

THE DEMOCRATIC REPUBLIC OF THE CONGO  
KINSHASA PROVINCIAL GOVERNMENT

**THE DEVELOPMENT STUDY  
FOR  
URBAN REHABILITATION PLAN OF KINSHASA  
IN  
THE DEMOCRATIC REPUBLIC OF THE CONGO**

**FINAL REPORT  
VOLUME II  
ACTION PLAN**

**MARCH 2010**

**JAPAN INTERNATIONAL COOPERATION AGENCY**

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**Eight - Japan Engineering Consultants Inc.**

**Oriental Consultants Co., Ltd.**

The following foreign exchange rate is applied in the study

1 US dollar = 792FC = 95.37 JP Yen, or 1 FC = 0.12 JP Yen (June 2009)

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## **PREFACE**

In response to a request from the Government of the Democratic Republic of the Congo, the Government of Japan decided to conduct a study on “The Development Study for Urban Rehabilitation Plan of Kinshasa in the Democratic Republic of the Congo” and entrusted to the study to the Japan International Cooperation Agency (JICA).

JICA dispatched a study team headed by Mr. Yasushi OWAKI of Eight-Japan Engineering Consultants Inc. and consist of Eight-Japan Engineering Consultants Inc. and Oriental Consultants Co., Ltd. to the Democratic Republic of the Congo, between February, 2008 and March, 2010.

The Study Team held discussions with the officials concerned of the Government of the Democratic Republic of the Congo and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of the Democratic Republic of the Congo for their close cooperation extended to the study.

March 2010

Kiyofumi KONISHI  
Director General  
Economic Infrastructure Department  
Japan International Cooperation Agency



Mr. Kiyofumi KONISHI  
Director General  
Economic Infrastructure Department  
Japan International Cooperation Agency

March 2010

Dear Sir,

**LETTER OF TRANSMITTAL**

We are pleased to submit to you the Final Report of “The Development Study for Urban Rehabilitation Plan of Kinshasa in the Democratic Republic of the Congo”.

This study was conducted by Eight-Japan Engineering Consultants Inc. and Oriental Consultants Co., Ltd. under a contract to JICA, during the period from February 2008 to March 2010.

We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA, Ministry of Foreign Affairs of Japan, Kinshasa Provincial Government and Ministry of Plan, Budget, Public Works and Infrastructures, JICA Democratic Republic of Congo Office and Embassy of Japan in the Democratic Republic of the Congo for their cooperation assistance throughout the Study.

Finally, we hope this report will contribute to further promotion of the project.

Very truly yours,

Yasushi OWAKI  
Team Leader  
The Development Study for Urban Rehabilitation Plan of  
Kinshasa in the Democratic Republic of the Congo  
The Consortium of Eight-Japan Engineering Consultants  
Inc. and Oriental Consultants Co., Ltd.



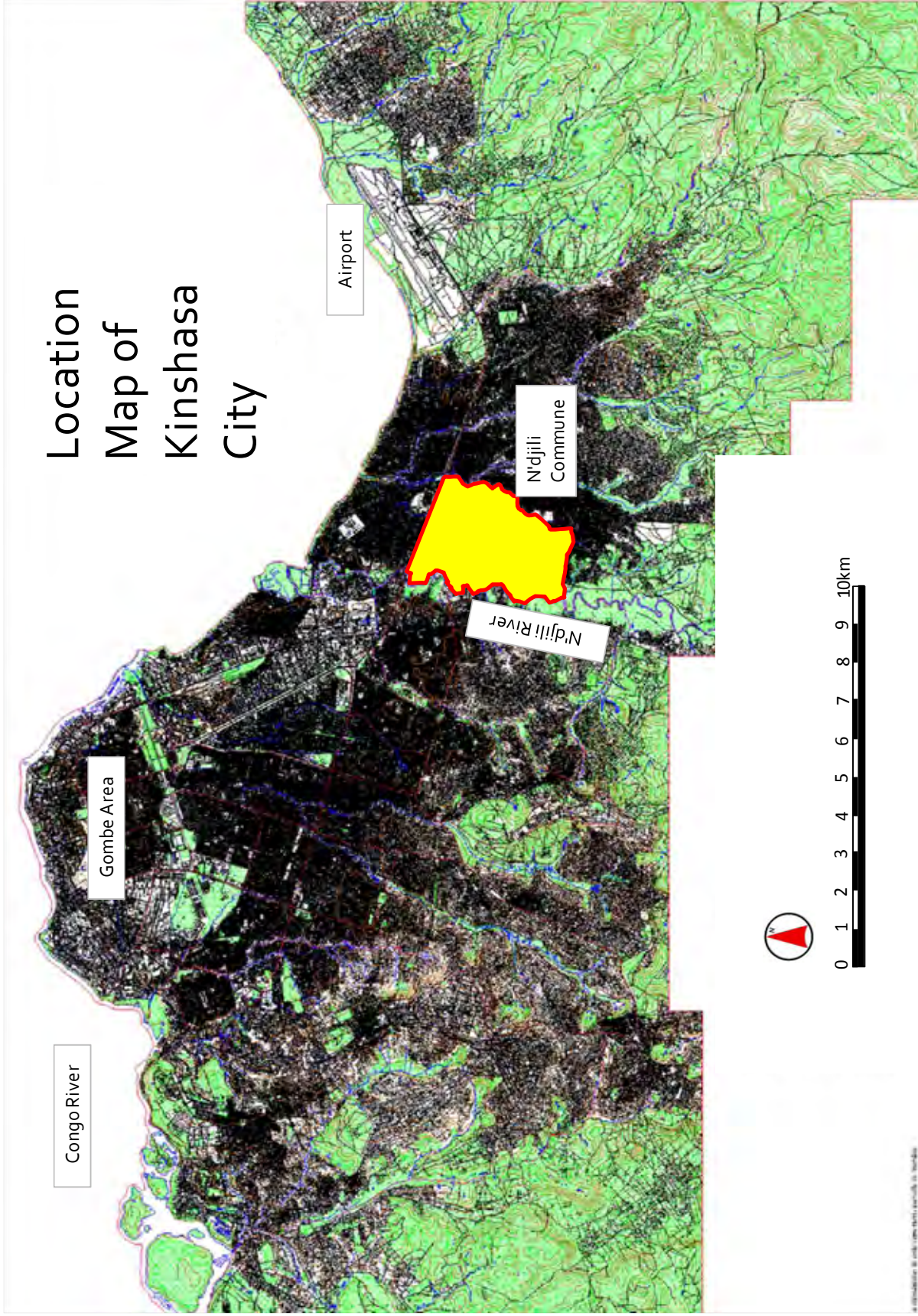


# LOCATION MAP

## Democratic Republic of Congo

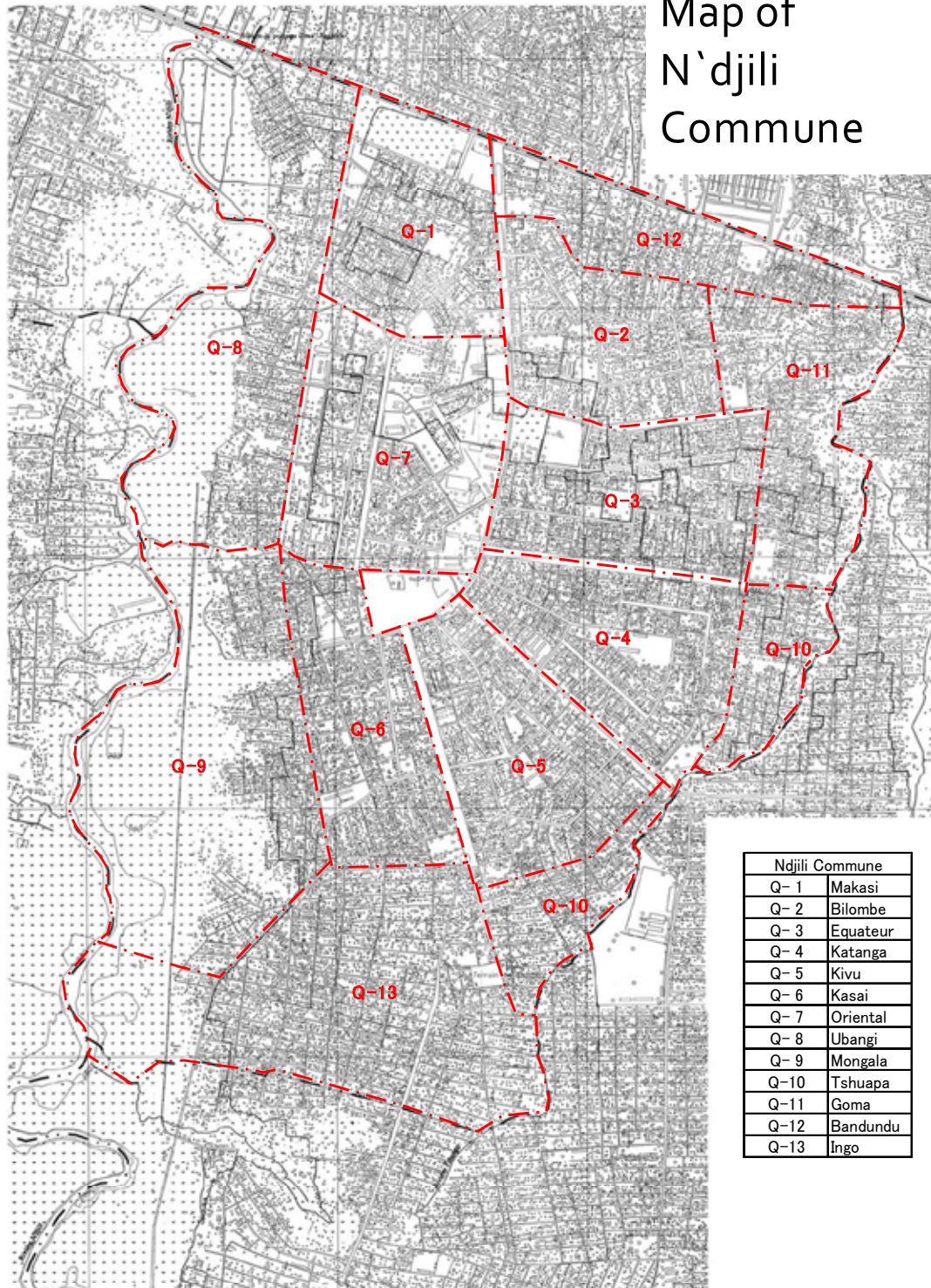


# Location Map of Kinshasa City





# Location Map of N'djili Commune



0.0 0.5 1.0 1.5 2.0km



## Project Outline

1. Country	Democratic Republic of the Congo
2. Name of Study	The Development Study for Urban Rehabilitation Plan of Kinshasa in the Democratic Republic of the Congo
3. Counterpart Agency	Kinshasa Provincial Government, Ministry of Plan, Budget, Public Works and Infrastructure(Former Ministry of Reconstruction and Planning)
4. Objectives of the Study	The objective of The Study is to recommend and demonstrate appropriate method and process for the formulation of urban rehabilitation plans in Kinshasa, by formulating an urban rehabilitation plan and adjustment process for pilot commune which is in this case N'djili commune experience.

### 1. The Study Area

N'djili Commune as Pilot Commune

### 2. Scope of the Study

- (1) Review and Analysis on Present Situation of the Pilot Commune
- (2) Formulation of the Basic Policy for Development of the Commune
- (3) Proposing Urban Rehabilitation Plan
- (4) Implementation of Plot Project(s)
- (5) Evaluation of Pilot Project(s)
- (6) Finalization of Urban Rehabilitation Plan

### 3. Narrative Description

#### 3.1 Development Vision for the Year 2018

Actions from N'djili

- Model commune for the development and reconstruction of Kinshasa
  - Commune of actions on people's own initiatives
- (Urban Infrastructure) Beautiful Urban Space  
(Health and Sanitation) Healthy Town  
(Education and Citizenship) Citizenship  
(Industry and Employment) Made in N'djili  
(Water and Energy) Access to Lifeline

#### 3.2 Implementation Scheduled on 10Years Action Plan for each sector

##### 3.2.1 Urban Infrastructure

##### 1) Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project

- Improve Luemba Boulevard as a main street of N'djili.
- Rehabilitation of existing paved roads.
- Capacity Development for Provincial Urban Planning Sections of the Province.
- Improvement of N'djili Junction to mitigate traffic congestion.
- Installation of Sidewalk and Traffic safety facilities/Pedestrian crossings, Traffic sign, Humps, etc.
- Rehabilitation of Community Roads using LBT (Application of "Do-Nou" Technology).
- Rehabilitation of urban core zone (Q7).
- Clean-up Gutters Together with the Sanitation Brigade
- Planting flowers and tree along streets

##### 2) Development Concept of the Development Phase (Middle-term Period; 2014-2018) Project

- Enhancement of Public Transportation.
- Improvement of living environment/conditions of the commune
- Improvement of Tertiary Roads.
- Improvement of bus route network, bus terminal, bus stops
- Development of Community Core Zone.

##### 3) Development Concept for the Sustainable Development (After 2018)

- Development of integrated road network plan.

##### 3.2.2 Health and Sanitation

##### 1) Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project

- Rehabilitation and construction of health centers.
- Construction of maternal and child health care centre including surgical unit
- Establishment of Health Information System (HIS) on epidemiological deceases and reproductive health
- Health & Sanitation education in Schools and Streets
- Rehabilitation and Construction of Public Toilet
- Establishment of solid waste disposal systems in the Province
- Formulate sanitation and hygiene management plan
- Establish solid waste management system in the Commune
- Sensitization on sanitation and hygiene issues
- Clean-up solid waste and promoting recycling

##### 3.2.3 Education and Citizenship

##### 1) Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project

- Rehabilitation of security fence for primary and secondary schools
- Rehabilitation of toilet for primary and secondary schools
- Rehabilitation of classrooms
- Strengthening Capacity of the Commune Administration
- Civic Education
- Non-formal education for out-of-school children

<p>2) Development Concept of the Development Phase (Middle-term Period; 2014-2018) Project</p> <ul style="list-style-type: none"> <li>● Supply Equipment for Primary and Secondary Schools</li> <li>● Sports and Culture Promotion in the Commune &amp; Schools</li> </ul> <p>3.2.4 Industry and Employment</p> <p>1) Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project</p> <ul style="list-style-type: none"> <li>● TOT of N'djili masters at ITI</li> <li>● Rehabilitation of markets, storages</li> <li>● Establish and operate farmers' market at SECOMAF</li> <li>● Establishment of Industry Support Systems</li> <li>● Establish N'djili industry association</li> </ul> <p>3.2.5 Water and Lifeline</p> <p>1) Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project</p> <ul style="list-style-type: none"> <li>● Rehabilitation and upgrading of RESIDESO water supply network and SNEL Power line</li> </ul> <p>2) Development Concept of the Long-term Project (After 2018)</p> <ul style="list-style-type: none"> <li>● Technical Assistance Project for Management of the Distribution Network</li> </ul> <p>3.3 Implementation of the deferent type of the pilot projects</p> <p>(1) Civic Education Project</p> <p>(2) Clean-up Campaign Project</p> <p>(3) Road Rehabilitation Project by Do-Nou Technology</p> <p>(4) Rehabilitation of Blv. Luemba</p> <p>3.4 Methodology for Urban Rehabilitation Plan in Kinshasa</p> <p>To formulate the urban rehabilitation plan, this plan reviews existing data and development plans and specifies medium to long term (10year) range development policy together with Action Plan. Consecutive stages of this study are following;</p> <ul style="list-style-type: none"> <li>● Stage 1: Compile existing data of Kinshasa Province and N' djili commune,</li> <li>● Stage 2: Prioritize community demands by dialogue and participatory approach.</li> <li>● Stage 3: Indicate development policy and address Action Plan for the commune,</li> <li>● Stage 4: Examine Pilot Projects to provide feedback on the Plan.</li> <li>● Stage 5: Evaluate Pilot Projects and review The Study for improvement the Plan.</li> <li>● Stage 6: Implement Projects of Action Plan.</li> </ul>
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<p><b>4. Conclusion and Recommendations</b></p> <p>4.1 Conclusion</p> <p>(1) Identified necessary actions for stakeholders</p> <p>(2) Activate community organization</p> <p>(3) Compile current data and analyze conditions in Kinshasa province</p> <p>(4) Compile current data and analyze conditions in the pilot commune</p> <p>(5) Forecast future demand and indicate development policies in the pilot commune</p> <p>(6) Formulate an Action Plan in the pilot commune</p> <p>(7) Implement Pilot Projects for the verification of the Action Plan</p> <p>(8) Verified applicability of the study as a model of urban rehabilitation planning</p> <p>4.2 Recommendation</p> <p>(1) Modification depending on community characteristics</p> <p>(2) Highlight capacity building through Civic Education</p> <p>(3) Support for decentralization</p> <p>(4) Support for community</p> <p>(5) Necessary for coordination of development actions among Province, Commune and CLD level.</p>
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<b>5. Report Structure</b>			
Name of Report	Language		
	Eng.	Fre.	Jap.
1. Summary	✓	✓	✓
2. Volume I: Main Text	✓	✓	
3. Volume II: Action Plan	✓	✓	

## **1. INTRODUCTION**

### **1.1 BACKGROUND**

The emergency study is to be conducted in Kinshasa which is a capital of the Democratic Republic of the Congo for the purpose of the provision of the peace to all people in the DRC.

The Government of the DRC under President Joseph Kabila undertook a series of economic reforms in the country. The Government of Japan through its International Cooperation Agency (JICA) has financed The Study for urban rehabilitation plan in Kinshasa whereby Ndjili has been selected as pilot commune for The Study..

Ndjili is a commune of Tshangu District, in the city of Kinshasa, situated in the South of Masina commune which is separated by the Lumumba Boulevard. It is located in the Eastern part of Kinshasa town, in the plain, beyond Ndjili River. It has 13 popular quarters. The population in Ndjili Commune has been increasing due to the inflow from the rural areas. This influx of population has increased poverty, because of remarkable insufficient Basic social infrastructure services and lack of the economic infrastructure supporting economic activities.

### **1.2 OBJECTIVE OF THE STUDY**

The objective of The Study is to recommend and demonstrate appropriate method and process for the formulation of urban rehabilitation plans in Kinshasa, by formulating an urban rehabilitation plan for pilot commune which is in this case N' djili commune.

### **1.3 SCOPE OF THE STUDY**

Scope of work, agreed upon between Kinshasa Provincial Government and Japan International Cooperation Agency on 8<sup>th</sup> August, 2007, clarifies the Scope of The Study as follows;

- (1) Review and Analysis on Present Situation of the Pilot Commune
- (2) Formulation of the Basic Policy for Development of the Commune
- (3) Proposing Urban Rehabilitation Plan
- (4) Implementation of Plot Project(s)
- (5) Evaluation of Pilot Project(s)
- (6) Finalization of Urban Rehabilitation Plan

### **1.4 STUDY PROCEDURE**

- (1) Definition of Objective end Methodology
  - (2) Review of Development Policies and Strategies
  - (3) Analysis of General Condition in Kinshasa Province
  - (4) Review and Analysis of Present Condition and Issues of N' djili Commune
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- 1) Review and Analysis on Present Situation
- 2) Conducting of the Social Survey
- 3) Extraction of Existing Issues
- (5) Establishment of Basic Policy for the Rehabilitation of N'djili Commune
- (6) Formulation of Action Plan for Community Vitalization
  - 1) Institutional Improvement for Action
  - 2) Formulation of Land Use Plan
  - 3) Formulation of Sector Plan
- (7) Preparation of Project Profile and Establishment of Implementation Schedule
- (8) Implementation of Pilot Project
- (9) Finalization of Methodology for Urban Rehabilitation Plan in Kinshasa
- (10) Conclusion and Recommendation

## **1.5 STUDY ORGANIZATION**

The Study is conducted under close cooperation with the Kinshasa Provincial Government and N'djili commune. Kinshasa Provincial Government is represented by the Ministry of Plan, Budget, Public Works and Infrastructures (formerly the Ministry of Reconstruction and Plan), and N'djili commune is represented by commune office.

## **2. REVIEWING OF EXISTING DEVELOPMENT POLICIES AND STRATEGIES**

### **2.1 NATIONAL DEVELOPMENT PLAN**

The following three policies and strategies are articulated for the national development plan. In addition to the Poverty Reduction Strategy and Millennium Development Goals, national development strategy was established to achieve poverty reduction.

#### **(1) Poverty reduction strategy paper (prsp)**

The Congolese Government has set out an ambitious vision for the country's development. This vision is articulated in the PRSP, which was presented on July 2006. It emphasizes the need to break with past practices and to ensure a dramatic improvement of living conditions throughout the country, as a condition for sustained peace and eventual economic recovery.

#### **(2) Millennium Development Goals (MDGs)**

DRC's Human Development Index declined by more than 10 percent in the last ten years – and DRC now ranks 167 out of 177 rated countries. Progress made between independence and the early 1990s has largely vanished.

#### **(3) Development Strategies**

In demonstrating its commitment to achieve the MDGs and acknowledging the importance of



human capital in poverty reduction, the Government has devoted an entire pillar of the PRSP to developing the social sectors. Following development strategies prioritizing five sectors had been declared by the President.

- a) Rehabilitation of rural infrastructure including the road network
- b) Health and sanitation
- c) Education, training and human security
- d) Creation of employment opportunity and poverty alleviation
- e) Access to the water and electricity

## **2.2 DEVELOPMENT ASSISTANCE BY DONORS**

In the fiscal year of 2003-2004, DRC received sum of US\$ 3,183 million Development Assistance by donors, defined as International Organization or Industrialized Countries. Particularly, as a background to the process of peace keeping and post conflict economic recovery in DRC, Development Assistance for DRC focuses on urgent rehabilitation program for Kinshasa and eastern provinces.

In addition, in order to assist more efficiency support and upgrade synergy effects, the donors set up its development policies and strategies under their development assistance frameworks and action plans.

### **(1) Development Assistance in Kinshasa City**

International Organizations, such as WB, UNICEF, UNDP, UNHCR, UNEPA, UNESCO, support assistance of Health, Hygiene, Education and Community Development sectors in Kinshasa City. Bilateral Development Assistance disbursed those sectors as well through the collaboration with Belgium (CTB), UK (DFID), USA (USAID), and Germany (GTZ).

### **(2) Development Assistance in the N'djili Commune**

In the N'djili Commune, Development Assistances are supported by CTB, China and UN-HABITAT. Assistance activities by each donor are as follows:

CTC: Rehabilitation projects of Cecomaf Road (L=2.2km)

China: Construction of the China-RDC Friendship Hospital (Y2007)

UN-HABITAT: Capacity development (Module 1: Local leadership, Module 2: Local economic governance, Module 3: Participation for communal development) project in N'djili commune and Masina commune.

## **3. GENERAL CONDITION OF KINSHASA PROVINCE**

### **3.1 NATURAL CONDITIONS**

Kinshasa is located in an alluvial plain of about 700 km upstream from the Atlantic Ocean of the

Congo River, with an altitude in the range of - 550 m to 300 m above sea level. The climate of the Democratic Republic of Congo consists of two seasons; the rainy season and the dry season. And the surface stratum of Kinshasa is comprised of sand and silt clay by river sediment.

### **3.2 ADMINISTRATIVE SYSTEM**

At present, the DRC has 11 provinces within its own territory, including the Kinshasa Province, which is the sole province withholding a special status in the DRC. There are urban Divisions for the various Ministries. These have so far been functioned under the Authority of the Central Government. However, after the Decentralization Law was promulgated by the President of the Republic in July of 2008, some functions that were falling under the responsibility of the Central Government were shifted to Kinshasa's Provincial Government.

### **3.3 COMMUNITY ORGANIZATION**

Generally, the community unit/entity in Kinshasa Province is classified on a commune basis. At present, Kinshasa Province manages a total of 24 communes. In the case of the N'djili commune, it is directed by the burgomaster, a representative of the commune, with 28 public departments. Moreover, the N'djili commune has 1 commune administration office and 23 administrative branch offices.

### **3.4 SOCIO-ECONOMIC CONDITIONS**

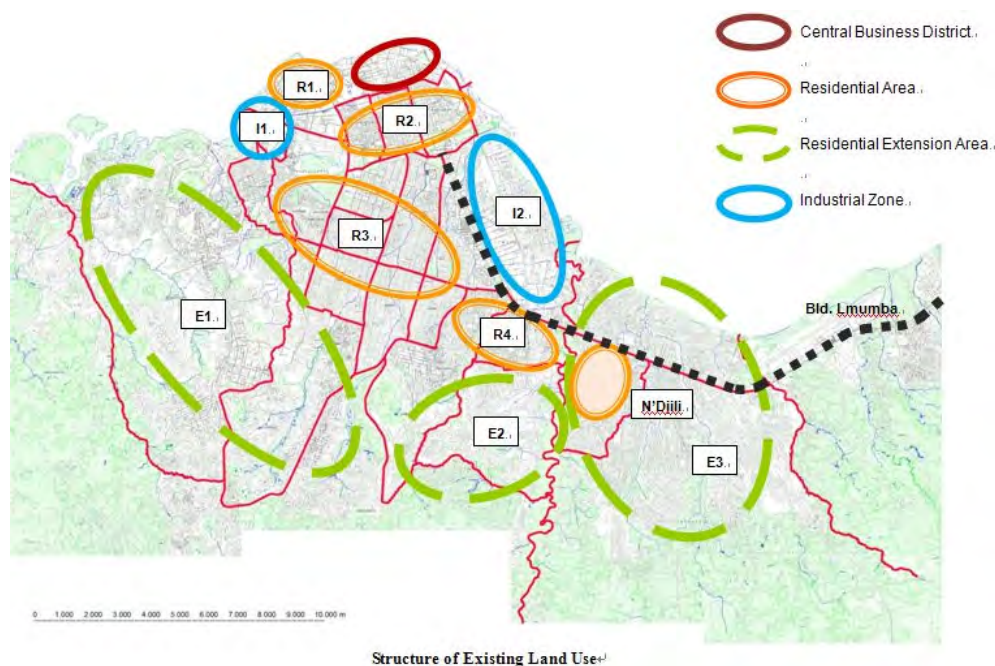
#### **(1)Population**

According to the household survey conducted by the National Institute of the Statistics (INS) in 2004, total population of Kinshasa Province is 6,387,725, and 51.2% of the population is composed of women. The majority of the population consists of the younger generation and more than half (51.3%) of the individuals are below 20 years old, of which 97.9% is Congolese, and 71% of whom originated from Kinshasa or its surrounding provinces.

#### **(2)Land Use**

The following two plans are provided as a land-use master plan that concerns Kinshasa City and the N'djili commune now. These plans were determined in the 1960-70's. Therefore, the plan is not completely appropriate for the present urban situation.

The land use situation of Kinshasa City of today is shown as in the following figure.



**Fig. 1 Structure of Existing Land Use**

### 3.5 SECTOR CONDITIONS

#### (1) Urban Infrastructure

Transport in Kinshasa is composed mainly of land transport including bus and railway. “Boulevard Lumumba” connects from downtown of Kinshasa province to N’djili Airport and “Boulevard Poids lourds,” a port area in the eastern part of downtown to the intersection of Limete in the suburbia. “Route de Matadi” from Kinshasa to Matadi, “Boulevard du 30 Juin,” “Avenue Pierre Mulele,” and “Avenue Kasavubu” are the central routes in Kinshasa, while “Boulevard Triomphal” and “Boulevard Sendwe” face the stadium and exist as Kinshasa’s main arterial road.

The bus operation system is managed by public corporations such as CITY TRAIN and RETRANS KIN, or by private companies and/or owner-drivers. There are three railway lines in Kinshasa, Gare Centrale-N’djili Airport, Gare Centrale-Kasangulu-Matadi (Bas Congo province), and Gare Centrale-Kitambo-Kinsuka. Trains are operated by ONATRA (Office National de TRAsport).

#### (2) Health and Sanitation

The FIVE-YEAR HEALTH PLAN was prepared through UNICEF and WHO in collaboration with BDOM, Salvation Army Church, Rotary Club and Kinshasa Health Inspection in 2007. The general objective is to improve the medical situation of the population for the Province of Kinshasa. Specific objectives are: 1.) To revitalize the health zones to correct the distortions, for recovering its function as preliminary unit of health and sanitation activities; 2.) To reorganize the intermediate level of Health and Sanitation sector; 3.) To rationalize the finances of the health sector; 4.) To reinforce the intra and intersector partnership; 5.) To develop human resources for health and 6.) To reinforce the

research of the system of health.

In the other hand, there is no sewerage system development plan or a sewer network system and treatment plant in Kinshasa. In contrast, Kinshasa's provincial government has a plan to promote the privatization of the solid waste collection service.

