in the neglect of urban aesthetics and architecture, which were important

components in the grand urban design in the past. Tjuk Koeswartojo<sup>1</sup> predicted that such a condition cannot be avoided in the current urban development, and this will continue that way even in the 20 years ahead. More adequate urban planning and suitable means of control are therefore urgently needed to solve these problems.

The explanations below might generally conclude the three factors influencing the process of transformations occurring in the case study areas:

#### **a. Cultural transformation**

Anthropologically, a culture possessed by a nation may change correspondingly with the process of development and the way of life within the society<sup>2</sup>. The urban development in the colonial settlements in North Bandung in its early development phase might be seen as similar to the one in Great Britain during the period of industrial revolution, where the urban culture of the so-called cottage industry was emerging. This resulted in the transformation of the urban pattern and some parts of the urban community, especially the well-off, moved to the urban fringes and created a new built environment with new economic strata and particular divisions within the community. In practice, the postcolonial urban development cannot sustain such a structure since the new urban community (the Indonesians) has different perceptions and another understanding of the urban culture compared to previous inhabitants, although the colonial planners had tried to involve traditional principles of the dwelling culture in those quarters. In fact, new inhabitants prefer to manage this built environment by following their varied knowledge and traditions they comprehend today.

The economic competition within the Indonesian community, especially the domination of the Indonesian-Chinese, in the economic sector during these last four decades also has been one of the major influencing factors to steer the policies of urban development that also bring consequences in the shaping of the cityscapes. The way of life, especially the working culture of locating one's work place within or not far away from one's house, has also been brought about by the Indonesian-Chinese in these areas. This tradition has developed into an idea of transforming the function of dwelling units from residential into commercial uses or mixed purposes. This living culture in turn has been followed by the local Indonesian urban inhabitants due to economic forces. Thus the zoning implemented during the colonial phase, which was initially based on characters of activities, becomes nonconforming for today's society. These transformations give a big

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<sup>1</sup> The person used as a source is an expert in urban planning and urban sociology – he was interviewed for this research in October 2005.

<sup>2</sup> Victor C. Ferkiss, *Technology and Industrial Man*, New York, George Braziller, 1969.

contribution to modify the physical features of urban elements such as is seen in the building façades and mass-envelope of dwelling units located along the main roads in the neighbourhoods of the case study areas. The trend to change the dwelling quarters into commercial uses also causes the spatial transformations on a larger urban scale.

The cosmopolite western, which is to a certain extent more American-oriented, has also been infiltrating the Indonesian urban development and its urban architecture. “Mercantilism” architecture has been growing sporadically and fast during the post-colonial phase within these urban dwelling quarters. Yet, both the traditional and the “*mestizo*” colonial architecture that had been the characteristics of these quarters don’t seem to be able to resist these challenges, because they are less preferred by the urban society in these areas.

#### **b. Development of building technology and material**

Technology is a very fundamental factor in human evolution and in the shaping of urban culture<sup>3</sup>. Industrialization, which enables the development of materials and the utilization of sophisticated building technology has also been contributing significant influences to the urban culture and architecture movements of the ex-colonial quarters in the North of Bandung of today. Besides functioning as aesthetical / architectural aspect in these quarters, new building materials have been used with the intention to make construction methods more efficient and effective. However, preferences of constructions, building forms, and materials for architectural works (wall, floor, and roof covering, and decorative elements) have been changing from time to time following the current trends. Currently, prefabricated and mass products of building materials and decorative elements have been popular and become a preference not only in the study case areas but also on the larger urban scale. The use of these new materials gradually replaces the unique mix of traditional - modern craftsmanship that was once implemented specifically and that has given strong a character to each of the quarters. This leads to the process of visual uniformity inside the urban area. The boundaries of specific quarters are blending and this makes it harder to architecturally distinguish the edges of the quarters.

#### **c. Planning and Development policies**

Shifting planning and development policies have been transforming the typo-morphology of the ex-colonial quarters in North Bandung. Such as shown earlier, it can be concluded that the transformations in North Bandung are mostly caused by the neglect of the hierarchal urban structure which is followed by changed land use, urban transportation

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<sup>3</sup> Victor C. Ferkiss, *Technology and Industrial Man*, George Braziller, New York 1969.

management (particularly the change of traffic routes and transportation modes), and the improvement of infrastructure in main and secondary street sections. Many dwelling quarters in this area are converted into more elite and prestigious neighbourhoods as they are now located in the urban centre due to the current development plan. As a consequence, in the neighbourhoods where the case study took place, land value is increasing and followed by the increase of taxes. The former dwelling quarters become economically more important and housing units become a more valuable asset for their owners. Economic pressures driven by commercialization have forced the population to intensify the use of their properties and accelerate the morphological transformations in these quarters.

### **5.1.2. General Problems of the Ex-Colonial Dwelling Quarters in the North Bandung**

Like other big Indonesian metropolises, today the ex-colonial dwelling quarters in North Bandung are also facing many complex problems. It is evident that the townscapes in the case study areas and their surroundings have been turning into a chaotic urban structure. Today most of urban areas are characterized by disorganized traffic, and are subjected to a densification process both in terms of the population and the built area. The uncontrolled informal activities illegally residing in many unsuitable locations within these neighbourhoods, has also contributed more urban problems. These all become clues to a deterioration of the urban quality both functionally and environmentally. The visual quality is also decayed by scrambled and disordered architectural expressions. Rambling street structures, incoherent and disordered building facades, brutality of signage and of billboards' forms and constructions, etc. continue disjuncting and degrading the serial vision which was one of the major principles of town planning implemented in the past. Today, it is rather difficult to see a harmonious neighbourhood characterizing the face of dwelling settlements in those areas.

Briefly the main problems in the observed area can be mentioned as follows:

#### **a. The Degrading Image of an Ideal Living-in-the-Green-Dwelling Neighbourhood**

Dwelling quarters in North Bandung contain some valuable historical urban heritage, with some artefacts from the colonial era left as architectural aspects of the city. Besides, some historical buildings with a particular style, other urban components such as squares, parks, a well and harmoniously-arranged site plan also created a strong image of a garden city in the past where not only the physical aspect was emphasized, but also

the socio-and cultural ones. These historical assets have been fading by the domination of new functions that simply focus on profit. If there are no measures of control, new generations will hardly witness the historical paths of the city that play a valuable part in the urban architecture. This also indicates the significance of conservation at a larger scale in contrast with single buildings. Efforts thus must contain aspects of how to protect and maintain these quarters, including their local characters that must be saved from pressures of incremental developments dominated by commercialization. New planning ideas also have to seek for solutions to harmonize those two current contexts, in order to keep the vibrancy of today's modern life but at the same time they must also try to keep the identity of the city so as to guarantee it.

**b. Densification**

Such as mentioned previously, densification both in terms of rapid population growth and built environment is so evident in growing big cities like Bandung, besides the domination of economic activities which are increasing and generating rapidly spontaneous and incremental developments. Hence, intensity of land use becomes a crucial factor in spatial planning. A new or rearranged urban structure must therefore guarantee to control the intensity of activities within these areas.

**c. Inadequate understanding of conservation, Insufficient Supporting regulations and Weak Law Enforcement**

Referring to the phenomena mentioned above, spatial planning, land use and the determination of urban activities, building masses / forms, patterns of traffic, as well as parking are urgently needed to sustain any conservation efforts. In most of the cases, problems also generally occur as the local government does not have a budgets that is big enough. On the other hand, potentials embraced by the society both for maintaining and financing the conservation efforts have not yet been optimized. Therefore, the legal framework, financing, as well as institutionalization would be important issues to be discussed later. These aspects will surface within the course of the recommendations. As the administration cannot work alone to support conservation programs, the participation of other stakeholders would also be essential in the discourse. Thus, any attempts for conservation must be utilized with legal aspects to guarantee their enforcement.

Consequently, like with other big Indonesian metropolises nowadays the townscape in these dwelling quarters and surroundings has been turning into a chaotic urban structure. This situation is created by disorganized traffic, density of both the population and the built area, as well as by scrambled and disordered architectural expressions. As

it was the case in the case studies, it is easy for the observers to witness and experience the unmanageable traffic in those neighbourhoods. Rambling street structures, disjointed and disordered building facades, brutality of signage and billboards, uncontrolled informal activities that illegally reside in many unsuitable urban areas, etc. are among other things responsible for the decay of urban quality both functionally and environmentally. Moreover, several visions that were a major principle of the garden city in the past have been disjointedly occurring and hardly characterize the face of Bandung today.

Attempts to overcome problems occurring in the case study areas in fact have been made by the city by developing infrastructures. But the so-called improvements have rather been focusing on the widening of roads which has even triggered a worse situation for the neighbourhoods since this doesn't touch the root of the problems. Although the development plans and building regulations are already present to order and control the implementation of land use, zoning, and the construction of buildings in Bandung as well, adequate and specific regulations concerning conservation are still absent. The weakness and inconsistency in enforcing regulations and laws, however, become significant obstacles to maintaining the unique image of these dwelling quarters and to control it from unwanted transformations. This situation occurs because the urban development plan simply stresses economics considerations with little respect to aesthetical and architectural aspects.

The city also often comes about unsuitable strategies of trying to generalize problems and potentials in every quarter. Regulations are generalized without any careful assessment and research regarding the significance of what should be specifically conserved while each neighbourhood has its own character. The regulations also often miss to consider the area as a whole. Thus, specific building codes and regulations for certain conservation areas are also one of the most important issues today besides looking for solutions of how to balance and harmonize the development planning, and how to manage these neighbourhoods to fusion the diversities and complexites in an integrated town planning.

Corruption that allows inhabitants to arrange and to fill in their plots with any kind of preferences without certain control is also a major problem that worsens the situation of today. Moreover, the low budget of the city for conservation purposes, such as for incentives, socialization and campaigning, etc. becomes a big constraint for improving such efforts.

#### **d. Limited Budget**

The lack of budget to support conservation efforts has become a general problem for the city of Bandung. So far, conservation programs have been integrated into some other renewal or city beautification program. Other alternatives to finance the development of conservation programs such as looking for potentials from private people and the community have not been optimized.

#### **e. Community Awareness and Participation**

Awareness and public participation is warranted in order to integrate conservation in a broader planning consideration because planning will affect the community and the community has to bear the cost of development as well. In fact, regarding the conservation effort in North Bandung there have been still inadequate knowledgebase, political and socio-economic infrastructure, and leadership problem. Although Bandung's heritage society exists and has initiated the building of awareness and setting the people in motion regarding conservation efforts, the absence of skills and incentives to create conditions favourable to a conservation program still becomes a constraint in the area of North Bandung. In most of the cases, the programs only involved government institutions and certain groups that are perceived as being beneficial, excluding the poor. Therefore, the social and political framework should be improved to support participation regarding conservation. Such a strengthened framework should be politically institutionalized and the programs should be broader socialized to get the same perspective of conservation. Community participation also can be utilized to financially support the conservation programs. So far, this community potential has not been optimally used.

### **5.1.3. Development Potentials**

The observations in the ex-colonial quarters in North Bandung have shown that within the quarters, a lot of potentials still subsist. Tourism and commercial services seem to be the leading activities, which could generate this city to be an urban venture, besides developments in the education and housing sector.

#### **a. Tourism Sector**

Shopping, fashion, culinary tourism, and conventions have been fine-tuned in these last two decades. However, cultural or urban heritage tourism have just grown as the campaign to care for the cultural and natural heritage has been spreading among the society in these last few years. There are a lot of possibilities to combine all of those available potentials in one package of tourism which includes efforts to put more

appreciation on values that lie in urban architecture. Further campaigns, technical exploration and creative modifications are thus needed in order to meet this purpose.

#### **b. Commercial sector and services**

Commercial sector and services which develop rapidly in the ex-colonial quarters in the North Bandung can be seen as a big potential to support particularly some conservation programs. However, this sector might demand a lot of investments to prepare the supporting infrastructure. Today, due to disrespect of hierarchy in developing these services, the development of this sector even becomes a disadvantage for conservation efforts. The occurrence of inexorable traffic pressures, problems of parking spaces, pollution, etc. is still evident. Therefore, conflicts might still occur between the developments in this sector, tourism, and other sectors. Thus, the conservation program together with planning systems shall manage to imply particular restrictions which define a relevant group of commercial functions, enterprises, and services in order to meet the concern of conservation and find the common interest of the activities in these different sectors. Some commercial activities in small – medium scale enterprises including hotels, boutiques, restaurants, shops and offices, banks, training and health or beauty centres, are among other commercial activities suitable for those areas that at the same time give the city the opportunity for to better maintain the historical ambiance. Informal activities, which are also a big support of the economic development in this area, also must be accommodated and handled carefully, although their existence is often considered as visually and functionally disadvantageous in the cityscape. Certain locations should be defined to accommodate the informal economic activities. The allocation of sites will aim to protect the proportion of open and public space in the researched quarters, as the locations of research are the most preferred sites for illegal occupations.

