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**URBAN UPGRADING IN GABON**

**REPORT ON TECHNICAL  
ASSISTANCE MISSION**

Tova Maria Solo

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Abt Associates Inc.  
4250 Connecticut Avenue, N.W.  
Suite 500  
Washington, D.C. 20008

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## TABLE OF CONTENTS

List of Annexes.....	ii
List of Tables.....	iii
List of Illustrations.....	iv
Executive Summary.....	v
I. Introduction.....	1
A. Overview.....	1
B. General Objectives and Summary of Methodology.....	2
C. Summary of Conclusions and Recommendations.....	4
II. Urban Improvement Projects.....	5
A. Urban Improvement Concept.....	5
B. Urban Renewal Programs.....	5
C. Urban Renovation Programs.....	6
D. On-Site Upgrading.....	7
E. Cost Recovery .....	8
III. GOG Proposed Urban Upgrading Project.....	10
A. Project History.....	10
B. Summary Description of Projects for Akebé-Likouala, Petit Paris and Venez Voir.....	10
C. Analysis of GOG Projects.....	20
D. GOG Attitude.....	24
IV. Alternative Urban Improvement Proposals.....	26
A. Introduction.....	26
B. Urban Improvement Alternative 1: Urban Renovation for Cocotiers.....	28
C. Urban Improvement Alternative 2: On-Site Urban Upgrading for Cocotiers.....	32
D. Conclusions.....	35
V. Housing Solutions for the Urban Improvement Program.....	38
A. Housing Needs.....	38
B. Core Housing.....	41
C. Home Improvement and Self-Help Systems.....	42
D. Formal Sector Versus Informal Sector.....	44
VI. Recommendations.....	46
VII. Review of GOG Policies in View of Recommendations.....	48
VIII. Project Development Scenario.....	50
A. Base Study.....	50
B. Complementary Studies.....	51
C. Procedures for Implementation.....	52
Annexes	

## LIST OF ANNEXES

1. Frequently Used Terms
2. List of Contacts
3. Reference Documents
4. Plans for Petit Paris and Venez Voir (H.P. Gauff)
5. Plans for Akebé-Likuoala
6. Ministry of Urbanism Project Outline and Cost Estimates
7. Cocotiers
8. Cocotiers - Urban Renovation Project (with building details)
9. Cocotiers - On-Site Urban Upgrading Project (with building details)
10. SNI - Additional Information
11. CreFoGa - Additional Information
12. Minimum House, Plans and Cost Estimates

LIST OF TABLES

III.1	Densities and Populations to be Relocated in GOG Proposals.....	18
III.2	Partial Costs of GOG Proposed Urban Renewal Program.....	19
III.3	Estimated Total Costs of GOG Proposed Urban Renewal Program.....	20
IV.1	Costs of Urban Renovation Program for Cocotiers.....	31
IV.2	Urban Renovation Program for Cocotiers - Costs per Beneficiary Household and Monthly Debt Service Charges.....	32
IV.3	On-Site Upgrading Project for Cocotiers - Project Costs.....	35
IV.4	Comparative Characteristics of Proposed Urban Improvement Projects.....	36
V.1	Costs of Core House Models.....	41
V.2	Estimated Debt Service Payments for Core House Models.....	41
V.3	Possible Home Improvement Projects for Financing Under Construction Loans Program.....	43
VIII.1	Estimated Timetable for Project Implementation Activities to be Carried Out in Each Neighborhood.....	53

## LIST OF ILLUSTRATIONS

Urban Upgrading Scheme Proposed by H.P.Gauff.....	12
Urban Development Plan for Petit Paris.....	13
Alternative Solutions Considered for Akebé-Likouala.....	15
Urban Renewal Plan for Akebé-Likouala.....	16
"Embrio" House Units Proposed for Akebé-Likouala.....	17
Images of Progressive Development in Gabon.....	23
Photographs of Cocotiers.....	27
Proposed Urban Renovation for Cocotiers.....	30
On-Site Upgrading Plan for Cocotiers.....	34
Extent of Squatter Settlements in Libreville.....	37
Core House Designs.....	39
Completed House Design.....	40

## EXECUTIVE SUMMARY

In 1982 the Government of Gabon (GOG) began to study the possibility of an urban improvement program to raise the standard of living in five squatter settlements in Libreville. Plans were drawn up for projects in three of the communities. Implementation of the proposals has been complicated by their high costs at a time when the country is suffering from an economic crisis brought on by the drop in the price of oil--Gabon's principal export. This year GOG requested technical assistance from USAID to help redefine the proposed urban improvement program and to lower its cost.

This report begins with an overview, a discussion of the general objectives of the technical assistance mission, and summaries of the methodology used during the technical assistance mission and of conclusions and recommendations (Chapter I).

Chapter II describes the three types of urban development programs most frequently found in developing countries: urban renewal, urban renovation and on-site upgrading. GOG proposals follow the urban renewal model. They call for total clearance of existing structures and the removal of one-half of the families to provide ample lots and services for the minority which would return. Urban renovation also calls for a general site clearance, but provides serviced lots for all families on the original site. On-site upgrading leaves the community essentially unchanged but introduces roads and urban services around the existing structures. A minimum amount of demolition is generally required even with on-site upgrading projects.

Analysis of the GOG proposals (Chapter III) showed that inordinately high costs per beneficiary (\$US 40,250 per household) result from the decision to give every family a large lot (400 to 800 square meters) and the necessity of expropriating and demolishing all the existing structures.

Two alternatives were explored for purposes of comparison (Chapter IV). Both would leave all families on the original sites while minimizing expropriations and demolitions. Several designs were drawn up for the Cocotiers neighborhood, one of the two neighborhoods which had not been studied by GOG. The plans follow the urban renovation and the on-site upgrading models.

The basic problems in Libreville's squatter settlements stem from lack of access ways. This makes garbage removal impossible, thus creating health hazards. It also means that fires or other disasters cannot be brought under easy control. The lack of roadways is coupled with the absence of adequate drainage systems for stormwater and domestic waste water, which causes another health problem and also produces floods in the low areas and marked erosion in highlands.

Urban renovation schemes were developed for Cocotiers with lot sizes ranging from 96 square meters to 150 square meters. The number of lots remained the same in each scheme but costs were reduced along with the lot sizes because fewer roads were required and also the particularly steep areas could be left untouched, avoiding costly grading and retaining walls. Costs of the renovation project ranged from \$US14,766 per household to \$US16,230 per household.

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The on-site upgrading scheme represented the minimum cost solution, at \$US 7,225 per family. While complete income studies have yet to be done, the upgrading scheme appears most likely to be affordable by the majority of target families.

On-site upgrading is recommended, whenever possible, not only because of its low financial costs, but also because it reduces social costs. An average of eight percent of families would have to be relocated, compared with 65 percent in the renovation scheme and 100 percent in the renewal project.

The GOG expressed concern about housing families whose homes would be demolished in the course of urban improvement. Traditional GOG housing projects are highly subsidized and are aimed at middle-income families and government employees. This report therefore includes a core house scheme derived from GOG house plans (Chapter V). Several additional models were derived from the core unit design. These models would be affordable by Gabonese families earning the median income (on the national scale) according to CCG data.

This report also discusses the possibility of offering home construction loans rather than building ready-made units for low-income families. Costs of formal and informal sector builders appear to be similar. (The informal sector reports slightly lower costs.) Therefore, there does not seem to be much to be gained economically by contracting ready-built homes with the formal sector. Families contracting their own builders could build as cheaply as GOG. Furthermore, it is unlikely that formal sector builders will be interested in construction on scattered sites in difficult areas, like the target neighborhoods. Formal sector builders and GOG require a minimum of one hundred houses (preferably on a flat and unencumbered site) to realize efficiency of scale. It is therefore recommended that GOG begin a construction loan program in conjunction with urban upgrading. GOG should extend its program to all families in target neighborhoods and in other informal sector communities.

Specific recommendations appear in Chapter VI. These have several policy implications for GOG, detailed in Chapter VII. First, GOG must develop a policy which allows for the sale and leasing of land to informal sector families not only in target neighborhoods but also in surrounding squatter settlements. Second, GOG must begin to make loans and lines of credit available to individuals and to groups for housing and for neighborhood improvement. The GOG housing bank, Crédit Foncier Gabonaise (CreFoGa) could make loans directly or could encourage private sector banks to handle such programs.

This report concludes with a detailed scenario for project development which includes a timetable, a description of preparatory studies and recommendations for complementary studies (Chapter VIII).

## REPORT ON TECHNICAL ASSISTANCE MISSION TO GABON

### I. Introduction

#### A. Overview

This report describes the third in a series of technical assistance missions to Gabon sponsored by USAID's Regional Housing and Urban Development Office (RHUDO) in Abidjan. These missions were made in the spirit of international cooperation between Gabon and the United States, particularly in the areas of urban development and housing.

Government sponsored housing and urban development programs in Gabon have traditionally been based on criteria which differ substantially from the conventional USAID supported projects. Staff members from RHUDO/Abidjan began conversations with GOG in 1985, concerning possible cooperation. As talks progressed, the GOG displayed a wide variety of opinions. While some appeared open to change, sentiment remained strong that government housing programs should adhere to their customary high standards. Nonetheless, in 1986 three areas of potential collaboration were identified: 1) upgrading of squatter areas; 2) secondary town development; and 3) cooperative housing. Accordingly, several technical assistance missions were arranged. The first such mission, lead by Mme. Annie Manou, analyzed income levels in Libreville to determine median income. In addition, Mme. Manou reviewed a COG proposal for an urban improvement project for five squatter neighborhoods in Libreville (Restructuration de Cinq Quartiers).

Mme. Manou demonstrated that a family earning at the median income in Libreville could afford a house above the standard core house program conventionally advocated by USAID, but her report also implied that a more modest solution would be necessary to meet the affordability requirements of families below the median income level.

In her review of the proposed upgrading scheme, Manou found that the plans, while not yet finalized, suggest an eradication of somewhere between 50 and 75 percent of the houses of the squatter areas. An estimated 2,133 to 3,199 families would have to be dislodged in order to make room for 1,000 new homes.

The second technical assistance mission, led by Mr. Philip Jones of the U.S. League of Savings Institutions, explored the possibilities of developing a wide-reaching housing program for low-income families. Jones' report highlights the capacity of Gabonese low-income families to pay for better housing, but pointed out, at the same time, the complete disinterest of both public and private sector to move into this market.