### **(3) Education and citizenship**

Primary and secondary school are within jurisdiction of the Ministry of Education of Primary, Secondary and Professional (Ministère del Enseignement Primaire, Secondaire et Professionnel, MEPSP). The primary and secondary education systems of DRC consist of six years of primary education and six years of secondary education. In secondary education, the first two years is for basic compulsory subjects and the other four years is for specific subjects including vocational training subjects based on selected courses. According to the statistic data from MEPSP (2008), the number of students in primary school is 778,216 (10.8% in all of RDC), secondary school is 431,022 (14.8% in all of RDC). The school attendance rate is 57.8% for primary school and 37.4% for secondary school.

### **(4) industry and employment**

After the conflict in 1991 and 1993, and recent armed conflicts that have hampered economic development of the city, there has been intensive development of activities in farming and within the chemical and steel construction industry sector. In spite of the fact, main economic activities are carried out within the informal sector.

Agricultural activities play an important role in supplying the products which meet the demand of the people in Kinshasa. After rehabilitation and irrigation improvements, the Pool of the Malebo area, with a surface of more or less than 50,000 ha ranging from Kingabwa to Nsele, presented a production potential of 30,000 tons of rice every two to three times per year which covers 50% of the demands of the town's capital and which also creates 1,000 extra jobs in the sector.

The labour force rate, according to a household survey, indicates it is 42.5% (47.4% with the inclusion of unemployed persons). Of the labour force, 49.7% are men while 35.7% are women. The unemployment rate within Kinshasa is only of 6.3% with the majority of those out of work consisting mostly of women. The unemployment rate is highest among people in the age range of 25-29 years.

### **(5) Water and Lifeline**

The water supply's master plan of Kinshasa aims at the improvement of the water supply system in the Kinshasa province, which is formulated by the World Bank. The target year for the master plan is 2017. As of March 2009, 6 projects are completed or on-going in the water supply sector.

In regard to the plan of the electric facilities in the Democratic Republic of the Congo, it is thought that a plan regarding extension and rehabilitation is required for all the institutions of power

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generation, power transmission, power distribution and electric supply. However, the implementation depends on the source of revenue and the assistance of a donor as well as the development projects of other sectors.

### **3.6 environment management system in congo**

A basic environmental law has not been prepared in the DRC. The environmental quality standards on air, water, soil and noise have not been enacted. However, the Constitution of the DRC along with sectoral laws and decrees, establish the environmental management, issues and protection.

## **4. PRESENT CONDITIONS OF THE N'DJILI COMMUNE**

### **4.1 NATURAL CONDITIONS**

The N'djili commune is located in the eastern area of Kinshasa and the gross area is approximately 11.4 km<sup>2</sup>. This commune is in the centre of Tshangu District. Annual average rainfall and temperature are about 1,400 mm and 25 degree Celsius.

As of 2007, the total population of the N'djili commune was estimated at 320,762. The population of people under 20 years old accounts for 51.9% of the total population. The N'djili commune is a highly populated area in the Kinshasa Province, and its population density is 397.9 person/ha.

### **4.2 ADMINISTRATION OF THE COMMUNES**

The commune's administration office is located in Quarter 7. The Commune divided by 13 Quarters with Quarter leaders respectively. The organisation of the commune's administration is headed by the burgomaster and consists of 23 administrative offices.

A civil society can be defined as a web of associations, social norms and practices that comprise of activities of a society separate from its state and market institutions. Civil societies or civil-based organisations (CBOs) in N'djili have taken roles of grassroots development and advocacy, especially within the education and sanitation sectors.

And, there are a number of religious organisations such as churches. Churches seem to be the most reliable organisation within the population. Additionally, there are various types of associations in N'djili, such as youth clubs. At the Quarter level, each street has a street leader who has the responsibility of sharing information from a quarter leader with the residents along the street.

### **4.3 ECONOMY**

N'djili extends to a wide variety of socio-economic activities both in the formal and informal sector. The primary sector represented by market-gardening activities of N'djili is well-known to consumers in Kinshasa through its history and its dynamics in the supply of Kinshasa. The second industry sector specifically occupied within N'djili is that of car repair shops, as all of Kinshasa recognizes the sharpness and dynamism of these activities.

#### 4.4 LAND USE

For the examination of land use of the N'djili commune, nine large categories and 12 sub-categories were identified as follows:

- **Residential Areas:** Residential areas occupy about 60% of the entire commune area.
- **Administrative / Official Areas:** Administrative facilities do not exist except for some facilities which are located around the commune office in Quarter 7.
- **Commercial / Business Areas:** The area for the market, which is located at Quarters 2, 6, and 7, is not large enough, with a measurement of 0.1 square meters per population.
- **Educational Areas:** Referring to the land use ratio, there seems to be enough area secured for the educational facilities in the N'djili commune.
- **Health Centers:** Half of the health facility sites of Sino-Congolais Hospital are located in Quarter 7 and this hospital is not facilitated for civilian daily use.
- **Parks:** An equipped public park hardly exists within the N'djili commune, and public, unoccupied public land and green space are used for recreational purposes.
- **Agricultural Areas:** The mass of farmland is located in Quarters 8, 9 and 13 on the N'djili River's eastern shore.
- **Transport / Roads:** The roads of the N'djili commune occupy 10.9% of the entire commune which is not a high ratio.

#### 4.5 SECTOR CONDITIONS

##### (1) Urban infrastructure

Boulevard Lumumba and Route CECOMAF are located in the eastern side of the commune; roads enclosing Quarters 7, 2<sup>eme</sup> Republique and access road to Chinese-DRC hospital in Quarter 7 are paved with asphalt. Due to the road's depredation and potholes, the condition of the asphalt pavement is not satisfactory and all other roads are unpaved. Asphalt roads are relatively wide. Some roads with relatively wide widths are allocated and connected by the radial road in Quarter 7. For minibuses, the drivers mainly use the asphalt roads since their routes not definitive. 20 bus stops are found in the N'djili commune without any waiting facilities or institutions for people waiting for the minibuses.

##### (2) Urban Facility

There are 4 public Marches in Q-2, Q-5, Q-6 and Q-7 in the N'djili commune. The Marches of Q-6 and Q-7 are large scaled.

In addition, presently in the N'djili commune, there are only a few public toilets. Furthermore, they are poorly maintained and so generate dirty and unsanitary conditions.

##### (3) Health and Sanitation

The common diseases are malaria, diarrhoea, tuberculosis, measles, typhoid and sexually

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transmitted diseases (STD) such as HIV/AIDS. Health zone of N'djili covers the same geographical area as the N'djili commune. The health zone is divided into 14 health areas which are the same as Quarter 1-12 and two health areas in Quarter 13 (Q13A and Q13B). In the Health zone of N'djili, there are two general hospitals; 110 health centers located in the 14 health areas.

Sanitary conditions of the N'djili commune are a serious problem. Only 20% of households have an indoor toilet. Littering is also another serious problem found on the streets and other public spaces of N'djili. According to a household survey, 14% of households dispose their rubbish on the streets or other places, while the remaining other households dispose their rubbish through waste collection men or by digging a hole within their household compound. In addition, more than 50% of households do not have a drainage system in their household. Thus, waste water tends to flow onto the street or streams directly.

And solid waste in the N'djili commune is left in open dumpsites of the N'djili Commune or its surrounding area because public services for solid waste collections or disposal are not provided in the N'djili commune.

#### **(4) Education**

There are 202 primary schools and secondary schools in the N'djili commune including one of the four institutes of Industrial Technology Institute (ITI) of Kinshasa. The number of students is 68,335 in primary school and 46,780 in secondary school. The enrolment rates of both primary and secondary school for boys are significantly high and almost twice that of the school age population. Problems in education are identified through a household survey and the CLD planning workshops and they include high school fees and poor conditions of the school facilities and equipment. Public education is basically free of charge. However, parents need to pay for some of the fees for the teachers to compensate for their low salaries.

#### **(5) Citizenship**

The roles and responsibilities of men and women in the household are slightly different. Men tend to supervise and protect the household. On the other hand, women tend to supervise their children or become housewives. On the other hand, 58.2% of women contribute to their household budget. Children, elders, widows, and disabled persons are defined as vulnerable groups in the N'djili commune. Due to poverty and difficult life circumstances, some people tend to neglect these vulnerable family members.

And according to the investigation of street children by The Study Team, a number of so-called bewitched children are seen in many Revival churches while street children in many instances spend their nights in the open and wander on the streets and roads within the town.

#### **(6) Security**

The security of the N'djili commune is a serious concern for the population (especially during

nighttime). There is high incidence of crimes that include robbery, rape, vandalism and other illegal activities. In August 2008, for instance, there were 75 cases of crimes which included two murder cases according to the statistics of the N'djili commune police.

#### **(7) Industry and Employment**

The N'djili commune's industry is mainly characterized by agricultural farming activities, automobile mechanics, mechanical engineering and related activities and small businesses.

In the aspect of household budget, 19.5% of households have income less than 25,000 FC per month. This means approximately 20% of the population live on less than 1.5 USD a day. On the other hand, 82% of household expenses tend to be used for food on average.

#### **(8) Water and ELECTRIC POWER SUPPLY**

According to a household survey, 97% of households have access to tap water from REGIDESO in their household compound or through their neighbours' compound. However, most of them are unsatisfied with the water quality due to the poor conditions of the piping system and unstable water supply.

Concerning energy resources, 80% of households have connection to electricity by SNEL. However, the connection is irregular and unstable.

### **5. BASIC POLICY FOR THE REHABILITATION OF N'DJILI COMMUNE**

#### **5.1 RELEVANT POLICIES FOR COMMUNITY DEVELOPMENT**

Through the analysis of relevant policies described in Main Text 2.2, the fundamental direction of development planning is specified as follows;



**Table 1 Major Policies from Relevant Plans and Programmes**

Urban Infrastructure (Roads)	<ul style="list-style-type: none"> <li>• Rehabilitation and construction of intercommoned roads and inter quarter roads</li> <li>• Make use of public buses to reduce the traffic jam</li> </ul>
Health & Sanitation	<ul style="list-style-type: none"> <li>• The development of Health Zones is the main line of the strategy to reinforce the Health System.</li> <li>• It aims at improving the functionality level of hospitals and health centres in order to provide quality health cares to the population.</li> <li>• Promoting community partnership in the implementation of health policy.</li> <li>• Evacuation of rubbish and other waste</li> <li>• Reactivate and reinforce Communal Improvement/ Cleaning up Brigades</li> <li>• Organizing Sanitary and Methodological Education Campaign</li> </ul>
Education & Citizenship	<ul style="list-style-type: none"> <li>• Increasing school attendance from 64.1% in 2006 to 80% in 2008, and 100% from now to 2015.</li> <li>• Annual rehabilitation of 10% of classrooms and equipping them with school furniture.</li> <li>• Train drop-out young children and send them to vocational training centers</li> </ul>
Water & Energy	<ul style="list-style-type: none"> <li>• Rehabilitation of existing infrastructures, thus facilitating access to a greater number,</li> <li>• To identify water needs and inventory</li> </ul>

## 5.2 DEVELOPMENT VISION AND BASIC CONCEPTS

Considering potentials and predominance in the commune, basic concept for the master plan which harnesses the potentials of the community development and enhances the people's self-reliance shall be established as follows.

### Actions from N'djili

- *Model commune for the development and reconstruction of Kinshasa*
- *Commune of actions on people's own initiatives*

As the master plan is correspondent with the relevant plans of the government, the basic concept of the master plan is in line with the five pillars in the Provincial Government Program 2007-2011, KINSHASA City. Basic concepts categorized in the five pillars of the program are as follows.

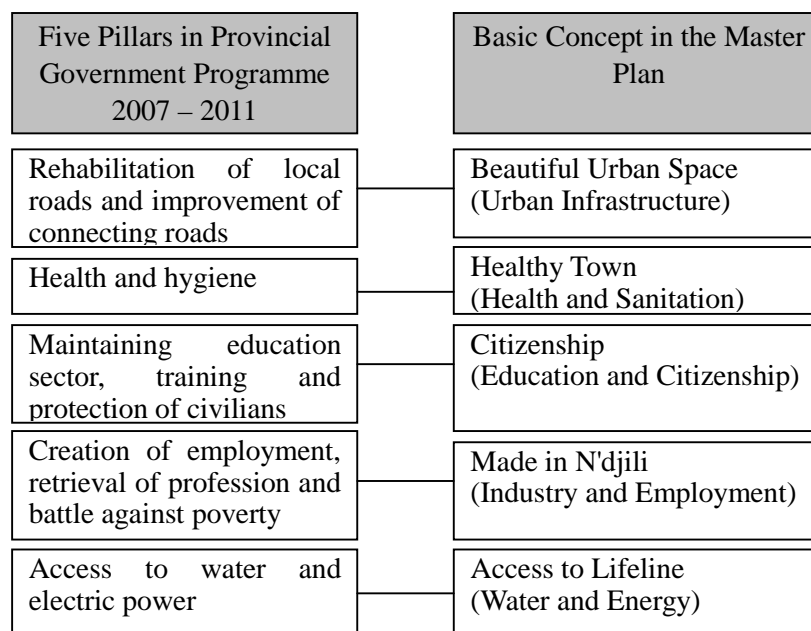


Fig. 2 Relationship of Basic Concepts and Five pillars of Kinshasa Province

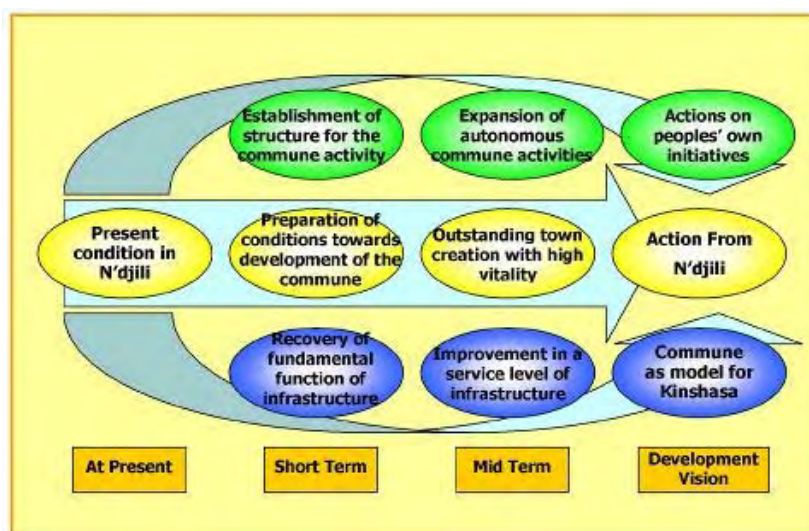


Fig. 3 Approach for the Development of N'djili Commune

## 6. ACTION PLAN FOR COMMUNITY VITALIZATION

### 6.1 INSTITUTIONAL ARRANGEMENT FOR ACTION

#### (1) Local Development Mechanism

A local development mechanism should have a significant initiative for commune development. Both government and donors, however, have limited financial capacity to solve various kinds of issues in commune level. Local level or grassroots development mechanism and initiatives are significantly important to tackle various miscellaneous issues in the community. In this regard, the

government and grassroots institutions should collaborate for planning, implementation, and evaluation of those community development activities. The CLDs can be a key coordinators and facilitators to mobilize the population in cooperation with churches, NGOs and associations.

## (2) Realization of Action Plan and Securing Sustainability

Implementation of the development Action plan with sustainability requires the commitment of not only the government and donors but also the civil society and the population.

Through the Community Profile Survey, the JICA study team established the good relationship with the CLD members as well as the counterparts of N'djili commune office and the Provincial Ministry of Plan, Budget, Public Works and Infrastructures. The team involved these stakeholders in the process of data collection, planning workshops, and stakeholder meetings. It is necessary for the stakeholders especially the counterparts to participate in the planning activities working together with the JICA study team. It is necessary to examine actual capacity and constraints of the grassroots institutions, budget allocation of the government and donors through the planning process.

## 6.2 Establishment of Improvement policy for urban planning issues

### (1) improvement policy for urban planning and land use issues

Corresponding to issues mentioned Action Plan Chapter 2 Present Conditions of the N'djili Commune, required activities for urban environmental improvement towards urban rehabilitation are shown in Table 2 as improvement policy.

**Table 2 Improvement Policy for Urban Planning and Land Use Issues**

Urban environment	Urban planning	Legal affairs, Implementation of plan
A-1. Urban redevelopment, land readjustment - high utilization of land (advancement of reconstruction into multi-floor building) - restructuring of public space (road network, park et al.) - improvement of public space relating to redevelopment projects  A-2. Construction and reconstruction of individual public facilities  A-3. Voluntary prescription of construction rules in N'djili commune	B-1. Basic census survey for whole Kinshasa Province.  B-2. Development policy making and preparation of Urban master plan for whole Kinshasa Province - political decision making - inter ministerial counsel - discussion and negotiation with every commune for future prospect  B-3. Prescription of construction rules according to local condition and customs	C-1. Enhancement and complementing of legal system concerning urban planning, construction and land use  C-2. Strengthening capability for observation and verification on construction activities - its entrustment to residents' association for example

## **(2) Land Use Restructuring Policy**

For examination on future land-use and environmental improvement project of urban spaces in N'djili commune, the following are enumerated as the content that should be considered in the reorganization policy.

**About new Development Site:** It is necessary to reorganize existing blocks in urban area to correspond to an overpopulated situation, and to promote their advanced use.

**About Agricultural Land:** The geological features of present agricultural site are considered not suitable for construction. So it should be preserved in the future land-use plan.

**About the Land Use System:** the possibility of establishing detailed land use system and regulations that are suited to the local lifestyle is quite low.

**Development of Architectural Capacity:** Since the Commune already suffers from overcrowding, the remodelling of existing building into multilayered structures is needed to secure enough floor space for residents.

**Reorganization of Land Use:** It is necessary to divide its land use for the long term into a residential, commercial and industrial land use.

## **(3) Urban Space Improvement Scheme**

**Correspondence to Wide Urban Area Function:** It is necessary to work on the rehabilitation and the high standardization of Route Nsanda in consideration of the south to the by-pass road in the future for the future plan of N'djili commune.

**Collaboration with the Vicinity Commune:** It should be assumed the functional cooperation of district (5 communes) including N'djili commune is corresponding to the city development in the eastern part of Kinshasa of the future.

**Reconstruction of Road Network in District:** All traffic tends to concentrate to the central ring road that surrounds quartier 7. Hence in a mid-term frame, an existing road is proposed to be connected and an outer ring road constructed.

**Upgrade of Land Use:** It is necessary to attempt the construction of the multilayered buildings and introduction of communal facilities (road, park, and district facilities) by redeveloping the district.

**Construction of Agricultural Road:** The improvement of the district environment is planned to be attempted by rehabilitating agricultural roads and area environmental improvement around the road additionally.

## **6.3 URBAN INFRASTRUCTURE**

### **(1) Main Problems, Action, Goal and Development Policies for Urban Infrastructure**

**Table 3 Policies and Actions for Urban Infrastructure**

<b>Policy</b>	<b>Action</b>
Establish adequate road and drainage maintenance system by community participation	<ul style="list-style-type: none"> <li>• Improve Luemba Boulevard as a main street of N'djili.</li> <li>• Rehabilitation of existing paved roads.</li> <li>• Improvement of N'djili Junction to relief traffic congestion.</li> <li>• Rehabilitation of community roads by LBT.</li> <li>• Clean-up gutters together with the sanitation brigade</li> </ul>
Ensure the sustainable urban growth with strong and stable economy	<ul style="list-style-type: none"> <li>• Capacity Development for Provincial Urban Planning Sections of the Province.</li> <li>• Rehabilitation of urban core zone (Q7).</li> <li>• Development of Community Core Zone.</li> <li>• Planting flowers and tree along streets</li> </ul>
Satisfy increasing traffic demand and ensure traffic safety and security	<ul style="list-style-type: none"> <li>• Installation of Sidewalk and Traffic safety facilities/Pedestrian crossings, Traffic sign, Humps, etc.</li> <li>• Improvement of Tertiary Roads.</li> </ul>
Enhance equal accessibility and promote public transport	<ul style="list-style-type: none"> <li>• Improvement of bus route network, bus terminal, bus stops</li> </ul>
Establish adequate road network system with accessibility (Long Term)	<ul style="list-style-type: none"> <li>• Development of integrated road network plan.</li> </ul>

#### 6.4 HEALTH AND SANITATION

**Table 4 Policies and Actions for Health and Sanitation**

<b>Policy</b>	<b>Action</b>
Rehabilitation of the Health Centres, Development of Health Centre Maintenance System (Action by Provincial Government)	<ul style="list-style-type: none"> <li>• Rehabilitation and construction of health centers as focal points of local health services</li> <li>• Construction of maternal and child health care centre including surgical unit</li> <li>• Establishment of health information system (HIS)</li> <li>• Establishment of appropriate deployment system of doctors and nurses in N'djili health zone.</li> <li>• Establishment of solid waste disposal systems in the Province</li> </ul>
Establishment of Health & Sanitary Management Systems , Installment of Sanitation Facilities (Action by Commune)	<ul style="list-style-type: none"> <li>• Rehabilitation and construction of public toilet.</li> <li>• Formulate sanitation and hygiene management plan.</li> <li>• Health &amp; Sanitation education in the School</li> <li>• Establish solid waste management system</li> </ul>
Sensitization, Promotion of Health & Sanitation Activities (Action by Residents)	<ul style="list-style-type: none"> <li>• Sensitization on sanitation and hygiene issues.</li> <li>• Clean-up solid waste and promoting recycling</li> </ul>

## 6.5 EDUCATION AND CITIZENSHIP

**Table 5 Policies and Actions for Education and Citizenship**

Policy	Action
Rehabilitation of Schools and Improvement of those Environment, Support School Facilities and Equipments. (Action by Province)	<ul style="list-style-type: none"> <li>• Rehabilitation of security fence.</li> <li>• Rehabilitation of toilet for primary and secondary schools.</li> <li>• Rehabilitation of classrooms.</li> <li>• Supply equipment for primary and secondary schools</li> </ul>
Empowerment of Civil Society Organization (Action by Commune)	<ul style="list-style-type: none"> <li>• Strengthening Capacity of the Commune Administration</li> </ul>
Action from Residents/community peoples (Action by Residents)	<ul style="list-style-type: none"> <li>• Civic Education</li> <li>• Non-formal education for out-of-school children</li> <li>• Sports and culture promotion in the commune &amp; schools</li> </ul>

## 6.6 INDUSTRY AND EMPLOYMENT

**Table 6 Policies and Actions for Industry and Employment**

Policy	Action
Promotion of N'djili Industry, (Action by Provincial Government and Commune)	<ul style="list-style-type: none"> <li>• TOT of N'djili masters at ITI</li> <li>• Rehabilitation of markets, storages</li> <li>• Establishment of Industry Support Systems.</li> </ul>
Improvement of Agricultural Production (Action by Provincial Government and Commune)	<ul style="list-style-type: none"> <li>• Establish and operate farmers' market at CECOMAF</li> </ul>
Networking of Small Vendors (Action by Residents)	<ul style="list-style-type: none"> <li>• Establish N'djili industry association</li> </ul>

## 6.7 WATER AND ELECTRIC POWER SUPPLY

**Table 7 Policies and Actions for Water and Electric Power Supply**

Policy	Action
Distribution Network Management (Action by Provincial Government)	<ul style="list-style-type: none"> <li>• Improvement of Water/Electric Power distribution network and water equipment.</li> <li>• Establishment of distribution network management system</li> </ul>

## 7. IMPLEMENTATION SCHEDULE ON ACTION PLAN

### 7.1 10 YEARS ACTION PLAN FOR EACH SECTORS

#### (1) Action plan for urban infrastructure

##### 1)Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project

Following 9 projects are proposed at the Rehabilitation Phase. The order of project is depends on project intiaives, from Provincial Gorvernment, Commune Office, to residents with time logical sequences.

- Improve Luemba Boulevard as a main street of N'djili.
- Rehabilitation of existing paved roads.
- Capacity Development for Provincial Urban Planning Sections of the Province.
- Improvement of N'djili Junction to mitigate traffic congestion.
- Installation of Sidewalk and Traffic safety facilities/Pedestrian crossings, Traffic sign, Humps, etc.
- Rehabilitation of Community Roads using LBT (Application of "Do-Nou" Technology).
- Rehabilitation of urban core zone (Q7).
- Clean-up Gutters Together with the Sanitation Brigade
- Planting flowers and tree along streets

## **2)Development Concept of the Development Phase (Middle-term Period; 2014-2018) Project**

Under the overall Development Concept, following 2 Development Concepts are set for urban infrastructure projects in the Rehabilitation Phase.

- Enhancement of Public Transportation.
- Improvement of living environment/conditions of the commune.

Consequently, following 3 urban Infrastructure Projects are proposed to implement at the Development Phase.

- Improvement of Tertiary Roads.
- Improvement of bus route network, bus terminal, bus stops
- Development of Community Core Zone.

## **3)Development Concept of the Long-Term Project (After 2019)**

Successively, after completion of Development Phase Projects, following an urban Infrastructure Project is expected to implement to complement.

- Development of integrated road network plan.

## **(2) Action Plan for Health And Sanitation**

### **1)Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project**

In Health sector, following actions are recommended to execute urgently.

- Rehabilitation and construction of health centers.
  - Construction of maternal and child health care centre including surgical unit
  - Establishment of health information system (HIS) on epidemiological deceases and reproductive health
  - Health & Sanitation education in Schools and Streets
  - Rehabilitation and Construction of Public Toilet
  - Establishment of solid waste disposal systems in the Province
  - Formulate sanitation and hygiene management plan
-

- Establish solid waste management system in the Commune
- Sensitization on sanitation and hygiene issues
- Clean-up solid waste and promoting recycling

## **2)Development Concept of the Development Phase (Medium-Term Period; 2014-2018) Projects**

Without a successive project since started from Rehabilitation Phase, there is no proposed implementation project newly starts at the Development Phase.

### **(3)Action Plan for Education and Citizenship**

#### **1)Development Concept of the Rehabilitation Phase (Short-term Period; 2009-2013) Project**

Following a project is proposed at the Rehabilitation Phase.

- Rehabilitation of security fence for primary and secondary schools
- Rehabilitation of toilet for primary and secondary schools
- Rehabilitation of classrooms
- Strengthening Capacity of the Commune Administration
- Civic Education
- Non-formal education for out-of-school children

#### **2)Development Concept of the Development Phase (Medium-Term Period; 2014-2018) Projects**

Consecutive actions from Rehabilitation Phase, following projects are proposed at the Development Phase.

- Supply Equipment for Primary and Secondary Schools
- Sports and Culture Promotion in the Commune & Schools

### **(4)Action Plan for Industry and Employment**

#### **1)Development Concept of the Rehabilitation Phase (Short-term Period: 2009-2013) Project**

Following 5 projects are proposed at the Rehabilitation Phase.

- TOT of N'djili masters at ITI
- Rehabilitation of markets, storages
- Establish and operate farmers' market at CECOMAF
- Establishment of Industry Support Systems
- Establish N'djili industry association

#### **2)Development Concept of the Medium-term Project**

Without successive projects since started from Rehabilitation Phase, there is no proposed implementation project newly starts at the Development Phase.



## **(5) Action Plan for Water and Electric Power Line**

### **1) Development Concept of the Rehabilitation Phase (Short-term Period: 2009-2013) Project**

Therefore, following a project is proposed at the Rehabilitation Phase.

- Rehabilitation and upgrading of RESIDESO water supply, SNEL electric power supply network

### **2) Development Concept of the Development Phase (Middle-term Period: 2014-2018) Project**

Without successive projects since started from Rehabilitation Phase, there is no proposed implementation project newly starts at the Development Phase.

### **3) Development Concept of the Long-Term Project after Action Plan (After 2019)**

Following a project is proposed at the Long Term Phase.

- Technical Assistance Project for Management of the Water supply, Electric power supply Distribution Network.

## **8. PILOT PROJECT**

### **8.1 OBJECTIVES**

To implement a variety of projects successfully, the Action Plan verifies the efficiency and effectiveness of Projects in advance. Projects of Action Plan include not only facilities/infrastructure improvement but also projects by community participatory approaches. Through the implementation of Pilot Project, participation of commune people is promoted. Pilot Projects also have the intention of gaining precious lessons by the process of trial and error in project activities. Lessons learned from the Pilot Projects would be applied in other projects at the implementation stage. The Study implemented 4 Pilot Projects during The Study period.

### **8.2 CIVIC EDUCATION**

#### **(1) Outline of the civic education project**

**Project Purpose:** CLD members can facilitate participatory community development to the population using acquired attitude, knowledge and skills respect of law, human rights, and realizing internal good governance.

**Overall Goal:** CLDs are recognised in the community and can plan and implement various community development projects in N'djili commune towards MDGs in a participative responsible and transparent manner.