#### **c. Housing Sector**

Generally, the housing sector in the city of Bandung will continue growing parallel with the rapid growth of the population of today. As mentioned earlier, the geographic location of Bandung makes the areas for developing this sector in the inner city so limited. The situation particularly in North Bandung is worsened by the decreasing number of housing sites from year to year as dwelling is replaced by other functions such as commercial facilities and private and public use as well. The housing sector can be also considered as a potential. Therefore, the intensification in those ex-colonial dwelling quarters is needed as a solution to accommodate the increasing demand within the community, which means that verticalization is thus unavoidable. Those efforts should be done with

enough concern of cultural heritage and without decreasing the environmental quality. Thus a spatial and functional structure should be determined in North Bandung to protect the certain conservation area. Methods to mix the different uses such as between the residential and commercial ones in these areas can be chosen with a careful and tolerable treatment look at the remaining architectural values besides strengthening functions of control.

#### **d. Education Sector**

Bandung keeps embracing its image as a city of research and education. The development of educational facilities is so evident, even this sector has become one of the leading “industries” in North Bandung in these last two decades. Trends to transform the residential use to accommodate educational facilities have become bigger from year to year, even some high-rise constructions built for this purpose are scattered around these ex-colonial dwelling quarters. However, like other functions this tendency can be also seen as a big threat at the same time if the development of those facilities is not fitted within efforts to protect the urban heritage. Thus, spatial planning on the city scale and designs of educational facilities should be regulated in order to keep the image of the North Bandung in a functional and architectural sense.

### **5.2. Approach and Recommendations**

Referring to the problems and potentials describe earlier, some approaches and recommendations, which can be applied in the planning at the city and implementation level can be presented as follows:

#### **5.2.1. Redefining Urban Identity as a Basic Idea of Conservation in North Bandung**

The City of Bandung obviously features a life of contrasts: it mixes the modern and the traditional, the rural and the urban, the formal and the informal in an area that is called “City” while this city is in fact quite different from those in the western terminology. Many scholarly discussions in Indonesia thus come to the conclusion that the identity of Bandung is actually manifested in the richness of its various features, which shape the city like an urban collage. The colonial settlements including their housing quarters in the case study areas therefore are pieces of a city collage that give the city of Bandung some uniqueness which can also be seen as a potential to give the city a strong image. Those features are also able to describe the historical paths of the distinctive urban architecture in Bandung. Redefining urban identity therefore becomes a very important point in order to help searching and identifying urban elements, which might give a basic idea regarding the efforts of preservation and conservation.

Establishing the principles of the garden city in the urban environment was the major idea to develop the city of Bandung in the past. Though the grand plan had not been completely implemented, the structures and elements of a garden city entrenched within it still remain some of the major urban facts until today, despite the fact that there have been layers of transformations and modifications throughout history. However, a cognitive mapping is still needed to recognize whether this idea is still perceived and accepted by the city inhabitants to be a significant part of urban development or not. In order to understand the perceptions and preferences of the citizens, two simple random street surveys based on the categories age and educational level were held, each involved 100 respondents whose age ranged between 15 – 70 years<sup>4</sup>. These categories were chosen since the cognitive and perceived map is indeed influenced by experiences and also the richness of perspectives of the respondents<sup>5</sup>.

The given alternatives and brief descriptions of the images of Bandung were presented and the result shows different perceptions and preferences of what people like to have for their city. The observation based on an age group of the population between 15 and 30 years old results in the insight that Bandung is more perceived as a city of tourism (currently, fashion and culinary delights play a more important role than eco-tourism) and education. Only 5% of the respondents in this group could still recognize the basic idea of the Garden City. This result might occur as the respondents in this group were born after the new order had been established in a time in which economic issues have become more influential in urban development and strongly shape the urban culture<sup>6</sup>. Categorized in levels of education, the observation obviously shows that the respondents in the lower-educational level prefer to perceive Bandung as a city of tourism and trade. The respondents also prefer to keep such an image since they assume that the activities within these sectors could give them direct advantages and benefits to improve their standards of life and their prosperity. The population with a higher educational level seems to have other ideas and many believe that tourism and trade, and other economic activities which are considered as more environmentally friendly should be injected into the former cityscape as well. The respondents with an age range of 51 – 70 years who have historically been experiencing more phases of city development prefer to keep former images and concepts of urban development because they are considered the

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<sup>4</sup> The respondents are chosen above 15 years old with assumption that they understand already which image they prefer to have for their city. The age category is based on the political phases which are considered to influence the cognition / mental map of the city population in defining ideas of urban identity.

<sup>5</sup> Saarinen, 1976.

<sup>6</sup> Additionally, the development of the educational sector in Bandung is also rather considered as one influenced by business measures.

most ideal ideas to create a good urban environment for city inhabitants. They call for a situation where considerations of the economic and political development should give the city and the community a chance to live in a liveable and environment-oriented urban area.

The result of the survey also obviously shows that the economic aspect is considered more important in the urban development within the community of Bandung today. Although many still prefer to preserve the city in the old form, the survey also shows that the trend to develop Bandung as a city of tourism and trade, as well as a city for education, is becoming bigger, parallel with the transformation of the urban lifestyle and the preferences of both the local government and the urban society to bring up Bandung to become one of the world's metropolitan cities. But this judgment cannot be used as the only consideration to develop the urban area regarding conservation and attempts to give an identity to the city as mentioned earlier in the aim of this research, namely that benefits of new development trend must also allow maintaining focal elements of the past, while integrating the new and modern qualities. Likewise, the city must be able to wear and tear without remaining too solid for changes<sup>7</sup>.

**Table 5.1.**  
**Community's cognitive map of Image of the City of Bandung**  
**Based on Age Category**

Age category	Garden city settlement	Education & Research	City of Culture and conventions	Tourism (Fashion and culinary) and Trade	others
15 - 30	11 %	33%	14%	41 %	1%
31 - 50	27%	25%	18%	30%	-
51 - 70	37%	27%	16%	20%	-

Source: Personal survey, 2005.

**Table 5.2.**  
**Community's cognitive map of Image of the City of Bandung**  
**Based on Level of Education**

Level of Education	Garden city settlement	Education & Research	City of Culture and conventions	Tourism (Fashion and culinary) and Trade	others
Elementary School	4%	19%	5%	67%	5%
Secondary – High School	15%	37%	27%	20%	1%
Higher Education	31%	27%	12%	29%	1%

Source: Personal survey, 2005.

<sup>7</sup> see also Cohen, 1999.

**Table 5.3.**  
**Community's preference of Image for the City of Bandung**  
**Based on Age Category**

Age category	Garden city	Education & Research	City of Culture and conventions	Tourism (Fashion and culinary) and Trade	others
15 - 30	7%	30%	9%	53%	1%
31 - 50	20%	33%	8%	37%	2%
51 - 70	34%	26%	12%	18%	-

Source: Personal survey, 2005.

**Table 5.4.**  
**Community's preference of Image for the City of Bandung**  
**Based on Level of Education**

Level of Education	Garden city	Education & Research	City of Culture and conventions	Tourism (Fashion and culinary) and Trade	others
Elementary School	8%	27%	8%	51%	6%
Secondary – High School	21%	29%	16%	33%	2%
Higher Education	30%	23%	16%	21%	-

Source: Personal survey, 2005.

In terms of preserving the chosen urban settlements in 'Bandung-Nord', the grand concept of the old Garden City is still considered reasonable to be used in this research as a major idea of conservation as this idea is admitted to carry major historical values in the urban development<sup>8</sup>. This idea principally means that the development of other sectors must be placed in the frame of the garden city concept and keep its major principles. It is true that today the concern to adopt the features of some certain historical sites has been adopted by the local Government of Bandung, this even seemingly has become a current trend of town development. However, the transformations in each case study vary, and it is necessary indeed to make adequate assessments of the urban elements in order to understand the reasons, potentials and the constraints in each case as well. At this stage, it is also important to further define what kinds of methods can be implemented in each study case. This also helps make an effective planning so the further process and implementation will not only become a burden to the urban development.

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<sup>8</sup> Based on the discussion with Francess Affandy (Chairperson of Bandung Heritage Society) in 2005 and the results of the Workshop on Conservation of the City of Bandung held by the Department of Architecture of Bandung Institute of Technology in the same year.

### **5.2.2. The Concepts of Urban Mix and Contextual Urban Development**

To overcome complex urban problems, especially in the historical inner city dwelling neighbourhoods that tend to be a high-density area with diverse uses, new basic urban forms need more than implanting new facilities. Such neighbourhoods hence must be enhanced in order to be able to foster new patterns of urban life, but at the same time they must also be capable to sustain the previous or existing forms of life of the community. The concept of urban mix might be put as an approach<sup>9</sup>. It is one of the modern planning concepts whose intention, among others, is to make corrections of the zoning system in order to adjust it to the new urban trends and demands.. The mix land use both horizontally and vertically is considerably able to give more advantages and benefits on the efficiency of land especially due to the shortage of land provision for the new functions and facilities in the inner urban areas. The concept of urban mix also allows to lessen problems caused by interurban mobility, as the residential uses in the study case areas are becoming less dominant and are transforming into other uses. They will be mixed with and integrated into other functions in the same area and supported with a suitable and adequate system of infrastructures. In respect to conservation efforts, this concept must also accommodate initiatives to integrate the old uses in a new controlled manner.

As frequently mentioned earlier, the townscape is a result of human development which is strongly connected with a series of sequences of history of the urban development and cultural aspects of the populations. It is therefore important to understand that conservation is a series of activities to preserve the cultural context in the historical urban area in order to enhance the underlying urban qualities. Conservation in the case study areas thus should be able to create a high-quality environment. This result can be obtained only if the approach is cohesive and comprehensive. It has to be noted that conservation of the urban heritage is not merely a matter of designing historical areas where a number of buildings or individual objects are significant to be preserved but on the urban scale it is also concerned with the urban fabric as a whole and not the architecture alone. Conservation also has to be put in the framework of aiming the goals to balance and harmonize the urban development, and to help the city in managing the diversities and complexity. Therefore it is absolutely necessary to deal with the context, which is the character and setting of the area within which conservation activities will assemble. Contextual planning in this case is also crucial as it is about to understand the position of the development and how to position the development.

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<sup>9</sup> See further discussion in Cohen, 1999.

In a broader sense, the concept of balance and harmony in the town planning also might be interpreted as harmonizing and balancing the relationships of physical (spatial) elements of the city, organizational / institutional aspects, behavioral and cultural aspects, and activities or the use of space. Markus (1980) affirmed that there are some models to be implemented in the transforming of built environment, but at the same time certain conditions in the same area also have to deal with the stable or “unchangeable” aspects, which are considered to be preserved. In this case, manipulations of space and activities are needed. Nevertheless, the changes that might occur from those manipulations should be subjected to obtain the balance of the built environment. The final results might not precisely like the former conditions but are also possible in other forms with respect to significant urban elements designated to be preserved.

### **5.2.3. Setting Strategy in the Urban Development Plan at the City level**

#### **a. Institutionalization, Legal Concept and Law enforcement**

Laws/acts and regulations concerning preservation have become important measures and supplements to avoid further destruction of valuable urban heritage in the cityscape. It is very important therefore to have a political statement as a legal basis of any conservation actions. This statement shall be definitively materialized in the city development plan.

Some actions that might be put into practice are for example: (1) Defining zones of conservation areas in the master plan. It shall be followed by the setting of laws and particular regulations, which include restrictions to control uses / utilization in designated areas; (2) defining the edge and category of the conserved area that also shall include restrictions of expansion or constructions which might weaken the building of the image aimed at. (3) Making an inventory of historical buildings and other urban elements which are considered significant for strengthening the identity of the city; (4) Setting urban design / technical guidelines which can be used to avoid unsuitable development of new constructions in historical areas. This shall include guidelines to control heights, BCR, FAR, building materials, signage system, setbacks, proportions, and architectural elements. (5) Applying the correct statuses in certain urban areas and significant elements in this concern within them. This method includes giving the right to use for the buildings to communities / individuals who have a big concern and consistency about conservation efforts. Penalties and / or detainment can be enforced both on the individuals and groups who intentionally break the conservation laws and related regulations.

## **b. Financing Conservation**

- **Budgeting, Loans, Subsidies, and Incentives**

Once the city has committed itself to legally include conservation in the city development plan, government shall allocate the public budget to support this program.

Provisions of loans for the conservation of certain areas and their elements might give individuals or groups of the community a better chance for conservation efforts. These loans can be utilized for the restoration and renewal of such conservation areas and for the rehabilitation of the elements within such an area. In many cases, this will increase the land value, which means also that the loans and other conservation costs can be balanced. Loans with pledges obligated to the borrowers can be provided by government authorities or agencies. Revolving funds from the governmental finance institutions also can be another option. The payback with a certain interest is gained from the properties which might increase their values after they have benefited from the loans through rehabilitations and other conservation methods. This small profit can be collected and used for other programs.