This third technical assistance mission, the present mission, focused on the possibilities of urban improvement. It has been observed from experiences in other developing countries, that new housing programs tend to benefit higher-income families, within the target populations, and often exclude families from the informal sector who, for one reason or another, cannot qualify for entry. On the other hand, urban improvement projects can benefit a whole "marginal community" directly, without selecting among families.

The third technical assistance mission worked with the National Housing

Company (SNI) to outline an urban improvement project which could indeed reach the lowest income groups in Libreville.

The consultant was also encouraged to look into various areas which had been left uncovered, such as municipal services, private sector participation and the possibility for cooperative housing projects.

#### B. General Objectives and Summary of Methodology

The primary objective of this third technical assistance mission was to develop a realistic proposal for an urban improvement program for the squatter settlements in Libreville. A secondary objective concerned new housing for low-income families which might be affordable to families below the median income level. In each case, the SNI staff supported the consultant's premises and collaborated in the design process, declaring at the outset that the previous plans were considered unworkable. Thus, the methodology used evolved quite naturally out of work sessions with SNI staff. It is described briefly below in the context of talks with the representatives of SNI.

After a general tour of Libreville and its slums, the consultant and the SNI staff reviewed a map of the capital city. Together they identified the five project sites, the other established squatter settlements of Libreville, and the peripheral areas which are currently subject to land invasions and are likely to become squatter settlements in the near future. The exercise with the map made it quite clear that a project in the five selected areas would affect less than 15 percent of the city's marginal areas. A definitive urban improvement program would have to include plans of action for the marginal areas beyond the five target neighborhoods, and a scheme to assure the rational occupancy of the future squatter areas.

Given the extent of the problem of illegal settlements, the SNI staff concluded that urban improvement projects could ill afford to include subsidies, or to relocate families outside of project areas. The proposed program would focus on least-cost solutions for the target neighborhoods, which could be replicated in other marginal communities in the future.

It also became clear that the best solution would create access ways, provide urban services and legal title to the land, and would undertake the necessary works of civil engineering to insure safety from the flooding and erosion which currently bedevil the squatter settlements. The residents seem entirely capable of undertaking their own home construction. It was concluded that a program of home improvement loans would go much farther than a project to construct new housing. A minimal number of new units would be needed to replace the houses which would be eliminated to allow for the construction of access ways. Core unit designs for such units were developed from schemes currently used by the SNI.

The problems outlined above could be dealt with in different ways, and it appeared reasonable to consider various alternatives for one of the target neighborhoods. The sector of Cocotiers was chosen because topographic plans and house locations were readily available. Also, as the smallest of the five neighborhoods, Cocotiers offered the most reasonable subject for quick case studies. The three different solutions that were to be analyzed are described below starting with the highest cost solution and concluding with the least

cost solution:

1) The first solution used minimum lot sizes of 400 square meters. It assumed that families would be temporarily removed from the area during reconstruction and that an optimal urban plan would be designed for the sector in the meantime. A second area, on other SNI properties, would be designed to take in the surplus families (those families who could not fit on the reconstructed land). A primary analysis of this scheme made it clear that an additional 40 urbanized hectares would be needed to house the overflow population of Cocotiers alone. Since such land is simply unavailable, this solution was discarded at the outset. In fact, this model was presented as a red herring to eliminate once and for all any proposal which called for lowering densities and relocating families.

2) The second solution assumed the temporary removal of all families during construction. Families would be returned to the same sector on roughly equal lots provided with services and adequate drainage and terracing. USAID is currently financing a similar project in the neighborhood of Maria la Auxiliadora in San Salvador.

3) The third solution assumed on-site upgrading; the installation of some minimal roadways, terracing, drainage canals and service connections without removing existing constructions.

The various schemes were drawn up and costed out. Affordability was analyzed in terms of Mme. Manou's income studies. It should be emphasized that the proposed methodology did not pretend to leave a finished design behind for Cocotiers, but aimed rather to provide models for comparisons. As they were developed at the rate of a design per week, all the solutions leave ample room for improvement. The conclusions of the comparison, however, indicate which of the schemes should be developed further.

In addition, the consultant suggested working out some schemes for the implementation including: 1) a general plan for Libreville which would take into account the upgrading of the surrounding squatter settlements; 2) a coordinating council with participation from the Department of Public Works, the Ministry of Health and Sanitation, the SEEG (Société d'Electricité et d'Eau de Gabon), the Ministry of Domaines, the Ministry of Planning and the Ministry of Urbanism as well as the Mayor's Office; 3) a general plan of action for insuring rational development of future squatter areas; 4) a financing institution (preferably private); and, 5) the necessary social and community organizational work.

The consultant relied on socio-economic data from Mme. Annie Manou's report and from the Department d'Etudes of the SNI which also furnished information regarding prices and construction techniques and provided excellent drafting services as well.

Affordability calculations throughout are based on financing terms of 11 percent per annum on loans of 20 years. These terms were arrived at in conversations with M. Kishore Gopaul, Director of Citibank of Gabon. A standard exchange rate of F.CFA 290 = \$US1.00 is used throughout.

### C. Summary of Conclusions and Recommendations

Summary Situation. In the past twenty years informal squatter settlements have burgeoned in the capital of Gabon. At present about 40 percent of Libreville is occupied by squatter settlements and the number of new settlers increases daily.

In the past, GOG has concentrated on new home construction for middle-income families and has no experience with urban improvement programs. GOG recognizes the problem of marginal communities and squatter settlements in the capital city, and President Bongo has set the problem of urban slums among the high priorities of his government. But to date the proposals for specific urban improvement projects have not proved feasible economically.

During the past two years the country has suffered an economic crisis as a result of falling oil prices. The current situation has made the need for different kinds of actions all the more clear to GOG. At a recent public conference, the Minister of Urbanism declared that the GOG could no longer afford to subsidize housing programs and that the highest priority would be given to improving urban slums rather than to creating new housing at high standards. GOG is currently reordering its priorities and looking to technical assistance missions for help in finding new and affordable solutions.

The GOG, and in particular the municipality of Libreville, has followed some very advanced and enlightened policies in providing public services to all informal sector neighborhoods. The private, informal sector has also demonstrated an impressive level of development and an important capacity to play a significant role in providing homes for low-income families.

Summary Conclusions. GOG should be encouraged to continue its current search for new policies in the fields of housing and urban development. The Plan for Urban Improvement Projects for Five Neighborhoods in Libreville presents encouraging possibilities. An effective project, in terms of the benefits provided to beneficiaries and the recovery of investment costs, would be eminently feasible on the five proposed sites. The GOG should be encouraged to develop a program along the lines of on-site urban upgrading. At the same time, GOG should take steps to plan for future actions to remedy situations in other areas similar to the five target neighborhoods and to insure an orderly future for the development of its primary cities.

USAID could look into the possibilities for including the proposed project as part of a wider program of urban development or municipal support. It could also consider that the proposed project offers an important opportunity to support the private sector, in this case the informal builders and entrepreneurs who play a vital role in home construction in the squatter neighborhoods.

## II. Urban Improvement Projects

### A. Urban Improvement Concept

For the purposes of this study three general types of urban improvement programs will be examined. The first, urban renewal, refers to a very general type of project which calls for the clearance of a run-down area and its replacement with a series of constructions which may or may not bear some relation to the former land use pattern. The second type of urban improvement program analyzed here is urban renovation, which requires the temporary displacement of residents while urban services, roads and adequate drainage and retention systems can be set in place. In the final stage of an urban renovation program the population is returned to the site, onto safe lots with legal tenure and public service connections, to begin the process of home construction and improvement anew. The third type of urban improvement project which will be described here involves on-site urban upgrading. On-site upgrading implies a respect for the existing construction and therefore works around it. The appropriate method of urban improvement depends, of course on the particular site and the time period in which urban improvement is to take place. All three methods are described below. A final section discusses the issue of cost recovery.

### B. Urban Renewal Programs

Urban renewal programs first blossomed in the United States in the 1950's. They were based on the notion that slums resemble cancerous growths which could infect the rest of the city unless treated by surgical removal. Urban renewal prescribed slum clearance projects: the bulldozing of run-down sections of inner-cities and the removal of residents who were obliged to seek lodging elsewhere. Urban renewal programs were largely discontinued by the late sixties in the United States, but they have been emulated in various developing countries.

Whether or not the premise for urban renewal programs is valid in developed countries, it rarely holds in developing countries where slums differ vastly from their U.S. counterparts. Instead of representing deteriorated areas past their prime, the spontaneous squatter settlements and informal neighborhoods found in the burgeoning cities of the developing world are zones of dynamic growth. They represent the first step in upward mobility for the resident families, who generally have no other options for settlement. With time, these slums usually evolve into acceptable neighborhoods which conform to local urban standards.

Even if formal sector housing solutions were available on an adequate scale, informal sector families generally prefer to minimize expenses on housing in order to invest in other things, such as education or business, which will insure their upward mobility in the long run. For this reason, the forceable removal of families from slum areas in the developing world rarely brings an end to the slums. Instead it causes additional hardships for the families involved, setting back their process of progressive development by several years. And, since slum dwellers forced out of their former homes will usually find their way to new slums, the total effect of urban renewal programs remains in doubt.

It should be added too that urban renewal programs tend to be very costly. In the US, renewal of commercial areas has sometimes produced an economic return to the city, but similar actions in residential zones never does.

### C. Urban Renovation Programs

Urban renovation requires the displacement of the majority of families from a project site for a limited period of time, while appropriate works of civil engineering are undertaken together with the installation of public services.

A renovation program offers each family a fully urbanized and serviced lot with legal title. Such programs usually include a self-help home construction component that help finance the rebuilding of the demolished homes. When families have been living in precarious conditions, subject to natural dangers, such as landslides and floods, and also to political whims, such as a sudden police action leading to eradication, the benefits of a safely built lot with access to public services and a secure title may outweigh the costs of losing a house (which may represent a lifetime's investment) and having to build anew.

Successful examples of urban renovation can be found in Peru and in El Salvador, to mention two countries which have particularly advanced housing policies for low-income families. USAID is currently financing the renovation of a neighborhood in San Salvador which involves about 250 families.

The problems inherent in urban renovation usually stem from the removal and relocation of families. On the one hand, it is difficult to guarantee that the same families will return to their original neighborhoods, and on the other hand, the "provisional housing", barracks, or whatever is used as temporary shelter, runs the risk of becoming permanent housing. San Salvador offers a case in point. When the city undertook its first renovation program it built 300 temporary houses on a vacant lot in the middle of the city. Families from "Don Bosco" moved in while their neighborhood was being renovated. But no sooner had the families vacated the barracks to move back into their newly renovated barrio than another 300 families moved in and occupied them. The city has found that it cannot remove them and has accepted the fact that the temporary housing has now become a permanent neighborhood.