**Outputs:** 1) CLD members are capable of putting together needs for the community development of their communes, and are fully aware of human right through the training, 2) CLDs prepare action plans for community development in each quarter by a participatory approach

## (2) Action planning

After the theoretical sessions, the trainees discussed with their neighbours at their quarter about concerning problems and needs of their community. In the result, infrastructure development and improvement of sanitation conditions were high priority issues. However, it was difficult for some of the issues to be solved without external resources such as school construction. The JICA Study Team facilitated the participants to consider using own resources to change their conditions. Then, the participants discussed priority action plans for N'djili commune and selected the three priority action plans as shown in the table below:

**Table 8 Commune Action Plans from the Participants**

Priority	Action Plan
1	Expansion of civic education
2	Clean-up gutters and solid waste management
3	Infrastructure development (gutters, public toilet, and drainage are high priority)

Expansion of Civic Education was selected as the highest priority action, because the participants recognised that Civic Education was a foundation of community development and mentality change of the people.

## 8.3 CLEAN-UP CAMPAIGN

### (1) Outline of the clean-up campaign project

**Project Purpose:** Foundation of sustainable grassroots actions for reducing solid wastes and maintenance gutters are established in each quarter.

**Overall Goal:** Solid wastes in the target streets, markets and gutters are cleaned regularly by the initiatives of CLDs

**Outputs:** 1) Committees are established in 13 quarters and 4 markets for a sustainable system of community based solid wastes management, 2) CLD members and community acquire knowledge about how to reduce solid wastes, 3) Markets, streets and gutters are cleaned up by community, 4) Community based Plastic Recycling organization is operating to recycle plastic wastes.

### (2) Achievement

The project purpose is achieved. Through the clean-up of target markets, gutters and streets and the sensitisation by CLD initiative, a foundation of sustainable grassroots actions for reducing solid wastes and maintenance gutters was established in each quarter.

Achievement of the sensitisation programme is shown in the below table.

**Table 9 Result of Sensitisation Programme**

Place	Number of sessions	Direct beneficiaries
Schools	26	5,200
Markets	11	4,500
Churches	3	1,000
<b>Total</b>	40	10,700

#### **8.4 ROAD REHABILITATION PROJECT BY DO-NOU TECHNOLOGY**

##### **(1) Outline of the road rehabilitation project by do-nou technology**

**Project Purpose:** Foundation of sustainable grassroots actions to rehabilitate road by the participation of commune people with utilizing of Do -nou technology.

**Overall Goal:** Potholes and erosions of the unpaved roads in commune are rehabilitated by the commune people under the initiative of CLDs

**Outputs:** 1) Technology and knowledge are transferred to attendant people to rehabilitate road by themselves, 2) Attendants can diffuse the technology to other people and other communes, 3) Community based road maintenance activity become general, 4) Organization of commune and CLDs are strengthened

##### **(2) Using Do-Nou Technology**

The use of DO-NOU technology for the maintenance of unpaved roads in some Asian countries dates back to 2000s. This technology has been applied in the Philippines; it is being introduced in African countries such as Kenya, Cameroon, Tanzania, Uganda, etc.

##### **(3) Implementation of Training**

Training consists of classroom training and field training. The classroom training started on October the 26<sup>th</sup> 2009 for the members of CLD selected in the Commune of N'djili.

The field training was conducted on Tuesday October the 27<sup>th</sup> 2009, everyone from trainers to trainees met. After training on how to fill the bags with sand to transform them into Do-Nou, the 52 trainees were divided into 4 teams of 13 people each. Then, it was decided that two teams remain on the site to prepare the section intended to receive the Do-Nou bags for road improvement.

#### **8.5 REHABILITATION OF LUEMBA BLVD.**

##### **(1) Outline of the rehabilitation of luemba blvd.**

**Project Purpose:** 1) Urgent distribution of the peace divided to the beneficiaries, 2) To collect information on the business practice, design and cost estimation, the capacity of the local contractor for the confirmation of the possibilities for the execution of the new project, 3) Capacity development to provincial government and commune office

**Overall Goal:** 1) Rehabilitation of Blv. Luemba, 2) Provision of beautiful urban space, 3) Reduction of the flood area by the installation of the storm water drainage system, 4) Traffic safety by the provision of sidewalk with traffic safety measures Potholes and erosions of the unpaved roads in commune are rehabilitated by the commune people under the initiative of CLDs

**Outputs:** 1) Paved carriageway, 2) Provision of the sidewalk, 3) Provision of proper storm water drainage system to the existing outlet, 4) Minimum land acquisition and house compensations

**(2) Design policy and standards**

The following policy was established for the design and the implementation of the project;

- 1) To construct a symbolical avenue of N’ djili commune,
- 2) To secure the safety of pedestrians, cycles and vehicles,
- 3) To create a focus of prosperity of the commune.

The Study Team basically applied to use the DCR road design standards as the most appropriate standards for the Luembe Blvd.

**(3) Implementation Plan**

Before implementation of Pilot Project, the committee was set up between DRC side and Project team.

This project was implemented by AFRITEC on a contract basis with JICA DRC. AFRITEC was selected through the designated bidding.



**Fig. 4 Final Work Schedule for the Rehabilitation of Blv. Luemba**

**8.6 OVERALL EVALUATION**

**(1) Overall Evaluation**

The JICA Study Team evaluated each pilot project and projected the results and lessons learned to the Action Plan, especially in consideration of future implementation and institution arrangements.

Generally, most of the respondents were of the view that these pilot projects had positive impact on the commune. The evaluation result of each pilot project by the general public of N’djili is shown in the figure below.

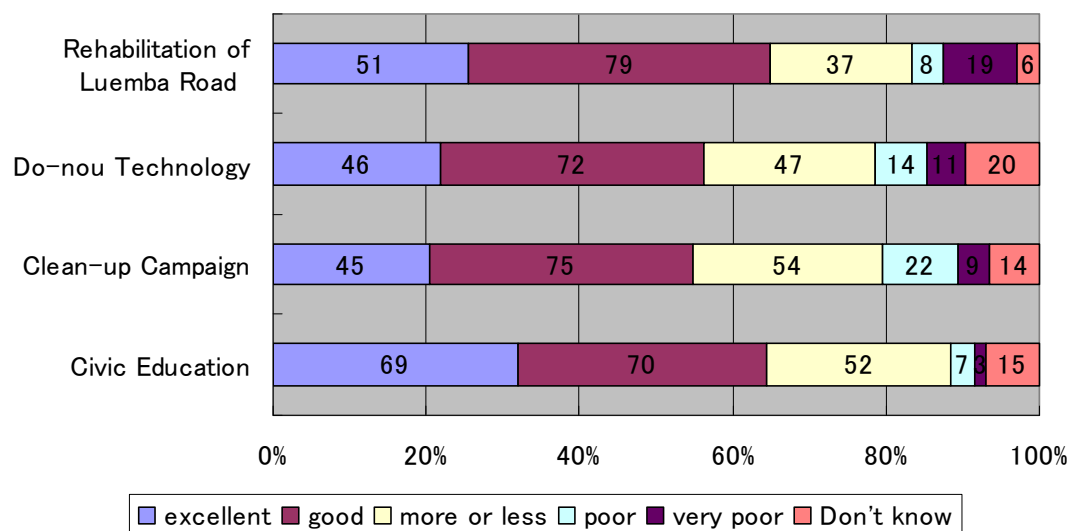


Fig. 5 Evaluation Result of the N’djili Population on the Pilot Projects

**(2) Achievements**

- 1) The participant's expansion and capacity development in the commune activity
- 2) Reinforcement of commune CLD organization
- 3) Expansion of independent activity
- 4) Formation of core of the commune

**(3) Recommendation**

- 1) Necessity of functional enhancement of commune administration
- 2) Necessity of continuous support for sustainable activity
- 3) Acknowledgment of action plan and maintenance of plan

**9. SOCIO-ECONOMIC FRAMEWORK AND METHODOLOGY FOR URBAN REHABILITATION PLAN IN KINSHASA**

**9.1 SOCIO-ECONOMIC FRAMEWORK OF N’DJILI COMMUNE IN 2018**

**(1) Population Framework in 2018**

Based on the latest demography as of 2008, The Study Team has made population projections of Kinshasa and The Study area of N’djili Commune taking into account past trends of mortality and fertility plus the effect of HIV/AIDS, at the target year of 2018. The population of Kinshasa Province and The Study area are projected as shown in the following table.

**Table 10 Population Forecast in 2018**

2007			2018		
2007	Population	Density/km2	Growth/year	Population	Density/km2
DRC	65,837,000	28	3.20%	93,099,000	40
Kinshasa	6,387,725	719	2.35%	8,054,229	907
N'djili	320,762	34,020	1.80%	390,448	41,411

## (2) Labour force and employment

Ratio of working age population to total population or the labour force coefficient (15-60 years old) is 54% in The Study area. The labour participation ratio including formal and informal is 67% according to the household survey conducted by the team for The Study area. Although the labour force coefficient will increase steadily as the generation affected by the civil war is replaced by the younger generation, it is assumed to be stable as 53.8% in 2018.

## (3) Economic indicators

Updated data on gross regional domestic product (GRDP) for smaller administrative unit are not readily available in DRC. Hence, the annual growth rate of GRDP of Kinshasa which is forecasted as 4.7% in the Provincial Development Plan 2007-2011 has been applied in the projection. Based on the assumptions that the GRDP per capita of Kinshasa 2007 estimated in the development plan, US\$260 and the growth rate of 4.7% is applied, in conclusion, the economic structure of The Study area is roughly estimated in the following table.

**Table 11 GRDP by industry in N'djili Commune in 2007**

Industry	Population	Structure	Coefficient	Modified	GRDP 2007
Primary	8,588	7.4%	1.0	4.2%	\$3,537,496
Secondary	39,342	33.9%	1.2	22.5%	\$18,735,878
Tertiary	68,122	58.7%	2.2	73.3%	\$61,124,746
Total (GRDP)	116,052	100.0%		100.0%	\$83,398,120
GRDP/capita					\$260

## 9.2 METHODOLOGY FOR URBAN REHABILITATION PLAN IN KINSHASA

### (1) General -“Action from N’djili”-

To formulate the urban rehabilitation plan, this plan reviews existing data and development plans and specifies medium to long term (10year) range development policy together with Action Plan. Consecutive stages of this study are following;

- Stage 1: Compile existing data of Kinshasa Province and N'djili commune,
- Stage 2: Prioritize community demands by dialogue and participatory approach.
- Stage 3: Indicate development policy and address Action Plan for the commune,
- Stage 4: Examine Pilot Projects to provide feedback on the Plan.
- Stage 5: Evaluate Pilot Projects and review The Study for improvement the Plan.
- Stage 6: Implement Projects of Action Plan.

## **(2)Methodology**

### **Stage 1: Analysis of Current Condition in Kinshasa and Commune**

Stage 1 is the initial stage of the urban rehabilitation plan. To understand general conditions of commune, data compilation is an indispensable activity towards making an Action Plan.

### **Stage 2: Community Needs Survey**

To signify priority of community development, Stage 2 involved collecting community opinion through several community surveys.

### **Stage 3: Basic Policy and Action Plan for Commune**

After completion of data collection, analysis and community needs surveys, basic policy and Action Plan for commune had been addressed/ formulated. Stage 3 is making a Basic Policy and Action Plan for commune based on previous surveys' results.

### **Stage 4: Implementation of the Pilot Project**

Stage 4 follows following steps of procedure:

- Step 1: Clarification of Objective for Pilot Project
- Step 2: Selection of Pilot Project
- Step 3: Establishment of Implementation Organization
- Step 4: Establishment of Implementation Plan
- Step 5: Acquisition of Budget

### **Stage 5: Evaluation of the Pilot Project and Reviews of The Study**

### **Stage 6: Project Implementation of Action Plan**

The project implementation for Action Plan includes 1) Selecting the priority project of the Action Plan, 2) Formation of Study Team, 3) Basic Design of the Project, 4) Discussion with the government to acquire budget, 5) Establishment of implementation organization for the project, 6) Detailed design of the project, 7) Implementation of the project and 8) Monitoring of the project.

## **10. CONCLUSION AND RECOMMENDATIONS**

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**(1) Conclusion**

- 1) Necessary actions were identified among the variety of stakeholders by participatory approach.
- 2) Organization of CLD was activated and played the significant role in the participatory approach.
- 3) The Study compiled current data and analyzed conditions in Kinshasa province that are of great use in other communes.
- 4) The Study compiled current data and analyzed conditions in the pilot commune. Data collection approach and basic contents of database are applicable for other communes.
- 5) The demand forecasting approach for making Socio-economic frameworks and indicated development policies in The Study are also applicable and valuable for other communes.
- 6) A variety of menu and indicated outlines of prioritized projects in The Study are valuable for making their Action Plans respectively for other communes.
- 7) Through the implementation process of the Pilot Projects, various lessons learned were scrutinized and verified. Pilot Projects motivates the community for participation of the planning.
- 8) Participatory approach and its methodology, defined as “N’djili Model”, are highly valuable for making urban rehabilitation plans that can be applied for other communes

**(2) Recommendation**

- 1) N’djili model can be utilized as a development guideline for other communes, but it requires some modification depending on community characteristics.
- 2) For sustainability in development actions, capacity building activities through Civic Education Campaign are of paramount importance at Government level, Commune level and Community level.
- 3) To encourage CLD activities, continuous necessary support is indispensable for sustainable impact on the residents and also better appropriateness of the development process.
- 4) To implement development projects, potential donors and international organization assistance and coordination activities for Kinshasa Provincial Government, N’djili Commune and CLD are highly expected.



**THE DEVELOPMENT STUDY FOR URBAN REHABILITATION PLAN  
OF KINSHASA IN THE DEMOCRATIC REPUBLIC OF THE CONGO**

**FINAL REPORT**

**VOLUME II  
ACTION PLAN**

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### **LIST OF ABBREVIATIONS**

Abreviation	English
ADF	African Development Fund
AfDB	African Development Bank
AIDS	Aquired Immune Deficiency Syndrome
AU	African Union
BAD	African Development Bank
BEAU	Design Office for Urban Developments
BM	World Bank
BTC	Belgian Technical Cooperation
CAF	Country Assistance Framework
CBO	Community Based Organization
CCD	Community Development Comission
CIDA	Canadian International Development Agency
CLD	Local Development Committee
CTB	Belgian Technical Cooperation
DAC	Development Assistance Committee
DFID	(British) Department for International Development
DID	Densely Inhabited District
DRC	Democratic Republic of the Congo
DVDA	Rural Access Roads Department
EC	European Committee
EIA	Environmental Impact Assessment
EMRR	Emergency Multisector Rehabilitation and Reconstruction
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
FNUAP	United Nations Fund for Population
FPR	Rwandan Patriotic Front
GDP	Gross Domestic Product
GEEC	Environmental Studies Group of Congo

Abreviation	English
GIS	Geographic Information Systems
HDI	Human Development Index
HIPC	The Heavily Indebted Poor Country
HIMO	Labour Based Technology
HIV	Human Immunodeficiency Virus
IDA	International Development Association
IDP	Internal displaced people
IEE	Initial Environmental Examination
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
JPY	Japanese Yen
LBT	Labour Based Technology
MONUC	(United Nations Mission in the Democratic Republic of Congo)
NGO	Non-Governmental Organizations
OAU	Organization of African Unity
OCDE	Organization for Economic Cooperation and Development
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
ONATRA	National Office for Transport
ONG	Non-Governmental Organization
ONU	United Nations Organization
OR	Road Agency
OVD	Office for Road and Drainage
PHC	Primary Health Care
PNUD	United Nations for Development Programm
PRSP	Poverty Reduction Strategy Paper
PTA	Parent-Teacher Association
RDC	Democratic Republic of the Congo

Abreviation	English
REGIDESO	(Water works Authority)
SIDA	Aquired Immune Deficiency Syndrome
SIG	Geographic Information Systems
SNEL	(Electricity Authority)
SNHR	(Rural Hydrogic Bureau)
TOT	Training of Trainers
UA	African Union
UE	European Union
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
UNOPS	United Nations Office for Project Services
USAID	US Agency for International Development
USD	United States Dollar
WB	World Bank
WFP	World Food Program
WG	Working Group
WHO	World Health Organization
WHP	Women and Health Programme
WIR	World Investment Report
WTP	Water Treatment Plant



# **CHAPTER 1**

## **INTRODUCTION**





## CHAPTER 1: INTRODUCTION

### 1.1 GENERAL

This report presents the Action Plan for the Rehabilitation of N'djili commune made as part of The Development Study for Urban Rehabilitation Plan of KINSHASA in The Democratic Republic of The Congo. Relation between The Development Study for Urban Rehabilitation Plan of KINSHASA in The Democratic Republic of The Congo and the Action Plan for the Rehabilitation of N'djili commune is described in section 1-4. Also, the scope of the Action Plan is described in the section 1.5.

### 1.2 BACKGROUND

The following serious problems are a direct consequence of the socio-economic turmoil that lasted for many years in the Kinshasa Province. The problems are inadequacy of government function, stagnation of economic activity, centralization of population to Kinshasa Province, increase in unemployment, social unrest by the lack of basic infrastructure and the stagnation of capital city function.

The Government of Japan had temporarily terminated its support and cooperation activities in the Democratic Republic of Congo (hereinafter referred to "DRC") because of the influence of the socio-economic turmoil in the DRC for many years.

The Government of the DRC under Joseph Kabila undertook a series of economic reforms in the country. The Government of Japan through its International Cooperation Agency (JICA) has financed The Study for urban rehabilitation plan in Kinshasa whereby N'djili has been selected as pilot commune for The Study.

N'djili is a commune of Tshangu District, in the city of Kinshasa, situated in the South of Masina commune which is separated by the Lumumba Boulevard. It is located in the Eastern part of Kinshasa town, in the plain, beyond N'djili River. It has 13 popular quarters. The population in N'djili Commune has been increasing due to the inflow from the rural areas. This influx of population has increased poverty, because of remarkable insufficient basic social infrastructure services and lack of the economic infrastructure supporting economic activities. Based on the above situation in N'djili commune, N'djili commune was selected as the pilot commune with the target of assisting the commune's people solve their current issues. The experience acquired from the pilot project in N'djili commune will be projected onto the establishment of methodology for rehabilitation plan of Kinshasa.

The emergency study is to be conducted in Kinshasa which is a capital of the DRC for the purpose of the provision of the peace to all people in the DRC.

### 1.3 OBJECTIVE OF THE STUDY

The objective of The Study is to recommend and demonstrate appropriate method and process for the formulation of urban rehabilitation plans in Kinshasa, by formulating an urban rehabilitation plan for pilot commune which in this case is N'djili commune.

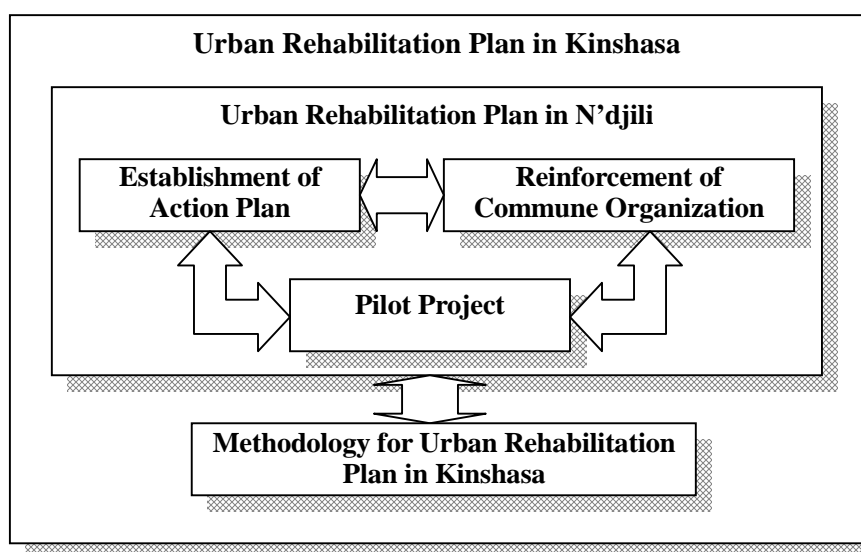


Fig. 1.3.1 Composition of Urban Rehabilitation Plan in Kinshasa

### 1.4 STUDY AREA

The Study Area covers N'djili Commune in Kinshasa as shown in the Location Map at the beginning of this Report.

### 1.5 SCOPE OF THE STUDY

Scope of work, agreed upon between Kinshasa Provincial Government and Japan International Cooperation Agency on 8<sup>th</sup> August, 2007, clarifies the Scope of The Study as follows;

#### (1) Review and analysis on present situation of the pilot commune

- a) To review existing laws, regulations, policies and institutional arrangements related to commune development;
- b) To review past studies, development plans, projects and traffic surveys in the commune;
- c) To review other existing data and information related to the commune development (existing land use, existing infrastructures etc);
- d) To conduct social survey and other necessary survey(s);

- e) To make community profiles; and
- f) To conduct traffic survey.

**(2) Formulation of the basic policy for development of the commune**

- a) To formulate appropriate -framework for discussion of planning with participation of local communities; and
- b) To formulate the basic policy for development of the commune.

**(3) Proposing urban rehabilitation plan**

- a) To set up future socio economic framework;
- b) To forecast a future demand for land use plan (housing area, commercial area, industrial area etc);
- c) To consider functional layout and formulate a zoning map;
- d) To propose infrastructure development projects;
- e) To make profiles for infrastructure development projects; and
- f) To propose urban rehabilitation plan of the communes.

**(4) Implementation of Pilot Project(s)**

- a) To select Pilot Project(s);
- b) To conduct designing and cost estimation for the Pilot Project(s);
- c) To prepare implementation plans for the Pilot Project(s);
- d) To prepare bidding documents for the Pilot Project(s);
- e) To conduct biddings and select contractors for the Pilot Project(s); and
- f) To implement the Pilot Project(s).

**(5) Evaluation of Pilot Project(s)**

- a) To evaluate and analyze the result of the Pilot Project(s);
- b) To summarize lessons learned during the implementation of Pilot Project(s); and
- c) To identify the problems and countermeasures for implementation of the urban rehabilitation plan.

**(6) Finalization of urban rehabilitation plan**

- a) To finalize the urban rehabilitation plan with feedbacks from evaluation of Pilot Project(s); and
- b) To recommend effective method and process for the formulation of urban rehabilitation plans in Kinshasa.

**1.6 STUDY PROCEDURE**

In order to achieve the objectives by carrying out the work items described above, The Study is conducted under the following procedure and methodology.

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### 1.6.1 Procedure

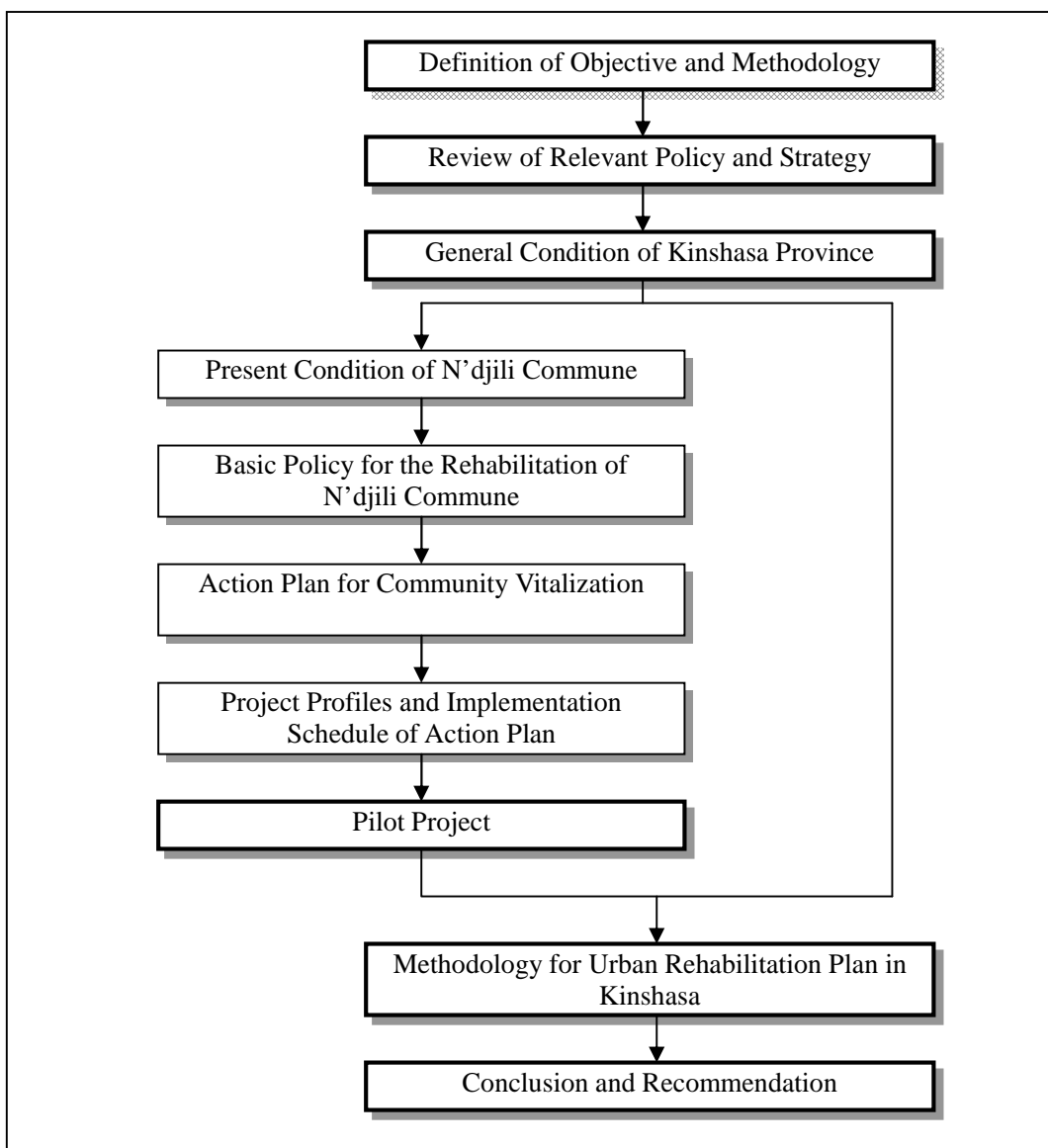


Fig. 1.6.1 General Flowchart of The Study

### 1.6.2 Methodology

#### (1) Review of Development Policies and Strategies

Relevant development policies and strategy of the National Government, Kinshasa Provincial Government and the pilot commune are to be reviewed to provide a base for the establishment of development principle of the pilot commune. Activities of donors in Kinshasa Province are also to be reviewed.

## (2) Analysis of General Condition in Kinshasa Province

In order to clarify characteristics of the pilot commune in the socioeconomic and infrastructure aspects, present conditions of Kinshasa Province are grasped in the following items;

- Natural condition, Socio economic condition, Land use, Administrative system, Road, Health and Sanitation, Education and Citizenship, Industry and Employment, Access to water and Lifeline

## (3) Review and Analysis of Present Condition and Issues of N'djili Commune

### 1) Review and Analysis on Present Situation

Following survey and analysis for Ndili Commune will be conducted in this Study.

- Natural condition, Landuse pattern, Infrastructures, Industry, Socio-economic situation, Existing development policy and Programme, Activities of other donors and NGO, Social environmental consideration regulation act, etc.

### 2) Conducting of the Social Survey

Social survey for 13 quarter of N'djili Commune as pilot commune will be conducted. Community profile will be prepared in this Study.

**Table 1.6.1 Social Environmental Survey**

Survey Area	Survey Items
<b>Social Environment</b>	Inhabitant's profile(population, age structure, family structure, religion, ethnic group/tribe, local language), history of community, community organization, education situation(school attendance rate, opportunity of education by public/private), healthcare situation(mortality rate, sick rate by diseases, prevention diseases and condition of the nutrition), Local culture and custom, gender, etc...
<b>Economic condition</b>	Industry (Industrial structure and employment opportunities), Employment situation, livelihood, income and outgo.
<b>Infrastructure</b>	Roads, bridges, public transportation, water supply, sewage, education facilities, healthcare facilities and other public facilities such as community center, religious facilities and markets.
<b>Land use</b>	Land use, existing regional/infrastructures development plan
<b>Refugee and IDPs(Internally Displaced Person)</b>	Situation of refugee occupation / distribution from Angola and IDPs
<b>Other donor's activities</b>	Other donor's and NGO's activities(past projects, on-going projects and future's projects)

### 3) Extraction of Existing Issues

As the consequence of the analysis on present condition in N'djili commune, issues in various fields observed at present or anticipated in near future are clarified.

### (4) Establishment of the Socio Economic Framework

Establishment of a socio-economic framework (such as population, economy, employment,

poverty level, income, number of persons attending schools and living environment)

#### **(5) Establishment of Basic Policy for the Rehabilitation of N'djili Commune**

Relevance between N'djili Commune and other neighbouring communes and function which N'djili Commune should achieve will be studied. Future vision up to the target year and the target for the short term and medium term will be established. The basic policy for the development of the N'djili Commune will be formulated.

#### **(6) Formulation of Action Plan for Community Vitalization**

##### **1) Institutional Improvement for Action**

The scheme for local communities' participation will be established in the discussion and implementation of urban rehabilitation plan for N'djili Commune.