Subsidies and incentives can also be provided for the maintenance cost of certain areas, buildings and other urban elements. These can also be given to both, individuals and groups of the community. They can be formed as funds to support conservation programs without any obligation of a payback. Tax exemption, tax depreciation, or credits with a very low interest can be given to those, who are eager to put the investments into the rehabilitation and other related conservation efforts.

- **Adaptive use**

Historical areas and those elements which are considered unable to function as before can be injected with or changed into new functions without neglecting the conservation principles. Adaptive use can be put as an approach to generate income for the beneficiaries in the designated neighbourhoods. This technique might support the aim of self-financing the conservation neighbourhoods, including the covering of maintenance and many development taxes.

- **Transfer of Development Rights**

Historical areas and their elements are often threatened by eviction, especially when they are located in strategic urban areas where the land value is considered high, and because inhabitants have no interest in and financial capability of maintaining these values. It will be difficult to manage this pressure especially if the parcels or buildings are owned by individuals or certain groups and not by the state / city. To avoid the ongoing

destruction of such sites the transfer of development rights can be suggested. This offers the owners the possibility to sell the development right or to transfer it to other locations with some compensation. The deed of restrictions concerning the uses can be implemented and must be clearly regulated in all legal aspects by the related government authority. These regulations aim to maintain the solidness and the wholeness of the significant elements of conservation.

### **c. People's Participation and Public - Private Partnership**

The community or public can be seen as big potentials to self –finance of conservation effort. However, their bargaining position should be improved and institutionalized in order to acknowledge their positions legally or politically for their decisions in the planning or regulatory processes, which might involve or concern them. The relation of public and private participation is described in the feature below. The public - private partnership shall position all members of stakeholders at the same level in the decision-making or regulatory processes. NGOs can enable participation within the community and narrow the gap among stakeholders. They can also connect important development resources related to conservation efforts. NGOs also may function as development consultants, who provide technical assistance both to the government and the community. The relation among these actors is as described in fig. 5.5.

## **5.3. Town planning / the Urban Design Approach at the implementation level**

Design approaches for the selected quarters must aim at intensifying the land use in the conservation context, with a stress on the improvement of the spatial / functional, visual as well as environmental quality inline with the objectives of conservation.

The mix of human settlements especially in the dense urban dwelling quarters with their fragile interrelations demands a high degree of control<sup>10</sup>. The basic principles of town planning and urban design can therefore be used to help create practical and clearer technical guidelines in conservation. Regarding the concept of urban mix, usage / zoning, parcelling and buildings will be the major keys to help rearrange those areas as well as measures of control at the same time.

### **5.3.1. Land Use and Zoning**

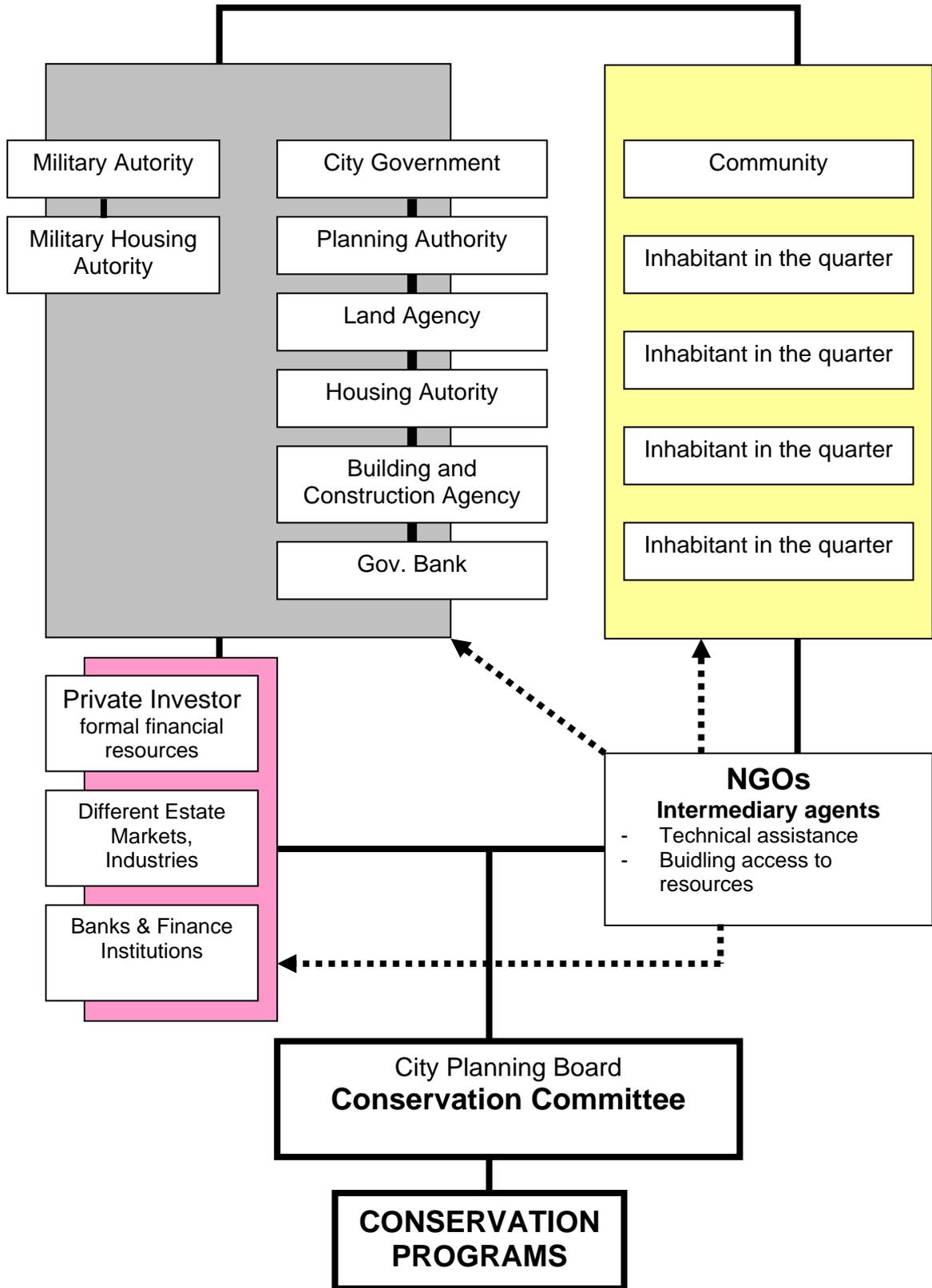
New tendencies of development mostly focused on economy have resulted in a dynamic usage of urban space in Bandung. In association with conservation efforts, this trend needs to be controlled in a certain system, since new activities of the population in

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<sup>10</sup> Hanan (2001) after Cohen (1999)

Figure 5.5.  
Institutional Framework for Conservation

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certain urban space might destroy the urban quality. The zoning system and land use therefore can be utilized as measures to order and guide the development in this area. They can be applied on different scales and in certain degrees, from the macro ones which cover whole districts, to neighbourhoods and parcels / individual lots or buildings. They can also indicate the use of floor space; assigning different uses to floors or heights, for example up to certain heights only particular uses are permitted. Referring to the aim to regain the image of the garden city, the zoning system and land use can be elaborated as follows:

The zoning of the public realm should also be highlighted in this case especially the percentage of open and green space as this is the key to maintain the image of the garden city. With a maximum of 60% of individually / private-owned land, other parts of the remaining land can be used as open and green space. The density in the area of the case studies thus can be rearranged by considering current activities occurring in those areas. Ideally, 30-40% of the urban land is owned by the public. This public property includes roads and squares (approximately 20%), public buildings or public grounds (approximately 10%). New zoning can be the result of the improvement of new lifestyles, tastes and living standards. Uses are hence able to be reviewed again in the short – long-term development planning as technology develops and human activities change that might demand readjustment in the new zoning.

Scarcity of land for residential areas in North Bandung has generated not only increasing land values, but also land speculation, an increasing range of new activities, and a tendency to get away from residential uses. These facts are all calling for solutions to intensify the available built area in North Bandung, including those in the case study area. To accommodate different activities a 'patchwork-use' concept can be applied. Secondary activities such as commercial ones (shops, workspaces, supermarkets, retails), entertainment, leisure, new public and social facilities (hospitals, schools, etc.) can be combined with and must be aimed to support the residential use which is the major function. Thus, the previous character is conserved and the potentials for developing the economy at the local level are kept. Those new functions can be clustered with residences.

Night time uses such as cafes, night clubs, discothèques, pubs, restaurants, etc. might be injected in the case study areas to respond to the increasing demand for tourist facilities. Nevertheless, locations for this purpose must be well-considered because they might produce impacts that are not suitable with the requirements of comfort for residential use. An evaluation of the compatibility between the new proposed uses and

the existing neighbourhood has to be done beforehand to avoid conflicts politically and socially. These kinds of activities can be located away from the plots that are predominantly used as residential areas. A transition use can be introduced in the zoning and this can function as a barrier as well.

Every citizen must have equal access to new facilities and services including those for commerce, education, health and all civic uses. Zoning and the revised (new) land use must create a more efficient use of space and buildings. They should also give more opportunity for social interaction, which is now decreasing in urban life.

The informal sector can be formalized by allocating particular adequate places for activities within the neighbourhood. Certain regulations that define the categories of activities or services offered by small – medium industries / enterprises must be made in respect to the functional, environmental, and visual quality of the neighbourhood.

### **5.3.2. The hierarchy of forms, uses, and users**

The hierarchical neighbourhood as a previous concept can be adopted in the current context and applied into different elements of neighbourhoods, for example into zoning or uses, forms of houses, and classes of streets. The model of the outer – inner ring can also be used to support defining this hierarchical concept horizontally.

The former social hierarchy, which is parallel with the hierarchy of some physical elements, can be translated into hierarchy of tenures, sizes and housing types. The ownership patterns can be mixed or spread out both vertically and horizontally, and can be used to promote social interactions among the society. Thus, the current social segregation can also be avoided at the same time.

### **5.3.3. Townscape, Structure, and Street Network**

The urban dwelling neighbourhood contains of a disposition and composition of its components, like the building elements, structures, envelopes, circulations, patterns, etc. and these components are interdependent among them. There are some elements with fixed characteristics which might become landmarks, but some others do not play important roles in characterizing certain areas. New developments which demand more different forms / spaces might distract from the former pattern of the neighbourhood. In such a condition, it is strongly suggested that the new functions and urban facilities are placed without changing the fixed elements of the neighbourhood which have long characterized and become the image of this area. The in-fill should be done in rational ways and without neglecting the aesthetic aspects and the unity of this area as a whole.

The boundaries of the conservation areas must be preserved to define and strengthen the sense of place. It can be created by redefining the edges with a design of the streets, landscape, a selection of the vegetation, particular motives of furniture etc. that were used in the past to characterize these areas.

According to Markus (1980) nothing is fixed in the urban development. In the run of time everything might move and change into new forms. But regarding conservation, there are some aspects / elements that should be placed fixedly to maintain the image and the stability of the environmental, functional, and visual quality in a certain neighbourhood. The considerations will be due their unique uses, symbolical (social and cultural) values, continuity of structure to bridge the history of urban development, the distraction that might occur from new activities / structure, and the time as well as the cost to replace existing functions or change them into to new functions. In this case mobility / flexibility might still be allowed by placing the movable / non-permanent urban elements like street furniture, small-scale buildings, kiosks, and even garages and multi-storey car parks.

A historical dwelling neighbourhood might be shaped by structures with some patterns and particular modular components which makes it unique in the urban collage. These modules might be applied not only in the arrangement of plots / parcels but also in the dwelling components. Nevertheless, there are also elements which are tailored specially and become very unique components which can not be easily replaced. If they have to be replaced, the unique structure might be anomalized / destroyed and it might also cause the rise of many costs. Concerning conservation reuse and adaptive use to allow for the new functions and activities should also consider this modularity. Fusions and combinations of modules are possible, and unique components can be kept as accentuations and landmarks within the whole structure.

Referring to the principles mentioned above, some can be suggested to improve the town planning concept at the implementation level in the case study areas as follows:

- The outer boundaries shall be kept to bring back the sense and identity of the garden city. Therefore the remaining dwellings along the outer rings, which are considered historically and / or architecturally valuable to strengthen the identity and sense of space, must be preserved. The extension of these buildings for both residential and other uses must be designed carefully and compatibly with the existing constructions. The both horizontal and vertical extensions can only be done as annexes in the back or as right and left wings of the buildings within the previous perimeters of the front setback lines of the original constructions. In cases where additional constructions be

done over the perimeters of front setback lines, they must not cover or block the existing buildings. Wrappings with transparent materials along the perimeters of the original buildings might be applied as a design solution. This must allow the observer to catch characters presented by initial features.