The successful removal and replacement of families depends above all on the degree of community organization and political support. The experiences with urban renovation in Lima have occurred in municipal sectors where the Izquierda Unida was in power and formed neighborhood civic groups to assist in planning and implementing urban policy.

In San Salvador, the mayor's office established neighborhood improvement groups in every squatter settlement over ten years ago. The city offers technical assistance and assigns a social worker to organize regular meetings and elections in each such "barrio". Urban renovation programs thus become easier because the social infrastructure is already in place. It is not easy to persuade a community of families to pick up and abandon their homes, to move into barracks, to move back onto a vacant lot, and finally, to pay for the privilege.

Problems in urban renovation projects generally arise from squabbles among

individuals. It is easy to comprehend how one person's refusal to allow the demolition of his or her house can hold up a project for months. And it is also understandable that long-standing families which may have invested more in their houses, and may have built stores, workshops, or rental units in addition to their own homes, would be unwilling to return to a vacant lot the same size as everyone else's. It can be argued that such families deserve a special recompensation, or additional lots to compensate for the properties they previously held. After all, the urban renovation project not only relieves them of their homes, but of a good part of their incomes as well. It can be argued equally forcefully that such families usually represent the first-comers who made a good deal out of an illegitimate 'and grab, that they have been living at the expense of the state on tax-free public land for a longer period, and have been making money by renting out property which in fact belongs to the public at large. So their claim to special treatment may be unfounded.

In any case, where civic spirit is strong and where community pressure can be brought to bear, the reluctant beneficiaries of an urban renovation program can usually be persuaded to accept its consequences.

Most urban renovation projects are justified by the new "look" which the city acquires when haphazardly placed houses are reorganized into neat streets and blocks. But this "look" represents a high cost to the people involved. Of course, analyses will vary with particular cases. In a recently settled neighborhood, or one which is severely affected by natural disasters, floods and landslides for example, the costs of demolishing existing dwellings may be justified by the benefits offered by the new security. But in general, the benefits of urban renovation appear some ten years after the project takes place, when a new neighborhood has risen to replace the one that was destroyed. If the expenses and the discomforts of the families living in a settlement undergoing "consolidation" are taken into account, together with the investments which are lost in the initial demolition, it is questionable whether benefits outweigh the costs. And the question will always remain, can any underdeveloped country afford to throw away the investment of its private citizens.

#### D. On-Site Upgrading

The feasibility of an on-site upgrading program generally depends on the situation presented by the project area. If conditions are apt, on-site upgrading will usually be the least expensive and the most acceptable of the three methods postulated here.

On-site upgrading usually combines several components. Physical upgrading and infrastructure are frequently offered together with community services and programs to assist and to accelerate the progressive development process. Urban upgrading projects have been financed in various South American countries by the World Bank and by USAID. They tend to be easier to administer than other types of projects because they can usually be implemented by existing institutions. The water supply companies install water and sewer mains. Housing institutions offer loans and assistance with self-help improvement on an individual basis. Local departments of health and education promote education and preventive health programs among other things. Because the various components of an on-site urban upgrading project

can be implemented separately, special coordinating offices are not required. The on-site urban upgrading model lends itself to municipal development programs, since it can be carried out simultaneously in several cities at once and can become part of a continuous program.

The greatest difficulties in on-site upgrading stem from the civil works component. Building roads, retaining walls, and drainage systems, not to mention installing infrastructure around existing housing, raises innumerable problems. In Libreville, the municipality has already dealt admirably with this problem and has placed public standpipes or aqueducts and electric posts throughout the squatter settlements.

#### E. Cost Recovery

Systems for cost recovery vary from country to country and from city to city, and, in most cases, hide a subsidy of some sort. The most frequent subsidy arises from the question of who is to be charged. Investment in infrastructure (aqueducts, sewers and electrical power) is usually recovered through user fees. Frequently, one finds a system of cross-subsidy in these charges, as the amount charged per unit generally goes up progressively with consumption. As a result the installation of a water main in a poor neighborhood may actually be paid by consumers in a wealthier one. It can certainly be argued that the benefits of urban upgrading are not limited to the target zone. If the presence of infectious diseases, the mortality rates, the level of contamination, or the illiteracy level decline in any one neighborhood, the entire city population improves its standard of living.

While the costs of public services can legitimately be recovered from the public at large, the cost of private benefits, such as gaining title to one's lot of land or receiving a loan for home construction, should indeed be paid by the individual beneficiary.

Costs (including the terms of financing) should resemble free market commercial rates as closely as possible, or repercussions will distort free market transactions and will bedevil future developments. Gabon offers a good case in point. Insofar as government agencies have rented and sold housing to privileged individuals<sup>1</sup> at highly subsidized prices, it will be very difficult for the GOG to introduce a program which requires full payment for housing.

The problem of how to charge, or rather, how to get people to pay, is crucial. The obvious should be stated at the outset; it is easiest to collect payments when they are low. Problems begin when families find they cannot meet payments without sacrificing some basic necessities. The best guarantee for successful cost recovery, in this sense, is an honest affordability study.

Public service installations usually present few problems because people are willing to pay for what they consider a necessity. And programs which implement cost recovery through the public service user charges generally have

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<sup>1</sup> The word "privileged" is used in the sense of the lucky few. Public housing in Gabon has responded to less than one percent of the effective demand. Nonetheless, the precedents create expectations among the remaining 99 percent who may reject a less-favorable offer in the future.

very little problem in collecting, because people would prefer to meet their payments than to have their water or electric power cut off. In cases where the urban improvement costs cannot be hidden in public service charges some other system must be applied. Several such schemes for cost recovery are described below.

The Mayor's office in San Salvador recovers some of its expenses by selling the land titles, albeit at a nominal price. Since a family's right to a lot in the renovated site depends upon the purchase, most are willing to pay.

In Colombia, the national housing agency has made home improvement loans conditional on a family's legalizing its land title, which means paying the cost of urban renovation. While this system has worked wonders in communities which are well-organized, and where the local representative of the agency enjoys popular support<sup>1</sup>, it has failed in other areas. Families resent a renovation program when they see no reason to pay for land which they already considered their own.

Colombia has also experimented with other cost recovery schemes, notably "valorization" charged through public service user charges. "Valorization" purports to tax residents for the increased property values which result from any urban improvements. The taxes depend on proximity to the improvement in question. Thus families living two blocks from a new road pay a lower "valorization" tax, than those who live one block away, who in turn, pay less than those whose properties abut the new road. Since "valorization" is charged as a small addition to the monthly water bills people generally pay for fear of getting their water shut off.

As the previous examples demonstrate, a successful cost recovery depends on the strength of local government, on its level of organization and on the support it commands from its citizens.

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<sup>1</sup> A good case in point is Quibdo, where the ICT got prior commitment from each of 250 families before moving them from a dangerous river bank in order to build a retaining wall and roads to bring in public services. Quibdo is a coastal city where most of the houses were built of bamboo and were easy to take apart and rebuild. It is also relatively isolated and enjoys a strong civic spirit and a highly respected local government. Without these ingredients, it is doubtful that such a project would have been successful. In fact, the experience has not been repeated in any other Colombian city.

### III. GOG Proposed Urban Upgrading Project

#### A. Project History

The proposal for an urban improvement program in Libreville is said to have come from President Bongo himself, after a visit to the five target settlements sometime in the early eighties. The Ministère des Domaines, du Cadastre, de l'Urbanisme, et du Logement (as it then was and hereafter referred to as the Ministry of Urbanism) contracted for a preliminary study of Petit Paris and Venez Voir in 1982 with the German firm of H.P. Gauff, Engineers. The same company completed a detailed follow-up project for Petit Paris in 1984.

In 1985, Ministry of Urbanism commissioned an urban improvement program for Akebé-Likouala from the firm of G.E.R.I. Gabon. The completion of the Akabé-Likouala plan coincided with the drop in oil prices and the ensuing "crisis" which visited the Gabonese economy. No further plans were developed and the existing projects for the improvement of the five settlements were shelved.

In 1986, the Société Nationale Immobilière (SNI) began to play a part in the project. The SNI is dedicated essentially to the construction of middle-income housing for GOG, but it also supplements its income by doing projects for private clients. (The history and nature of the SNI appears in Annex 10.) The SNI involvement was with the families which were to be dislodged from the target neighborhoods. The SNI responded with a program called "Mille Logements" (1,000 housing units) which proposed a number of new houses in Libreville and included additional housing projects sprinkled in other cities throughout the country.

In January 1987, the Ministry of Urbanism passed the title of the five target neighborhoods to the SNI, thereby making it sole owner of the properties, and sole director of the improvement project as well.

The SNI enjoys a reputation in Gabon as one of the GOG's most dynamic agencies, but its entire experience stems from implementing conventional construction projects. It has never dealt with urban planning, nor with an urban improvement project. While the SNI traditionally takes its direction from the Ministry of Urbanism, in this case the SNI staff agree that the proposed projects for urban improvement in Petit Paris, Venez Voir and Akebé-Likouala are too extravagant. The current economic crunch has had reverberations on the SNI budget, among others, and has prompted the SNI to seek external financing for its projects for the first time.

After conversations with external agencies, the SNI has apparently decided that it would be difficult to implement the Ministry of Urbanism's previous plans, but it has not come up with any replacement plans as yet. Thus, at this moment, the three projects on the books constitute the official Gabonese government proposal for the five neighborhoods. They are analyzed in greater detail below, and appear in summary in Annexes 4 and 5.

#### B. Summary Description of the Projects for Akebe-Likouala, Petit Paris, Venez Voir

Of the five target neighborhoods, only three have been studied in depth, and

plans are developed to different degrees. H.P. Gauff's 1982 Urban Development Study treats Petit Paris and Venez Voir as case studies for urban improvement in the context of a development plan for the entire city of Libreville. In that study the basic objectives of an urban improvement program are weighed against the different methods applicable. The study includes basic urbanistic information about Venez Voir, and sets general parameters for the redevelopment of that zone, but it concentrates on Petit Paris.