##### **2) Formulation of Land Use Plan**

Future demand for land use plan of N'djili Commune will be forecasted in consideration of the socio-economic framework. Land use development policy is formulated in consideration of improvement of living environment and urban functional layout.

##### **3) Formulation of Sector Plan**

Infrastructure and public facilities development plan for the following sectors will be proposed. Execution agency for each project shall be made clear and the financial situation, implementation capacity for management and maintenance and project realization in consideration of other donor's activities should be considered for proposing the infrastructure development plan.

- a) Urban Infrastructure
- b) Health and Sanitation
- c) Education and Citizenship
- d) Industry and Employment
- e) Access to Water and Lifeline

##### **4) Preparation of Profile for Development Projects**

The project profile for developments project will be prepared including the following items.

- |      |   |
|------|---|
| i)   | Project name  |
| ii)  | Background and objective for the project                                  |
| iii) | Contents of the project(contents of the works, cost, construction period) |
| iv)  | Project implementation methodology(execution agency, Financial source)    |
| v)   | Effectiveness of the project(beneficiary, estimated environmental impact) |
| vi)  | Relevancy to other projects   |
| vii) | Important assumptions, Pre-conditions                                     |

Several Projects shall be selected as emergency projects. Design and cost estimate will be done for the selected projects.

#### **5) Consideration for Environment**

Special effort will be given to access the appropriate environmental and social considerations in accordance with the JICA Guidelines for Environmental and Social Consideration.

#### **(7) Implementation of Pilot Project**

##### **1) Selection of Pilot Project**

Pilot Project shall be selected from the project files in consideration of the lessons learned by effectiveness, urgency, size of the project, beneficiary and implementation period.

##### **2) Examination of Framework of the Pilot Project**

Framework for the implementation of Pilot Project, such as scope of project, organization for implementation, implementation period, scale and budget is examined and decided. Related surveys, if necessary, are conducted before the Implementation of Pilot Project.

##### **3) Preparation of Implementation**

Based on the framework for the Pilot Project, preliminary construction plan/implementation plan including the necessary procedure for the implementation of the Pilot Project is established.

Cost estimation will be prepared for the preparation of the tender. Drawings, TOR, Bill of quantities, Specification and other necessary documents will be prepared.

##### **4) Implementation of the Pilot Project**

- a) Selection of the NGO/Contractor by preparing a list of NGOs/contractors and locally inviting and explaining tenders; a contract will be negotiated. Required technical transfer to the counterparts will be done to ensure the sustainability and continuity of performance of commune people.
- b) Implementation of the Pilot Project will be implemented by the contractor at the site. All activities/construction will be supervised by The Study Team. Completion of the implementation of Pilot Project will be confirmed by The Study Team.

#### **(8) Finalization of Methodology for Urban Rehabilitation Plan in Kinshasa**

##### **1) Evaluation of the Pilot Project**

C-2-1 Evaluation and analysis of the result of the Pilot Project

The result of the Pilot Project including the formulation of the management and maintenance system will be evaluated and analyzed.

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## **2) Major Findings and Conclusion by the Experience of Pilot Project**

C-2-2 Summarizing lessons learned with implementation of the Pilot Project, and identification of the problems and countermeasures for implementation of the urban rehabilitation plan

## **3) Finalization of Urban Rehabilitation Plan for the Commune**

Urban rehabilitation plan for the Commune will be finalized in consideration of the problems and countermeasures for implementation of the Pilot Project.

## **4) Proposition of Methodology for the Urban Rehabilitation Plan in Kinshasa**

The methodology and process for the urban rehabilitation plan in Kinshasa will be proposed in consideration of the process for preparing the urban rehabilitation plan for N'djili Commune as a pilot commune.

## **(9) Conclusion and Recommendation**

Before finalizing the Study, propositions in following aspects are pronounced as the Conclusion and Recommendation.

- Procedure for authorization of the Rehabilitation Plan
- Methodology for utilization of the Plan and clarification of responsible organization
- The way to diffuse the concept of the Plan
- Necessity of review and reconstruction of the Plan, etc.

## **1.7 REPORTS**

In order to build consensus among the relevant parties, following reports are prepared and discussed.

### **【Inception Report】**

The Study Team will conduct the Preliminary and Preparatory study to collect the existing materials and information available in Japan, and arrange, analyze and study them. And consequently, the basic policy, methodology and process of the Study will be compiled in an inception report.

A steering committee will be created for the purpose of sharing and discussing The Study contents with Kinshasa Provincial Government. Discussions will be held with the steering committee with respect to The Study implementation plan described in the Inception Report.

### **【Interim Report】**

Based on The Study in phase 1, urban rehabilitation plan for the target commune is prepared as an Interim report and discussed with the concerned parties of Kinshasa Provincial Government.

### **【Draft Final Report】**

The findings of The Study will be compiled in a draft final report and the draft final report will

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be explained and discussed with concerned parties of Kinshasa Provincial Government.

To collect the comments from the participants, The Study Team shall hold the seminar in which the related organisations, such as the Government of the DRC and Donors participate for the explanation of the results of The Study.

**【Final Report】**

In due consideration of the results of the explanation, discussions and subsequent comments of the draft final report, a final report will be prepared and submitted.

### **1.8 STUDY SCHEDULE**

The schedule of The Study is shown in Fig.1.8.1. The Study consists of two phases. Major components of each phase are as follows;

Phase 1 (March, 2008 ~ September, 2008)

Drawing up the draft development plan in N'djili commune and selecting and designing the pilot project.

Phase 2 (October, 2008 ~ March, 2010)

Implementation of Pilot Projects and finalization of development plan in N'djili

Proposal of methodology for the rehabilitation of Kinshasa Province based on the experience in N'djili

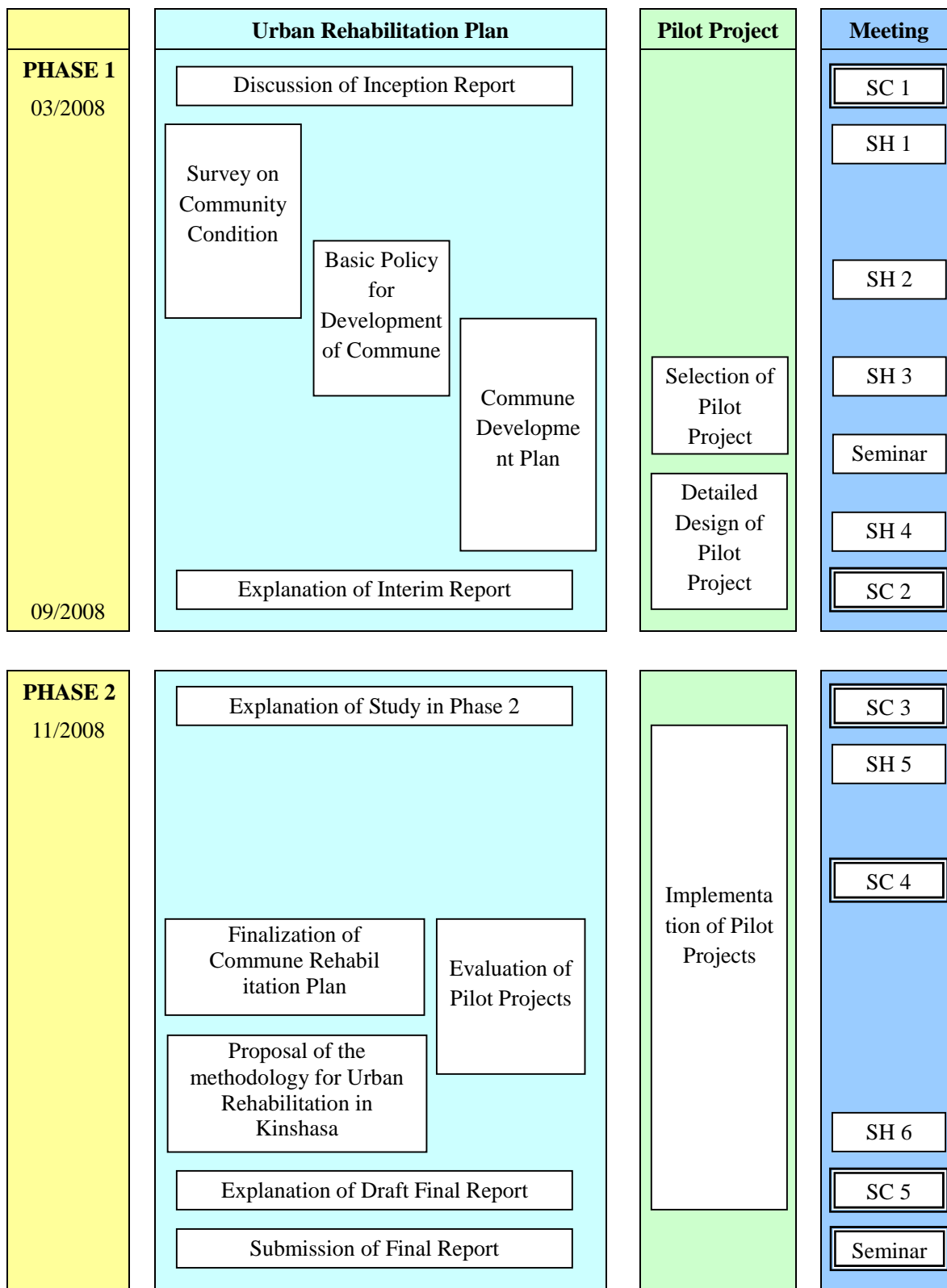


Fig. 1.8.1 Study Schedule

## 1.9 STUDY ORGANIZATION

### 1.9.1 Study Organization

The Study is conducted under close cooperation with the Kinshasa Provincial Government and N'djili commune. Kinshasa Provincial Government is represented by the Ministry of Plan, Budget, Public Works and Infrastructures (formerly the Ministry of Reconstruction and Plan), and N'djili commune is represented by the commune office. The Study Team is organized by The JICA Study Team, the members of Kinshasa Provincial Government and N'djili commune.

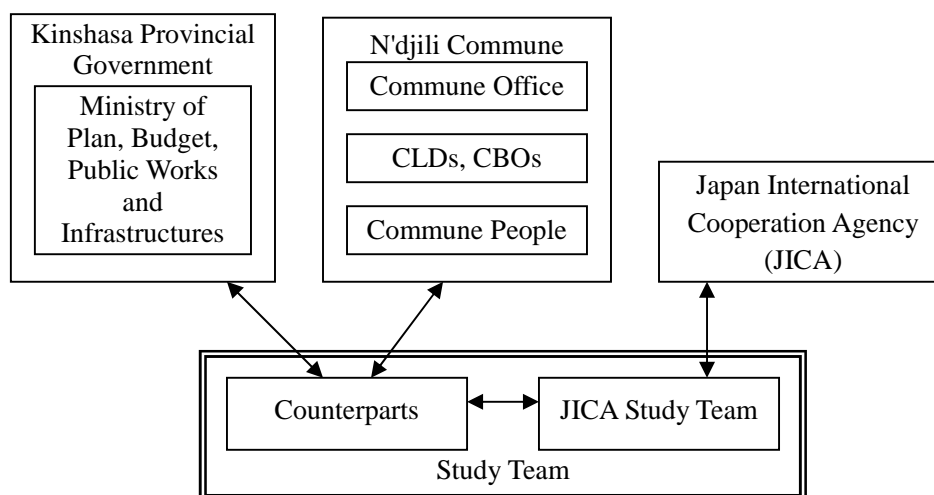


Fig. 1.9.1 Study Organization Chart

### 1.9.2 Meetings

Two forms of significant meetings are held during The Study period. One is Stake Holder Meeting (SHM) and the other is Steering Committee meetings (SC). The objectives and participants of meetings are shown below;

Table 1.9.1 Schedule of Stakeholder Meetings (SHM)

Type of Meeting	Objectives	Date	Participants
The 1st SHM	-Establishment of scheme of community participation. -Explanation of policy of urban rehabilitation plan -Collecting information from inhabitants regarding current situation in the commune	25 April 2008	Kinshasa provincial government, Njili commune government and representative of 13 quarters, quarter leaders, CLD leaders, NGO leaders
The 2nd SHM	-Explanation of result of social survey -Exchange of opinions with participants	4 June 2008	
The 3rd SHM	-Explanation of selection of Pilot Project -Exchange of opinions with participants	20 August 2008	
Seminar	-Explanation of result of social survey, existing problems and potential in N'djili Commune, -Exchange of opinions with participants	3 September 2008	

Type of Meeting	Objectives	Date	Participants
The 4th SHM	-Explanation of infrastructure development plan and urban rehabilitation plan -Exchange of opinions with participants -Explanation of outline of Pilot Project, predicted impacts, mitigation measures and resettlement action plan -Exchange opinions with participants and project affected persons	17 September 2008	
The 5th SHM	-Explanation of study in phase 2 -Explanation of Pilot Projects Civic education Clean up campaign Rehabilitation of Av. Luemba Road rehabilitation by HIMO	12 October 2008	
Seminar	-Explanation of Implementation Plan -Explanation of results of Pilot Project -Sensitization for solidarity	21 January 2010	

**Table 1.9.2 Schedule of Steering Committee Meetings (SC)**

Type of Meeting	Objectives	Date	Participants
The 1st SC	-Explanation of scope and schedule of The Study -Explanation of policy of urban rehabilitation plan -Collecting information from relevant authorities	9 April 2008	Kinshasa provincial government, Njili commune government, relevant ministry of national government and relevant donors
The 2nd SC	-Explanation of infrastructure development plan and urban rehabilitation plan -Exchange of opinions with participants -Explanation of outline of Pilot Project, predicted impacts, mitigation measures and resettlement action plan	24 September 2008	
The 3rd SC	-Explanation of study in phase 2 -Explanation of Pilot Projects Civic education Clean up campaign Rehabilitation of Av. Luemba Road rehabilitation by HIMO	25 October 2008	
The 4th SC	-Explanation of character of the Action plan -Explanation of concept and program of action plan in each field -Midterm report of Pilot Projects	3 June 2009	
Seminar	-Submission of Draft Final Report -Explanation of Implementation Plan -Explanation of results of Pilot Project	20 January 2010	

## **CHAPTER 2**

# **PRESENT CONDITIONS OF THE N'DJILI COMMUNE**



## CHAPTER 2: PRESENT CONDITIONS OF THE N'DJILI COMMUNE

### 2.1 LOCATION

The N'djili commune is located in the eastern area of Kinshasa city (one of the communes in the Tshangu District) and the gross area is approximately 11.4 km<sup>2</sup>. It is 13 km from the center of Kinshasa. The commune is in the center of Tshangu District. Therefore, the district court is located within the commune. In the north area, it is bordered by Boulevard Lumumba which separates it from the Masina commune. In the south it is bordered by the Avenue of President Mobutu and the N'djili River. In the west it is bordered by the N'djili River with the Kinsenso Commune.

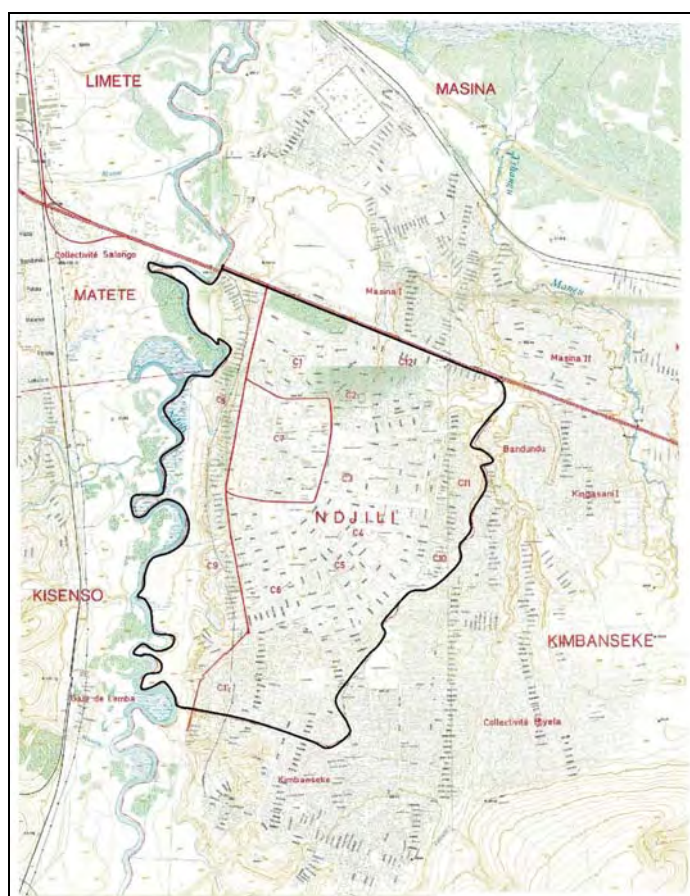


Fig. 2.1.1 Location Map

To the east it is bordered by the Tshangu River with the Kimbanseke Commune. There are 13 Quarters, namely; 1 (Makasi), 2 (Bilombe), 3 (Equateur), 4 (Katanga), 5 (Kivu), 6 (Kasai), 7 (Oriental), 8 (Ubangi), 9 (Mongala), 10 (Tshuapa), 11 (Goma), 12 (Bandundu), and 13 (Inga), consisting of 16,539 parcels, 16 avenues and 303 streets.

## 2.2 GEOGRAPHY

The N'djili commune in the river terrace of the N'djili River serves as a flat geographical feature with an altitude of around 320 m, with the assumption that the N'djili River is removed. The surface layer of the quality of silt sand has a thickness of 5-10 m, and around 10 m of rough sand layer which follows the lower part. The layer of clay consists of around 5 m in thickness locally. Furthermore, as for the lower part, the sandstone layer of the Mesozoic era has spread as a whole.

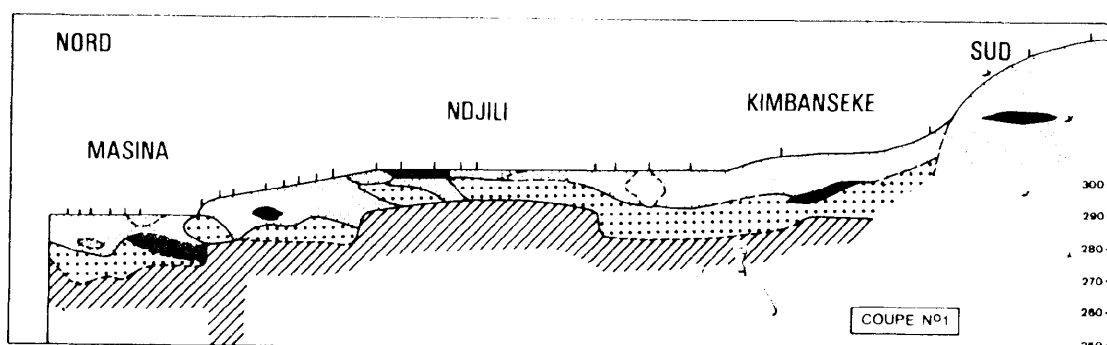


Fig. 2.2.1 Geological Map

Source : N'djili Commune Office

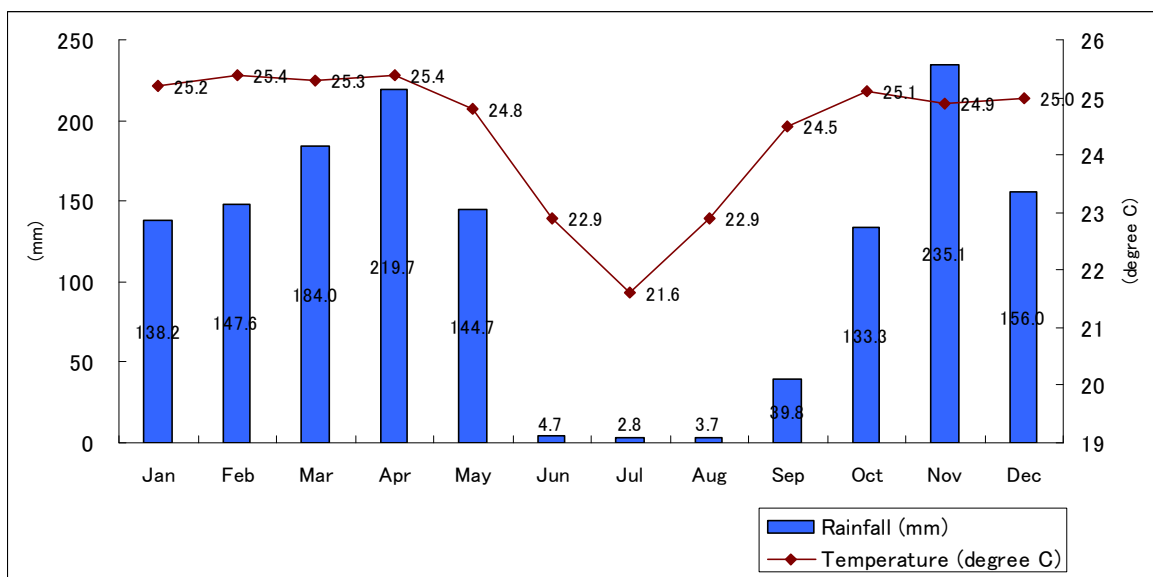
## 2.3 ENVIRONMENTAL CHARACTERISTICS

### 2.3.1 Climate and Physical Aspects

Kinshasa is located in humid tropical zone. The annual average rainfall and temperature are about 1,400 mm and 25 degree Celsius. The dry season is from June to September. More than 10 days a month from October to May are rainy days. The following figure shows the monthly average rainfall and temperature at Kinshasa/N'djili's weather station.

The N'djili commune is located in a sandy area with shallow bedrock of sandstone and is well drained. The terrain is flat and 280-290 m above sea level. The natural vegetation consists of a moist savannah. However, the area has been developed as build-up zones and agricultural fields, so there is little natural vegetation. Most of the area is a residential area. The areas along the N'djili River are utilized as agricultural fields. Groves with planted eucalyptus trees (approx. 6.7 hectares) exist in the northern edge, which create a relaxation spot for the local people.





**Fig. 2.3.1 Monthly Average Rainfall and Temperature of N'djili**

Source: <http://www.worldclimate.com/>

The water quality monitoring the data for the N'djili River and the underground is not available. Untreated domestic waste water and agricultural effluent in the lower basin will severely contaminate the N'djili River, which has been an important water source for the water supply in Kinshasa. The ground water will also be contaminated by human wastes. The air quality monitoring data in Kinshasa is also not available. Because large scale pollutant sources do not exist in Kinshasa, the air pollution will not be as serious a concern as the water pollution.

### 2.3.2 Special Areas

There are no special areas such as National Parks, Nature Reserves, Archaeological Sites or Customary Lands in the N'djili commune. The Bombo Lumene Reserve and the N'Sele National Park Reserve are located in the Kinshasa Province.

## 2.4 HISTORY

N'djili was established on 26 March 1957 as a commune in the Kinshasa Province by a royal order. Before the establishment, the area belonged to the Kasangulu Territory of the Bas Congo Province. In 1952, the area was designated as "Center Extra Coutumier" and modernised Congolese families settled in the area. The first Congolese settlers were persons who had at least three children according to the records of Kinshasa city. Therefore, the area was called "Mboka ya batata ya bana," which means fathers' bed town. There were 6,000 parcels spread in seven Quarters. Many of the residents had their own houses. It was a unique characteristic of the N'djili commune compared with the other communes.

Generally, N'djili was a prosperous commune with advanced residents. During the Mobutu regime, however, development activities within the commune stalled. On the other hand, the population had increased rapidly. Although there were endogenous efforts for education services by Catholic churches in the 1980s, most of the infrastructure and services were destroyed due to vandalism and riots during the crises of the 1990s. During the 1998 War, the Tshangu District, including some parts of N'djili was a battle field. There were clashes between the rebels and the government army in August 1998. More than 15% of the households were directly affected by these clashes physically and/or mentally with many N'djili youths fighting against the rebels, especially the foreign troops. After the peace accord, in the process of preparation of DSRP, the N'djili Community Development Plan (2007-2011) was prepared by commune officers and Quarter leaders in a participatory way.

## 2.5 POPULATION

### 2.5.1 General

As of 2007, the total population of the N'djili commune was estimated as 320,762. The population of people under 20 years old accounts for 51.9% of the total population. The N'djili commune is a highly populated area in the Kinshasa Province, and its population density is 28,137/km<sup>2</sup>. Particularly within Quarter 3, 4, 5 and 6 are of high density. Table 2.5.1 shows the population data of N'djili.

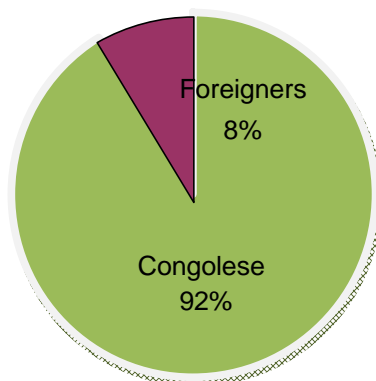
**Table 2.5.1 Population of the N'djili Commune (As of 2007)**

No.	Quarter	Population (both genders age 0 – 19)				Sub-total
		Man	Woman	Boy	Girl	
1	Makasi	3,409	3,827	4,304	4,424	15,964
2	Bilombe	5,533	5,616	4,837	4,773	20,759
3	Equateur	5,785	6,719	7,019	7,518	27,041
4	Katanga	5,646	6,681	6,571	7,098	25,996
5	Kivu	8,403	8,357	5,532	5,890	28,182
6	Kasai	7,156	7,555	8,517	8,871	32,099
7	Oriental	2,131	2,647	3,472	3,885	12,135
8	Ubangi	5,500	6,047	8,109	9,385	29,041
9	Mongali	6,337	6,675	6,697	7,210	26,919
10	Tshuapa	3,343	3,378	3,169	3,301	13,191
11	Goma	4,465	3,919	3,189	3,140	14,713
12	Bandundu	4,570	5,010	5,751	6,083	21,414
13	Inga	12,626	13,023	13,290	14,369	53,308
<b>Total</b>		<b>74,904</b>	<b>79,454</b>	<b>80,457</b>	<b>85,947</b>	<b>320,762</b>

Source : N'djili Commune Office

As regards religions within N'djili, approximately 60% of the population is Catholic, 30% are Protestant and the remaining portion of the population is either Kimbanguist or Muslim, according to the statistics of the commune. However, a household survey found the ratio as 34.9% for Catholic, 23.6% for Protestant and 7.4% for Kimbanguist. For all others the ratio was 30.3%. Those consisting of others seemed to belong to awakening churches called “Eglises de Reveil” as a new movement by small churches which tend to expanding within the populations where poverty levels are high.

There are 27,177 foreigners in the commune. A total of 27,125 (99.8%) of the population of foreigners is Angolan. The second largest portion of foreigners is people from Congo-Brazzaville (36 or 0.1%). They consist of 8.47% of the total population of N'djili. These foreigners have lived in N'djili for many years. Also, most of them are within the same ethnic group of the majority of N'djili's population. There is no serious confrontation between foreigners and Congolese residents. On the other hand, many of the Congolese residents of the commune are believed to be in Angola, Belgium, France, and the United Kingdom working as migrant workers. It is believed that more than 40% of households may have family members who are working in foreign countries, although there is no exact data to prove this.



**Fig. 2.5.1 Population of Congolese and Foreigners**

*Source: N'djili commune, study team*

Most of the Congolese residents' origins are from Bas-Congo or Bandundu. Figure 2.5.2 shows the origins of the residents according to the population statistics of the N'djili commune. According to the household survey however, people from Bas-Congo accounted for 65.9%, although the three major origins were the same as the statistics.

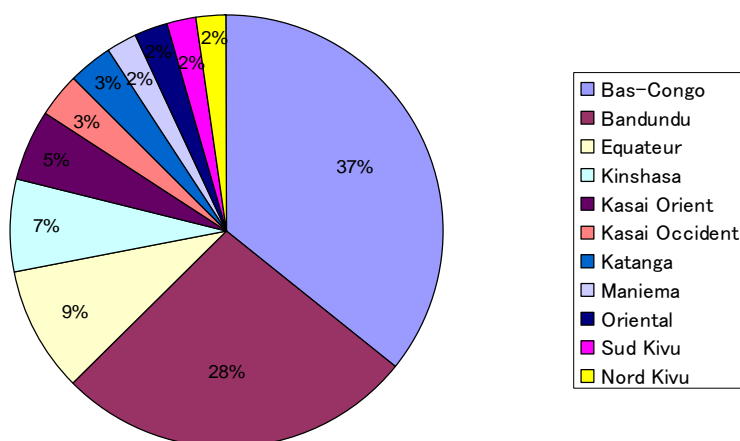


Fig. 2.5.2 Origin of Congolese Residents of N'djili

Source: N'djili commune, study team

As shown in Figure 2.5.3, it is important to mention that a large portion of the young population exists.