- The concept of open neighbourhood must be readopted in the new development plan by ensuring that any borders constructed for defining parcels are still able to give transparency in order to create good and flowing serial visions for the observers and users as initially aimed.
- The percentage of open space, particularly green area, must be kept in an ideal way. A minimum of 40% of the total area should be allocated for open space. This also aims to protect the environmental quality, especially to preserve the ground water, which is now becoming more problematic in the North Bandung area. The green area must be allocated proportionally and spread out into the neighbourhood units to give space for communal activities. It can also function actively as a means to support social interaction.
- The construction of new streets is necessary to keep the structure of the neighbourhoods. The enhancement of street quality and sanitation is needed in all of the areas of the case study. When large-scale developments that might change the network of streets and routes of transportation (including increasing traffic frequency and transportation modes) are being purposed, an environmental and social impacts assessment is required on the neighbourhood. The EIA must be done prior to the implementation of such redevelopment programs.
- The previous walkable neighbourhood concept must also be preserved. The development of transportation modes and an increasing frequency of traffic in the large case study require the design of streets and pedestrian facilities to be comfortable and secure for the street users. Adequate sidewalks are considerably significant today to be constructed particularly along the main and secondary streets.
- Linkage of the neighbourhood is one of the important aspects in the former grand design of the garden city in the case study area. Therefore, the blockaded streets which might also interrupt the linkage and structure of the neighbourhood must be set free. To cope with new mobility demands linkage can be supported by providing adequate streets and means of transportation based on the hierarchy of the roads.
- Street furniture (post boxes, telephone boots, news agents', kiosks, benches, bus stops, etc.) must be arranged to comfort the inhabitants and other users. The number

of these facilities should be considered with the functions purposed in those areas. Commercial uses such as shopping centers, restaurants, and other supporting facilities also have to parallelly provide adequate parking areas since this has long caused problems in such developments. The parking lots must not destruct the proportion of open and green space.

#### **5.3.4. Density and forms**

##### **a. Density**

In order to protect the environmental quality, particularly in respect to sanitation and hygiene of the designated quarter, it is necessary to define the permitted density. This regulation also aims to create a good visual sequence and more appreciation of the images of those quarters, besides enhancing the level of comfort that might attract more visitors.

In order to comply with the concept of the garden city in the surveyed areas, the outer rings where the rhythm of façade is important to create the first impressions of the quarter as a garden city, shall be preserved as in lower density areas. The inner ring can be allocated for a higher density neighbourhood, in which different types and sizes of parcels and dwelling units are situated.

The density also relates to the arrangement of parcels, besides the designated BC and FAR. The parcelling system therefore shall enable people to trade space for places.

Land parcelling is one of the measures particularly to order the private-owned land. A certain land division is used to ensure access from a public space. Besides, it is applied on the hygiene and the effectiveness and efficiency of infrastructure in a neighbourhood. The block size should ensure to ease access within the neighbourhood or interring neighbourhoods, the ability to sustain a variety of building types and uses, as well as the ability to change and to adapt over time.

The development parcels in an area which tends to be a dense one should also enable the developers / community to generate a richer mix of building types, tenures and uses. Nevertheless, this should also be able to create a fine urban grain. A geometric form with a degree of simplicity is halted as it was in the former form as this pattern is able to help ensure the simple identification and measurements, and furthers both fusion as well as a subdivision process if necessary. A degree of street frontage should still be beneficial not only for access to air, light but also for commercial value. Smaller plots in some cases for example should have a minimum of 5 m street frontage, and it is not permitted to

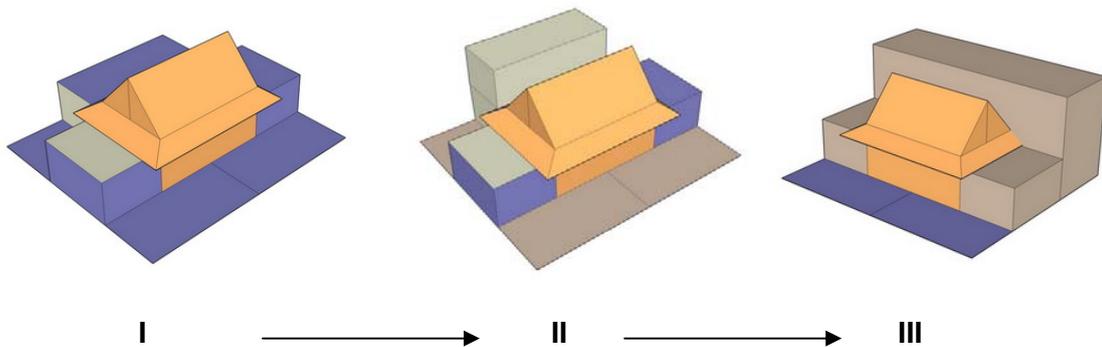
subdivide the smallest parcels as they had actually been designed based on the very minimum standard. The parcelling also should help to define a clear boundary between private and public property. Larger plots can be obtained through fusion and land readjustment, which can be done both by developers or community members.

The arrangement of plots which create the agglomeration of plots in a block should also consider the harmony of the urban pattern, common line of buildings, skyline, and other urban design, visual and environmental qualities. The coverage ratio of 40% to a maximum of 70% can be applied in the dense case studies. This depends on the activities and the demands in those particular quarters.

Setbacks both for the front and back edges of the parcels are also important. The setbacks from the front edges of the parcels must still allow to function as a private green open space which is able to strengthen the image of the former garden city although they setbacks might be reduced in size. The setbacks on the back sides of the parcels mainly function to ease the control of infrastructures, to maintain the hygiene and safety of the neighbourhoods (for example in case of fire). This will vary from case to case, and depends on the density purposed.

**Figure 5.1.**

**Some examples of stages of horizontal and vertical extensions with respect to setback and building form / facades**

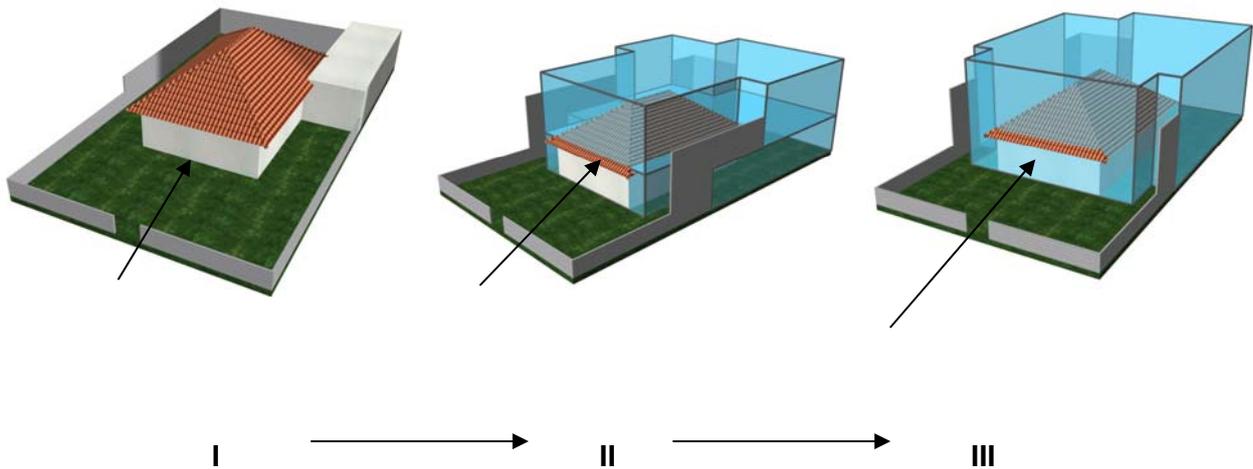


### **b. Forms / buildings**

Regarding conservation efforts the visual background of buildings should also be recognized first. The degree of modification and alteration thus can be done later in various ways. As each of the dwelling units in the former concept has a front yard which was used to give the strong image of a garden city it is therefore important to keep such open space as a green area. Considering the current development and extension of buildings, the modifications can be done both vertically and horizontally. Generally, the extensions can be limited to medium-rise buildings for the areas that still halt function as

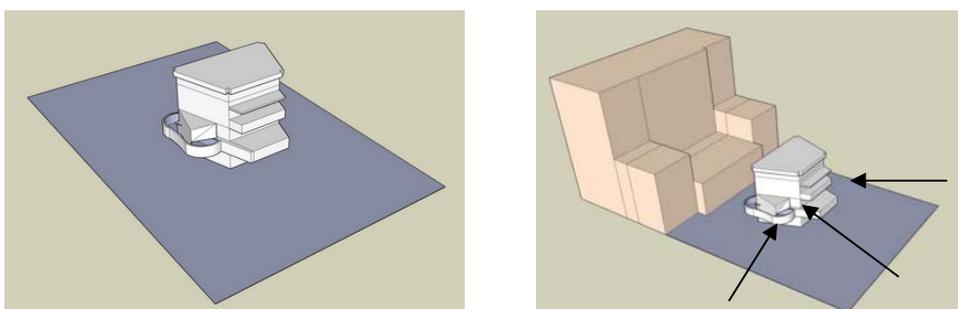
dwelling settlements. The high-rise constructions can be applied for the very rapidly developed and high-density areas. However, the constructions of high-rise buildings must be done with careful considerations on the historical structure of the former neighbourhood.

**Figure 5.2.**  
**An Example of Stages to Extend Construction with Special Treatments to Preserve the Facade**



In relation with the new land parcelling in the dense dwelling settlements whose activities are developing so fast and pretty dynamic, the land readjustment / land consolidation might change the arrangement of the new street frontages. This might also result in a transformation of the common line of building lines or building façades both individually or in a group of blocks. Concerning the conservation of the buildings, envelopes, silhouettes, and skylines can still be kept by modifying the frontages and by considering the urban design aspects that will be maintained to keep the images. A fusion with a new harmonious connection can be visually applied by adopting or replicating the former building elements (shape and materials of roofs, walls, and other decorative / architectural elements).

**Figure 5.3.**  
**An Example of Treatments / Extensions for a Preserved Building with a Particular Form and More than Two Exposed Facades**

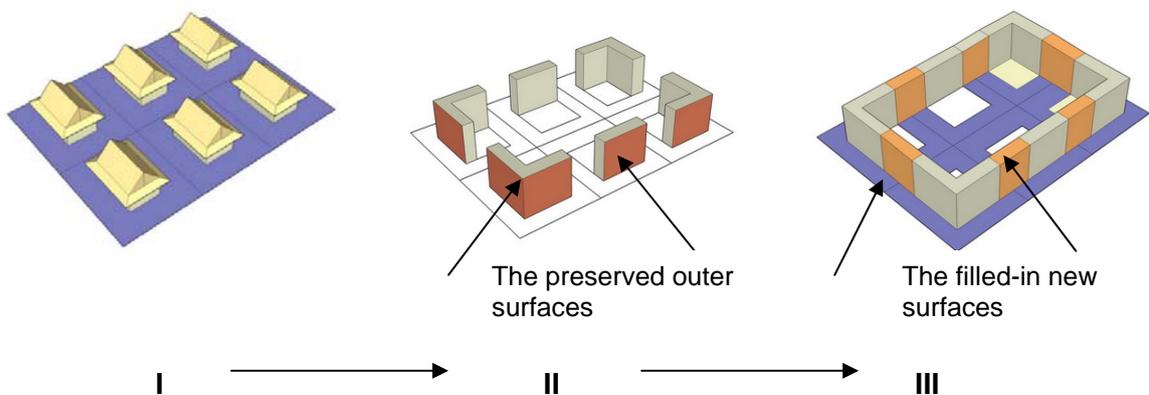


The corner buildings which were always highlighted to give accents in those neighbourhoods should still be kept. The new types of uses that might be also required in the changes of building types can be constructed by applying replications and adopting the former building forms and their elements with decent modifications regarding their extensions especially when it relates to new height / verticality. For those new building forms and arrangements it is very necessary to consider the depth and the width as they are required for hygiene and sanitation as well as security / safety purposes in the neighbourhood.

The forms of buildings or groups of buildings in certain neighbourhoods can illustrate the former activities which took place within them and the size of those buildings is related to them. Nevertheless, it can not be avoided that the new functions / activities in the urban area might demand new building forms. One or two small buildings / groups of buildings might be still reused by applying adaptive use principles to suit the new functions, if the activities are relatively on the smaller scale. For the large-scale activities that need more space and larger structures / constructions, the forms of the dwelling units might be unsuitable anymore. The old ideas and forms might even restrain the large-scale development currently needed for that area. Therefore, the new spatial organization is absolutely required. Regarding conservation this might be created by keeping the façades and / or the envelopes of the dwelling units both individually or in a group and the silhouettes of the skylines as well. Land and dwelling consolidation / readjustment also can be used as an approach in this case. The method of land consolidation can be applied as depicted in figure 5.3.

**Figure 5.4.**

**Some Examples of Stages of Land Consolidation and Extension of Construction with Special Treatments on the Facades**



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## **APPENDIX I**

### **LIST OF QUESTIONNAIRS AND INTERVIEWS**

### Survey guidelines

Survey guidelines aim to help collect some important information regarding this research and help to get better understanding of the real situation facing by neighbourhood and inhabitant in the researched area.