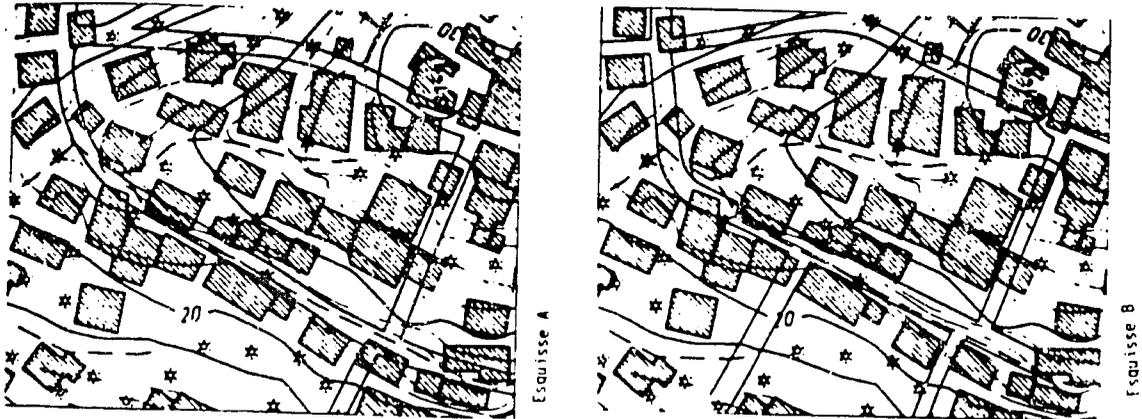
In H.P. Gauff's second study (1984), the definition and explanation of the concept of urban improvement is developed more fully. The study proposes a staged renovation of the Petit Paris--mostly to thin out and order the housing, as shown in the sketches taken from Gauff's study, seen on the next page. The report recommends demolition of houses which have developed out of spontaneous invasions and follow a "rural pattern"--defined as having a single space and little differentiation between public and private areas. The replacement housing would follow an "urban" model, shown in the example in Annex 4.

Families would be temporarily removed from the site and put in provisional lodgings during the upgrading process. The sites would be graded and dilapidated houses bulldozed, to make for ample lots of 200 square meters around the remaining houses. Roads would be improved and brought up to urban standards, with complete infrastructure, and the swampy sections of the site would be filled in to make room for families whose houses had been bulldozed. No families would be moved off the site. The project resembles the type of "urban renovation" mentioned earlier. The lot size of 200 square meters was determined by the area available and by considerations of minimum space requirements per family.

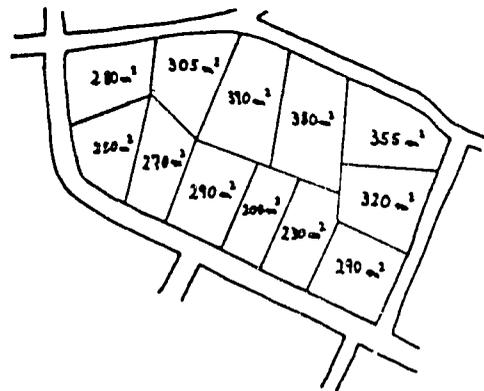
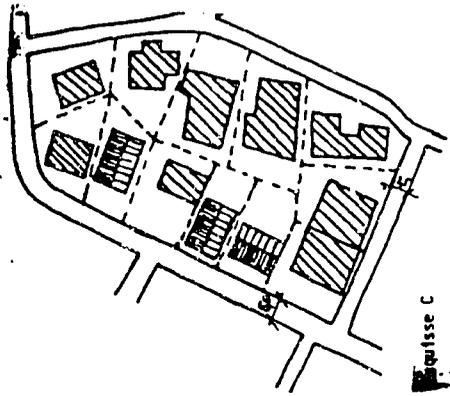
Density is expected to increase from 134 persons per hectare to 166 persons per hectare due to natural growth patterns. The natural increase in population would create a demand for new, off-site housing starting in 1986 and increasing thereafter.

### Urban Upgrading Scheme Proposed by H.P. Gauff

The accompanying sketches show schematically the "thinning out" concept proposed by H.P. Gauff in his 1982 plan for urban improvement and in the 1984 follow-up study with a project for Petit Paris. Sketch A (Esquisse A) shows an existing situation in a squatter settlement, where housing units are crowded in an irregular fashion over planned roadways. In Sketch B, the planned roadways are readjusted to accommodate as many houses as possible.

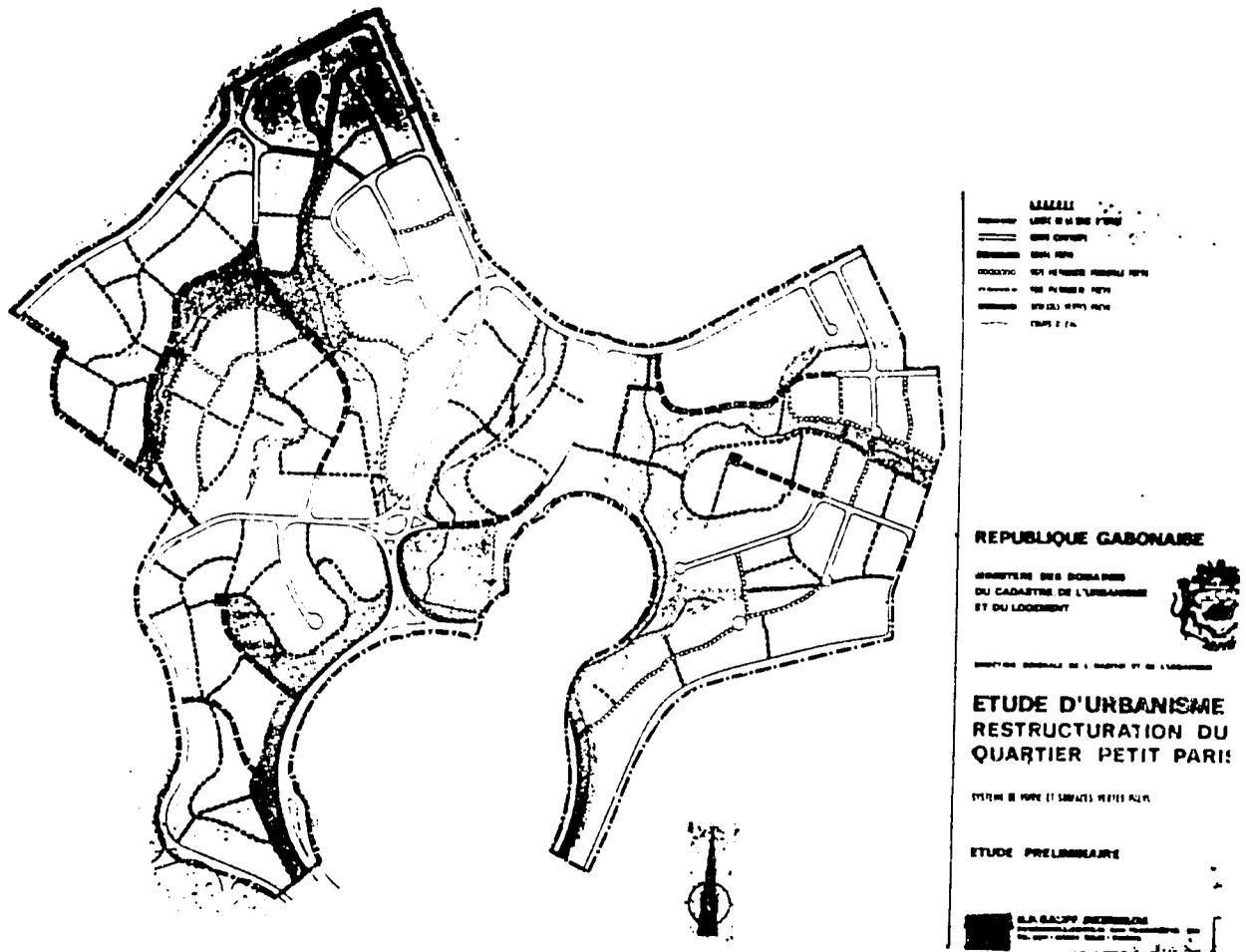


Sketches C and D below show how lot lines would be drawn around existing constructions, and how certain units would have to be rebuilt in order to allow each lot a proper street frontage.



Gauff's studies focus on physical problems (mainly spot-flooding and erosion), and urban conditions (roadways and infrastructure) and draw general conclusions accordingly. The second study proposes methods for working, and offers an urban design for Petit Paris shown below. The design maps roadways and infrastructure routes but does not designate which houses are to be demolished, nor where they would be relocated.

Urban Development Plan for Petit Paris



Since the population's capacity to pay is nowhere analyzed, the authors admit the solutions proposed should be reevaluated after a full socio-economic study has been carried out.

Notwithstanding the recommendations made in the project plans for Petit Paris and Venez Voir, the subsequent project developed for Akabé-Likouala takes a very different direction. Following an urban renewal model, it assumes that a certain number of families will be relocated off the original site in order to insure larger lot sizes on site. The study considers two alternatives, one with lot sizes running from 400 to 600 square meters and another with lots from 600 to 800 square meters. The two preliminary proposals are seen on the following pages together with the final plan, which emerges as a marriage of the first two; lots run from 400 to 800 square meters. The final renewal solution would reduce the overall density to 63 persons per hectare. Approximately 176 families would have to be relocated outside the project.

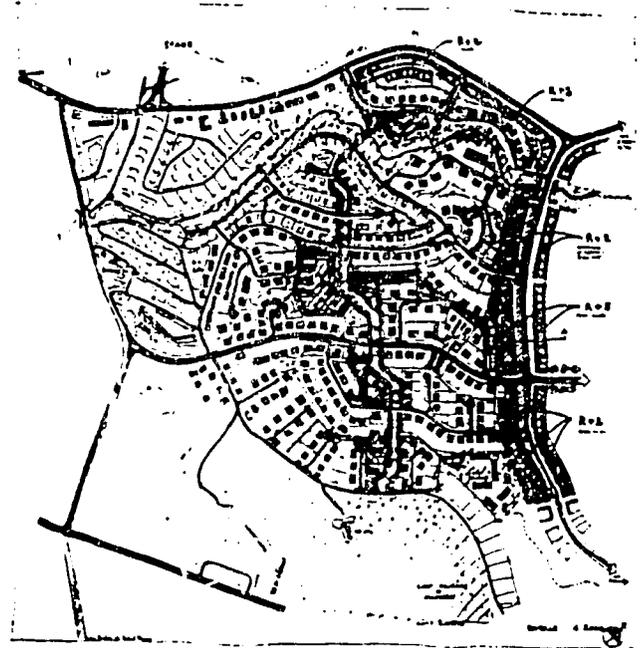
The renewal plan requires the demolition of most of the houses at Akabé-Likouala, to make room for new roads and larger lots, or to eliminate the "precarious" housing. Thus, in another sense it represents a radical departure from H.P. Gauff's earlier plans, which recommended a "thinning out". Another difference appears in the type of new housing proposed for Akabé-Likouala. The plan makes a strong case for building core houses. The models shown in G.E.R.I.'s plan come from Haiti, following the designs used at Cap Haitien (built by the Entreprise Publique Pour les Logements Sociaux, shown on page 17). The Cap Haitien minimum unit is 18 square meters. The model recommended for Akabé-Likouala varies from 12 to 14 square meters.