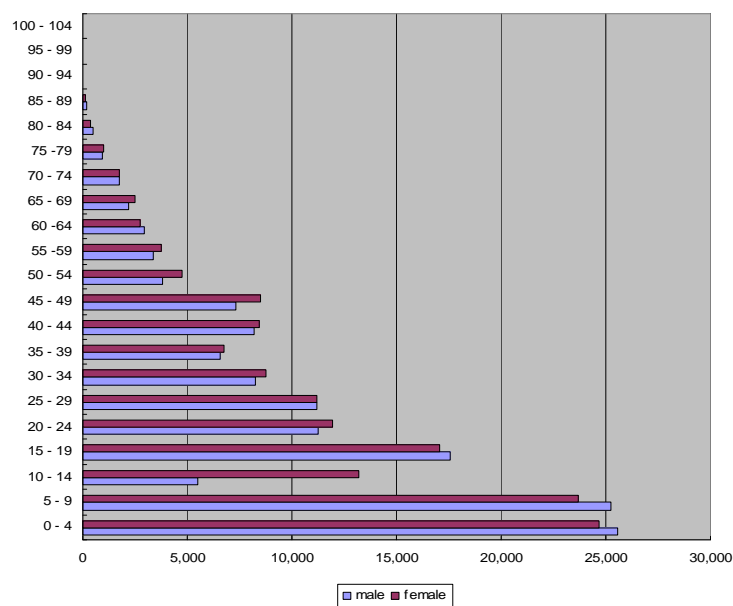


Fig. 2.5.3 Age Structure of Congolese Residents of N'djili

Source : N'djili Commune Office

### 2.5.2 Population Density

The population density of each quarter of the N'djili commune is shown in Table 2.5.1. Furthermore, the population density of the areas, (excluding farmland) was also calculated for quarters which do have farmland. The population density of the area excluding farmland is shown in Fig.2.5.4. The population density including the farmland is 340 persons per hectare. The population density excluding farmland is about 400 persons per hectare.

The population densities of each quarter (except Quarter 7) exceed 240 persons per hectare, which is assumed to be a planning index for flat ground by Kinshasa city's predetermined master plan. Moreover, Quarter 3 to 6, 8, 9, and 13, which are located near the center of the commune, exceed 400 persons per hectare. The population density is extremely high; however evaluation on the individual living environment should take other factors into account, such as building capacity, public spaces around the site, etc. However, it is said that this density indicates a serious environmental condition which the government should examine and take control of the population increase within the commune.

**Table 2.5.2 Population and Density by Commune (2008)**

Number of Quarter	Population	Area including agricultural fields		Area without agricultural fields	
		Surface (ha)	Density (p/ha)	Surface (ha)	Density (p/ha)
Quarter 1	15,964	57.32	278.5		
Quarter 2	20,759	52.76	393.5	52.04	398.9
Quarter 3	27,041	61.98	436.3	60.93	443.8
Quarter 4	25,996	62.54	415.7		
Quarter 5	28,182	62.60	450.2		
Quarter 6	32,099	52.43	612.2		
Quarter 7	12,135	81.04	149.7		
Quarter 8	29,041	111.52	260.4	59.73	486.2
Quarter 9	26,919	120.68	223.1	54.65	492.6
Quarter 10	13,191	47.37	278.5		
Quarter 11	14,713	55.77	263.8	55.59	264.7
Quarter 12	21,414	40.31	531.2		
Quarter 13	53,308	128.02	416.4	111.05	480.0
Central Sport Field	N/A	8.51	N/A		N/A
Total	320,762	942.85	340.2	806.11	397.9

*Source: N'djili commune, study team*

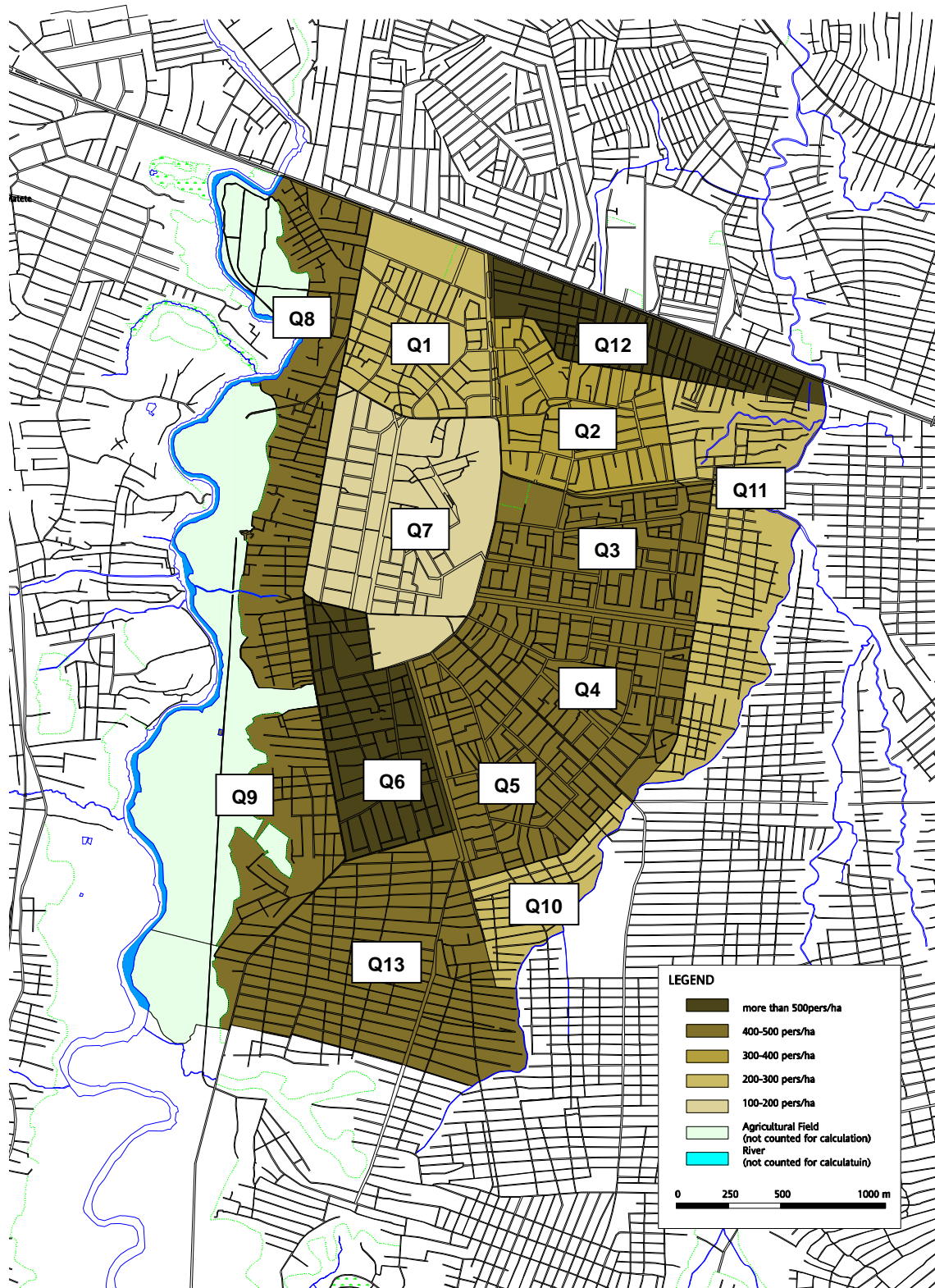


Fig. 2.5.4 Population Density by Commune (2007)

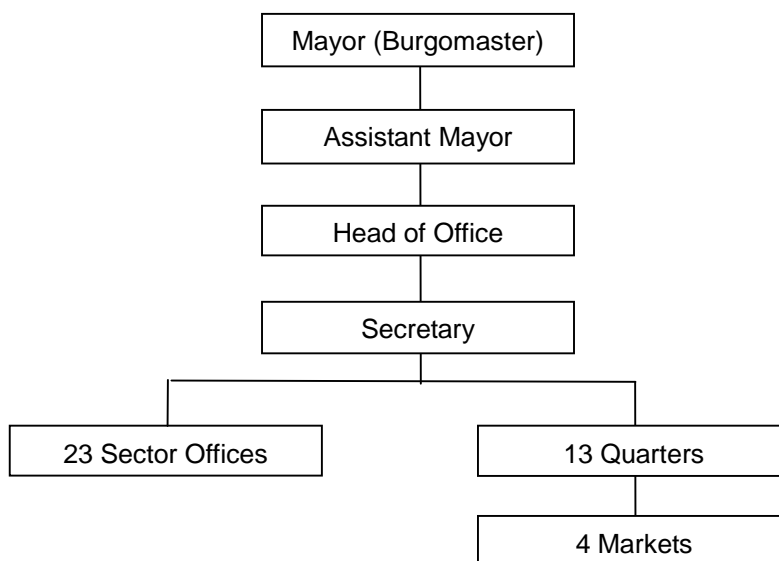
Source: N'djili commune, study team

## 2.6 ADMINISTRATION OF THE COMMUNES

### 2.6.1 Commune Offices

Since 1953, there are 31 mayors called “burgomasters” including two Belgian burgomasters from the beginning. In 1957, the first Congolese burgomaster was elected. The commune’s administration office is located in Quarter 7. The Commune divided by 13 Quarters with Quarter leaders respectively. The organisation of the commune’s administration is headed by the burgomaster and consists of 23 administrative offices. The staffs include civil servants of the Kinshasa province and belong to the N'djili commune. There are 334 officials (187 for the commune office and 147 for 13 Quarters).

These include the Secretariat, Personnel, Population, Civil Services, Conflict Solving, Buildings, Urban Planning, Environment, Tourism, National Economics, Social Issues, Youth, Information, Police, Sport, Social Affairs, Education, Small Enterprises, Agriculture, Hygiene, Rural Development, Energy, Transport, Public Services, Culture, Women’s Affairs, Finance and Immigration.



**Fig. 2.6.1 Organizational Chart of the N'djili Commune’s Administration**

According to the Administration Unit of Public Services established in the commune of N'djili, all the civil servants who were accounted for in the commune and who received payment through the Ministry of Interior and Homeland Security amounted to 340 units.

- Ministry of Interior and its services: 289 units.
- Technical departments: 51 units.
- Total: 340 units

### **2.6.2 CLD**

Belgian Technical Cooperation (BTC) had supported the establishment of grassroots bodies for development in N'djili under the community-led development support programme called PAIDECO. However, in the end, BTC decided to implement PAIDECO subprojects not within N'djili but within Kisenso and Kinbanseke. The established organisations named Committee of Commune Development (CCD) and Committee of Local Development (CLD) in each Quarter, nevertheless, still exist in the N'djili Commune.

According to a household survey, the residents face problems receiving administration services of the commune and the quarters, which include administrative procedures of tax collection, certificate issuances and police services. It seems necessary to improve the efficiency of the administrative procedures to secure the accountability and transparency of the works and to enhance the hospitality of the civil servants.

### **2.6.3 Civil Societies**

A civil society can be defined as a web of associations, social norms and practices that comprise of activities of a society separate from its state and market institutions. Civil societies include cooperatives, religious organisations, foundations, guilds, professional associations, labour unions, academic institutions, media, pressure groups and political parties. Civil societies or civil-based organisations (CBOs) in N'djili have taken roles of grassroots development and advocacy, especially within the education and sanitation sectors. However, the involvement of residents in collective and voluntary works seems to be minimal. According to a household survey, only 44.4% of households have ever participated in works such as cleaning-up programs.

### **2.6.4 Associations**

There are various types of associations in N'djili, such as youth clubs. At the Quarter level, each street has a street leader who has the responsibility of sharing information from a quarter leader with the residents along the street. Also, there are professional associations including a farmers association named COOPECMAKIN and a bus drivers association named ACCO.

### **2.6.5 Religious Organizations**

There are a number of religious organisations such as churches. Churches seem to be the most reliable organisations within the population. According to a household survey, 44.5% of the households answered that church is the most reliable organisation in N'djili. Also, during the planning workshops of the local communities for development (CLD) within the 13 districts of the commune, the church was at the center of the capital. Major churches include Catholic, Protestant and “Kimbanguist”. These churches are run and managed by public facilities, such as



schools and health clinics. Also, there are a number of small churches called awakening churches which have a strong influence within the poor sections of the population. Consequently, none of the community development, planning or master plans for the rehabilitation of the commune of N'djili can overlook the church institution.

#### **2.6.6 NGOs**

The commune has a list of non-governmental organizations, (NGOs), with 87 in operation within the 13 districts. The Study Team reviewed the comprehensive list of NGOs on site throughout the entire commune of N'djili and was able to locate 38 of them. However, it appears that nearly 50 of the NGOs listed on documents do not have an office or a physical address known to the commune. It appears that these NGOs have registered at the community development unit of the commune despite no activity on site. A few of the operational NGOs in the commune have legal rights recognized by the Ministry of Justice and the supervising ministry (the minister in charge NGO activity).

The active NGOs are working with the population in various issues including education, health and hygiene, fighting against HIV/AIDS, youth activities, vocational training, reforestation, sanitation, farming and microfinance. Considering past experience and behaviour of NGOs, many of them seem to be contractors rather than a civil-based organisation, although there are NGOs which are supporting the community with their own budget as well as contracting works from donors.

The majority of known NGOs have an average of 55 members while others have up to 230 members. The NGOs of the commune operate in various activities in health, education, the fight against AIDS, agriculture, cleanliness and the environment. The major activities of the NGOs are shown in Table 2.6.1.

**Table 2.6.1 Major Activities of NGOs Operating in the Commune of N'djili**

Main activity	Frequency	Percent
Savings	3	7.9
Health	5	13.2
Orphanages	1	2.6
Education	3	7.9
Joinery	1	2.6
Vocational training	4	10.5
Assistance to malnourished children	1	2.6
Fight against AIDS	2	5.3
Agriculture	4	10.5
Sensitization of the population	1	2.6
Supervision of the population	6	15.8
Pharmacy	2	5.3
Construction	1	2.6
Painting	1	2.6
Breeding	1	2.6
Shops	1	2.6
Cleanliness and the environment	1	2.6
<b>Total</b>	<b>38</b>	<b>100.0</b>

*Source: N'djili commune, study team 2008*

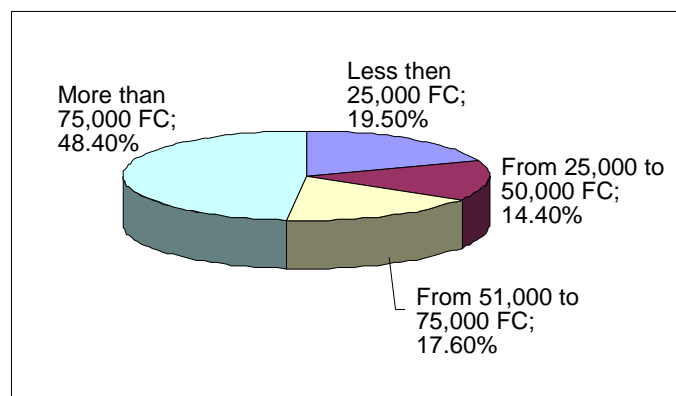
The sources of the funds for NGO activities differ from one to another. Half of the surveyed NGOs resort to self-financing for the activities they carry out on site. The other sources of financing reported by NGOs are:

- Contributions from members in 29% of cases;
- Partnership contributions in 10.5% of cases;
- Churches in 2.6% of cases;
- The UNDP in 2.6% of cases;
- COJET in 2.6% of cases;
- The Ministry of Agriculture in 2.6% of cases.

78.9% of various areas in Kinshasa have NGOs in operation within the commune of N'djili, with 18.4% of them in operation in N'djili only and only 2.6% of them that extend their activities to the territories of Kasangulu in the Bas-Congo Province.

## 2.7 ECONOMY

N'djili extends to a wide variety of socio-economic activities both in the formal and informal sector, although the informal sector is dominant, as seen in the Kinshasa Province. The following graph demonstrates the situation of the income level in the households of N'djili from the results of a household survey conducted by the team.



**Fig. 2.7.1 Monthly Income of Households in the N'djili Commune**

*NB. 1 \$ US = 550 FC Source: Household survey 2008*

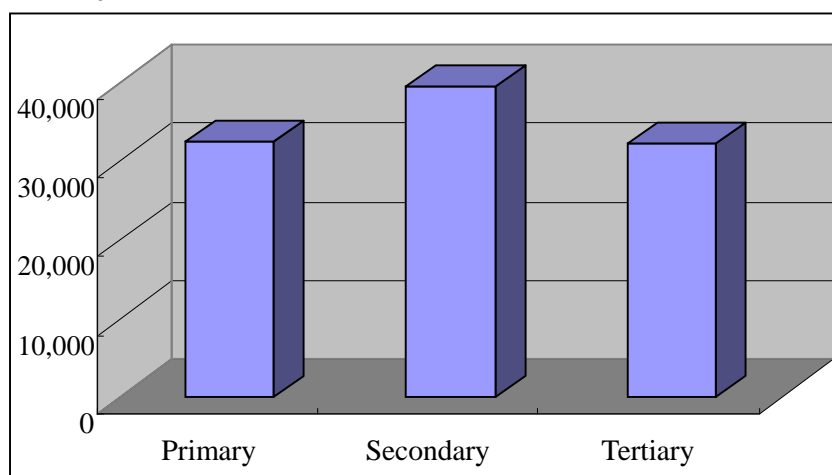
The Incomes of the households in N'djili do not vary widely. Only 48.40% of the households of N'djili have a monthly income of more than 75,000 FC. In addition to those financial resources, it should be noted that a certain amount of remittance from overseas<sup>1</sup> flows into the households of the N'djili Commune since about 40% of the young population, including foreigners who share 8.5% of the communal population, have worked overseas, mostly within the UK, EU or Angola (mining sector) for quite some time ago according to the key informant who promoted the advancement of the commune when he was the head of the commune. Such external currency inflow contributes to the local economy in terms of cash flow acceleration to small investment activities or daily personal expenditure<sup>2</sup>.

Additional investigations in the commune of N'djili have been conducted to supplement the data regarded as relevant in the formalization of the community profile required for the development of the rehabilitation master plan for the commune of N'djili. Though it does not yet meet modern and western standards, the industrial sector in the commune of N'djili nevertheless offers opportunities for growth. The primary sector represented by market-gardening activities of N'djili is well-known to consumers in Kinshasa through its history and its dynamics in the supply of Kinshasa. The monthly net income from market-gardening is relatively higher than the average income of civil servants.

<sup>1</sup> “Western Union”, one of the remittance handling services which is quite popular in Kinshasa. The source of the remittance country overseas is ranked first in Angola, followed by the UK

<sup>2</sup> By the key informant, such remittances share 35-40% of the average income of the communal people.

The second industry sector specifically occupied within N'djili is that of car repair shops, as all of Kinshasa recognizes the sharpness and dynamism of these activities. The commune of N'djili is identified in this field as the Japan of the Democratic Republic of the Congo. It is also important to mention that the local industries of wooden by-products, in particular the manufacture of coffins are characteristics of the commune of N'djili. Lastly, the tertiary sector of N'djili is developing in a similar manner to other communes of Kinshasa, since car repair, dent removal, welding and painting shops represent the top of the list of local potential industries of the commune of N'djili.



**Fig. 2.7.2 Average Monthly Salary by Sector (in CF)**

*Source: Additional investigations in the commune of N'djili in Sep. 2008*

The microfinance sector at the communal level has tremendous potential, and the Central Bank of Congo is compiling a comprehensive database and is drafting a law to be submitted to the Parliament in 2008. The regional branch office of Pro Credit Bank serves microfinance services to the N'djili people, supported by IMF intervention. Vital numbers of current accounts of the bank have increased drastically, even more than existing commercial banks.

## **2.8 LAND USE**

### **2.8.1 General Circumstances of Land Use**

For the examination of land use of the N'djili commune, nine large categories and 12 sub-categories were set, and the current state of each area and its composition ratio are calculated. The surface table of the entire commune is shown in Table 4.5.2. The current land use map is shown in Fig 4.5.2. The detailed surface table by quarters is shown in Table 4.5.3. The evaluation and description for each category of land use is as follows in the tables.

#### **(1) Residential Areas**

In the N'djili commune, there are many mixed-use houses with commercial use combined with

atelier for craftworks. Therefore, a clear division between the residential sites, commercial sites, and industrial sites is difficult. Here, The Study classifies the following sites as commercial use: i) sites between the intersection of Bld. Lumumba / Route Nsanda and the central area of the commune, ii) commercial zones facing Bld. Lumumba and commercial or craftwork facilities located in other sites are classified as mixed-use houses in residential zones.

Residential areas occupy about 60% of the entire commune area. In quarters (except for Quarters 8 and 9), where agricultural sites occupy the majority of the land, 60-90% of the land is used for housing or mixed-use buildings. Therefore, land used for specialized single purposes (ex. office and industry, etc.) hardly exists within the N'djili commune.

### **(2) Administrative / Official Areas**

Administrative facilities do not exist except for some facilities which are located around the commune office in Quarter 7. Most of these facilities are intended for the service of the nearby district. Facilities corresponding to the functions as the new center of the city in the eastern part proposed by the master plan are not constructed.

### **(3) Commercial / Business Areas**

In general, the planning index for commercial buildings is 1.0 square meters per population for a newly planned city. The current land use of the N'djili commune indicates the area for commercial use is about 0.6 square meters per population. It is judged that the service level is not sufficient from its surface. Moreover, the area for the market, which is located at Quarters 2, 6, and 7, is not large enough, with a measurement of 0.1 square meters per population. In the entire district, mixed-use houses are a complementary supplement for the gap in the need for commercial services.

### **(4) Educational Areas**

The following contents of Table 2.8.1 are assumed as the development index for the residential section.

Referring to the land use ratio, there seems to be enough area secured for the educational facilities in the N'djili commune. However in some quarters where there is large enough area used for educational facilities, such as in Quarter 3, 4 and 7, there also exists quarters which are equipped with less than 2 hectares of the site for educational use.

In regard to the land surface and unequal distribution, other factors such as the conditions of the facility and the situation of the attendance beyond the quarters should also be considered for evaluation.

**Table 2.8.1 Planning Index for Residential Zone in Future Urbanised Area**

Urban residential greenery	12 m <sup>2</sup> /p
Roads and other hard surfaces	15% of total residential area
Community facilities*	5% of total residential area

*\*Community facilities corresponds public facilities such as school, health institution, etc.*

*Source: N'djili commune, study team 2008*

#### **(5) Health Centers**

As the commune's capacity as a whole, enough land is secured for communal facility sites including schools. However, half of the health facility sites of Sino-Congolais Hospital are located in Quarter 7 and this hospital is not facilitated for civilian daily use. Moreover, sites intended for health facility use hardly exist in other quarters except for Quarters 2, 6 and 7, which is located near the center of the commune. Some facilities accompany the church and some are located in mixed-use residential buildings. For the evaluation on the distribution of these medical facilities, it is necessary to understand each building's situation and its management.

#### **(6) Parks**

An equipped public park hardly exists within the N'djili commune. Unoccupied public land and green space are used for recreational purposes. The area of unoccupied land per population is 0.56 square meters, and it is extremely small in value. In the commune, recreational activities are frequently seen on the roads in various places. Not limited to just the N'djili commune but throughout Kinshasa city, many public fields are used for cultivation and as working places. Before assessing this low ratio, an appropriate and realistic approach should be employed regarding public parks within Kinshasa city.

#### **(7) Agricultural Areas**

The mass of farmland is located in Quarters 8, 9 and 13 on the N'djili River's eastern shore. The farmlands in the other quarters are originally wide in width and the roads are used for cultivation purposes.

#### **(8) Transport / Roads**

The roads of the N'djili commune occupy 10.9% of the entire commune which is not a high ratio. In particular, it is 5-10% or less in many of the new quarters, and it is thought that the width is not the same as the road density. Furthermore, the surface ratio is not high in the ancient quarters, considering that the width of the roads in these quarters is radial. Therefore, improvement is required for both of these areas.

**Table 2.8.2 Current Land Use in N'djili (Entire Commune, 2008)**

Land Use Category	Surface (ha)	Ratio (%)	Land Use Category	Surface (ha)	Ratio (%)
<b>1. Residential</b>	<b>562.94</b>	<b>59.71</b>	<b>7. Agriculture</b>	<b>128.66</b>	<b>13.65</b>
<b>2. Administrative / Official</b>	<b>3.03</b>	<b>0.32</b>	<b>8. Transport / Roads</b>	<b>102.66</b>	<b>10.89</b>
<b>3. Commercial / Business</b>	<b>19.46</b>	<b>2.06</b>	<b>9. Others</b>	<b>10.44</b>	<b>1.11</b>
31. Commercial General	15.72	1.67	91. River / Water	10.26	1.09
32. Market	3.74	0.40	92. Not Classified	0.18	0.02
<b>4. Education</b>	<b>45.11</b>	<b>4.78</b>			
<b>5. Health Centers</b>	<b>5.22</b>	<b>0.55</b>	<b>Total</b>	<b>942.85</b>	<b>100.00</b>
<b>6. Parks</b>	<b>17.96</b>	<b>1.90</b>			
61. Parks	11.24	1.19			
62. Sport Fields	6.72	0.71			