Data required	Type of Data	Purposed Institution/Resource Persons	Methods
The general information of Indonesia <ul style="list-style-type: none"> <li>• Geographical Position and Climate</li> <li>• The Structure of Population</li> </ul>	<ul style="list-style-type: none"> <li>• Geographic Data</li> <li>• Demographic Data</li> <li>• Maps (digital and aerial photos)</li> </ul>	<ul style="list-style-type: none"> <li>▪ BPS – Jakarta</li> <li>▪ Bakostranal – Bogor</li> </ul>	Secondary data collection
The general situation of urban and housing development in Indonesia <ul style="list-style-type: none"> <li>• The Situation of Housing Development in General, potentials and problems</li> <li>• Overview of Conservation Efforts, Urban Renewal and Redevelopment, and Housing development Programs</li> </ul>	<ul style="list-style-type: none"> <li>• Information of programs and projects at national scale</li> <li>• Statistical data of urban housing</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Human Settlement and Regional development (<i>Kimbangwil</i>)</li> <li>• Experts from URDI :                             <ul style="list-style-type: none"> <li>- Ir. Wicaksono Sarosa, MCP, Phd.</li> <li>- Prof. Dr. Ir. Budi Tjahjati</li> <li>- Ir. Pinki E. Pangestu, MURP, MCP.</li> </ul> </li> </ul>	Secondary data collection, Literature review, Interview
History of Indonesian Cities <ul style="list-style-type: none"> <li>• Formation and Typology of Indonesian Cities</li> <li>• Terminology of Cities and Concept of Urbanity in Indonesia</li> </ul>	<ul style="list-style-type: none"> <li>• Maps, drawings, literatures, historical archives</li> <li>• Other information</li> </ul>	<ul style="list-style-type: none"> <li>• National Archive Office</li> <li>• National Museum                             <ul style="list-style-type: none"> <li>- Mr. Adji Damais</li> <li>- Mrs. Lucy Damayanti</li> </ul> </li> </ul>	historical readings (study of literatures, archives, maps), interview
The City of Bandung in General <ul style="list-style-type: none"> <li>▪ Geographical Position and Climate</li> <li>▪ Feature of population</li> </ul>	<ul style="list-style-type: none"> <li>• Statistical and Demographic data</li> <li>• Maps (digital and aerial photos)</li> </ul>	<ul style="list-style-type: none"> <li>▪ BPS – Bandung</li> <li>▪ Bakostranal – Bogor</li> <li>▪ LIPI – Bandung</li> <li>▪ Geodesi dept - ITB</li> </ul>	Secondary data collection
History of Bandung <ul style="list-style-type: none"> <li>▪ The Formation of The City                             <ul style="list-style-type: none"> <li>- The Birth of Town</li> <li>- Traditional Town</li> <li>- The Early Development of Bandung as Colonial City</li> <li>- The Modern Development of Tropical “Nederland-Indie” Colonial City</li> </ul> </li> <li>▪ Process of Decolonization</li> </ul>	<ul style="list-style-type: none"> <li>• Maps, drawings, literatures, historical archives</li> <li>• Opinions, other information</li> </ul>	<ul style="list-style-type: none"> <li>▪ ITB, UPAR, NUS, P2PAR, University of Leiden’s &amp; TU Delft’s library</li> <li>▪ Prof. Dr. Ir. Sandy A. Siregar, M.Arch. (UnPar)</li> <li>▪ Dr. Ir. Johannes Widodo, M.Arc. (NUS)</li> <li>▪ Dr. Ir. Rini Raksandjaya, MSA, Dr. Ir. Myra P. Wiyonoputri Gunawan, MSP (P2Par-ITB)</li> <li>▪ Prof. Ir. Danisworo, M.Arch. Prof. Ir.</li> </ul>	historical readings (study of literatures, archives, maps), interview

<p>The Colonial City of Bandung and its Challenges</p> <ul style="list-style-type: none"> <li>• The Enthusiasm of Community in Conserving Urban Heritages</li> <li>• The City Planning and the Implementation of Conservation Law/ Rules and the Realization</li> <li>• The Colonial City Area, Its Structure and Role in the City Space</li> <li>▪ The Transformations of the Colonial City Area: The Influence of Urbanization and Modernization</li> </ul>		<p>Slamet Wirosandjojo, DR. Ing. Widjaja Martokusumo (PSUD – ITB)</p> <ul style="list-style-type: none"> <li>▪ Frances B. Affandi, Ir. Dibyo Hartono (Bandung Heritage Society)</li> <li>▪ Sita Adhisakti (JPPI – Network for Indonesian Heritage Preservation)</li> </ul>	
<p>Situation of City Planning and Urban Development in Bandung</p> <ul style="list-style-type: none"> <li>▪ The Phases of City Development after The Independence</li> <li>▪ Bandung as Metropolitan Area: The Problems and Potential of Urban Development</li> <li>▪ City Order : Planning and Development Policy of Bandung</li> <li>▪ The City Management System of the Local Government</li> <li>▪ The Concepts and the Implementation of City Planning</li> </ul>	<ul style="list-style-type: none"> <li>• Regional Spatial Planning and Development System/ Programs</li> <li>• Chronologies and the important occurrences of the political situation and the transformation /changing of planning systems (1945-2004).</li> <li>• Urban Land Use</li> <li>• City maps</li> <li>• Land use</li> <li>• Building codes/regulation</li> <li>• Building Regulation and building code, and other related regulation</li> <li>• Land regulation, the requirements of transfer of right and certification</li> <li>• Development Planning Report of Bandung and West Java Province</li> </ul>	<ul style="list-style-type: none"> <li>• National Land Bureau (BPN)</li> <li>• City Development Planning Authority (Bappeda)</li> <li>• Building Regulation Authority (Dinas Tata Kota)</li> <li>• Department of Architecture ITB</li> <li>• Department of Regional and City Planning – ITB</li> <li>• Ir. Tjuk Koeswartojo (ITB)</li> <li>• Ir. Sutan Hidajatsjah, MSP. (ITB)</li> </ul>	<p>Secondary data Collection, Literature review, interview</p>
<p>Housing Development in Bandung</p> <ul style="list-style-type: none"> <li>▪ Urban Housing Development Policy</li> <li>▪ Housing development and The Development of the City</li> <li>▪ Typology of Urban Housing</li> <li>▪ The Problems of Urban Housing Development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Information Housing Programs and Policies</li> <li>▪ Statistical Data</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bandung Housing Development Authority</li> <li>▪ BPS (statistics agency – Bandung)</li> </ul>	<p>Secondary data Collection, interview</p>
<p>The Socio-cultural, economic Characteristics &amp; the Transformation Process</p> <ul style="list-style-type: none"> <li>• Social Characteristics: Social System, Social Values, &amp; The structure of Community</li> <li>• Cultural Characteristics: Values and Activities</li> <li>▪ Economic Characteristics: Economic Activities, its Growth and Development.</li> </ul>	<ul style="list-style-type: none"> <li>▪</li> </ul>	<ul style="list-style-type: none"> <li>• Ir. Tjuk Koeswartojo (ITB)</li> <li>• Ir. Sutan Hidajatsjah, MSP. (ITB)</li> <li>• Community Leader / Respective Community Organization</li> </ul>	<p>Literature review, interview</p>

## Field Research

### Neighbourhood Scale

Key Plan

**1. Name of District/neighbourhood Unit** : (RT/ RW – Office)

**2. Total Size of the Area** : (RT/ RW – Office)

- Total large of build area :
- Total large of open space :
- Density (official un unofficial record) :
- Land Price / m2 : (officially)
- Land Price / m2 : (according to land market)

**3. Demographic Data** : (RT/ RW – Office)

- Total population :
- Composition of Population (by age and sex) :
- Occupation of the inhabitants :

#### 4. Mapping of Important Physical Elements of the Researched Quarter

##### a. Public Buildings (Photographs needed)

	Types	Location	Total area (formerly and currently)	Former Function & current Condition	Former and current owner
a.	Government offices				
b.	Military Offices				
c.	City hall				
d.	Exhibition hall				
e.	Hospital				
f.					
g.					
h.					

##### b. Streets (sketches and photographs needed)

	Types (structure and dimension)	Function / activities	Transportation modes	Current Condition	add
a.	Main Street				
b.	Boulevard				
c.	Inter- neighbourhood unit street				
d.	Inner-neighbourhood unit street				
e.	Alley				
f.	<i>Brandgang</i> (back street)				
h.	Pedestrian paths				
i.					

**c. Public Space / Parks and Squares** (sketches and photographs needed)

	Types	Location	Total area (formerly and currently)	Former Function & current Condition	Former and current owner
a.	Park				
b.	Square				
c.	Playgrounds				
d.	Botanical garden				
e.	Zoo				
f.					
g.					

**d. Public Service and Facilities** (sketches and photos needed)

	Types of Facilities	Location	Total area (formerly and currently)	Former Function & current Condition	Former and current owner
a.	Mosque				
b.	Church				
c.	Temple				
d.	Post office				
e.	Shopping centre				
f.	Traditional Market				
g.	Shopping stalls				
h.	Sport Hall				
i.	Sport Arena				
j.	Public space				
k.	Kindergarten				
l.	Elementary School				
m.	Junior High School				
n.	Senior High School				
o.	University				
q.	Bus Station				
r.	Clinics				
s.	Drugstore				
t.					
u.					
v.					
w.					
x.					

**e. Public Utilities/Infrastructures**

	Types of Utilities	Area of service	Supplier/Source	Current condition
a.	Transportation Network			
b.	Electricity Network			
c.	Water Supply			
d.	Sewerage & Drainage			
e.	Gas			
f.	Telecommunication network			
g.	Waste / garbage collection system			
h.				
i.				

**f. Artistic Features and Monuments** (sketches and photographs needed)

	Types	Location	Size & Current condition	Add.
a.	Statues			
b.	Fontains			
c.	Sculptures			
d.	Murals			
e.	Monuments			
f.				

**g. Housing Units** (sketches and photos needed)

	Type of Housing	Function/ activities	Land & House status	dimension (land parcel & size of housing unit)	Condition/Performance - Architectural Style - Current Condition	Add.
a.	Small Houses					
	Single detached house					
	Couple house					
	Row house					
	Quadruple house					
b.	Medium Houses					
	Single detached house					
	Couple house					
	Row house					
c.	Large Houses					
	Single detached house					
	Couple house					
	Villa / Resort House					

**h. Street Furniture and Elements of Urban Landscape** (sketches and photos needed)

	Type of Street Furniture	Location and number	Condition	Add.
a.	Sitting groups			
b.	Street / pedestrian path lamps			
c.	Bus Stops			
d.	Stalls			
f.	Telephone Box			
g.	Post Box			
h.	Plants' pots			
i.	Signage			

**5. The Socio-cultural Characteristic**

		Name	Activities / Function	Scale / number of members	Add.
a.	Community Organizations - formal - informal				
b.	Occasions / Cultural Activities in the neighbourhood (ceremony, festivals, etc)				
c.					
d.					
f.					
g.					

**b. The Characteristic of Economic Activities** (mark the locations, photographs needed)

		Location	Activities / Function	Scale of Service	Number of involving persons	Add.
a.	Traditional Market					
b.	Informal economic Activities					
	▪ Home industry					
	▪ Street food stalls					
	▪ Street workshops					
	▪ Small artisan					
	▪ Pedicap					
	▪ Street retail					
	▪					
	▪					
	▪					
c.	Small – Medium Enterprises					
	▪ Workshops					
	▪ Garment					
	▪ Hair and Beauty saloon					
	▪ Office Supplier					
	▪ Printing / Copy Shops					
	▪ Food / Catering Service					
	▪ Motels/pension					
	▪ Boarding House					
	▪ Mini-market					
	▪ Photo-studio					
	▪ Telephone shop					
	▪ Others					
	▪ Others					
d.	Big Enterprises / Companies					
	▪ Shops					
	- Garment					
	- Office Supply					
	- Printing and Copy shops					
	- Sport shops					
	-					
	▪ Supermarket					
	▪ Offices					
	▪ Department stores					
	▪ Restaurants / Cafes					
	▪ Hotels					
	▪ Cinema					
	▪ Night Clubs					
	▪ Spa / Beauty saloon					
	▪ Sporting House					
	▪ Banks					
	▪					
	▪					
f.	Others					

## QUESTIONNAIRE

### I. General Profile of Respondent

#### 1.1. Profile of respondent

- a. Name : .....
- b. Address : .....
- (Mark the position of the surveyed/selected house in the key plan)
- c. Educational background : .....

#### 1.2. Family members living in respondent's residence

No.	Status*	Age	Occupation* *	Education	Income
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

#### \*Status

- a. Husband  
b. Wife  
c. Children  
d. Relative  
e. Friends  
f. Room mate  
g. Maid  
h. Etc.