The Akabé-Likouala plan includes full socio-economic analyses of the resident population, but it does not consider affordability an issue. It recommends ample increases of public services, schools, clinics, parks etc. to a point which goes considerably beyond the needs of the proposed population. For example, two schools are proposed for a population of 1,600 persons. At conservative estimates, this implies classes of 10 pupils and separate school administrations for every 80 school children.

Both H.P. Gauff and G.E.R.I. include sections and plans of the proposed road systems and offer thorough analyses of the problem of evacuating stormwaters. The uncontrolled flows of surface water doubtless represents perhaps the worst threat to all informal sector neighborhoods in Libreville. The lack of adequate drainage brings floods to the low areas of each site and erodes the higher areas. Some pictures on page 27, complemented by more in Annex 7, should demonstrate the damage caused by flooding and erosion. Although the two proposals take stormwater drainage into account, the problem of evacuation of domestic waste is not fully treated in either.

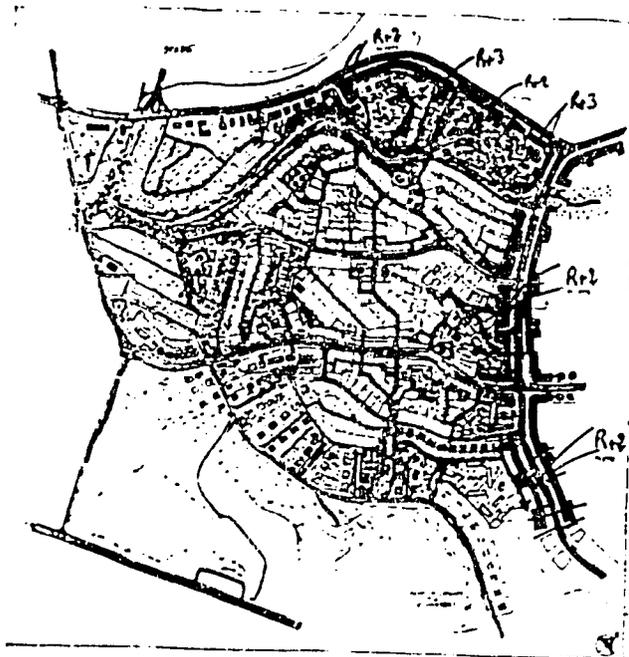
Both plans presuppose an individual water and electrical service connection on each lot, but neither H.P. Gauff, nor G.E.R.I. include infrastructure in their plans or cost studies. One assumes that they rely on the continuing services of the Société des Eaux y d'Electricité du Gabon (the Electrical and Water Supply Company of Gabon, hereafter SEEG) and the Municipality, which supply all the informal and formal sectors of the city, urban improvement programs notwithstanding.

Alternative Solutions Considered for Akebé-Likouala  
From the G.E.R.I. Study of 1985



Variante A

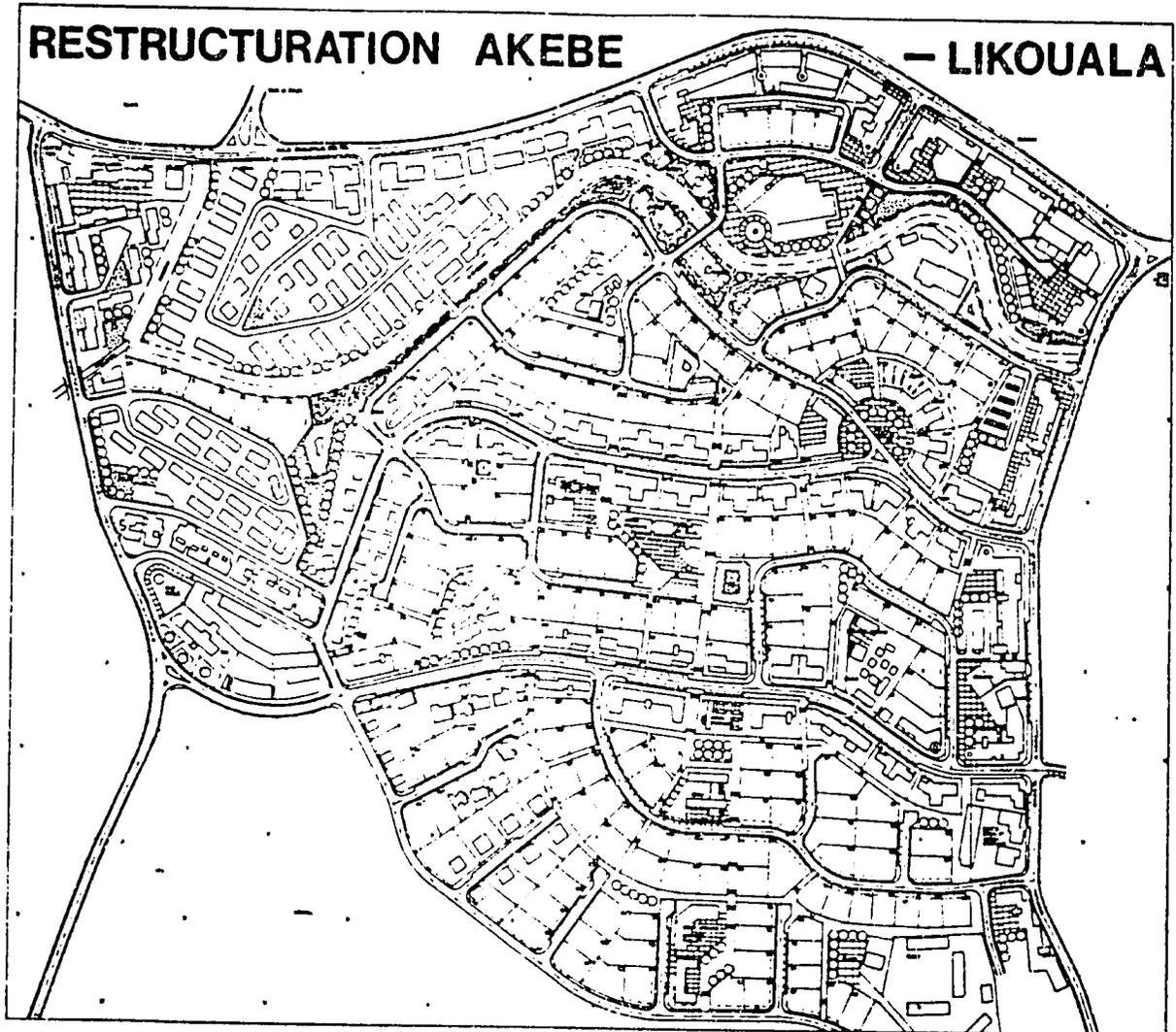
AKEBE-LIKOUALA



Variante B

AKEBE-LIKOUALA

Urban Renewal Plan for Akebé-Likouala  
from the G.E.R.I. Study of 1985



Légende :

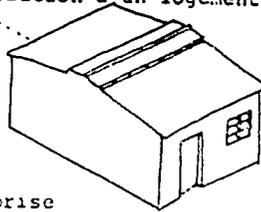
-  VOIE SECONDAIRE AMENAGÉE
-  VOIE TERTIAIRE A CREER  
EMPIRE DE BOUTE-CHAUSSÉES DE 600m
-  VOIE PIÉTONNE
-  PARCOURS
-  PLACE PUBLIQUE
-  JARDIN PUBLIC ET ESPACES VERTS/  
TERRAINS DE SPORT
-  AIRE DE JEUX POUR ENFANTS
-  ALIGNEMENTS D'ARBRES

-  EQUIPEMENTS URBAINS
-  CONSTRUCTIONS R+1  
MAGASINS ET LOGEMENTS
-  CONSTRUCTIONS R+2/R+3  
ZONE MIXTE
-  CANALISATION  
TRACÉ ET ZONE D'ENTRETIEN
-  ALIGNEMENT OBLIGATOIRE
-  PARCELLES D'HABITAT NOUVELLES OU MODIFIEES  
L'ORGANISATION
-  PARCELLES A UTILISATION MIXTE  
R+1
-  ZONE MIXTE DENSIFIEE -  
INTEGRATION PARTIELLE DE CONSTR. EXISTANTES
-  PARCELLAIRE EXISTANT -  
SANS NUMEROTATION

"Embryo" house units proposed for Akebé-Likouala  
Scheme taken from E.P.P.L.S. files for the Cap Haitien Project

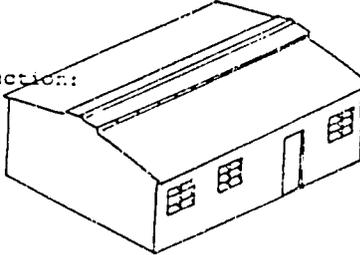
Possibilité d'une évolution d'un logement embryonnaire  
Exemple

Phase initiale:  
1 pièce principale  
1 salle d'eau  
1 cuisine  
(construit par entreprise  
ou tacheronnage)

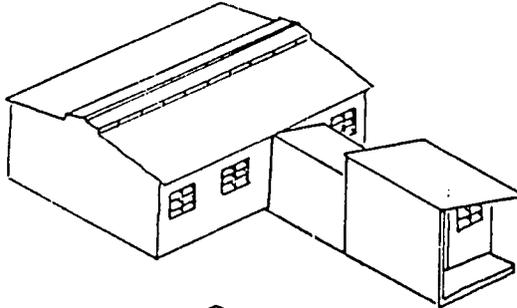


Phases  
d'autoconstruction:

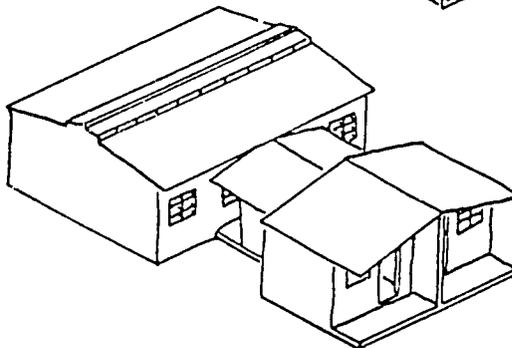
Phase 2:  
2 pièces



Phase 3:  
3 à 4 pièces



Phase 4:  
4 à 5 pièces



On receiving the different proposals, the Ministry of Urbanism developed a general outline of urban improvement programs for Petit Paris, Venez Voir and Akebé-Likouala based on criteria derived from the combined plans of H.P. Gauff and G.E.R.I. The Ministry of Urbanism's summary outline cost estimates appear in their entirety in Annex 6. This focus on the first three neighborhoods should not imply that the Ministry of Urbanism has forgotten Cocotiers and Derriere La Prison. The Ministry of Urbanism's outline has been essential for analyzing the present project proposals and for providing cost estimates for a full program which would include all five target neighborhoods.