*Source: Additional investigations in the commune of N'djili in Sep. 2008*

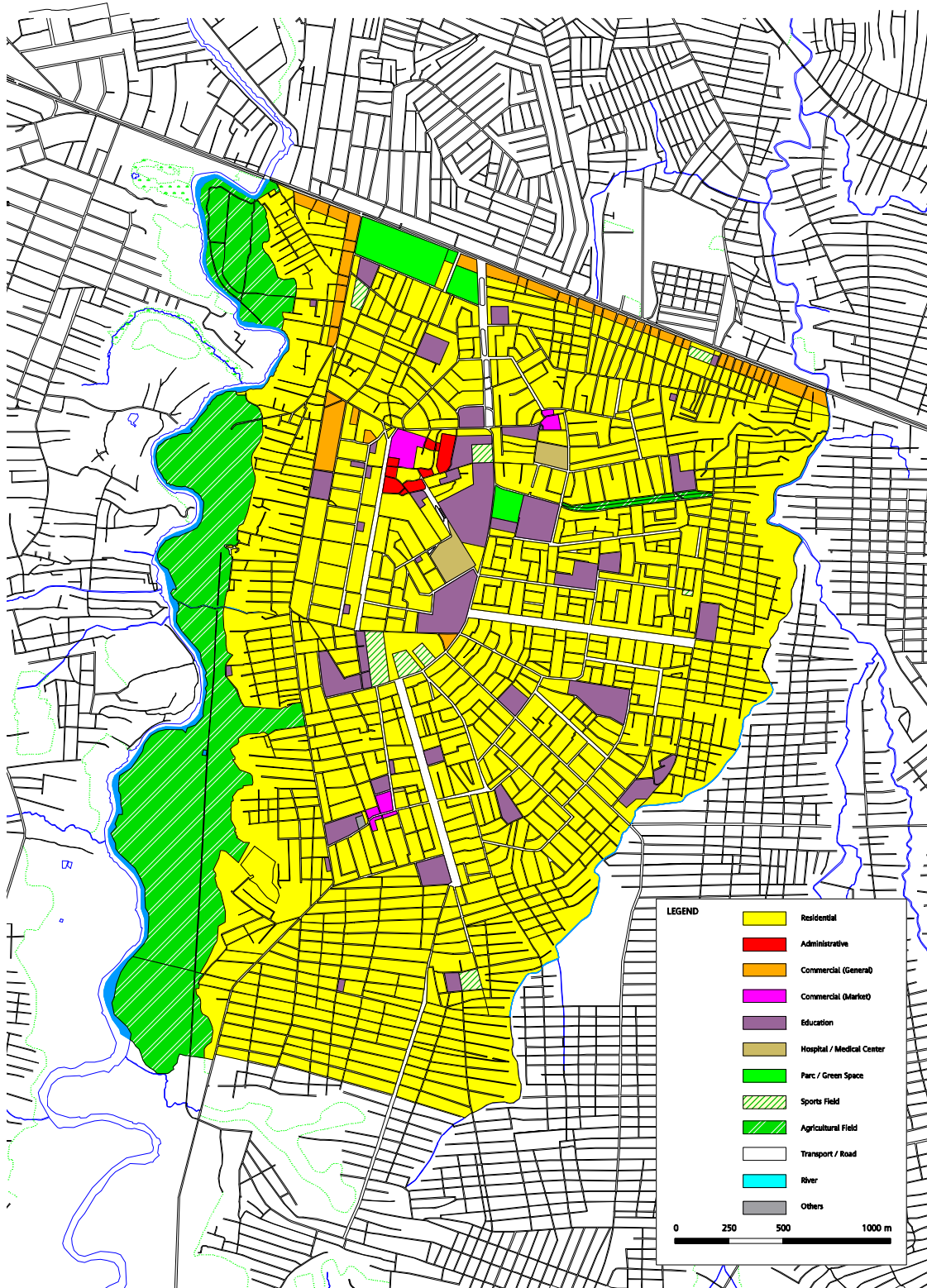


Fig. 2.8.1 Current Land Use in N'djili

Source: Source: N'djili commune, study team



Table 2.8.3 Current Land Use in N'djili

	Residential	Administrative/ Official	Commercial/Business				Health Centers	Parks			Agriculture	Transport / Roads	Others			Total
			Commercial	Market	Subtotal	Education		Parks	Sport Fields	Subtotal			River / Water	Not classified	Subtotal	
Quarter 01	35.8	0	0.5	0.0	0.5	3.3	0.0	9.4	0.7	10.2	0.0	7.6	0.0	0.0	0.0	57.3
	62.4%	0.0%	0.9%	0.0%	0.9%	5.7%	0.0%	16.5%	1.2%	17.7%	0.0%	13.3%	0.0%	0.0%	0.0%	100.0%
Quarter 02	41.2	0	0.0	0.6	0.6	0.9	1.5	0.0	0.0	0.0	0.7	7.8	0.0	0.0	0.0	52.8
	78.1%	0.0%	0.0%	1.2%	1.2%	1.7%	2.8%	0.0%	0.0%	0.0%	1.4%	14.8%	0.0%	0.0%	0.0%	100.0%
Quarter 03	42.3	0	0.0	0.0	0.0	6.4	0.0	1.8	0.1	1.9	1.0	10.4	0.0	0.0	0.0	62.0
	68.2%	0.0%	0.0%	0.0%	0.0%	10.3%	0.0%	2.9%	0.2%	3.1%	1.7%	16.7%	0.0%	0.0%	0.0%	100.0%
Quarter 04	45.0	0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	62.5
	71.9%	0.0%	0.0%	0.0%	0.0%	10.2%	0.0%	0.0%	0.0%	0.0%	0.0%	17.9%	0.0%	0.0%	0.0%	100.0%
Quarter 05	50.1	0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	10.9	0.0	0.0	0.0	62.6
	80.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	17.3%	0.0%	0.0%	0.0%	100.0%
Quarter 06	39.0	0	0.0	1.1	1.1	4.3	1.0	0.0	0.0	0.0	0.0	6.9	0.0	0.2	0.2	52.4
	74.4%	0.0%	0.0%	2.1%	2.1%	8.1%	1.9%	0.0%	0.0%	0.0%	0.0%	13.2%	0.0%	0.3%	0.3%	100.0%
Quarter 07	44.0	3.0	3.7	2.0	5.7	14.8	2.7	0.0	0.8	0.8	0.0	10.0	0.0	0.0	0.0	81.0
	54.2%	3.7%	4.5%	2.5%	7.0%	18.3%	3.4%	0.0%	1.0%	1.0%	0.0%	12.4%	0.0%	0.0%	0.0%	100.0%
Quarter 08	48.7	0	4.3	0.0	4.3	0.1	0.0	0.0	0.0	0.0	0.0	42.7	6.6	4.6	0.0	111.5
	43.7%	0.0%	3.9%	0.0%	3.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	42.4%	5.9%	4.1%	0.0%	100.0%
Quarter 09	49.6	0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	62.5	4.8	3.5	0.0	120.7
	41.1%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	51.8%	4.0%	2.9%	0.0%	100.0%
Quarter 10	42.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8	0.3	0.3	47.4
	89.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.2%	0.7%	0.7%	0.7%	100.0%
Quarter 11	46.5	0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.2	5.3	0.8	0.0	0.8	55.8
	83.4%	0.0%	0.0%	0.0%	0.0%	5.2%	0.0%	0.0%	0.0%	0.0%	0.3%	9.6%	1.5%	0.0%	1.5%	100.0%
Quarter 12	24.8	0	6.9	0.0	6.8	0.8	0.0	0.0	0.5	0.5	0.0	7.3	0.0	0.0	0.0	40.3
	61.6%	0.0%	17.1%	0.0%	17.1%	1.9%	0.0%	0.0%	1.3%	1.3%	0.0%	18.1%	0.0%	0.0%	0.0%	100.0%
Quarter 13	93.2	0	0.0	0.0	0.0	2.4	0.0	0.0	0.8	0.8	17.0	13.3	1.4	0.0	1.4	128.0
	72.8%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.6%	0.6%	13.3%	10.4%	1.1%	0.0%	1.1%	100.0%
Central Zone	2.9	0	0.3	0.0	0.3	1.0	0.0	0.0	3.7	3.7	0.0	0.48	0.0	0.0	0.0	8.5
	34.5%	0.0%	3.9%	0.0%	3.9%	12.1%	0.0%	0.0%	43.8%	43.8%	0.0%	5.6%	0.0%	0.0%	0.0%	100.0%
Total	562.9	3.0	15.7	3.7	19.5	45.1	5.2	11.2	6.7	18.0	128.7	111.3	10.3	0.2	10.4	942.9
	59.7%	0.3%	1.7%	0.4%	2.1%	4.8%	0.6%	1.2%	0.7%	1.9%	4.3%	10.9%	1.1%	0.3%	1.1%	100.0%

Source: JICA Team Inventory Survey of N'djili 2008

## 2.8.2 Building Volume

To understand the architectural situation in each quarter, in this study we have selected two typical blocks for each quarter to be analyzed. For these blocks, the building surface and building coverage ratio is estimated by image analysis through satellite photograph (Table 2.8.4). Among the 2 blocks selected, one block should face the main road in the district while the other one should be located in an inner area further off the main road which is marked. The observations on the calculation are as follows:

- The satellite photograph does not have enough accuracy for this analysis. Furthermore, there is difficulty in distinguishing unoccupied land from the roof part (built area).
- Conjoined buildings with two or more buildings might exist. Surface per building doesn't indicate an average of individual lot surface.

As a result, the following contents were clarified:

- Building coverage ratio is 35-45% in most cases, and seldom exceeds 50%. Ratios of the blocks which face the district's arterial road and which are located in the inner area differ by quarter. There is no tendency for the ratio to vary by location.
- Average surface of block per building is almost 300-400 square meters in most cases. In Quarter 7, the average surface area is larger than that in other quarters (about 500-600 square meters). Among other quarters (except for Quarter 7), average surfaces of the blocks which face the district's arterial road and which are located in the inner area differ by quarter. There is no tendency for the surface to vary by location.

Furthermore, the totality of the building floor's surface (except for public facilities) is estimated to be about 2.9 million square meters for the entire commune, considering that the majority of the buildings are one-storied houses. The building floor's surface per person is 8.9 sqm.

**Table 2.8.4 Building Floor Surfaces (Excluding Public Facilities in N'djili)**

Surface Site for Residential and Commercial Use	Assumed Building Coverage Ratio	Assumed Number of Floors within the Building	Assumed Total Floor Surface
578.66(ha)	* 0.45	* 1.1	2,900,000 (sqm)

*Source: JICA Team Inventory Survey of N'djili 2008*

However, regarding the above mentioned average surfaces, the differences by quarter are not considered. The Study estimated the building surface in an inverse proportion based on each quarter's population density \*. Therefore, the smallest number will be 5.8 square meters per person in Quarter 6, where the population density is the largest among all the quarters.

(\*: Estimated building surface per person is an expedient index, because the population density is

calculated considering the entire quarter area).

**Table 2.8.5 Estimation of Building Floor Surface and Building Coverage Ratio**

No. of Quarter	Sample Code	Position	Surface of Block (sqm)	Building Surface (sqm)	Building Coverage Ratio (%)	Recognized Number of Buildings	Average Surface Site per Building (sqm)
Quarter 1	1-1	F	9,101	1,793	19.70%	16	568.81
	1-2	I	6,087	2,138	35.12%	20	304.35
Quarter 2	2-1	F	13,469	4,780	35.49%	33	408.15
	2-2	I	6,578	2,444	37.15%	24	274.08
Quarter 3	3-1	F	4,795	2,051	42.77%	19	252.37
	3-2	I	5,475	2,351	42.94%	21	260.71
Quarter 4	4-1	F	7,930	2,994	37.76%	25	317.20
	4-2	I	8,907	4,247	47.68%	28	318.11
Quarter 5	5-1	F	8,741	5,161	59.04%	29	301.41
	5-2	I	7,625	2,734	35.86%	21	363.10
Quarter 6	6-1	F	7,786	3,972	51.01%	23	338.52
	6-2	I	8,917	3,238	36.31%	19	469.32
Quarter 7	7-1	F	14,576	5,645	38.73%	29	502.62
	7-2	I	6,903	2,509	36.35%	11	627.55
Quarter 8	8-1	F	5,848	2,204	37.69%	18	324.89
	8-2	I	13,811	3,294	23.85%	34	406.21
Quarter 9	9-1	F	8,791	3,791	43.12%	28	313.96
	9-2	I	2,205	995	45.12%	10	220.50
Quarter 10	10-1	F	3,340	1,293	38.71%	10	334.00
	10-2	I	3,337	1,599	47.92%	11	303.36
Quarter 11	11-1	F	4,056	1,931	47.61%	13	312.00
	11-2	I	7,176	2,034	28.34%	21	341.71
Quarter 12	12-1	F	3,266	1,751	53.61%	12	272.17
	12-2	I	5,281	2,421	45.84%	13	406.23
Quarter 13	13-1	F	6,091	1,733	28.45%	12	507.58
	13-2	I	6,843	2,036	29.75%	20	342.15

F: facing district trunk road

I: inner area

Source: Source: N'djili commune, study team 2008

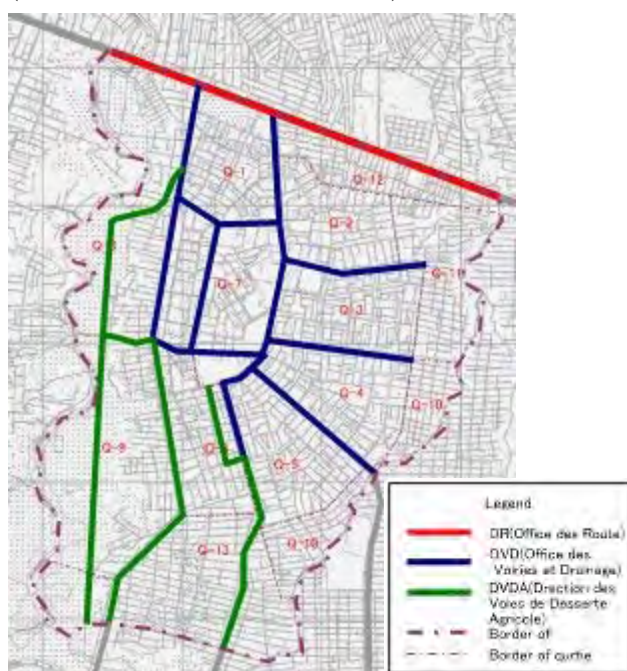
## 2.9 SECTOR CONDITIONS

### 2.9.1 Urban Infrastructure

#### 2.9.1.1 Roads

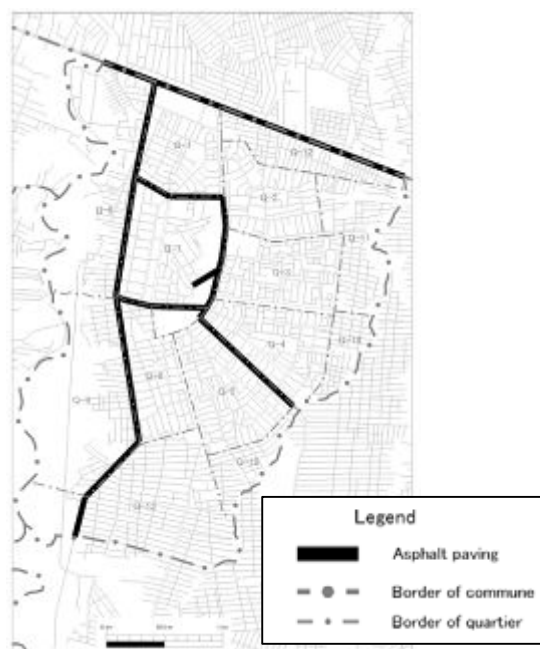
##### (1) Existing Road Network

The administration of the roads is shown below. Boulevard Lumumba is managed by OR (Office des Route). The main roads northeast of the N'djili commune are managed by OVD (Office des Voiries et Drainage) and the main roads southwest of the N'djili commune are managed by DVDA (Direction des Voies de Desserte).



**Fig. 2.9.1 Road Administration**

Source: JICA Team Traffic Survey of N'djili 2008



**Fig. 2.9.2 Pavement of Roads**

Source: JICA Team Traffic Survey of N'djili 2008

The pavement of the roads is shown below. Boulevard Lumumba and Route CECOMAF are located in the eastern side of the commune; roads enclosing Quarters 7, 2eme Republique and access road to Chinese-DRC hospital in Quarter 7 are paved with asphalt. Due to the road's deprecation and potholes, the condition of the asphalt pavement is not satisfactory and all other roads are unpaved.

The width of roads is shown in Fig. 2.9.3. The roads with more than 30 m in width are Boulevard Lumumba and three other roads allocated on Quarter 7's radial. Asphalt roads shown in Fig. 2.9.2 are relatively wide. Some roads with relatively wide widths are allocated and connected by the radial road in Quarter 7. Asphalt roads are operated as two lane roads without any lane markings.

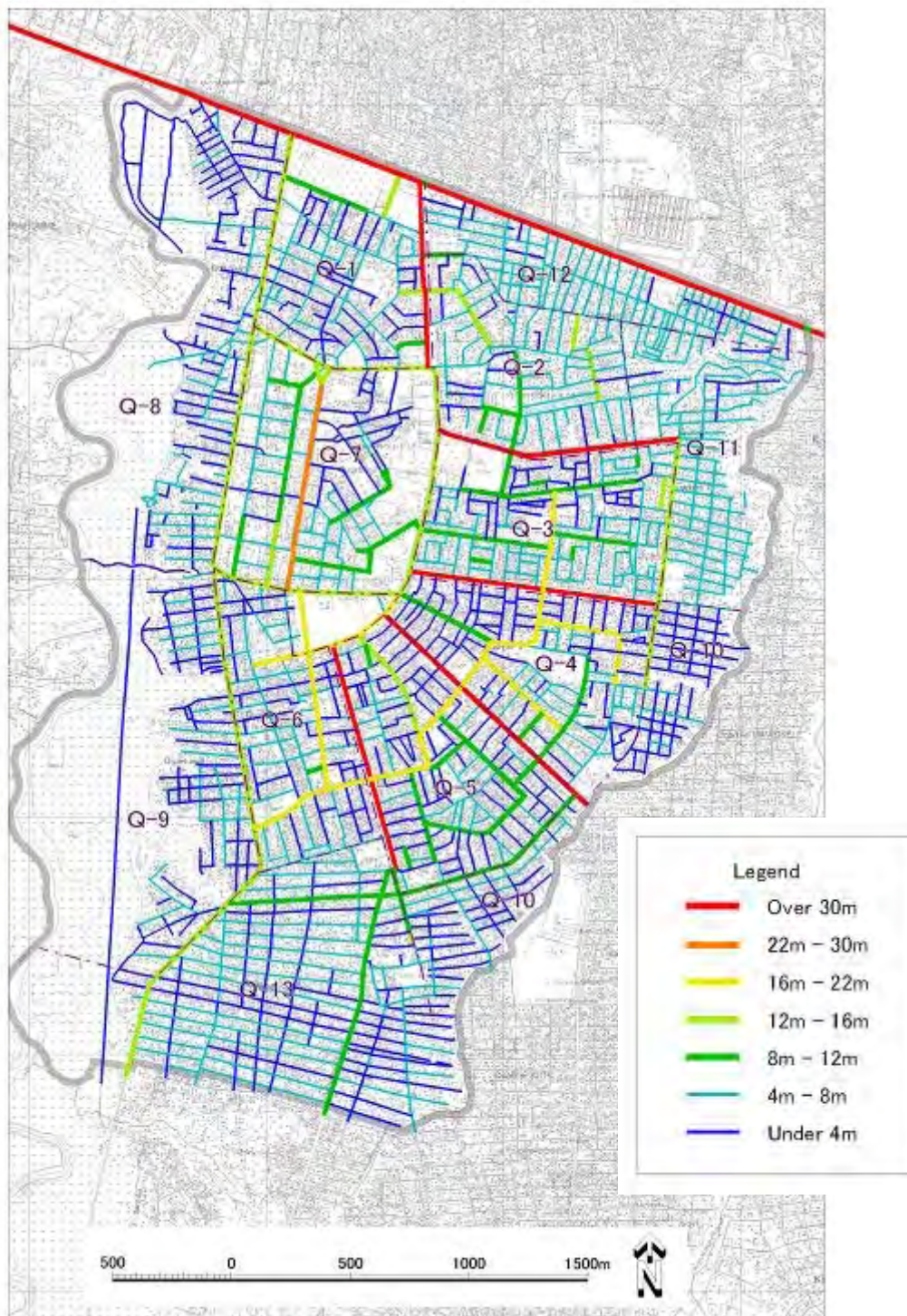


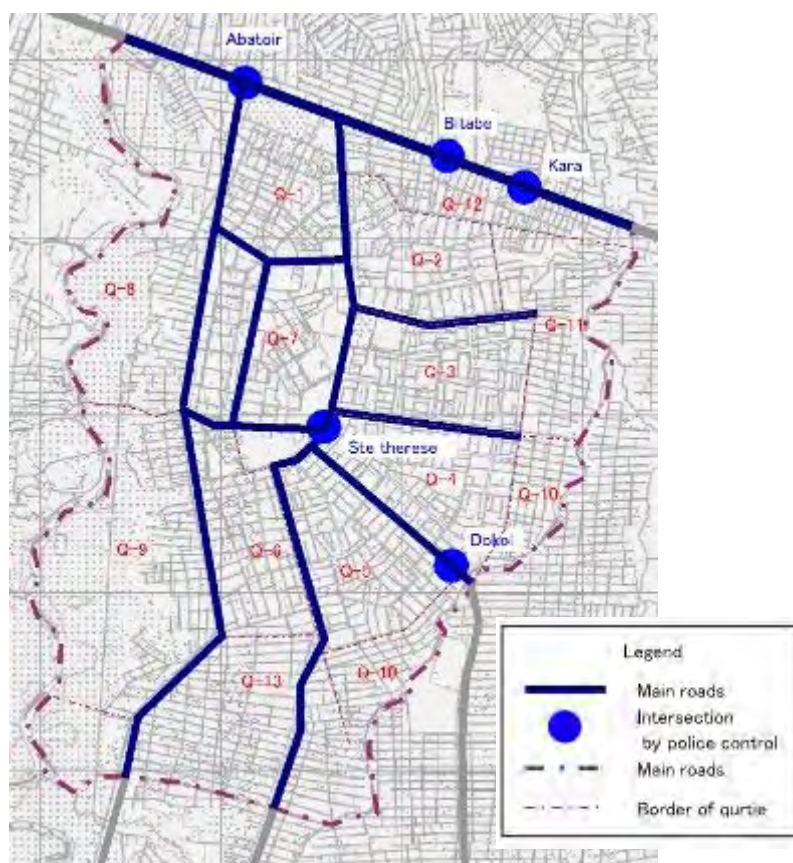
Fig. 2.9.3 Width of Roads

Source: JICA Team Traffic Survey of N'djili 2008

## (2) Intersections

All intersections in the N'djili commune do not have any traffic signals. There are 5 intersections managed by the police.





**Fig. 2.9.4 Intersections with Police Control**

*Source: JICA Team Traffic Survey of N'djili 2008*

### **(3) Traffic Survey**

A general description of the traffic survey was carried out by The Study Team as shown below. Cross section traffic volumes in the N'djili commune accounted for 8 survey points. The survey period was 12 hours, from 6:30 to 18:30. The number of passengers per bus was also accounted for at the time at the two survey points.

#### **1) General Description of the Traffic Survey**

Survey date: 11<sup>th</sup> June 2008

Survey time: 6:00 – 18:00

#### **2) Traffic Volume Survey**

Survey points: 8 survey points (refer to the map of traffic survey sites)

Vehicle categories: 13 categories

Pedestrian, bicycle, motorbike, barrow, sedan, pick up, minibus, bus, fula-fula, light lorry, lorry, semi-trailer, Trailer

Survey contents: Manual counting for hourly traffic volume in each direction for each of the categories

### 3) Bus Passenger Survey

Survey points: 2 survey points (refer to the map of traffic survey sites)

Vehicle categories: 5 categories

Minibus combi (VW), minibus (Hiace), minibus (Mercedes D207), bus, fula-fula

Survey contents: Manual counting of the number of passengers travelling in each direction for each of the categories of the bus which was sampled by surveyors during morning, noon and evening times.

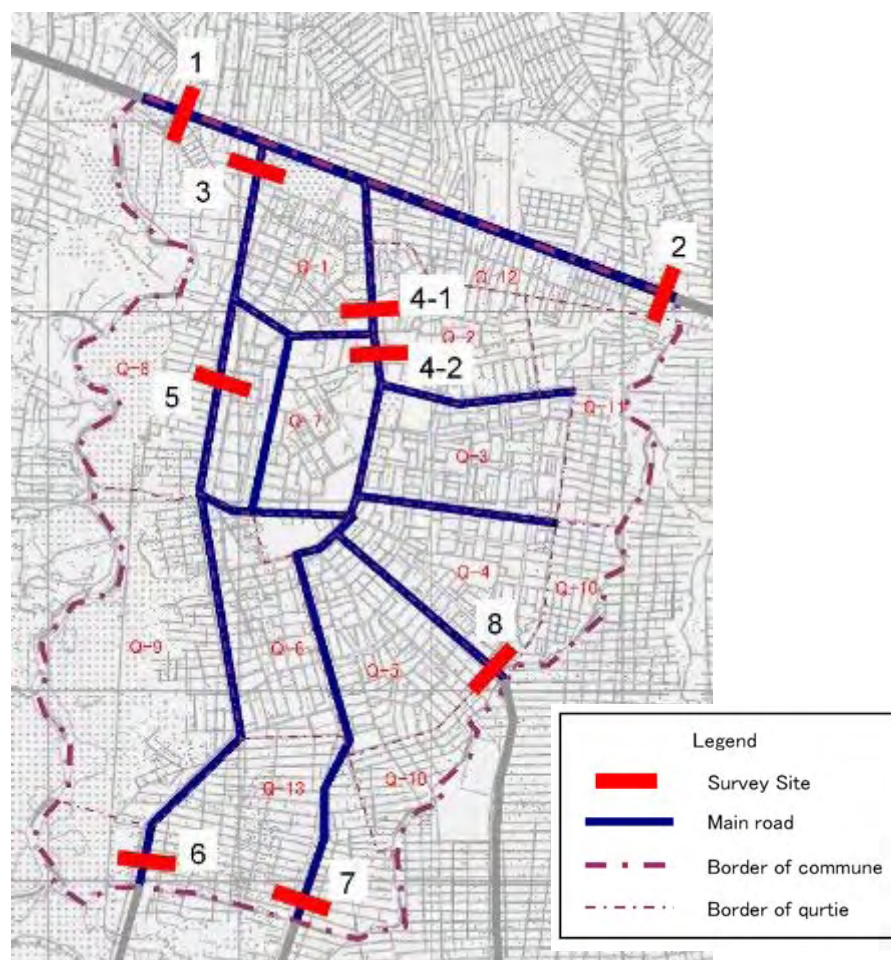


Fig. 2.9.5 Traffic Survey Sites

Source: JICA Team Traffic Survey of N'djili 2008

#### (4) Traffic Survey Results

Traffic volume at the northern border of the N'djili commune was 19,100 pcu/ 12h, which was counted on Route CECOMAF and Route Bikali. Traffic volume on the southeast border between the N'djili commune and Kimbanseke was 10,900 pcu/ 12h on Route CECOMAF, Croquet Kimbanseke, and 2 eme Republique. Traffic volume in the center of the N'djili commune was 12,000 pcu/ 12h on Route CECOMAF and the eastside of the road in Quarter 7. The heaviest traffic

volume was 17,470 pcu/ 12h on Route CECOMAF. The second was 9,327 pcu/ 12h on the eastside of the road in Quarter 7.



**Fig. 2.9.6 Image of Traffic Volume by Vehicle**

Source: JICA Team Traffic Survey of N'djili 2008

Regarding the hourly fluctuation of traffic volume, the heaviest traffic volume was 3,151 pcu/ h, which was counted from 6:30 to 7:30 on the border between Boulevard Lumumba and the N'djili commune. Traffic volume going out from the commune was 1,670 pcu/ h, and coming into the commune was 1,481 pcu/ h. After noon, traffic volume coming into the N'djili commune peaked from 12:30 to 13:30 again. Traffic volume going out of the N'djili commune also peaked from 14:30 to 15:30 again. In the center of the N'djili commune, traffic volume going toward the north



was heavier than that in the south during the morning, and traffic volume going toward the south was heavier than that toward the north during the evening. On the border between N'djili and Kimbanseke, approximately 400 pcu/h was obtained both ways consistently.

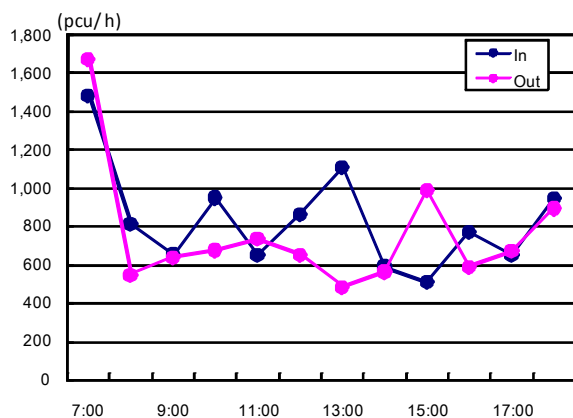


Fig. 2.9.7 Time Fluctuation Cross-Section

Boulevard – N'djili

Source: JICA Team Traffic Survey of N'djili 2008

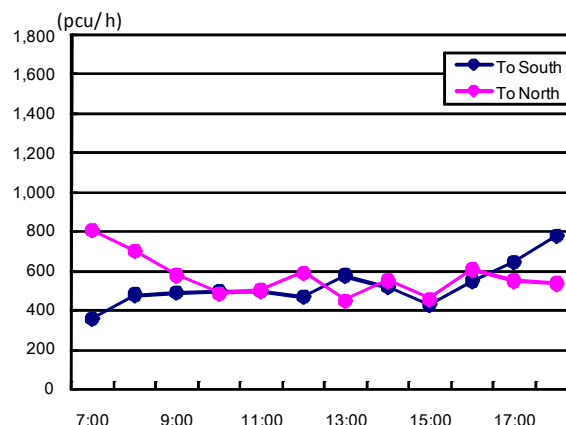


Fig. 2.9.8 Time

Fluctuation of the Cross-Section  
Center of N'djili

Source: JICA Team Traffic Survey of N'djili 2008

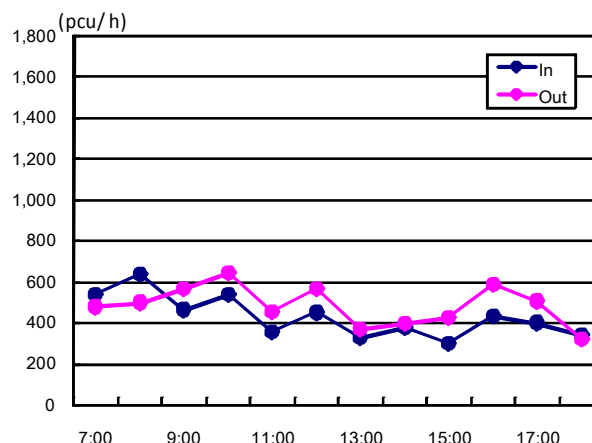


Fig. 2.9.9 Time Fluctuation of the Cross-Section N'djili – Kinbanseke

Source: JICA Team Traffic Survey of N'djili 2008

Regarding the composition of vehicle categories at each traffic survey point, cars and minibuses accounted for approximately 85% of the total number of traffic at each point. The ratio of heavy trucks was relatively large on Boulevard Lumumba and Route CECOMAF with the sections under construction.