#### Occupation\* \*

- a. Civil Servant  
b. Military Officers  
c. Employee of Private Company  
d. Entrepreneur /Independent Employee/r  
e. Retiree  
f. Student  
g. Freelance Employee  
h. Etc.

### II. General Information of the Residence (sketches and photos needed)

#### 2.1. Land

- a. Size of land parcel :  
b. Building Coverage :  
c. Legal status :

#### 2.2. Residence

- a. Total floor area of House :  
b. FAR :  
c. Legal status :  
d. Number of rooms :  
e. Number of floor :

No	Rooms	Amount	Original Size	Building materials			Position	Current Condition
				floor	Wall	Ceiling		
a.	Terrace							
b.	Living room							
c.	Main bedrooms							
d.	Children bedrooms							
e.	Guest room							
f.	Kitchen							
g.	Bath room							
h.	Toilet							
i.	Front garden							
j.	Back yard							
h.	<i>Brandgang</i>							
i.	Other uses							

f. Residence's facilities

	Types of Utilities	Area of service	Source	Current condition
a.	Water Supply			
b.	Electricity			
c.	Sewerage & Drainage			
d.	Gas			
e.	Telecommunication network			/.
f.	Garbage collection bin			
g.				

III. History of the House (Occupation and Transformation)

3.1. What is your status in this house

- a. House Owner
- b. House Tenant
- c. House Subtenant
- d. Room tenant
- e. House Keeper
- f. Others .....

3.2. If you are the owner please mention why you chose this house to live in :

- a. I have mandate to maintain the inheritance from my parents
- b. The location is near work place
- c. The house is in strategic location (inner city)
- d. The neighbourhood has good community (good relationship with friends, neighbours, relatives, etc.)
- e. The neighbourhood has better physical and environmental quality
- f. Others .....

3.3. If you are not the owner of the house, please mention the reason why you chose this house to live in

- a. The location is near work place
- b. The house is in strategic location (inner city)
- c. The neighbourhood has good community (good relationship with friends, neighbours, relatives, etc.)
- d. The neighbourhood has better physical and environmental quality
- e. Others.....
- f. Others.....

3.4. How long have you been living here?

- a. 0 – 5 years
- b. 6 – 10 years
- c. 11- 15 years
- d. 16 – 20 years
- e. More than 21 years ( ..... years)

3.5. How did you get this house (history of ownerships)

- a. Inheritance/ gift (from .....) )
- b. From Government Institution as Housing facility for the employees  
(Name of institution .....) )
- c. From Private Institution as Housing facility for the employees  
(Name of institution .....) )
- d. Bought (from .....) )
- e. Others (.....) )

3.6. Did you build the original House yourself? Yes / No

If no please go on to the following question

3.7. If No , who did build your house

- a. Dutch Government
- b. Indonesian Government (institution: .....)
- c. Private (the former owner: .....)
- d. Developer (Name of the company: .....)
- e. Others (.....)

3.8. When / in what year (period) was it firstly built?

- a. 1900 – 1915
- b. 1915 – 1945
- c. 1945 – 1955
- d. 1955 – 1970

- e. > 1970 (in year : .....)
- 3.9. Do you intend to keep living in this house for the coming 5 years? Yes/ No  
When the answers is No then go on the next question
- 3.10. Please mention the reason why you intend to move out
- The building tax is getting higher
  - The neighbourhood is physically getting more uncomfortable for housing area (too dense & crowded, too much pollutions, etc)
  - The house is to big and the maintenance is getting higher
  - Forced by other parties (who? .....)
  - Will be changed to other more economic beneficial use (shops, cafes, etc)
  - Will be rented
  - Will be sold
  - Others .....
- 3.11. Have you once changed the form of the house? Yes / No  
When yes, go on the following question
- 3.12. When have the house been changed? (year)
- The first alteration .....
  - The second alteration .....
  - The third alteration .....
  - The forth alteration .....
  - So on .....
- 3.13. Who has the initiatives to change the house?
- Head of Household (Father) / owner
  - Government (if the house is government owned house)
  - The Private Institution (owner of this facility)
  - The neighborhood organization
  - The City by regulation
  - Others ( .....
- 3.14. Who has the absolute decision to change the house?
- The owner (private owner)
  - Government (mention the institution and position of decision maker:.....)
  - Tenant
  - Others (.....)
- 3.15. What kind of transformation and which part of the house have been changed?

**Type of House Transformation**

	Types	Which part	Year of transformation	Reason*	Add.
a.	reconstruction / improvement				
	▪ Partially reconstructed				
	▪ Totally reconstructed				
b.	Expansion/addition				
	▪ Vertical expansion				
	▪ Horizontal Expansion				
	▪ Vertical & Horizontal Expansion				
c.	Redevelopment				
	▪ Partially reused/redeveloped				
	▪ Totally reused/demolition				
d.	Subdivision				
e.	Reduction				

\*

- Regular maintenance
- The extension of family members
- Economic reason (rented, additional uses i.e. for shops, stalls, etc.)
- Others
- To be Sold
- Eviction for the construction of public facilities

- 3.16. Do you intend to change the house in the future? Yes / No  
When the answer is yes go on the next question
- 3.16. On what reason do you want to change the house in the future?
- Improvement (of the performance / beautification)
  - The extension of family members
  - Economic reason (rented, additional uses i.e. for shops, stalls, etc.)
  - To be partially sold
  - Others .....
- 3.17. If you want to change the house what kind of architecture style or type do you prefer to have?
- Spanish / Mediterranean style of Architecture
  - Country style
  - Keeping the art deco architecture
  - Roman style
  - Others
- 3.18. From whom did you get / are you going to get financial support to maintain and construct your house?
- Credit from bank
  - Personal / family saving
  - Lending from relatives
  - Credit from cooperatives
  - Others (.....)
- 3.19. Who did / are you going to ask and consult to design your new construction of your house?
- I design it myself
  - Neighborhood / Community Service who acts as Architecture Consultant
  - Private Architecture Consultant Bureau
  - Others (.....)

**IV. Community Perception / Opinion of Socio-Cultural Activities within their neighbourhood**

- 4.1. What kind of organization do you recognize in your community?
- RT/RW (administrative organization)
  - Arisan (the woman association mainly for saving activities at the scale of neighbourhood unit)
  - Cooperative (neighbourhood scale, mention the type\* ..)
  - Cultural organization
  - Others (.....)
- \*
- Housing cooperative
  - Saving and credit cooperative
  - SME-cooperative
  - Etc.

4.2. Do you think it is important to join / participate in community organization in your neighbourhood?  
If the answer is yes, please go on question no. 4.3. and 4.4 if yes go on no 4.5.

4.3. Do you take part and attend this organization frequently? Ye / No

4.4. Which organization and how often do you attend the activities?

	Types	Frequency *	Add.
a.	RT/RW (administrative organization)		
b.	Arisan (the woman association mainly for saving at the scale of neighbourhood unit)		
c.	Cooperative		
d.	Cultural organization		
a.	Others		

\* - Once in a week - Once in a year  
- Once in a month - Etc.

- 4.5. Please give the reason why you don't want to take part actively in community organization.
- Doesn't have time
  - Doesn't bring up with result for real action
  - Too many conflict of interests
  - Others .....

4.6. Do you recognize the cultural activities in this neighbourhood? Yes / No  
If yes, go on the next question

4.7. Which cultural activities do you engage / take part in your neighbourhood?

	Types	Carried out by	Frequency	Add.
a.	Ceremonies			
	- Wedding			
	- <i>Sunatan</i>			
	- Religious ceremony			
	- others			
b.	Festivals / bazaars			
	- market festival			
	- music festival			
	- food festival			
	- flower festival			
	- others			
c.	Fest and Celebrations			
	- National Independence day			
	- New Year			
	- Others			
d.	Others			

4.8. How is the relationship among the community members in your neighbourhood? Please give the reason of your opinion

- a. Good (.....)
- b. Average (.....)
- c. Bad (.....)
- d. Don't know (.....)

4.9. Do you think there is enough space or facilities to accommodate the social and cultural activities in your neighbourhood? Yes / No

4.10. What kind of socio-cultural facilities in your neighbourhood do you know so far?

- a. City hall
- b. RT/RW/Kelurahan multi purposed hall
- c. Park / Open Space / Play ground
- d. Others (.....)

**V. Community perception of their build environment and Conservation efforts (and Recognition of local building codes and regulation**

5.1. Do you know that your house and neighbourhood is a part of urban heritage? Yes / No

5.2. From whom have you informed about Bandung as one of historical colonial cities in Indonesia?

- a. Government through socialization (brochures, leaflets, etc.)
- b. Neighbourhood organization
- c. Bandung Heritage Society
- d. Newspapers / other electronic media (.....)
- e. Others (.....)

5.3. Do you know which architectural style does your house have? Yes / no  
If the answer is yes go on to question no. 5.4.

5.4. Which architectural style does your house have?

- a. Javanese / traditional country style
- b. Art-deco/ Dutch - indie architecture style
- c. Neo classic
- d. Modern architecture
- e. Mediterranean style architecture
- f. Others (.....)

5.5. (If the house have been changed) Will you mention why you dot like the former model / style of your house?

- a. The style is too old fashioned

- b. The construction material is vulnerable and make a bad performance
  - c. High cost maintenance building
  - d. Others (.....)
- 5.6. Do you think it is important to keep the identity of neighbourhood so it can be distinguished from others and becoming image-able one? Yes / No  
If the answer no, please go to question no.5.7.
- 5.7. Please mention the reason why it is not important to keep the former image / characters of neighbourhood?
- a. The image is inadequate for a modern city
  - b. There are too many changes already
  - c. The old image is high cost maintenance and will be burden for the community and city
  - d. Others (.....)
- 5.8. Do you know what kind of building regulation have been implemented in this area? Yes / No
- 5.9. What kind of implemented building regulation do you recognize in your neighbourhood?
- a. Building permit
  - b. Land Use
  - c. Zoning for conservation area
  - d. Others (.....)
- 5.10. What kind of Building codes do you know in this area?
- a. Building coverage and set back
  - b. FAR
  - c. Façade
  - d. Signage
  - e. Others (.....)
- 5.11. From whom have you informed about those building regulation?
- a. Neighbourhood organization
  - b. City / Government Officers through socialization (brochures, leaflets, etc.)
  - c. Bandung Heritage Society
  - d. Others (.....)
- 5.12. Do you know / have you informed about any conservation efforts in your neighbourhood? Yes / No
- 5.13. From whom have you informed about the efforts to conserve the historical colonial city of Bandung?
- a. Government through socialization (brochures, leaflets, etc.)
  - b. Neighbourhood organization
  - c. Bandung Heritage Society
  - d. Newspapers / other electronic media (.....)
  - e. Others (.....)
- 5.14. By whom those efforts initiated and funded?
- a. City Government
  - b. Neighbourhood / Community organization
  - c. Bandung Heritage Society
  - d. NGOs
  - e. Others (.....)
- 5.15. How much do you have to pay for the building, land tax and other maintenance charge subjected to your house per year?
- a. Building tax Rp. ....
  - b. Land tax Rp.....
  - c. Neighbourhood service charge Rp.....
  - d. Building Permit Rp.....
  - e. Others Rp.....
- 5.16. Do you have incentive from other parties to maintain your house? Yes / No  
If the answer is Yes please go on the next question
- 5.17. What kind of incentive do you obtain to maintain your house?
- a. Land / House Tax reduction
  - b. Financial support for reconstruction
  - c. Financial support for housing maintenance

- d. Others (.....)
- 5.18. From whom do you obtain the incentive?
  - c. City government (name the institution .....
  - d. Heritage Society (Local / National .....
  - e. Other parties (.....)
- 5.19. Do you want to get involved suppose there is a organization to maintain urban heritage in your neighbourhood / city? Yes / No
- 5.20. What kind of participation are you going to take part to support such activities?
  - a. Financial contribution
  - b. Man power
  - c. Ideas
  - d. Actively involve in decision making
  - e. Others ( .....

**Additional question**

- 1. Are you satisfied with current quality of your neighbourhood?
- 2. Do you have any significant opinion about the transformations that have been happening in your neighbourhood?
  - a. Physical transformation .....
  - b. Cultural and Social transformation .....
  - c. Economic transformation .....
- 3. What kinds of transformation bother you the most and please mention the reason.
- 4. Have you any significant ideas how to maintain this neighbourhood?
- 5. Do you prefer to keep living in your former place and keep the land use as housing rather than other uses?

**Criteria of Sample**

The criteria of sample in the study case should represent the transformation happening in these areas, both for neighbourhood units and their elements including houses as the major element of those areas. Thus the selected objects will contain

- 1. The original cityscape and houses
- 2. Neighbourhood and Houses with functional transformation
- 3. Neighbourhood and Houses with physical transformation that represent both partial and total as well as horizontal and vertical transformation

## QUESTIONNAIRE II

### Questionnaires to obtain the community's cognitive map of the image of the city of Bandung

#### I. General Profile of Respondent

Name : Anonymous  
Age :  
Education :  
Occupation :

1. Do you know that Bandung was designed with Garden City concept , and therefore was called City of Garden  
a. No  
b. Yes

If yes from which source do you get the information: .....