The following table derived from the Ministry of Urbanism's estimates, shows the proposed densities and numbers of families to be relocated for Petit Paris, Venez Voir and Akebé-Likouala.

Table III.1  
Densities and Population  
to be Relocated in GOG Proposals  
(Based on Information from the Ministry of Urbanism.)

	Original Population	Proposed Population	Population to be Relocated	Original Density (Persons per hectare)	Proposed Density
Petit Paris	8,852	3,984	4,868	134	61
Venez Voir	9,402	2,820	6,582	198	60
Akebé- Likouala	2,687	1,600	1,087	75	45

Ministry of Urbanism's outlines imply an overall density of 57 persons per hectare. If this figure is applied to all five target neighborhoods, a total of 17,964 persons would have to be relocated off their present sites to accommodate the urban improvement plans. According to Ministry of Urbanism's estimates of 12.2 meters per person, the relocation would require an additional 220 hectares of urbanized land somewhere in Libreville.

Ministry of Urbanism's cost estimates for urban improvement of Petit Paris, Venez Voir, and Akebé-Likouala are summarized in Table III.2

Table III.2  
 Partial Costs of Proposed GOG Urban Renewal Program  
 (based on information from the Ministry of Urbanism)

Item	Total Estimated Cost (in F.CFA '87)	Cost/Household (in F.CFA '87)
1. Demolitions	653,635,950.00	478,854.17
2. Terracing and earth works	3,742,845,100.00	2,742,011.00
3. Roads	3,865,841,400.00	2,832,118.24
4. Expropriations and Indemnification	3,730,305,000.00	2,732,824.00
5. Total	11,992,626,950.00	8,354,839,158.00
6. Total in \$US	\$40,652,973.00	\$28,809.79

Certain discrepancies occur in the above table, which is taken unchanged from the Ministry of Urbanism's figures. The outline calls for off-site relocation of 2,037 households, for the demolition of 1,495 housing units, and for indemnification of 1,140 constructions. The outline determines a need for an additional 152 hectares of urbanized land, but does not include the costs of land purchase or preparation. Other project components left out of the cost analysis include: public services (electrical hook-ups and domestic water connections), individual sanitary solutions, provisional housing and social services during the renovation process, and community services.

In Table III.2, only 1,365 families count as project beneficiaries--those who would be allowed to return to the site. The remaining 2,037 can hardly be thought to benefit from the program, but if they were taken into consideration, project costs would change considerably. Table III.3 presents a more realistic estimate of the proposed project costs, including the components missing from Table III.2 and the costs of relocating the displaced families.

Table III.3  
 Estimated Total Costs of GOG Proposed Urban Renewal Program  
 (Based on Analysis of Current Costs from 3NI  
 and Proposed Plans from the Ministry of Urbanism)

Item	Total Estimated Cost (in F.CFA '87)	Cost/Household (in F.CFA '87)
1. Demolitions	895,391,712.00	294,343.00
2. Terracing and earth works	3,742,845,100.00	1,230,390.00
3. Roads	3,865,841,400.00	1,270,822.00
4. Expropriations and Indemnification	6,665,064,000.00	2,191,014.00
5. Public Services	2,817,291,750.00	926,131.00
6. Land (for re- located families)	991,304,347.80	325,873.00
7. Urbanization (for relocated families)	13,580,000,000.00	4,464,168.00
8. Community Services	950,000,000.00	279,247.50
9. Total	35,507,737,430.00	11,672,495.27
10. Total in \$US	\$122,440,473.90	\$40,250.00

#### C. Analysis of GOG Projects

The Costs. It must be stated at the outset that the proposed project represents a strikingly high cost. Even the partial project (at \$US 39 million) represents over 1.5 times what the GOG has just paid to have a satellite communications system with over thirty substations installed throughout the nation. In terms of cost per beneficiary, \$40,250 could buy each family an apartment overlooking the sea in Mallorca. The project costs per beneficiary are approximately ten times the average for housing programs in developing countries.

Of course, the project was designed at a moment when the economy of Gabon stood very strong, and when, in truth, the country did not present the economic indicators typical of underdeveloped countries. The fact that the project ignores totally the question of cost recovery indicates that the GOG considered the program to be an outright gift to its citizens; an admirable goal, but one with easily foreseeable future problems.

The Objectives. In all cases the projects purport to improve the natural and built environment in the target neighborhoods and thus to raise the standard of living of the inhabitants. All three of the projects examined focus on erosion, flooding, and waste disposal; conditions which indeed lie at the base of the worst problems encountered in the target neighborhoods. Quite correctly, the projects propose to install individual sanitary solutions, storm drainage systems and stabilizing earth works combined with a road system adequate for the removal of garbage and waste; measures which will control the

natural and the physical environment in the squatter settlements.

A second goal involves the reduction of densities. Admittedly, this goal appears only in two of the three proposals, but they are the more finalized of the projects: the one for Akabé-Likouala and the Ministry of Urbanism's final project outline. The proposed densities (seen in Table III.1) underline the clear desire to provide the best possible solution to the families involved. However, they are also the reason behind the high costs per beneficiary.

While one sympathizes with the goals of giving comfortable dwellings on large lots to families who have lived in miserable conditions, one must also consider the plight of the 67 percent of the population, who would be dislodged in the course of the "improvements". These would, effectively, be left in a worse state by the project. The real cost of reducing densities does not appear in the balance sheet of investments; it would be borne by the 2,037 displaced families.

Apart from the humanitarian considerations, the goal of reducing densities is very difficult to achieve. Families accustomed to living in high densities will find that additional area represents an opportunity cost.

The case for maintaining high densities was well stated by M. Roland Petit, Sub-Directeur of the Entreprise Publique Pour les Logements Sociaux in Haiti, as he explained the Haitian policy of giving housing units 18 meters square on lots of 25 meters to an international seminar in Santo Domingo in 1984. When accused by his Dominican counterpart of promoting inhuman housing conditions he responded, "But, Madame, our experience shows that if we give units 36 meters square, the families merely rent out half."

Indeed, as long as the demand for housing remains, high densities will prevail even where planners attempt to restrict their occurrence. Housing experiences in Venezuela, El Salvador, and Colombia, to name a few countries, have led to the virtual abandonment of programs to reduce densities or to eradicate squatter settlements; simply because they have proved unenforceable in the long run. The GOG should reconsider its goals for reduction of densities because, in addition to the economic and humanitarian considerations mentioned above, the history of urban development (even in Gabon) suggests that within ten years the renovated neighborhoods will return to their original densities as families subdivide, resell, and rent out their unused land.

It should also be mentioned that each of the target neighborhoods receives adequate service and supplies of potable water and electrical power. The municipality of Libreville follows a very enlightened policy towards its citizens with public services, charging a tax on a city-wide basis to maintain a fund for continued investment. In each of the target neighborhoods the distribution networks for electricity and water meet the current population's needs. A reduction in the density would therefore amount to a significant waste of public expenditure, insofar as the present systems would be operating at around one third of their real capacity if the population is reduced.

The Methods. The Ministry of Urbanism's program includes no plan for cost recovery. Indeed even a casual glance at costs will assure that the beneficiary population could never pay for the full project costs. Roughly 85 percent of the project will have to be paid for by someone else. This would

be perfectly acceptable if land, infrastructure, civil engineering works, and construction could be had free of charge, and if the three target neighborhoods were the last squatter settlements which existed on earth. But such is not the case. In view of the project size and cost, and in view of the need to replicate such projects in the future, some plan for payment should be considered.

The GOG projects presuppose the demolition of a high number of dwellings either to facilitate new construction or, as is more frequently the case, to eliminate shoddiness. As the program for Akebé-Likouala states:

"Social conditions require the improvement of existing housing to bridge the gap between the conditions in the squatter settlements and in other parts of the city where modern and well-built constructions dominate. In particular, a majority of the houses in Akebé-Likouala are old and have been developed via 'auto-construction'. These should be demolished, and suitable means found to guarantee that new waves of spontaneous self-help building are avoided."

While the expressed intentions to do away with inadequate shelter and shanties are doubtless aimed at improving the standard of living of the residents by getting them out of the slums, the proposed demolitions would most likely have the opposite effect. Studies and evaluations of other urban development and upgrading programs demonstrate that squatter settlements and spontaneous invasions develop progressively overtime into consolidated neighborhoods, indistinguishable from those planned and built by the formal sector. The process by which each family transforms its shack into a completed house is slow and varies with each particular case. However, this transformation is an established fact.

Illustrations on the following page show the process of progressive development in action in Cocotiers. The wooden shack often serves as a core, around which the family builds a shell of concrete block to replace the original house. In Latin America, studies estimate that informal communities take anywhere from ten to twenty-five years to complete the process of transformation into "formal" neighborhoods, though sound and fully functional units are completed long before. The situation in the five target neighborhoods in Libreville suggests that things move faster in Gabon. It is indeed noteworthy that the current crisis which has slowed construction work throughout the country's capital does not seem to have affected the squatter population at all. Individual construction projects go on, regardless of the falling oil prices.

Nonetheless, the evolution of a squatter's shanty into a complete house depends on time. If a house is demolished, its development process is set back by anywhere from one to twenty years. Whether families move back onto empty urbanized lots or are obliged to fend for themselves, they will begin by building protective shacks as bases for a future house. The demolition of houses per se will not wipe out the slums. On the contrary, it will guarantee their propagation either on the site, or somewhere else. Experience clearly suggests that it is better to leave families in their actual state and to offer assistance--financial, technical, and legal--to speed up the transformation process.

Images of Progressive Development in Process in Gabon



Relocation by Indemnification. The programs call for expropriation of houses to be demolished, implying payments for the houses, but with no repayment for land and services. Expropriations and indemnifications are difficult to manage successfully in any case; the appropriate value of a house is a highly volatile subject. And here the problem is heightened by the fact that families to be relocated would be reimbursed for the presumed value of their house, but would face the problem of having to find land.