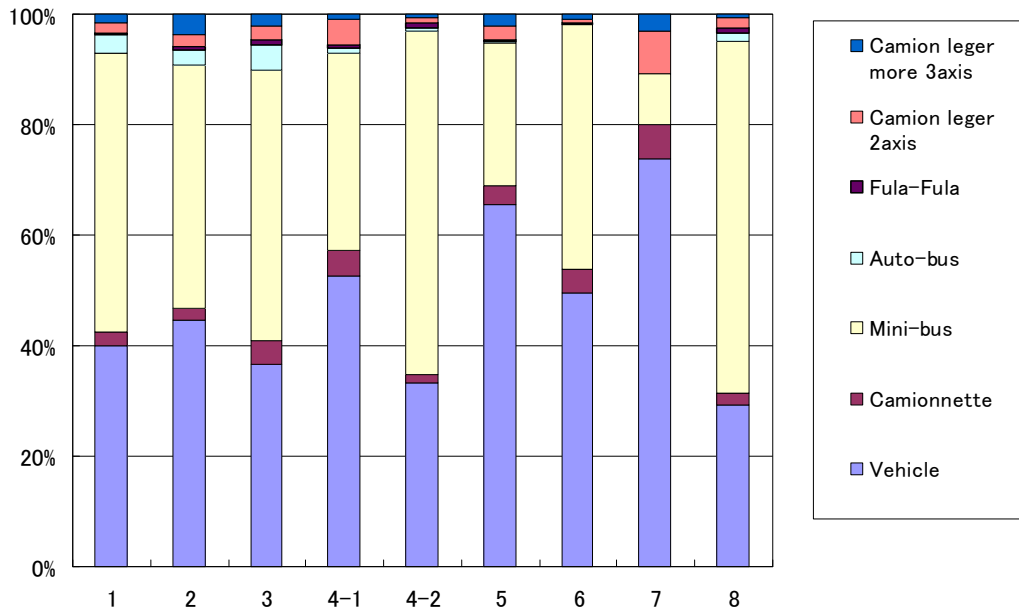


Fig. 2.9.10 Composition of Vehicle Categories

Source: JICA Team Traffic Survey of N'djili 2008

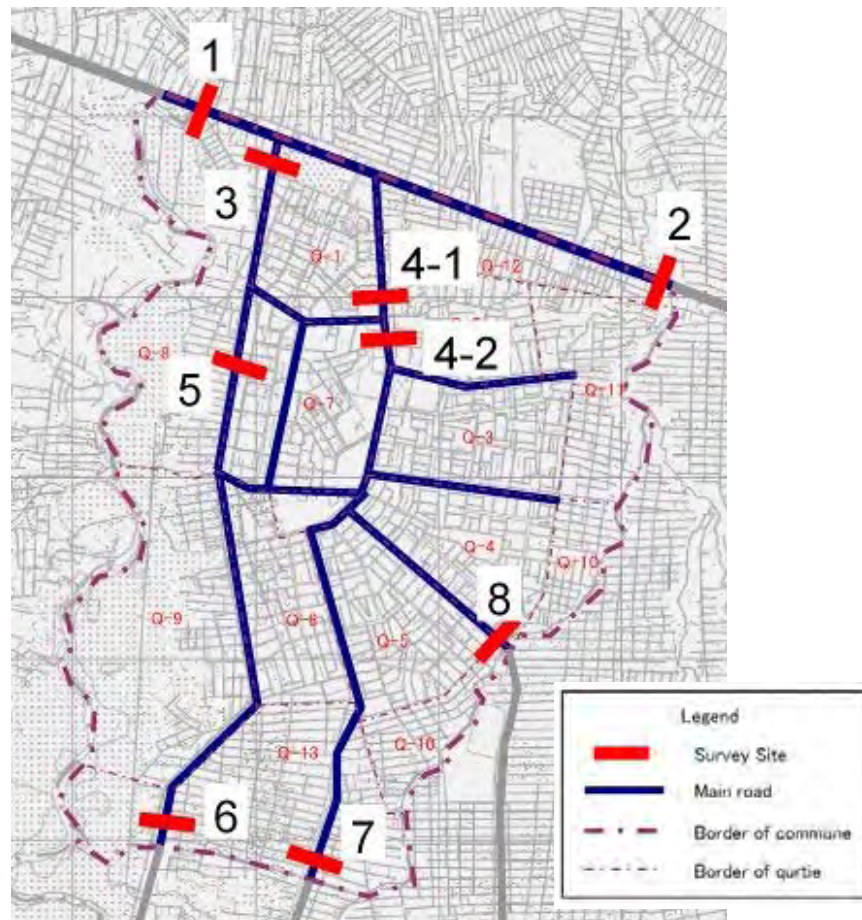
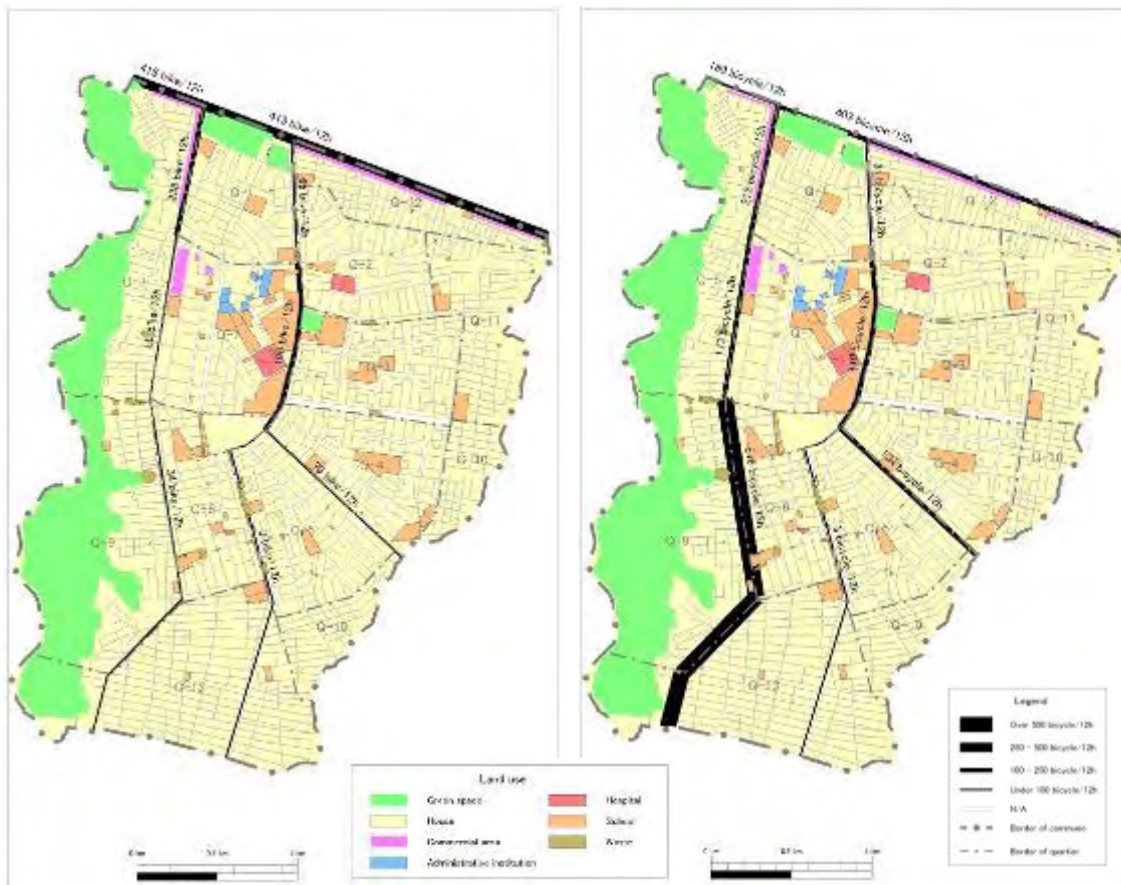


Fig. 2.9.11 Traffic Survey Sites

Source: JICA Team Traffic Survey of N'djili 2008

Although the heaviest traffic volume of motorbikes was 238 bikes/ 12h, it was very small compared to the number of cars. Excluding 512 bicycles/ 12h which were also counted as bike traffic volume on the south side of Route CECOMAF, the number was still small.



**Fig. 2.9.12 Image of Traffic Volume of Motorbikes and Bicycles**

*Source: JICA Team Traffic Survey of N'djili 2008*

The traffic volume of pedestrians was more than 5,000 persons/ 12h, excluding Route Bikali because of the narrow width and under construction sections. In particular, traffic volume of pedestrians on Croquet Kimbanseke was 13,047 persons/ 12h, which accounted for the heaviest volume.

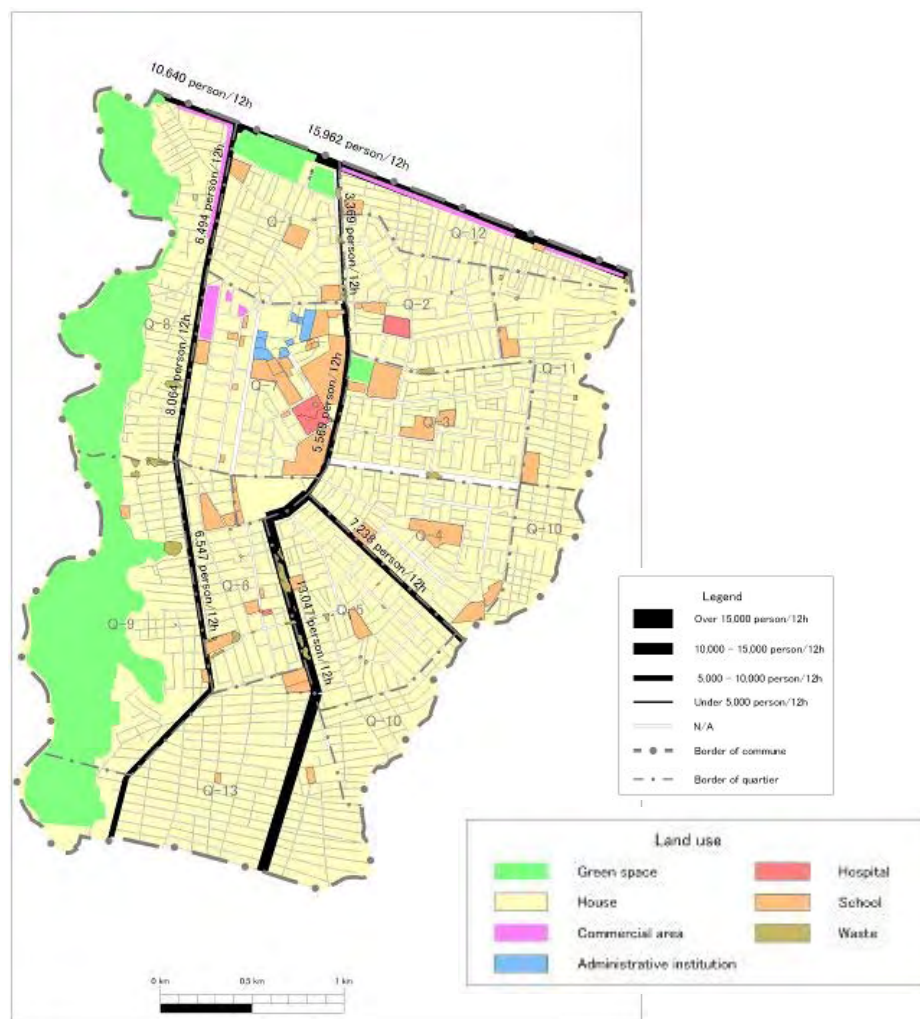


Fig. 2.9.13 Image of Traffic Volume of Pedestrians

Source: JICA Team Traffic Survey of N'djili 2008

### (5) Bus Passenger Survey

The average number of passengers per vehicle was 15.1 passengers/ minibus, 31.2 passengers/ auto bus and 56.4 passengers/ fula-fula. A fula-fula is referred to as a type of transportation in which seats are put on the loading space of a truck with a hard top.

Table 2.9.1 Average Passengers by Vehicle Category

Category	Average Passengers per Vehicle
Minibus	15.1
Auto bus	31.2
Fula-Fula	56.4

Source: JICA Team Traffic Survey of N'djili 2008



### 2.9.1.2 Public Transport

#### (1) Bus Routes in the N'djili Commune

Bus routes and the location of bus stops in the N'djili commune are shown on the next page. CITY TRAIN operates four lines within the N'djili commune, namely; N'djili - Gare centrale, N'djili - Gambela, Boulevard30 June – Quarter 1 and Pont Kasavubu – Quarter 1. For minibuses, the drivers mainly use the asphalt roads since their routes not definitive. 20 bus stops are found in the N'djili commune without any waiting facilities or institutions for people waiting for the minibuses. Circles with a 300 meter radius are shown in the map as the yellow areas and it is said that people can reach these areas without feeling fatigue (based on Japanese standards). However, people cannot easily reach the south and east areas of the N'djili commune.

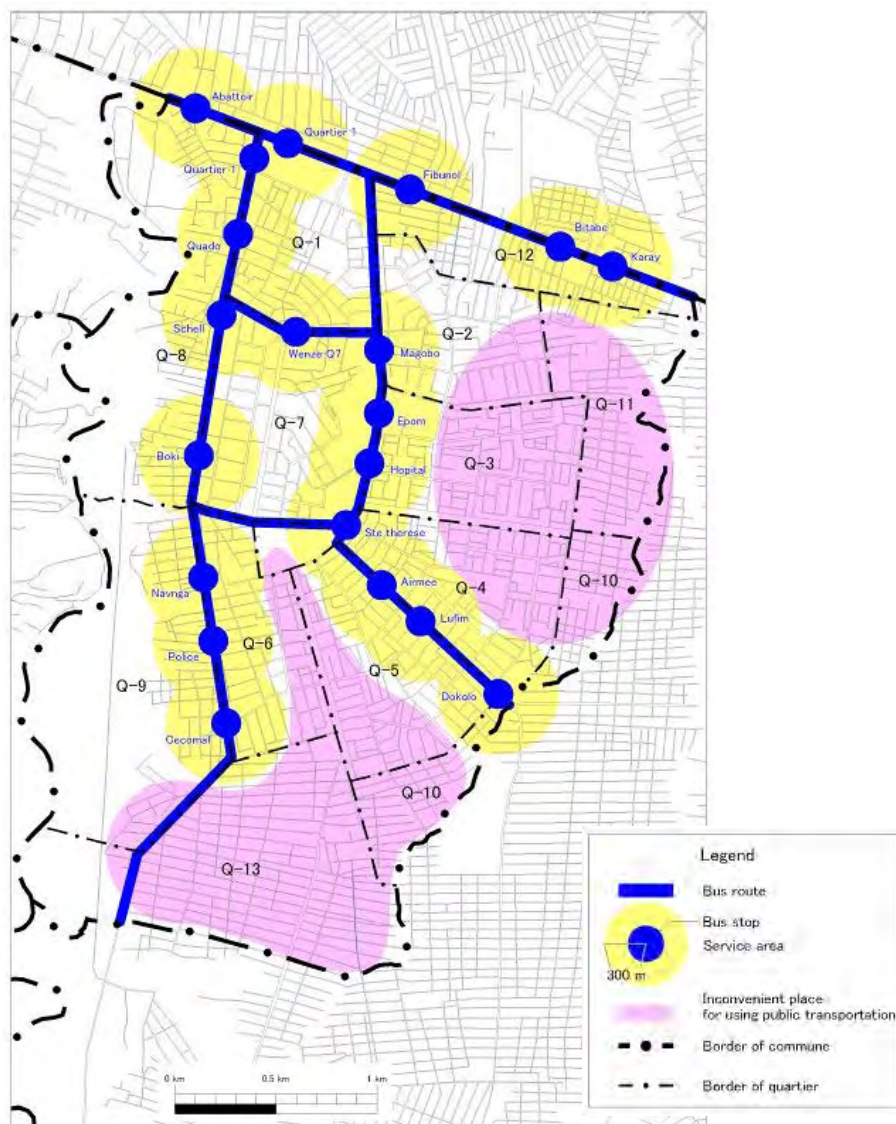
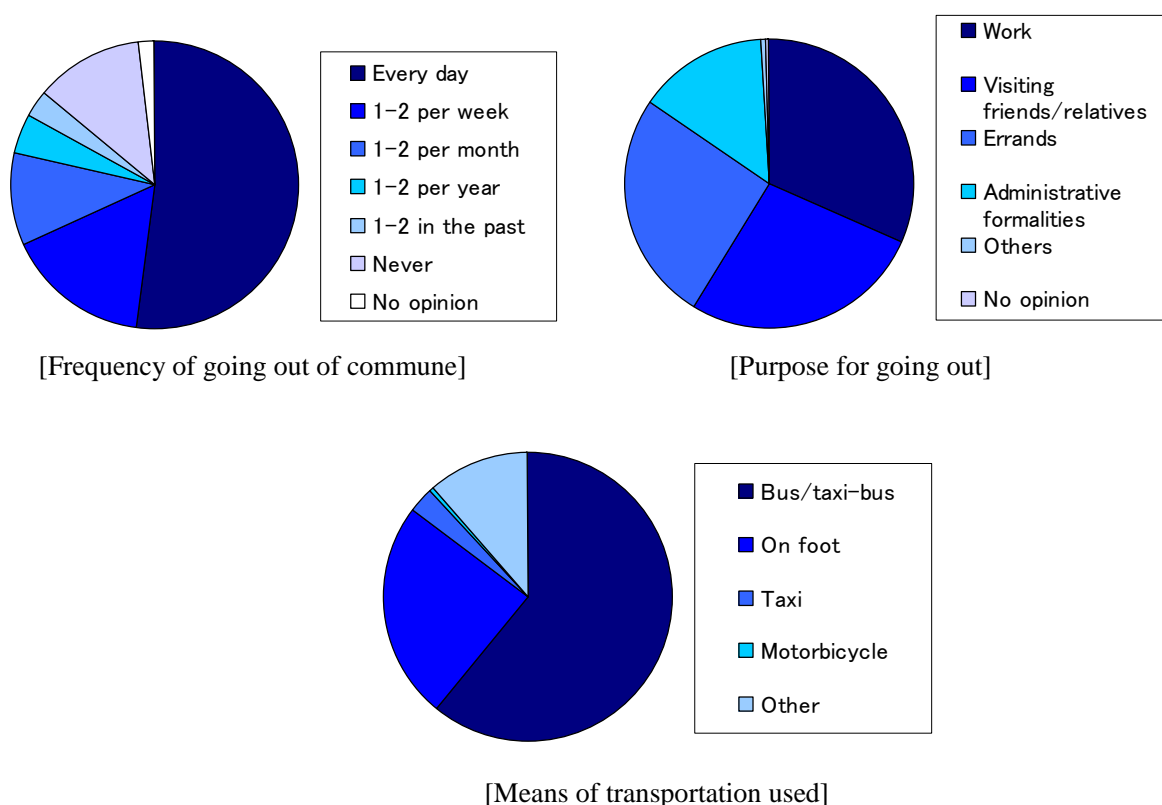


Fig. 2.9.14 Bus Routes, Bus Stops and Service Areas

Source: JICA Team Traffic Survey of N'djili 2008

**(2)Traffic Flow**

Half of the people living in the N'djili commune go out from the commune every day. Other persons go out of the commune once or twice per year or have left it sometime within the past and account for 20% of the total commune population. There are various reasons/ purposes for going out of the commune. Work accounted for 31.5% of the people's travelling out of the commune. The second highest was 27.2% for visiting friends or relatives and the third was 25.6% for errands. The highest means of transport used for going out of the commune was 60.8% by bus followed by foot with 24.5%.



**Fig. 2.9.15 Frequency of Going Out of the Commune**

Source: JICA Team Traffic Survey of N'djili 2008

**Table 2.9.2 Frequency of Going Out of the Commune**

Going out of the commune	Numbers	Percentage
Every day	416	52
1-2 per week	129	16.1
1-2 per month	84	10.5
1-2 per year	35	4.4
1-2 in the past	24	3
Never	99	12.4
No opinion	13	1.6
<b>Total</b>	<b>800</b>	<b>100</b>
Purpose for going out	Numbers	Percentage
Work	392	31.5
Visiting friends/relatives	338	27.2
Errands	318	25.6
Administrative formalities	183	14.7
Others	7	0.6
No opinion	5	0.4
<b>Total</b>	<b>1243</b>	<b>100</b>
Means of transportation used	Numbers	Percentage
Bus/taxi-bus	486	60.8
On foot	196	24.5
Taxi	22	2.8
Motorbicycle	5	0.6
Other	91	11.4
<b>Total</b>	<b>800</b>	<b>100</b>

Source: JICA Team Traffic Survey of N'djili 2008

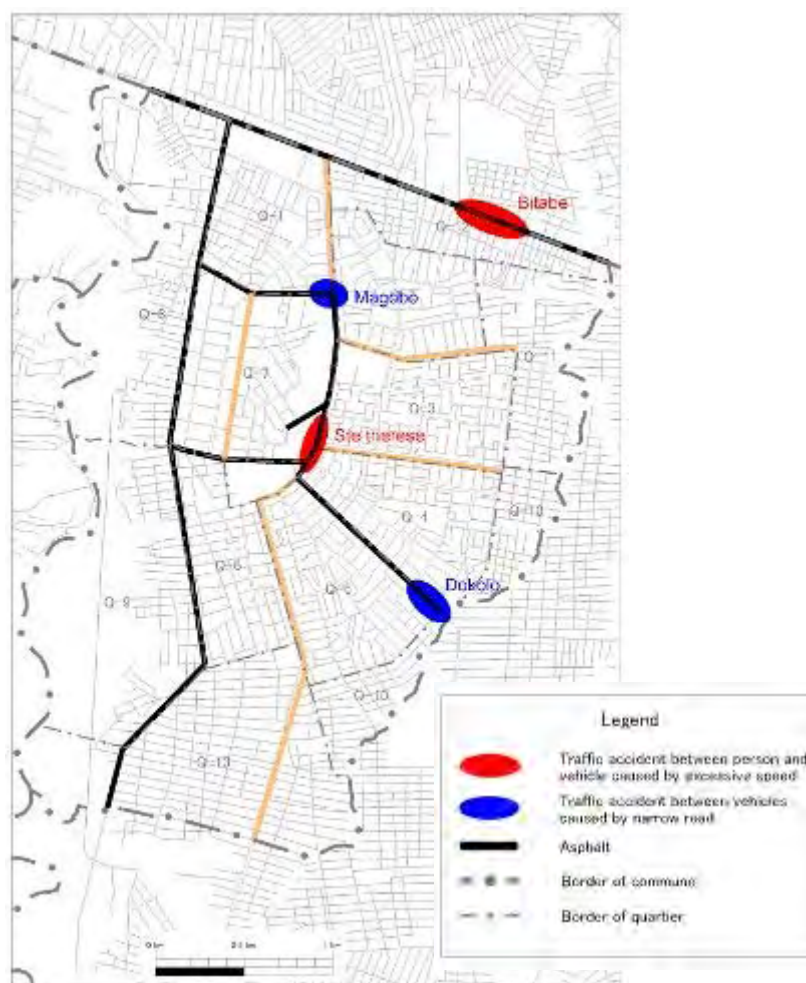
### 2.9.1.3 Traffic Accidents

The number of traffic accidents in the N'djili commune amounted to 101 cases in 2006. It accounted for 3.7% of the 2,715 cases in Kinshasa. The number of traffic accidents in the N'djili commune was lower than the population rate. As stated through an interview with the police, many traffic accidents involving vehicles and people occur at Bitabe and Ste therese because of over speeding and the number of traffic accidents between vehicles occurring at Magobo and Dokolo due to narrow, bended roads.

**Table 2.9.3 Number of Accidents for Each Area in 2006**

Area	Number of Accidents	Composition		
		Accidents	Population	Vehicles Registered
N'djili	101	3.7%	5.0%	
Tshangu	533	19.6%	33.0%	
Prov. Kinshasa	2,715	100.0%	100.0%	100.0%

Source: JICA Team Traffic Survey of N'djili 2008



**Fig. 2.9.16 Conditions of Traffic Accidents**

*Source: JICA Team Traffic Survey of N'djili 2008*

#### **2.9.1.4 Urban Facility**

##### **(1)Public Marches**

There are 4 public Marches in Q-2, Q-5, Q-6 and Q-7 in the N'djili commune. The Marches of Q-6 and Q-7 are large scaled. The Marches of Q-2, Q-5 and Q-6 are not easily accessible and the compositions of the shops are diffused among the surrounding roads.

The Marche of Q-7 is located in the center of the commune and the boundary line between the road and the neighbourhood is clarified, with the shop space layout focused and unified. As for the partial areas of the Marche site, approximately 650 habitants are living illegally. At the present time, the majority of the people remaining there still live there. Improvement of the market is important in order to develop the local economy and employment rate. It is imperative to improve the Marché in Q-7 at the next stage. In addition, the following are required to take action:

- a) Removal of illegal habitants from the Marche site and the demolition of their dwellings.



- b) Solidarity of shop-owners to promote a developing Marche. The consent of shop-owners is essential. Under the process of improvement, some shop-owners shall move temporarily to another place. Payment through a tax system and concession shall also be clarified. The shop-owners shall have their own Committee.
- c) A tax payment system shall be clarified and maintenance costs shall be provided.

### **(2) Public Squares**

The police station and post office lie around the Bureau de Commune. This area is the Central district in Commune de N'djili. However, the condition of surrounding roads is poor: partially damaged or non-paved. Traffic circulation and safety shall be improved. The boundary lines between the roadways and walkways are not clarified, so it is dangerous for pedestrians. Furthermore, there are no safe or comfortable public spaces for inhabitants to relax and enjoy their lives in the N'djili commune. In the program of the province of Kinshasa, there is the project "Espace Nouvello," which aims to create a new townscape. The province of Kinshasa and the N'djili commune shall examine the feasibility of this study and engender good collaboration.

### **(3) Public Toilets**

Presently in the N'djili commune, there are only a few public toilets. Furthermore, they are poorly maintained and so generate dirty and unsanitary conditions. To develop awareness of public hygiene and a wholesome environment, it is essential to rehabilitate or install new public toilets where there are crowds of many people, for instance shopping or meeting areas. The toilets in the market of Q-7 can be utilized as they are while those in the markets of Q-2, Q-5 and Q-6 are extremely worn out. These toilets shall be re-constructed and at some bus-terminals, new toilets shall be installed shortly. For the implementation of the new toilets, there are some issues which must be resolved, for instance the source of the water supply, the maintenance costs and the verification of land owners for the bus-terminal sites is needed.

## **2.9.2 Health and Sanitation**

### **2.9.2.1 Health**

#### **(1) Present Condition**

##### **1) Common Diseases**

The common diseases are malaria, diarrhoea, tuberculosis, measles, typhoid and sexually transmitted diseases (STD) such as HIV/AIDS. Health zone of N'djili has problems of malnutrition and a low rate of immunization. As for malnutrition, low vitamin A supplementation for infants and breast-feeding mothers is reported. Maternal mortality is lower than the national average while infants' mortality during delivery is higher than the national average, even though it has been

decreasing during recent years.

**a) HIV/AIDS**

In 2003, the incidence of VIH/SIDA was established at 4.2% with estimates varying between 1.7-9.9% (World Bank, 2006).

**b) Infant Mortality**

Statistical data concerning delivery in the past three years is shown in the table below:

**Table 2.9.4 Delivery in 2005-2007**

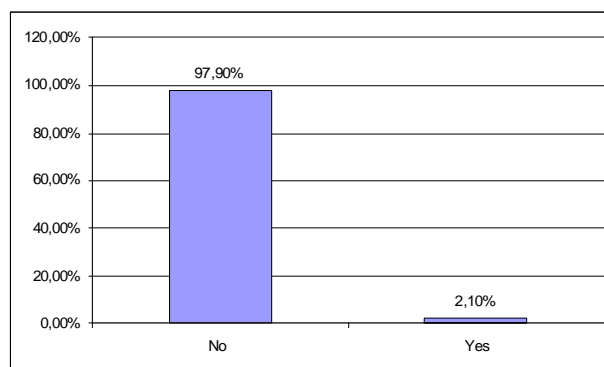
Year	2005		2006		2007	
<b>Delivery</b>	<b>6921</b>		<b>5994</b>		<b>6801</b>	
<b>Birth</b>	<b>6705</b>		<b>5834</b>		<b>6697</b>	
<b>Infant mortality during delivery</b>	<b>216</b>	<b>31/1k</b>	<b>160</b>	<b>27/1k</b>	<b>104</b>	<b>15/1k</b>
<b>Maternal mortality during delivery</b>	<b>5</b>	<b>72/100k</b>	<b>17</b>	<b>280/100k</b>	<b>2</b>	<b>29/100k</b>

*K: 1 thousand,*

*Source: N'djili Commune Office*

The maternal mortality rate of N'djili is relatively lower than the national average. The infant mortality rate of N'djili however, is relatively higher than the national average despite decreasing gradually.

In 2007, 2.10% of households lost at least one child. The following graph provides the distribution of households which have lost at least one child in N'djili.



**Fig. 2.9.17 The Distribution of Households Having Lost at Least One Child**

*Source: Report of Socio-Economic Survey*

The highest infant mortality rate seen since the start of the 2007 school year relates to children above the age of 5 years old for 70.59% of the cases. Although the rate is lower for children between the ages of 0-5 years old, it is an urgent matter that we improve sanitary conditions within the area since children are the most vulnerable. Children are thus the first to be affected when families live under very poor sanitary conditions.

**c) Maternal Mortality**

Postpartum maternal mortality occurs in 0.90% of all households per year. The remaining households (99.10%), did not experience such tragedy.

Maternal mortality is lower than the national average while the infants' mortality during delivery is higher than the national average despite decreasing during recent years.