2. According to your perception, which name the city of Bandung is known as (Bandung is identified with) :  
a. Garden City  
b. Tourism City  
c. Education City  
d. City of Culture and Convention  
e. Other

Please mention the reason for your answer: .....  
.....  
.....

3. If there are development programs to improve the city of Bandung, which image is according to your opinion will be the most suitable for Bandung as metropolitan area?  
a. Garden City  
b. Tourism City  
c. Education City  
d. City of Culture and Convention  
e. Other

Please mention the reason for your answer: .....  
.....  
.....

4. According to your opinion, is it still reasonable to preserve the image of bandung as the Garden City with its tropical context ?  
a. No  
b. Yes

Please mention the reason for your answer .....  
.....  
.....

5. According to your opinion, what is the most important / reasonable concept for the development of The City of Bandung, especially if considering its current condition (politically, socio-cultural, and economic)? And please give the reason why such concept is significant.

.....  
.....  
.....

6. Do you have other opinions to utter, that might contribute to the the improvement of Bandung, especially in giving the city a particular identity?

.....  
.....

## **APPENDIX II**

### **OLD DUTCH AND NEW NAMES OF STREETS AND IMPORTANT PLACES IN BANDUNG**

## Names of Old and New Streets in Bandung

### Dutch Name

### New / Current Name

#### A

A. B. C. Straat	Jl. A.B.C.
A. B. C. Straat, verlengde	Jl. A.B.C.
Acht Kooienlaan	Jl. Neglasari
Ajoediaweg	Jl. Ayudia
Aksanweg	Jl. Aksan
Alaniweg	Jl. Alani
Aloon2 Oost	Alun-alun Timur
Altman, Gang	Gg. Jakin
Ambonstraat	Jl. Ambon
Amhertsialaan	Jl. Karangarum
Ananaslaan	Jl. Nanas
Angandaraweg	Gg. Angandara
Angsanalaan	Jl. Sirnagalih
Antennestraat	Jl. Tasikmalaya
Ardjoenaweg	Jl. Arjuna
Astanaanjarweg	Jl. Astanaanyar
Astinaweg	Jl. Astina
Atelierlaan	Jl. Bengkel
Atjehstraat	Jl. Aceh

#### B

Babakan Tjiamis	Gg. Babakan Ciamis
Babatanweg	Jl. Babatan
Balistraat	Jl. Bali
Balonggedeweg	Jl. Balonggede
Bandastraat	J1. Banda
Bandjaranweg	Jl. Mohamad Toha
Bangkastraat	Jl. Bangka
Bantjeujweg	Jl. Banceuy
Barataweg	Gg. Barata
Barendszstraat	Jl. Cendana
Barosweg	Gg. Baros
Baweanweg	Jl. Bawean
Bazelweg, de	Jl. Badaksinga
Beatrix Boulevard	Jl. Dipati Ukur
Bengawanlaan	Jl. Bengawan
Berg en Dalseweg	Jl. Ciumbulleuit
Berlageweg	Jl. Ciungwanara
Bernhardlaan	Jl. Hsssanudin
Bilderdijkstraat	J1. Ranggamalesa
Bilitonstraat	Jl. Belitung
Blanakstraat	Jl. Blanak
Blimbinglaan	Jl. Blimbing
Boeahbatoeweg	J1. Buahbatu
Boekitdjarianweg	Jl. Bukit Jarian

#### C

Camphuisweg	Jl. Kembang Tanjung
Cannalaan	Jl. Culan
Cassialaan	Jl. Karangtineung
Carpentierstraat	Jl.Kembang Dayang
Cederlaan	Jl. Sukawangi
Celebesstraat	Jl. Sulawesi
Ceramstraat	Jl. Seram
Chinese Voorstraat	Jl. Pecinan Lama
Coenstraat	Jl. Malabar

Christelijk H.I.S., Gg.  
Collecteur, Gg.  
Conducteur, Gg.  
Coorde, Gg.  
Curieweg

Gg. Keristelek  
Gg. Kolektor  
Gg. Erguloh  
Jl. Kejaksaan  
Jl. Curie

## D

Dacostaboulevard  
Daendelsweg  
Dagoweg  
Dahlialaan  
Dalem Kaoemweg  
Dalfsenweg, van  
Damarlaan  
Dammeweg  
Dasarataweg  
Dederoeklaan  
Dennenlaan  
Dennenlust  
Deventerweg, van  
Dewiweg, Raden  
Diemenstraat, van  
Djambalstraat  
Djapatilaan  
Djeroeklaan  
Djoharlaan  
Doekoehlaan  
Doersasanaweg  
Dornaweg

Jl. Sawunggaling  
Jl. Jakarta  
Jl. Dago/Jl.Ir. Haji Juanda  
Jl. Dahlia  
Jl. Dalem Kaum  
Jl. Pabrik Daging  
Jl. Sukajadi  
Jl. Cimandiri  
Gg. Dasarata  
Jl. Dederuk  
Jl. Karang Sari  
Jl. Hegarmanah  
Jl. Van Deventer  
Gg. Raden Dewi  
Jl. Kembang Sepatu  
Jl. Jambal  
Jl. Japati  
Gg. Jeruk  
Gg. Johar  
Jl. Dukuh  
Jl. Dursasana  
Gg. Dorna

## E

Engelbert van Bevervoordeweg  
Engelenweg  
  
Eyckmanweg, Prof.

Jl. Ehrlich  
Jl. Wastukencana  
Jl. Cikutra  
Jl. Prof. Eyckman

## F

Fabrieksweg  
Fabritiuslaan, Carel  
Farmanweg  
Filiciumlaan  
Floresstraat  
Fokkerweg  
Frisiastraat

Gg. Industri  
Jl. Haji Wasyid  
Jl. Pajajaran  
Jl. Sirnasari  
Jl. Flores  
Jl. Garuda  
Jl. Sultan Tirtayasa

## G

Gaboestraat  
Gelenweg, van  
Galoenggoenglaan  
Ganitilaan  
Gardoedjatiweg  
Gelriastraat  
Ghijzelweg  
Goenoeng Agoengweg  
Goenoeng Kareumbiweg  
Goenoeng Poetriweg  
Goentoerlaan  
Graeffweg, de  
Grevillealaan  
Groeneveldweg, Bruno  
Grootweg, Dr. de  
Grynsweg, Prof.  
Gielweg, Kapitein

Jl. Gabus  
Jl. Lampung  
Jl. Galunggung  
Jl. Sirnamanah  
Jl. Gardujati  
Jl. Bahureksa  
Jl. Taman Sari  
Jl. Gunung Agung  
Jl. Gunung Kareumbi  
Jl. Gunung Putri  
Jl. Guntur  
Jl. Lebak  
Jl. Karanglayung  
Jl. Gajahiumantung  
Jl. Siliwangi  
Jl. Dokter Sukimin  
Jl. Linggawastu

## H

Haelenweg, van  
Halimoenlaan  
Halmaheirastraat  
Halslaan, Frans  
Harmmenweg  
Hataweg  
Heemskerkstraat  
Heetjansweg  
Heinweg, Piet  
Helmersweg  
Hertenlaan  
Heutszweg, van  
Heytinglaan  
Hartmanweg  
Hoopweg, Van der  
Hobbemalaan  
Hollandiastraat  
Hoofdweg, Dennenlust  
Hoofdweg P.C.  
Hogeschoolweg  
Hooghlaan, Pieter de  
Hotel Homannweg  
Houtenweg, van  
Houtmanplein  
Houtmanstraat  
Houtstraat  
Hoytemaweg, van  
Huygensweg

Gg. Pa Jiping  
Jl. Halimun  
Jl. Halmahera  
Jl. Kiayi Gede Utama  
Jl. Tubagus Ismail  
J1.Hata  
J1. Jamuju  
J1. Sultan Agung  
Jl. Lampung  
Jl. Dokter Rajiman  
Jl. Menjangan  
Jl. Serang  
Jl. Tengku Angkasa  
Gg. Somawinata  
Jl. Abdurachman Saleh  
J1. Bagusrangin  
Jl. Wira Angun-angun  
Jl. Hegarmanah  
Jl. Dokter Susilo  
J1. Ganeca  
J1. Pangeran Kornel  
Jl. Hotel Homan  
Jl. Taman Sari  
Lapangan Ciujung  
Jl. Clujung  
Jl. Suren  
Jl. Sumur Bandung  
Jl. Taman Sari

## I

Idenburgweg  
Insulindepark  
Ireneboulevard  
Ijkweg  
Ijzermanpark

Jl. Sukabumi  
Taman Nusantara/Tm.Lalu Lintas  
Jl.. Surapati  
J1.Tera  
Taman Ganeca

## J

Jap Loen plein  
Jap Loenstraat  
Javastraat  
Joen Liongstraat  
Jonghlaan, de  
Jo Soen Biestraat  
Jubileumpark  
Juliana / Bernhardlaan  
Julianaboulverd

Lapangan Jap Lun  
J1. Jap Lun  
Jl. Jawa  
J1. Jun Liong  
Jl. Aryajipang  
Jl. Jo Sun Bie  
Taman Sari  
Jl. Kiputih  
Jl. Surapati

## K

Kalipah Apoweg  
Kamoeninglaan  
Kadtstraat, de  
Kampementstraat (tot/sampai Noorden  
agazijnstraat) Kampementstraat, Noorder  
Kanarilaan  
Kapatihanweg  
Karapitanweg  
Kartiniweg  
Kebon Djatiweg  
Kebon Djoekoet Noord  
Kebon Djoekoet Zuid

J1. Kalih Apo  
Jl. Kamuning  
Jl. Cisanggarung  
Jl. Cihapit  
Jl. Aceh  
Jl. Kenari  
Jl. Kapatihan  
Jl. Karapitan  
Jl. Kartini  
Jl. Kebonjati  
Jl. Kebon Jukut  
Jl. Setasion Timur

Kebon Kawoeng  
Kebon Klapa  
Kebon Sirihweg (tot de brug)  
Kebon Sirihweg (vanaf de brug)  
Kebon Waroe midden  
Kebon Waroe Noord  
Kebon Waroe Plein  
Kebon Waroe Zuid  
Kedjaksaan Gg.  
Kentjanastraat  
Kerklaan  
Kerkweg, Chinese  
Kersenlaan  
Keyzerlaan, Noord de  
Keyzerlaan Zuid de  
Kiaratjongdongweg (tot de stadgrens)  
Kihioerstraat  
Kinineweg  
Kistlaan  
Kierkweg, de  
Kolklaan, van der  
Kopoweg  
Korawaweg  
Kosambiweg  
Krakatauweg  
Kresnaweg  
Kromhoutweg  
Kruisweg

## L

Laj angstraat  
Laksanaweg  
Lamingaweg  
Landraad,  
Gg. Landraadweg  
Leeuwenhoekstraat, van  
Lembangweg

Lempoekstraat  
Lengkong, Grote  
Lengkong, Kleine  
Lekmanaweg  
Limburgiastraat  
Limburg, Stirumplein van  
Litsonlaan 1. e  
Litsonlaan 2.e  
Logeweg  
Lombokstraat

## M

Maarschalklaan  
Machinist, Gg.  
Maclaine Pontweg  
Madoerastraat  
Maeslaan, Nic.  
Magazijnstraat, Noorder  
Magazijnstraat, Zuider  
Magnolialaan  
Malabarweg  
Malabarweg West  
Malabarweg Oost  
Manduraweg

Jl. Kebon Kawung  
Jl. Mohamad Toha (Jl. Banjaran)  
Jl. Kebon Sirih (sampai jembatan)  
Jl. A c e h (mulai dari jembatan)  
Kebon Waru Tengah  
Kebon Waru Utara  
Lapangan Kebon Waru  
Kebon Waru Selatan  
Jl. Kejaksaan  
Jl. Kencana  
Jl. Gereja  
Jl. Kelenteng  
Jl. Karangtingal  
Jl.. Cisangkuy  
Jl. Cilaki  
Jl. Kiaracandong (sampai batas kota)  
Jl. Kihuir  
Jl. Pajajaran .  
Jl. Tengku Angkasa  
J1. Mundinglaya  
Gg. Haji Akbar  
J1.Kopo  
Jl. Korawa  
Jl.. Kosambi  
Jl. Rakata  
J1. Kresna  
Jl. Dayang Sumbi  
Jl. Begawan Sempani

Jl. Layang  
Jl.. Laksana  
Jl. Sangkuriang  
Gg. Babakan Ciamis  
J1. Gereja/J1. Perintis Kemerdekaan  
Jl. Nijiand  
Jl.. Cihampelas (sampai belokan/tot  
driesprong Berg en Dalseweg; selanjutnya Jl.  
Setiabudi).  
Jl. Lempuk  
J1. Lengkong Besar  
Jl. Lengkong Kecil  
Jl. Lesmana  
J1.:Rangga Gempol  
Lapangan Bengawan  
Jl.. Marjuk  
Jl. Haji Moh. Iskat  
Jl. Wastukencana  
J1.Lombok