Families which remain on the site, on their new urbanized lots would confront a different problem. How to build with no financial assistance? The estimates for indemnifications in the Ministry of Urbanism's program are F.CFA 5,445,500 for block houses and F.CFA 2,420,000 for wooden shacks. The cheapest housing currently produced for low-income families under GOG programs runs F.CFA 7,000,000. Urbanized lots cost the SNI F.CFA 5,000,000. And the GOG is currently producing between 100 and 200 units per year, hardly enough to account for the estimated 2,037 to be left homeless as a result of the project. The amounts proffered would hardly allow families to move into formal sector housing, even if it were available.

Both Gauff's and G.E.R.I.'s studies remark on the sociological formation of the target neighborhoods. Within each, certain subsectors are quite homogeneous as families from the same areas of Gabon have settled together and formed blocks which share the same language, customs and family relations. The move for relocation would clearly harm these bonds and damage the cultural integrity which has been preserved by the migrants to Libreville.

Finally, it will be noted that the indemnification and demolition represent the two of most expensive items on the budget. It would be highly recommendable, therefore, to rethink the project component which involves expropriation and indemnification.

Long-Term Assistance Programs. The methods proposed by GOG all presuppose a one-step transformation of the target neighborhoods, but preclude any continued action to assist in future development. As has been argued above, the transformation of slum neighborhoods is a process, which can be speeded up through programs which offer financing to individuals and the means for neighborhoods to acquire public services, as their economic capacities improve. Often the long-term assistance component is the most important in an upgrading project. It guarantees that changes will in fact materialize over time.

#### D. GOG Attitude

It must be emphasized that the above critique of the proposed upgrading projects has, in fact, emanated in large part from the technicians who were interviewed during the preparation of this report. As the different project proposals themselves demonstrate, the GOG has been open to different ideas and has proved willing and eager to accept new concepts. SNI staff and technicians interviewed at the SEEG and at the City Hall of Libreville, all expressed concern that the upgrading programs currently planned were too costly. Echoing the words of the Minister of Urbanism, they insisted that GOG programs could no longer afford to be subsidized, and that urban improvement programs should be redesigned accordingly.

Indeed, the GOG's past reluctance to move on these projects and its present interest in profiting from USAID technical assistance reflects the doubts which the GOG holds concerning the earlier contracted plans.

The search for reasonable alternatives to the proposed projects led to the present technical assistance mission to Gabon. In the following chapter two solutions for urban improvement in the five target neighborhoods are presented and analyzed. Each of the following proposals attempts to lower costs--real and social--while maintaining the criteria set forth in this chapter.

#### IV. Alternative Urban Improvement Proposals

##### A. Introduction

Two alternative possibilities for urban improvement projects in Libreville are examined in this chapter. The first follows the urban renovation scheme, already described in Chapter 1 and prescribed for Libreville in the Etude d'Urbanisme done for the Ministry of Urbanism in 1982 by the firm of H.P.Gauff. The second applies on-site upgrading, also described in Chapter 1.

Each case alternatives were applied to the neighborhood of Cocotiers, the smallest of the five proposed target areas. The designs aim to protect the neighborhoods from dangers of natural hazards--fire, erosion, and flooding--to provide infrastructure for waste disposal and individual water and electrical power supply to each household, and to facilitate the sale of lots to the residents. For any of the above conditions to be resolved every lot must open directly onto a public roadway or footpath. Therefore, the main design problem involves the introduction of adequate access ways throughout the site.

Design constraints should be clear from the previous section. First the solution should avoid displacing families, and should therefore maintain the present density and minimize the demolition of houses. Second, the total project cost should be reasonable in view of the capacity of the GOG, and the cost per household should be affordable by the beneficiary families. The project must also include a scheme for total cost recovery.

The projects are described in the following sections. The final section analyzes the alternatives, and compares them to the GOG proposals, drawing some general conclusions.

Before passing to the proposed solutions, however, a few words should be said about Cocotiers, the neighborhood which was the subject of the case studies. Although it is the smallest of the target neighborhoods, with a total surface area of 10.9 hectares, Cocotiers presents some of the most difficult conditions. It has 530 constructions, mostly single family dwellings, but it also counts some apartment buildings and single story rental units. The gross density is estimated at 316 persons per hectare, which is well above the other neighborhoods (c.f. Petit Paris, Venez Voir, and Akebé-Likouala have 134, 198, and 75 persons per hectares, respectively.) As Mme. Manou reports, it is also crossed by a small creek which produces wide flooding, up to 1.5 meters, in the rainy seasons, and its topography shows inclines of 10 and 20 percent.

As the pictures in Annex 7 and on the following pages suggest, it is also the scene of quite uneven development which resulted from an eradication program of a former extension of the present neighborhood. Cocotiers fronts the City Hall and a Catholic Seminary. When the City Hall was built, the municipality ordered that the surrounding settlements be removed to make way for a park. A good number of the displaced families probably found their way to the present neighborhood of Cocotiers. This accounts not only for the high density, but also for the different construction types found. Cocotiers presents a full range, from wooden shacks to completed concrete houses.

Photographs of Cocotiers



As in the other target neighborhoods, the most striking problems stem from the lack of any waste water control system. Storm waters and run-off from domestic liquid residuals combine to produce flooding in the lower regions. In the higher areas, they produce a marked erosion which threatens the foundations of any structure, and produces tremendous damage to the dirt roads year after year. Close after the problems of surface water control come those of general urban layout. The neighborhood has only two defined roads.



Seventy percent of the houses are jumbled together on open fields in such a way that one must go through several backyards, and/or squeeze between two existing buildings, to get to a third. The lack of easy access complicates any system for garbage collection. So garbage piles up at different points in the site and provides a handy breeding ground for pests and vermin of all kinds. A fire would spell immediate tragedy, because the limited access means that no controls could be applied. Finally, the disorder prevents a network of service connections from reaching the individual households. The two main roads have both electrical lines and aquaducts, but extensions from there to the rest of the neighborhood are homemade and haphazard. Families make their own electrical hook-ups to meters on the main street and the cables festoon the skyline and could cause fatal accidents at any moment. The homemade water lines are not efficient, and as the yearly erosion brings the pipes closer to the surface, they suffer continual damage from normal foot traffic.

At the same time the area breathes with life and teems with activity. The construction projects going on, despite the area's inaccessibility, belie the present economic crisis in the city. A few visits will convince that the dynamism present is well worth preserving.

#### B. Urban Improvement Alternative 1: Urban Renovation of Cocotiers

The renovation of the existing squatter settlements would certainly cost less than any of the GOC programs, but it is also more expensive than the second alternative, on-site upgrading. Renovation calls for the temporary removal of residents while constructions are levelled and the land is graded and terraced to allow for proper drainage, roadways and public service installations. Some

simple structures would be set up to house one hundred and fifty families during the construction process. When works have been completed and families resettled on their individual lots, the structures would be given over to some community use, such as schools, health clinics, or market areas.

In the case of Cocotiers, the 530 families would be redistributed on the site in an orderly fashion which fulfills the urban design objectives outlined earlier. In this study, the proposed street layout minimizes grading and terracing. It also retains the existing street pattern, thus preserving as many of the existing dwellings as possible. Renovation means starting a neighborhood over from scratch and can offer optimal conditions for urban development, but it also implies the demolition of over half of the neighborhood's houses to facilitate the bulldozers' operations.

In the scheme for Renovation of Cocotiers, shown in the plan on the following page, a total of 197 houses are preserved and 333 must be torn down. Gabonese law requires that the residents be paid indemnification, but the amounts are generally less than the cost of reconstruction. For this reason a component for credits for home construction is considered essential in this program.

The plan proposed here provides for 563 lots, an increase of 33 over the original number. New lots were planned at 150 square meters, according to the maximum calculated capacity of the total area. In the general scheme lots have 10 meters of street frontage and are 15 meters long, and the entire site is covered. Three subsequent models were developed, although they are not shown in plan. In the first the lots were reduced to 120 meters, with an eight meter street frontage and the same length. This adjustment permits the crowding of lots on level areas while reducing the required amount of street and service lines, and so lowers costs. In the same way the lots were reduced to 105 meters (7 by 15 meters) and to 96 meters (6.4 by 15 meters).

The renovation scheme calls for terracing the higher areas of the lot, accompanied by landfill in the lower areas to take care of the present storm drainage problems. In addition, the creation of streets with an adequate storm drainage system, and the construction of retaining walls to secure the subsequent terracing will insure that the erosion will not reoccur.

New water mains and electrical lines would be laid under the streets (details in Annex 8). A sanitary solution would combine sealed septic tanks to receive solid wastes, with lightweight piping, buried under sidewalk paving to carry the liquid run-off to off-site sewer mains.

Detailed project costs appear in Annex 8. Project costs of the various schemes are summarized in Table IV.1.



Table IV.1  
Costs of Urban Renovation Program For Cocotiers  
Costs in '000,000.00 F CFA of '87,  
According to Lot Size

Item	150M2	120M2	105M2	96M2
Demolitions	89.17	89.17	89.17	89.17
Indemnification	1,120.46	1,120.46	1,120.46	1,120.46
Provisional				
Housing	112.50	112.50	112.50	112.50
Grading and				
Terracing	123.11	57.98	39.67	32.03
Roadways	170.81	159.27	154.24	150.66
Infrastructure	420.46	355.30	326.86	306.67
Home-Construction				
Finance*	582.00	582.00	582.00	582.00
Total	2,494.63	2,352.81	2,301.02	2,269.61
Total in \$US	8,602.17	8,113.13	7,304.62	7,826.26
Cost/Household	4,703,075	4,439,264	4,341,547	4,282,283
Cost/Household in \$US	16,230.50	15,307.55	14,970.85	14,766.53

\*Calculated as F.CFA 1,500,000 X 388, which is the number of houses still undergoing transformation in Cocotiers. The amount in francs is considered an average. It is assumed that families left without homes will be able to build a starter core, or a shack with funds from indemnification. The loans would then be given according to each particular case, considering need and capacity to pay.

Project costs to be recovered directly from beneficiaries would not include infrastructure or home financing. Infrastructure costs are charged on a city-wide basis by the municipality, which makes the initial investment. Payments for home construction loans would vary with the amount borrowed by each family. Table IV.2 shows what sort of a monthly payment each project would require, given financial terms of 11 percent over 20 years.

Table IV.2 shows estimated payments for each of the four projects. According to Mme. Manou's report, median household income in Cocotiers is higher than in the other four communities--F.CFA 200,000 per month. The estimated payments for an urban renovation project should vary from 14.3 to 15.4 percent of median income. Mme. Manou also determines that families can pay 30 percent of their income for housing. The full cost of housing in this case would include the project costs, public service user charges, and payments for home construction loans (which are analyzed in Chapter V). While it is likely that

the additional costs will still be affordable to median income families, a full census and socio-economic study must determine whether all families can afford such payments.