**d) Pregnancy Prevention through Family Planning**

An average of 44% of households in the commune of N'djili resorts to birth control through family planning.

Common diseases in N'djili are malaria, diarrhoea, tuberculosis, measles, typhoid and sexually transmitted diseases (STD) such as HIV/AIDS. Furthermore, the commune has problems of malnutrition and a low rate of immunisation.

## 2) Medical Service in N'djili

### a) General

In the Health zone of N'djili, there are two general hospitals; 110 health centers located in the 14 health areas. The following table shows the health facilities in N'djili commune.

**Table 2.9.5 Health Facilities in the N'djili Commune**

Health Facility	Number
Hospital	2
Health Center (Government and Public)	1 + 5
Health Center (Private)	104
Pharmacy	317
Medical School	2

Source: N'djili Commune Office

### b) Health Zone and Health Area

Health zone of N'djili covers the same geographical area as the N'djili commune. The health zone is divided into 14 health areas which are the same as Quarter 1-12 and two health areas in Quarter 13 (Q13A and Q13B).

Health zone of N'djili' is considered as one of the biggest health zones of the district with a total population estimated to be 320,762 inhabitants with a population density of 34,020 persons per square kilometre. The high density is a strong characteristic that leads to harmful socio-sanitary consequences. The N'djili health zone accommodates the sanitary district office. Among the 14 Health areas, 5 health areas are equipped with a functional health center belonging to all private undertakers. The zone also accounts for 110 registered private sanitary formations.

*(PMA: Medical assisted procreation or artificial insemination, PCA: Patient controlled analgesia)*

### c) Reference Hospitals

In the Health zone of N'djili, there are two hospitals, namely; the Congolese and Chinese Friendship Hospital and N'djili Hospital. After completion of the Congolese and Chinese Friendship Hospital, it has become the only referral hospital in the Health zone of N'djili and is under the supervision of the Ministry of Health while N'djili Hospital is under the supervision of the Ministry of Higher Education. The number of staff is shown as follows: Doctors: 40, Nurses: 52, Labo-Technicians: 8.

The Congolese and Chinese Friendship Hospital is one of the most modern hospitals in Kinshasa despite facing criticism from residents as regards its high fees. On the other hand, the N'djili Hospital is facing problems in facilities and medical equipments, especially in plumbing to and

from septic tank and septic tank itself. Actually sewage disposal doesn't work, it does not flow out and there are muckheaps.

**d) Focal Point Health Centers**

At the quarter level, the N'djili health zone office subcontracted a health center in each quarter as the focal point of community health services. Focal point Health Centers has a convention with the Health zone office of N'djili. This Convention creates clear personnel affairs, the budget, the supporting system and other functions.

The medical and epidemiological data collected through the structures of the care providers are transmitted to the Health zone office which centralize them and decide on the first treatment. This data is then conveyed at the intermediate level, (offices of the districts and provincial inspection), where it is encoded and analyzed before its transmission at the national level

And also in Quarter-1, there are only private health centers which are small scaled while the land and the facilities are on lease. According to the Convention, the owner shall possess and manage their health center. Therefore, Health zone of N'djili can not make a Convention with such a Health Center. Therefore Health zone of N'djili can neither control nor supervise the health centers, nor collect any data from them in Q-1. Health zone office of N'djili would like to request a new public health center in the Quarter-1.

**e) Other Health Centers**

In the Health zone of N'djili, there are 110 health centers in the 14 health zones. Almost all of the health centers are under the supervision of the Focal Point Health Center. except for Quarter-1.

Private medical centers operate like companies. The promoters of these types of companies may not be health professionals such as physicians, pharmacists, nurses or others. Often, medical centers have contracts of collaboration with medical specialists who work there occasionally. Medical doctors who work in private medical centers in the commune of N'djili are paid daily based on the medical services provided. They receive 50% of the amount paid by the patients and the remaining 50% goes into the medical center. There is no pharmacist on call at the health centers. The pharmacist's role is played by the nurses. It should also be noted that there is a scarcity of nurses with a degree. Health centers generally prefer to recruit undergraduate nurses. Nurses with a degree are compelled to accept being hired as undergraduate nurses, as far as salary is concerned. Integrated health centers are the property of Catholic, Protestant, Salvationist, and Kimbanguist denominations. In the commune of N'djili, Catholic health centers are managed by the Diocesan Bureau of Medical Services (BDOM).

The selection of a health center can also be influenced by financial burdens. Households are sometimes obliged to receive treatment in small health centers. In some instances, households are

even "illegally confined" because they are insolvent. Distribution of health centers in the N'djili Commune is shown in Fig.2.9.18.

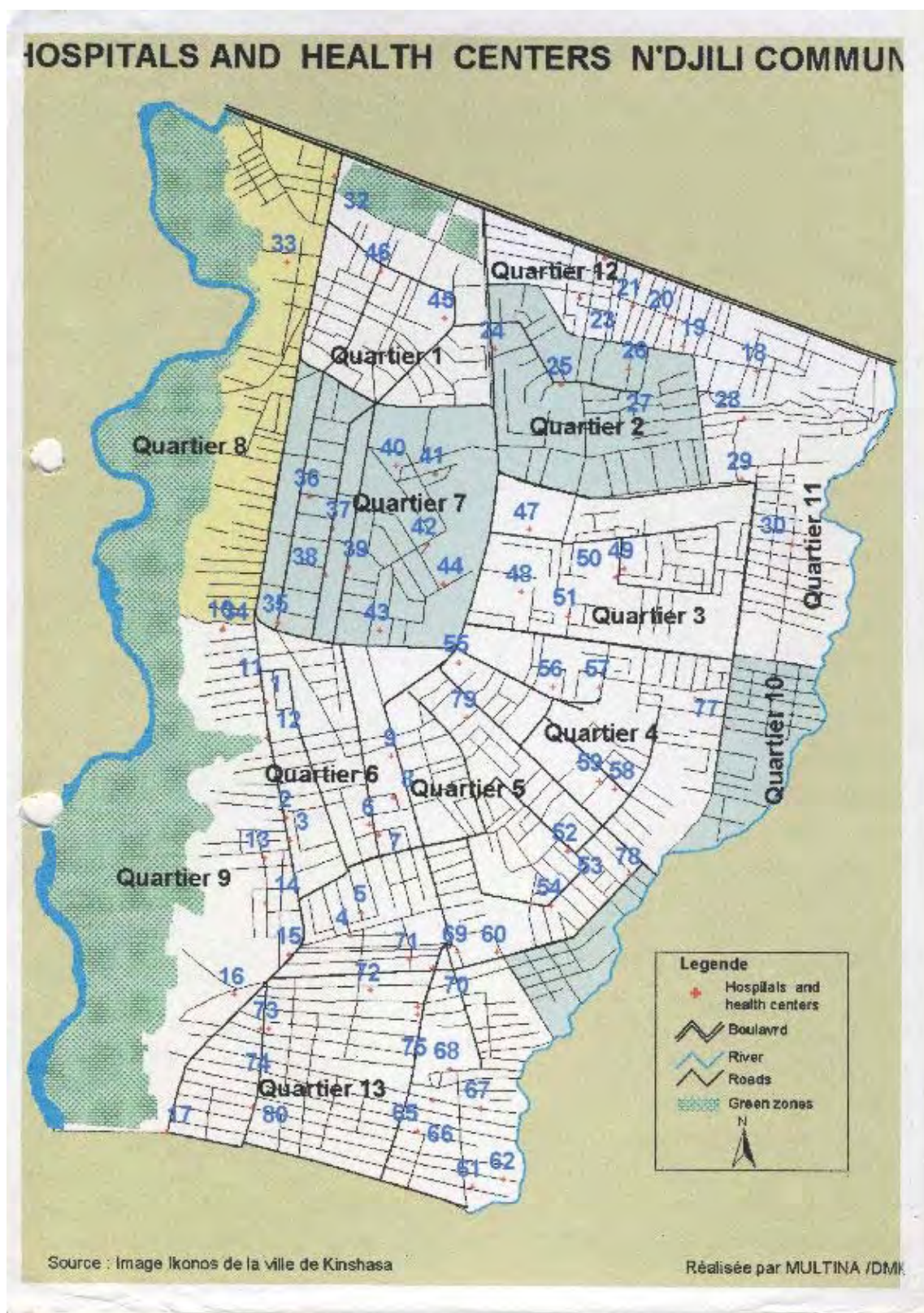


Fig. 2.9.18 Distribution of Health Centers in the N'djili Commune

Source: Report of Socio-Economic Survey

**f) Medical Staff**

The table below shows the number of health personnel in the commune. Most of the physicians are general practitioners (GP). The GPs work at the health centers to treat common diseases such as malaria, diarrhoea, tuberculosis, measles, typhoid and STDs. Concerning reproductive health, GPs and nurses provide both delivery and health education services for mothers. However, some of the health centers do not have enough capacity for delivery due to the lack of health facilities and human health resources.

**Table 2.9.6 Health Personnel in the N'djili Commune**

Category	Health Personnel	Number
Doctor (126)	Specialist	20
	General Practitioner (GP)	98
	Surgeon Dentist	8
Nurse (373)	Level A1 (Undergraduate: 3 years higher school)	77
	Level A2 (State Diploma: 6 years medical secondary school)	185
	Level A3 (Medical Certificate: 4 years medical secondary school)	111
Laboratory Technician (128)	Undergraduate: 3 years higher school	20
	Lower level	108
Physiotherapist		12
Pharmacist/Chemist		3
Decontamination Technician		1
Nutritionist		12
Administration (169)	Managers	29
	Staff	140
Other employees		134

*Source: N'djili Commune Office*

**g) Consulting Fee**

The consulting fees are approximately the same at each health center. Each health center can decide on the amount to be charged within a specific range. One example is shown as follows:



**Table 2.9.7 Consulting Fee of Health Center**

MEDICAL FEE		
1. Medical record,		: 200FC
Consultation	Adult	: 1000 FC
	Infant	: 800 FC
2. Simple Bandage		: 300 FC
3. Bandage of wound		: 500 FC
4. Ablation		: 500 FC
5. Own Pharmaceuticals		: 200 FC
6. Infusion		: 300 FC
7. a) Drip plan quinine( 3 sessions )		: 6,500 FC
b) Drip plan quinine own Pharmaceuticals		: 3,000 FC
8. Eutocic childbirth		: 5,000 FC
9. Dystocia childbirth		: 7,500 FC

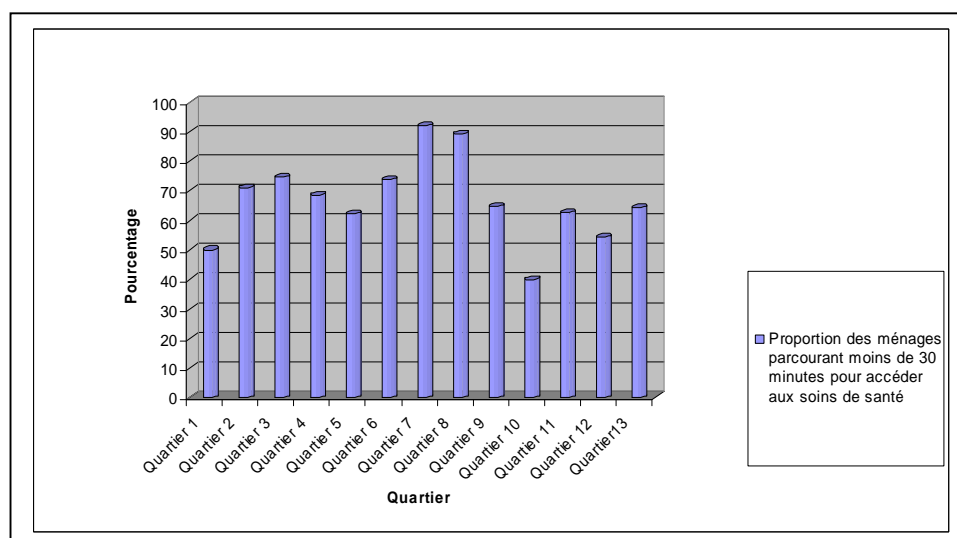
#### **h) Donors' Activities**

The UNICEF has 3 health areas, the Diocesan Bureau of Medical Services (BDOM) for nutritional coverage (3 CNT and 2 CNS); the University of North Carolina which intervenes with the PTME framework and HIV/AIDS prevention and the Damien foundation which aids in the coverage of tuberculosis cases (4 screening units and ambulatory treatment).

The budget for the supporting system through the Convention and medical goods can be implemented by IRC (International Rescue Committee) which is financed by The World Bank.

#### **3)Result of Household Survey**

According to the Socio-Economic Survey conducted by The JICA Study Team, in regards to accessibility, only 27% of households in N'djili are able to reach their nearest health center in less than 15 minutes. The majority spend 15-30 minutes (40.6%) or more than 30 minutes (32.4%) to reach a health center. Therefore, the average time spent by the entire population of the N'djili commune to reach their nearest health center has been estimated at 26 minutes. Therefore, the percentage of households reaching their nearest health center is less than 30 minutes per quarter in the commune of N'djili.



**Fig. 2.9.19 Percentage of Households Reaching Their Nearest Health Center in less than 30 Minutes per Quarter in The Commune of N'djili**

*Source: Report of Socio-Economic Survey*

In reality, approximately only 23% of the inhabitants in Health zone of N'djili can receive medical services.

Through the surveys, the issues concerning sexual behaviour of the population were identified. Through a household survey, only 44% of the population practice family planning. On the other hand, 9.7% of the head of households answered that they have out-of-wedlock sexual relationships. Only 0.5% of households have family members who live with HIV/AIDS. The numbers seem to be relatively low compared with the general answers of participants at the CLD planning workshops due to the sensitivity of the questions which make it difficult for interviewees to answer. In fact, a number of problems related to sexual behaviour were identified in the workshop which included multiple sexual relationships by the husbands, early age pregnancy and rapes.

According to the other survey (“PLAN’ACTION POUR LE DISTRICT SANITAIRE DE N'DJILI DE JANUVIER, 2008 FEBREIR 2009”) financial burdens are the main issue affecting people’s health in N'djili; accounting for 40% of the population. Poor nutrition, which is a result of limited financial means, has affected 22% of the population in the N'djili commune. Other considerable causes to be taken into account are health issues including poor hygiene (14%), lack of equipments and skilled personnel in health centers (13%) and the proliferation of diseases (11%).

#### **4)Examination of Focal Point Health Centers**


Through the site survey, The Study Team examined the Focal Health centers within the N'djili commune (see appendix for survey sheets). The results of the site survey have been summarized in Table 2.9.8.

Capacity of those health centers differs greatly in terms of facility, equipment and health personnel. Basic medical equipment is almost sufficient enough in the Focal Health Centers. However, electric equipment such as sterilizers, refrigerators, and washing-machines cannot work with the frequent interruption of power. The capacity of the generator is not sufficient to sustain all of the equipment. In some health centers, there is sometimes no water supply such that it is required to buy water in barrels. Regarding medical disposals, they utilise an incinerator though burning is incomplete at the set temperature. Chemical products are also dumped into the incinerator. Chemical liquids can be dumped into the pipes with holes in the ground. In the maternity center, the number of delivery beds and maternity beds are insufficient during peak hours of delivery. In reality, they use only one maternity bed for every two maternities.

For Quarters 1 and 7 there are no maternity centers. It may be required by Health zone of N'djili to establish a new maternity center. Furthermore, there is sufficient space to construct a new facility on site. For Quarters 2, 3, and 5, the number of beds are not sufficient enough to support the number of maternities during peak seasons. However, there is sufficient space on site for further construction. The current conditions of the other facilities basically do not necessary need immediate rehabilitation. However, medical equipment is outdated and should be replaced within the next few years.

**Table 2.9.8 Results of Site-Survey on Health Centers**

RESULT OF SITE-SURVEY ON HEALTH CENTRE											
Q.	Name of HEALTH CENTRE	No. of Bed	No. of Patients per day	No. of Maternity Bed	No. of Maternity- Patients per day	Extension Space (m <sup>2</sup> )	REQUESTS / PROBLEM				
							Maternity Bed	Equipment	Surgical Room	Power & Water Supply	Others: Generator, Incinerator
Q-2	BOMOI HEALTH CENTER	3	62								
	BOMOI-MAT			72	100	400	○	○	○	○	
Q-3	CADO BUMBI HEALTH CENTER	20	11	9	6	360	○	○	○	○	
Q-4	BABA HEALTH CENTER	5	10	5	0				○	○	
Q-5	MAT- MDAKANI HEALTH CENTER	20	15	13	360	140	○	○	○	○	
Q-6	BOPELO HEALTH CENTER	2	50	0	0	320			○	○	
Q-7	HYGIENE HEALTH CENTER	4	5	0	0	680			○	○	
Q-8	TUMBA HEALTH CENTER	14	7	5	0		○	○		○	
Q-9	BAKUMA HEALTH CENTER	11	15	8	20	400	○	○	○	○	
Q-10	NGANGWELE HEALTH CENTER	13	5	7	3	180	○	○	○	○	
Q-11	BIKUNDA HEALTH CENTER	18	10	5	2	100	○	○	○	○	
Q-12	MISCO HEALTH CENTER	4	7	4	2/M				○	○	
Q-13A	LUZINGU HEALTH CENTER	0	10	0	0	330			○	○	
Q-13B	DIKI SANTE	12	7	7	3				○	○	
TOTAL(N°)							7	7	7	13	13
TOTAL(%)							54%	54%	54%	100%	100%

 MATERNITY CENTER to be planned in expansion and to be equipped on the Master Plan

## (2) Existing Issues

### 1) Common Diseases

As observed in most of the district's health zones, N'djili's health zone has a high morbid-mortality rate in connection with malaria, many reported incidences of diarrhetic diseases, and ordinary maternal mortalities (11 deaths reported in 2004).

## **2) Community Participation**

Community participation is obviously weak due to the lack cooperation of most health centers and sanitary formations.

## **3) Self-financing Capacity of Health Services**

Self-financing capacities of functional health services are almost useless. Units fighting against malaria and the transmission of HIV/AIDS are rarely integrated.

## **4) Accessibility to Drinking Water**

Only 33% of the population in the surrounding health zone have accessibility to drinkable water.

## **5) Patients and Financial Difficulty from Hospital Expenses**

The confinement of insolvent patients is a current practice held in hospitals here. As it currently is, patients can be denied the right to leave a hospital due to unsettled hospital expenses. This is even witnessed with corpses being withheld from their families due to unsettled expenses.

## **6) Access to Health Centers**

Only 27% of the households in N'djili are able to reach their nearest health center in less than 15 minutes. The majority spend 15-30 minutes (40.6%) respectively or more than 30 minutes (32.4%) to reach a health center. Therefore, the average time spent by the entire population of the N'djili commune to reach a health center has been estimated as 26 minutes. The selection of a health center can also be influenced by financial reasons. Households are sometimes obliged to receive treatment in small health centers. In some instances, households are even "illegally confined" because they are insolvent.

## **7) Health Center in Q-1**

Presently in Q-1, there are only private health centers. In the aspect of the collecting system for disease data, immediate action against epidemics and the supervision by Health zone of N'djili, authorized by the health center is required.

## **8) Office for Health zone**

Office of Health zone of N'djili has a wide range of practical workings, such as the procurement and delivery of equipment, medicines, vaccines and information gathering techniques of epidemics. Reasonable storage space is needed for the vaccines, medicines and equipments. Since there is only one small room available for storage-use at the moment, wider space is required.

## **9) Health Center in Q-7**

The health center in Q-7 is the only official health center which is unattached to any of the churches. The facility was constructed during the 1950s. Rehabilitation of the facilities and medical

equipment supplies is required. Furthermore, there is no maternity center in Q-7. Therefore, maternities are required to go to the hospital for consultation and delivery. There is a hospital on site which is located a few blocks from the existing facility. The land belongs to the state since the facility was the former central offices of Health zone.

### **10) Maternity Centers**

The number of deliveries was 6,921 in 2005, 5,994 in 2006 and 6,801 in 2007. The capacity to perform deliveries in the maternity center is insufficient. The number of beds, medical equipment and surgical operation rooms are not enough to support the number of annual deliveries.

#### **2.9.2.2 Sanitation**

Sanitary conditions of the N'djili commune are a serious problem. Only 20% of households have an indoor toilet. Littering is also another serious problem found on the streets and other public spaces of N'djili. According to a household survey, 14% of households dispose their rubbish on the streets or other places, while the remaining other households dispose their rubbish through waste collection men or by digging a hole within their household compound. It seems to be difficult for the majority of poor households to afford paying the fees required for waste disposal through waste collection men. There is no official dumping site in the commune so the wastes collected through waste collection workers are dumped at illegal dumping sites along the N'djili River or by digging holes in the streets. In addition, more than 50% of households do not have a drainage system in their household. Thus, waste water tends to flow onto the street or streams directly. Due to the above-mentioned conditions, street gutters and streams are contaminated with rubbish and other wastes. During the rainy season, the condition causes floods and creates an unclean environment which causes diseases such as malaria.

There are areas of greenery present at the access way to the N'djili commune along Boulevard Lumumba and agricultural areas along the N'djili River. Although the commune is one of the most populated areas in Kinshasa, the population would like to reserve the greeneries. However, the threat of erosion is present in Quarters 8, 9, 10 and 11 which are located along the N'djili River or the Nsanga River.

#### **(1) Sewage**

There is no sewage system with pipe connections in the N'djili commune. The situation concerning human waste disposal, domestic wastewater disposal and rainwater drainage is described below:

##### **1) Current Situation of Human Wastes Disposal**

It is presumed that the prevalence of those in possession of a personal toilet within their own household in the commune is very high. As for the reason, there are no public toilets within the commune (except in the markets and bus terminals) and the request for public toilets was denied. Of the homes

questioned in the field survey, all of them reported that they owned a toilet. Based on the results of the field survey and the explanation from the commune's staff, it became clear that the majority of toilets owned were pit latrines, also called "arab". The following reasons are mentioned as the factors through which a pit latrine is in widespread use in this commune.

- Construction and maintenance of a pit latrine toilet is very easy and low cost.
- The N'djili commune is a flat hilly area and it is covered with a sand layer of 5 m or more.
- It also has a characteristic within the soil which makes it very sufficient for permeability. The high permeability characteristic is considered to have promoted the spread of pit latrine toilets by use of dry sanitation and continuous usage.
- It is also thought that the use of pit latrines in this area is promoted by a high service ratio of water supply and the limited use of well water. Usually, when a high population density exists and the groundwater level is high, groundwater may be polluted by pit latrines.

Although it is expected that the pit latrine toilet system will continue to be used in the future, the improvement of septic tanks with leaching pit systems through Kinshasa's provincial government is also expected to progress gradually with the improvement of households.

## **2) Domestic Wastewater Disposal**

The present situation of domestic wastewater disposal in the N'djili Commune is described below. It is presumed that a wastewater drainage network is not established as a result of this situation.

- As mentioned above, the N'djili commune is covered with a sand layer which is very sufficient for permeability and wastewater infiltrates the underground after a short period of time without stagnant water flowing onto the surrounding housing areas' yards or roads.
- Usually, a water tap is installed within the yard through a connection which tends to sprinkle wastewater on the yard and roads easily.
- The small amount of water consumption makes wastewater disposal easy. Per capita designed water supply for middle-income and low-income households amount to 60 lcd and 45 lcd respectively. 95% of households in the N'djili commune are classified into middle-income and low-income households.

In the N'djili commune, the request for the improvement of the wastewater disposal system was denied.

## **3) Rainwater Drainage**

Rainwater in the N'djili commune is eliminated by a street drainage network through the Tsahangu River and the N'djili River. Drainage problems have not occurred with the exception of the following two incidences:

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**a) Drainage problem at the market of Quarter 5**

Annual frequency:	Several times
Water depth:	4 - 5 cm
Continuation time:	Several hours

**b) Drainage problem at the intersection of the Tshangu River and the National Highway**

**(2) Waste Disposal**

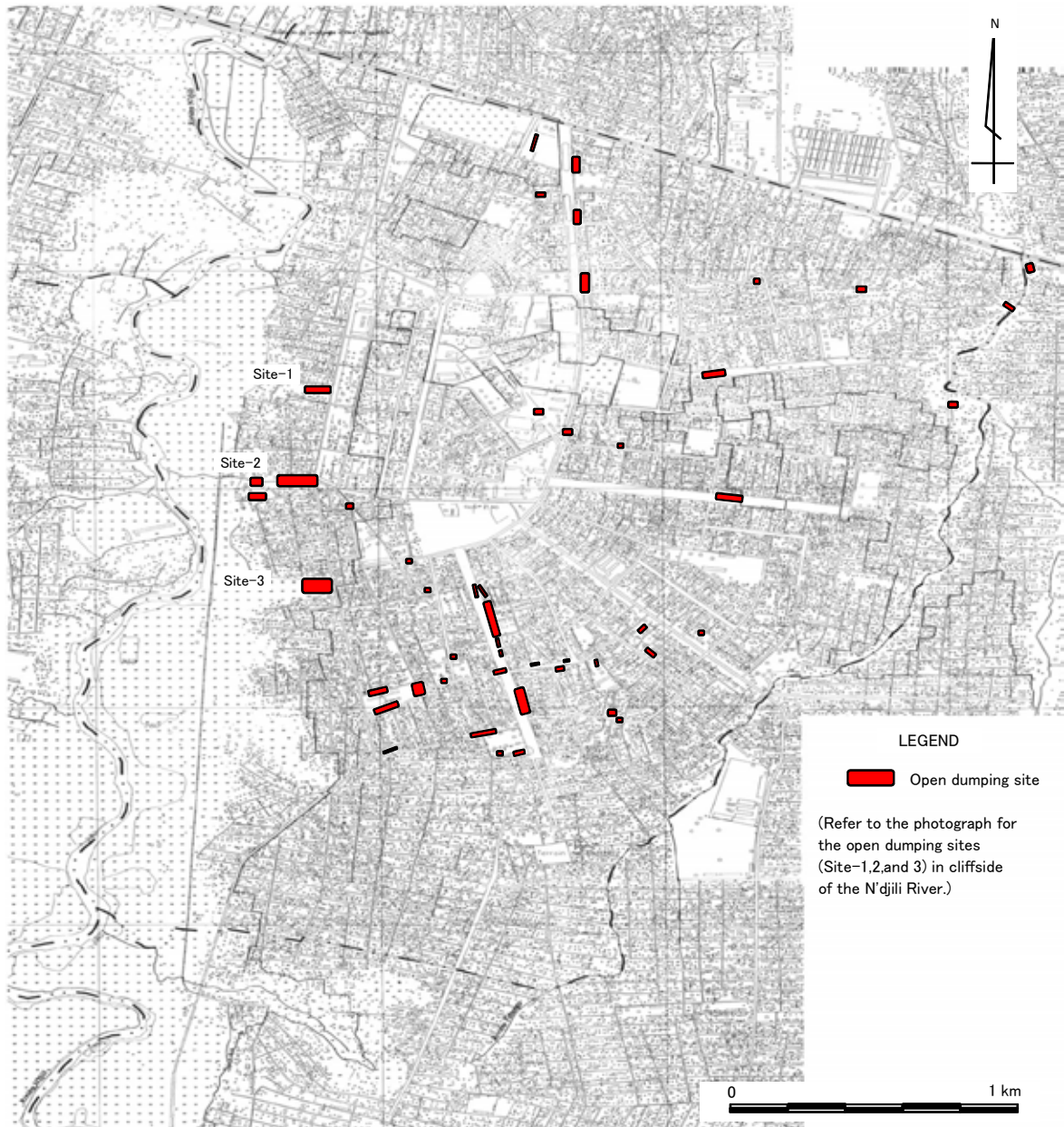
There are no public, continuous solid waste collections or disposal services in the N'djili commune.

The existing situation of solid waste disposal in the N'djili commune is described below:

- Cleaning of main streets (main purpose to clean fallen leaves from roadside trees).
- Landfills of solid waste from houses and conveyance abandonment to be disposed at existing dumping site
- The request of an individual contractor or individual solid waste conveyance and disposal (charged)
- Solid waste collection and disposal service by NGO (charged)
- Individual organic matter solid waste collection for obtaining compost materials

There is currently no official public solid waste landfill site within the N'djili Commune. It is thought that generated solid waste in the N'djili commune is left in open dumpsites of the N'djili Commune or its surrounding area. There are numerous open dumpsites located within the N'djili commune and many places within the circumference of the housing zone area are confirmed as dumping sites. Furthermore, in the rainy season, solid waste tends to flow into the N'djili River from open dumpsites located on the cliff sides of the N'djili River, creating the possibility of affecting the nearby water abstraction facilities for water supply (refer to Fig. 2.9.20). It is thus assessed that the solid waste collection and the current waste disposal situation of the N'djili commune are a very serious problem based on the results of the investigation.





**Fig. 2.9.20 Dumping Sites Located at the Cliff Sides of the N'djili River**

*Source: Public Inventory Survey 2008*