Jl. Setasion Selatan  
Gg. Gambir  
Jl. Gelapnyawang  
Jl. Madura  
Jl. Adipati Kertabumi  
Jl. Gudang Utara  
Jl. Gudang Selatan  
JL Sukaresmi  
JL Malabar  
Jl. Malabar  
Jl. Malabar  
JL Sangkuning

Manggalaan  
Manglitlaan  
Marconiplein  
Marconistraat  
Mataramweg  
Mauritslaan  
Meerlaan  
Melatilaan  
Menadostraat  
Meraklaan  
Merdikalioweg  
Merdikaweg  
Meyllweg  
Moch. Joenoetslaan  
Molukkenpark  
Morseweg  
Mortagneslaan, Pahud de  
Mosselweg, Jacob  
Multatuli boulevard

## N

Nakoelaweg  
Nangkalaan  
Naripanweg  
Naripan-binnenweg  
Nassaupaan  
Neckstraat, van  
Niasstraat  
Nieuwe Binnenweg  
Nieuwstraat  
Noortstraat, van  
Nylandweg

## O

Oldenbarneldweg, van  
Oosteinde Binnen  
Oosteindeweg  
Oranje Nassauplein  
Orchideeplein  
Orchideelaan  
Ostadelaan, van  
Oude Hospitaalweg

## P

Pagarsihweg  
Palmenlaan  
Pandoeweg  
Pangeran Soemedangweg  
Papandajanlaan  
Parklaan  
Parkweg  
Pasanglaan  
Pasar Baroeweg  
Pasarstraat, Achter  
Pasarstraat, Noorder  
Pasarstraat, Wester  
Pasarstraat, Zuider  
Pasirkalikiweg  
Pasirkodjaweg  
Pasoendanweg  
Pasoendanweg, Verlengde  
Pasteurweg  
Patoehalaan  
Pedastraat

JL Mangga  
JL Manglit  
Lapangan Cirebon  
Jl. Cirebon  
J1. Mataramatrako  
J1. Patrakomala  
J1. Situ  
J1. Anggrek  
J1. Aceh  
Jl. Merak  
Jl. Pajajaran  
J1. Merdeka  
Gg. Tamblong Dalam  
J1. Moch. Yunus  
Jl. Taman Maluku  
Jl. Garut  
J1. Raden Patah  
J1. Bogor  
Jl. Sulanjana

Jl. Nakula  
J1. Nangka  
Jl. Naripan  
Jl. Naripan Dalam  
J1. Gandapura  
Jl. Cipunagara  
J1. Nias  
Jl. Kaca-kaca Wetan  
J1. Ksatriyan  
J1. Ciwulan  
J1. Cipaganti

J1. Tongkeng  
J1. Panaitan  
J1. Sunda  
Lapangan Dipati Ukur  
Taman Anggrek  
Jl. Anggrek  
J1. Kiayi Luhur  
Jl. Lembong - Jl. Bungsu

Jl. Pagarsih  
J1. Sukaasih  
J1. Pandu  
Jl. Otto Iskandardinata (J1. Tegalleja)  
J1. Gatot Subroto  
Jl. Taman Merdeka  
Jl. Taman Sari  
Jl. Pasang  
Jl. Otto Iskandardinata (Jl. Ps. Baru)  
Jl. Belakang Pasar  
Jl. Pasar Utara  
Jl. Pasar Barat  
Jl. Pasar Selatan  
Jl. Pasirkaliki  
Jl. Pasirkoja  
Jl. Pasundan  
Jl. Pasundan  
Jl. Pasteur  
Jl. Patuha  
Jl. Peda

Padjagalanweg  
Peltzerlaan  
Pendawaplein  
Pendawaweg  
Pepetekstraat  
Petersweg  
Poejoehlaan  
Poelolautweg  
Poengkoerweg  
Poerabajaweg  
Poeterlaan  
Poetriweg  
Postweg Oost, Grote  
Postweg West, Grote  
Potgieterweg  
Potterlaan  
Poulsenstraat  
Progostraat  
P.W.S. plein  
Pelikaanweg  
Postjagerweg

## R

Radiostraat  
Ramaweg  
Ramboetanlaan  
Randweg  
Rasamalaweg  
Ravijnweg  
Reaalstraat  
Regentsweg  
Regentsweg  
Regentsweg, Verlengde  
Rembrandtlaan  
Residentsweg  
Riebeeckweg, van  
Ringboulevard  
Riouwstraat  
Rochussenweg  
Roelofsenstraat  
Roemer Visscherweg  
Rontgenweg  
Roozeboomweg  
Rotgansplein  
Rozenlaan  
Ruysdaellaan, van  
Ruyterlaan, Admiraal de  
Rijpwijk, De

## S

Sabangplein  
Sabangweg  
Sadewaweg  
Salakweg  
Salehweg, Dokter  
Samiadjiweg  
Samjoedoweg, Dokter  
Sanintenlaan  
Saparoeastraat  
Satroegnaweg  
Sawohlaan  
Schoolweg  
Selectalaan  
Semarweg

Jl. Pejagalan  
Jl. Imam Bonjol  
Taman Pendawa  
Jl. Pendawa  
Jl. Pepetek  
Jl. Lengkong Dalam  
Jl. Pujuh  
Jl. Pulolaut  
Jl. Pungkur  
Jl. Purabaya  
Jl. Puter  
Jl. Putri  
Jl. Ahmad Yani  
Jl. Jenderal Sudirman  
Jl. Dokter Rum  
Jl. Singaperbangsa  
Jl. Cianjur  
Jl. Progo  
Lapangan Pacuan Kuda  
Jl. Hadi Sucipto  
Jl. Kapten Sumantri

Jl. Sumedang  
Jl. Rama  
Jl. Rambutan  
Jl. Rancabentang  
Jl. Rasamala  
Jl. Jurang  
Jl. Samoja  
Jl. Kabupaten  
Jl. Kabupaten  
Jl. Kabupaten  
Jl. Diponegoro  
Jl. Pasar Baru  
Jl. Pacar  
Jl. Dipati Ukur  
Jl. Riau  
Jl. Kaca Piring  
Jl. Banda  
Jl. Dokter Cipto  
Jl. Rontgen  
Jl. Riau  
Lapangan Dokter Otten  
Jl. Haji Moh. Mesri  
Jl. Prabu Dimuntur  
Jl. Bosscha  
Jl. Salam

Lapangan Sabang  
Jl. Sabang  
Jl. Sadewa  
Jl. Salak  
Jl. Dokter Saleh  
Jl. Samiaji  
Jl. Dokter Samyudo  
Jl. Saninten  
Jl. Saparua  
Jl. Satrugna  
Jl. Sawo  
Jl. Merdeka  
Jl. Sindangsirna  
Jl. Semar

Sepatstraat  
Seringenlaan  
Sim de Ruyterlaan  
Simpangsteeg  
Sintaweg  
Slachthuisweg  
Slametweg, Dokter  
Societeitstraat  
Soekapakirweg  
Soembadraweg  
Soembawastraat  
Soendastraat  
Soeniaradjaweg  
Soewatamaweg  
Sorghvliitplein  
Spaarbank, Gang  
Speelmanstraat  
Sporstraat Oost  
Sporstraat West  
Srikandiweg  
S.S. straat  
Stadhouderslaan  
Stadhouderslaan 2. e  
Stalweg  
Steenlaan, Jan  
Sumatrastraat  
Sijthoffpark, Pieter

Jl. Sepat  
J1. Pudak  
Jl. Riau  
Gg. Simpang  
JL Sinta  
Jl. Arjuna  
Jl. Dokter Slamet  
Jl. Patrakomala  
Jl. Sukapakir  
Jl. Sumbadra  
Jl. Sumbawa  
Jl. Sunda  
Jl. Suniaraja  
Jl. Suwatama  
Lapangan Panglayungan  
Gg. Morse  
Jl. Centeh  
Jl. Setasion Timur  
Jl. Setasion Barat  
J1. Srikandi  
Jl. Kembang Sepatu  
Jl. Ermawar  
Jl. Sumarsana  
Jl. Astanaanyar  
Jl. R. Pagergunung  
Jl. Sumatra  
Taman Merdeka

## T

Tamblongweg  
Tampomaslaan  
Tandjanstraat  
Tandjoenglaan  
Tandjoeng Anomweg  
Tasmanstraat  
Tegellega Noord  
Tegallega Oost  
Tegallega West  
Tegallega Zuid  
Telefoon Gg.  
Tegallega Raceterrein  
Teloekboejoengweg  
Tempat Plesiranweg  
Teristraat  
Ternatestraat  
Terrasanalaan  
Tesselschadeweg  
Tikoekoerlaan  
Timorstraat  
Tirionweg  
Titiranlaan  
Tjakranegaraweg  
Tjampakaplein  
Tjemaralaan  
Tjiateulweg  
Tjibadakweg  
Tjibeunjingplantsoen Noord  
Tjibeunjingplantsoen Zuid  
Tjibeunjingstraat  
Tjiboeniweg  
Tjiboenoet Binnen  
Tjiboenoetplantsoen  
Tjiboenoetweg  
Tjihapitweg

Jl. Tamblong  
J1. Tampomas  
Jl. Tanjan  
Jl. Tanjung  
J1. Tanjunganom  
Jl. Cilaki  
Jl. Ciateul  
Jl. Moh. Toha  
Jl. Otto Iskandarinata  
Jl. Tegallega  
Gg. Tilpon  
Tegallega  
J1. Telukbuyung  
J1. Taman Khewan  
Jl..Teri  
Jl. Ternate  
Gg. Terrasana  
Jl. Dokter Rubini  
Jl. Tikukur  
Jl. Banda  
Jl. Dokter Abdul Rivai  
Jl. Titiran  
Jl. Cakranegara  
Taman Campaka  
Jl. Cemara  
Jl. Ciateul  
Jl. Cibadak  
Taman Cibeunying Utara  
Taman Cibeunying Selatan  
Jl. Cibeunying  
Jl. Cibuni  
Jl. Cibunut Dalam  
Taman Cibunut  
J1. Buton  
Jl. Cihapit

Tjikapaj angweg  
Tjikapoendoeng Oost  
Tjikapoendoeng West  
Tjikoerajlaan  
Tjikinilaan  
Tjilakistraat  
Tjilintahweg  
Tjiliwoengstraat  
Tjimanoeckstraat  
Tjipaera Zuid  
Tjipagantiweg  
Tjiremailaan  
Tjisangkoeistraat  
Tjitaroemplein  
Tjitaroemstraat  
Tjitjendoweg  
Tjitrajoedaweg  
Tjoemi-tjoemi straat  
Trompweg  
Tuindorpweg

## V

Valkenetlaan  
Veldelaan, van der  
Verkerkweg  
Vermeerlaan  
Vleutenweg, van  
Vondelstraat  
Vosmaerweg  
Vijverlaan

## W

Wajanglaan  
Warden Poelmanweg, van  
Waringinweg  
Waringinplein  
Wenckebachlaan  
Westhoffweg  
Westerpark  
Wibisanaweg  
Wigmanweg  
Wilhelminaboulevard  
Wilhelminaplein  
Windoestraat  
Wittweg, Johan de  
Wijcweg, van der  
Wijckweg, van der

## Z

Zadelweg  
Zeelanddiastraat  
Ziekenhuisweg  
Zorgvlietlaan

Jl. Cikapayang  
Jl. Cikapundung Timur  
Jl. Cikapundung Barat  
Jl. Cikuray  
Jl. Imam Bonjol  
Jl. Cilaki  
Jl. Cilentah  
Jl. Ciliwung  
Jl. Cimanuk  
Gg. Cipaera  
Jl. Sastra  
Jl. Ciremay  
Jl. Cisangkuy  
Taman Citarum  
Jl. Citarum  
Jl. Cicendo  
Jl. Citrayuda  
Jl. Cumi-cumi  
Jl. Bapa Husen  
Jl. Lengkong Tengah

Gg. Rais  
Jl. Fanatayuda  
Jl. Lengkong Dalam  
Jl. Haji Hassan  
Jl. Multatuli  
Jl. Hariangbanga  
Jl. Dokter Gunawan  
Jl. Kolam

Jl. Wayang  
Jl. Aruna  
Jl. Waringin  
Lapangan Waringin  
Jl. Trunojoyo  
Jl. Westhoff  
Jl. Suriani  
Jl. Wibisana  
Jl. Cilamaya  
Jl. Diponegoro  
Lapangan Diponegoro  
Jl. Windu  
Jl. Srigading  
Jl. Banten  
Jl. Krawang

Jl. Pelana  
Jl. Maulana Yusuf  
Jl. Rumah Sakit  
Jl. Tengku Umar

**Source :**

**Semerbak Bunga di Bandung Raya, Haryoto Kunto, PT. Granesia, Bandung, 1986**