Table IV.2  
Urban Renovation Project for Cocotiers  
Costs Per Beneficiary Household and Monthly Debt Service Charges  
in F CFA '87, According to Lot Size

	150M2	120M2	105M2	96M2
Total Cost ( '000, )	3,049,158	2,904,498	2,860,460	2,839,390
Monthly Debt Service	30,782	29,321	28,872	28,663
Monthly Debt Service In \$US	106.00	101.00	99.55	98.80

Two comments should be made regarding the cost per household. First, prices are higher in Gabon than in most underdeveloped countries. These debt service payments may appear high, compared to what the typical informal sector family in a developing country could ever manage to pay. But, a dress at the inner city market sells for F.CFA 30,000, (\$US 103) and a pound of locally grown peanuts for F.CFA 1,000 (\$US 3.45.) It should be remembered that Gabonese prices are close to U.S. prices.

It is, nonetheless, quite risky to try to recover payments for urban improvement projects which run above 20 percent of income, as these will for families below the local median. It should be obvious that the weightiest item in the budget is the cost of indemnifications. If indemnifications are paid out of a separate fund, then costs to beneficiaries (again, on a monthly basis over twenty years) are reduced to F.CFA 7,321 (\$US 25.25) for the least expensive solution, and F.CFA 9,334 (\$US 32.19) for the high price solution.

#### C. Urban Improvement Alternative 2: On-Site Urban Upgrading for Cocotiers

The proposal for on-site upgrading deals with the same problems as the other urban improvement programs, but without disturbing the existing construction. It treats the dense and disorganized development of Cocotiers as an asset. One constant fact of construction in Cocotiers (which could be generalized to other target neighborhoods as well) is that houses have tremendously solid foundations. Each construction is effectively set on its own individual retaining wall, and the paths between houses, which can vary from one meter up, serve as canals for storm and waste water. Since the paths are neither paved nor graded the water tends to eat at the bases of the houses. Families spend a good deal of money repairing and maintaining their houses' foundations.

The waste waters accumulate in the valley at the middle of the site and cause flooding every year, precisely because they are not drained off-site. The on-site upgrading plan leaves the site essentially unchanged, but introduces paths for storm water run-off which lead into a series of three open canals and carry the storm water off-site to the municipal sewer system. Domestic waste water would be channeled through lightweight piping using a system described above.

The terracing would use the existing housing foundations and simply run short interconnecting retaining walls between the houses, throughout the site. The road system is designed, similar to that of the renovation plan, to give every house direct access to either a vehicular or a pedestrian path at least 2.5 meters wide. A network of fire hydrants on the pedestrian path would be included as a measure against fire hazards and a simple system to remove garbage from the paved pedestrian ways should be developed. Details are provided in Annex 9 and a full plan can be seen on page 34.

This plan would require the demolition of 43 houses. But, it would also create 93 new lots on formerly unuseable land. Thus, displaced families will be able to find another lot within the same neighborhood. The extra lots can be sold to newcomers, or to residents of Cocotiers who aspire to larger lots.

Even though gross area per household allows for lots of 150 square meters (as seen above), most families actually live in much closer quarters. If a household moves to another site it could get a 150 square meter lot and would, at the same time, leave more space for its former neighbors. The market alone will determine, however, whether or not the neighbors offer sums sufficient to make moving an attractive proposition.



The costs of the on-site upgrading project are detailed in Annex 9 and are summarized in Table IV.3.

Table IV.3  
On-Site Upgrading Project for Cocotiers  
Project Costs in F.CFA '87

Item	Total Cost in '000,000's	Cost/Household
Demolitions	5,686	10,728.68
Indemnifications	122,210	230,584.91
Terracing, Grading and Storm Water Drainage	191,060	360,489.97
Infrastructure	209,490	395,259.85
Home Construction		
Finance	582,000	1,098,113.21
Total in F.CFA	1,110,450	209,509.43
Total in \$US	3,829,138	7,224.79

Total project costs for on-site upgrading are lower than those of any other proposed schemes. Direct costs to be recovered would average F.CFA 312,970 per family (not including payments for home improvement loans or for infrastructure). Payments per family would average F.CFA 3,219.98 per month, or \$US 11, a sum likely to be affordable by 100 percent of the beneficiary population.

It is important to recall that under the terms of on-site upgrading lot sizes and locations differ. Payments would thus vary according to the characteristics of each lot.

#### D. Conclusions

In order to compare the different types of urban improvement projects, the financial costs and benefits for all five target neighborhoods should be taken into consideration. The total project would involve a population of 4,298 families. Some population projections have been made for the sector of Derriere la Prison, the one neighborhood which has yet to be studied. Based on the average cost per household, a general comparison of the projects is drawn up in Table IV.4.

The financial costs of the GOC proposals clearly appear to be on a different order of magnitude from the second two schemes. Social costs, as indicated by the numbers of displaced households, show a similar variance.

In reality, the five neighborhoods targeted for urban improvement projects constitute a point of departure. The target neighborhoods are themselves surrounded by continuing extensions of squatter settlements which could benefit from urban improvement programs as well. The map on page 37 shows how squatter settlements have spread throughout the capital. During the reconstruction period new squatter settlements will develop and additional

urban improvement programs will become necessary. For this reason alone, the program selected should be easily replicable and avoid subsidies.

Table IV.4  
Comparative Characteristics of  
Proposed Urban Improvement Projects

Item	Renewal	Renovation (150 M2 lots)	On-Site Upgrading
Total Project Cost in '000,000 F.CFA	35,909.10	20,230.04	9,005.12
Total Project Cost in \$US	123,824,480	69,758,750	31,052,147
Cost/Household in F.CFA	8,354,839	4,706,850	2,095,190
Cost/Household in \$US	28,809	16,230	7,225
Debt Service/Family (as a % of median income)	84,344 50%	30,782 18%	3,219.98 2%
Number of Displaced Families	2880	0	0
(% of total) off-site	67%	0%	0%
on-site	33%	65%	8%

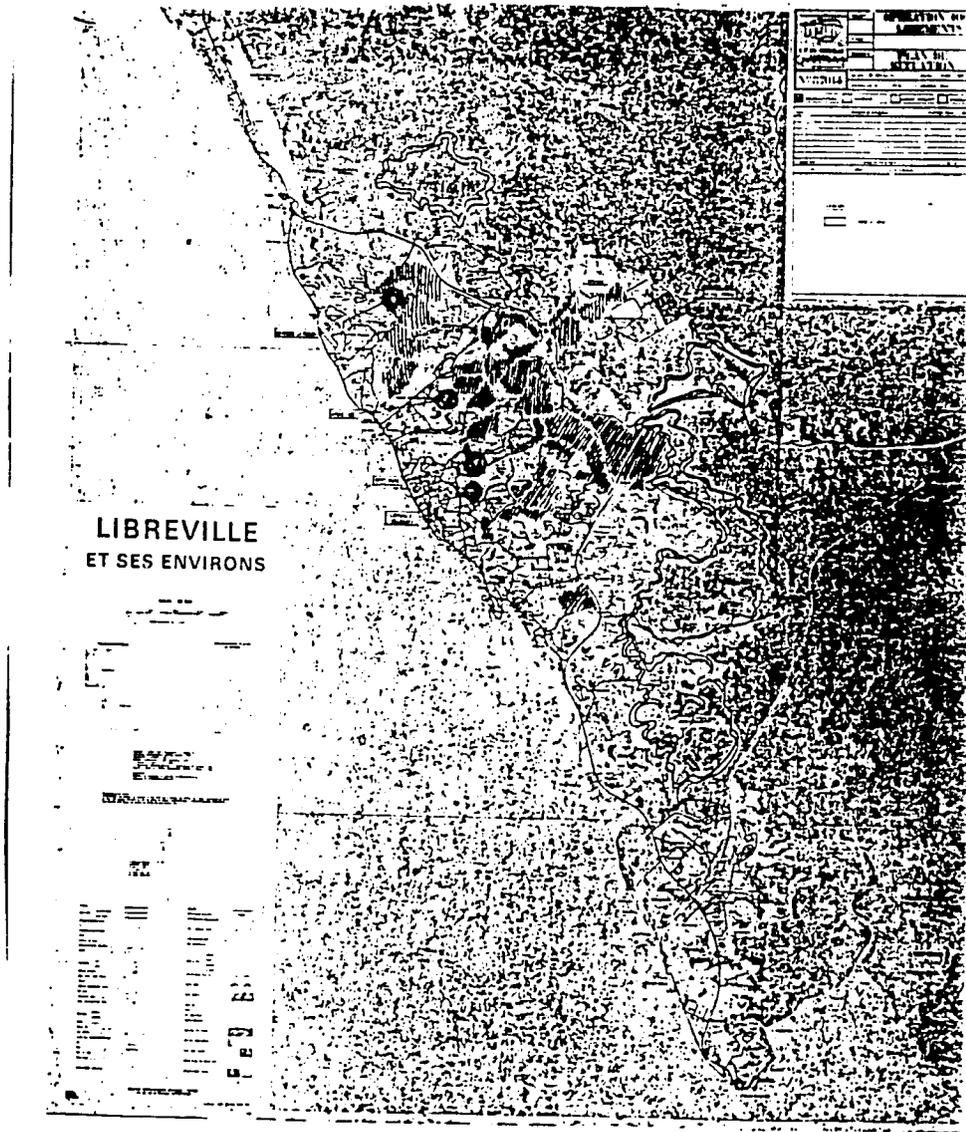
Extent of Squatter Settlements in Libreville  
(source; SNI 1987)

KEY

Target neighborhoods ⊙

Established informal sector communities ▨

Peripheral communities in formation ○



## V. Housing Solutions for the Urban Improvement Program

### A. Housing Needs

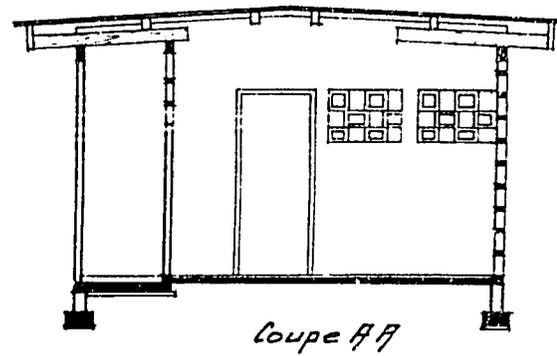
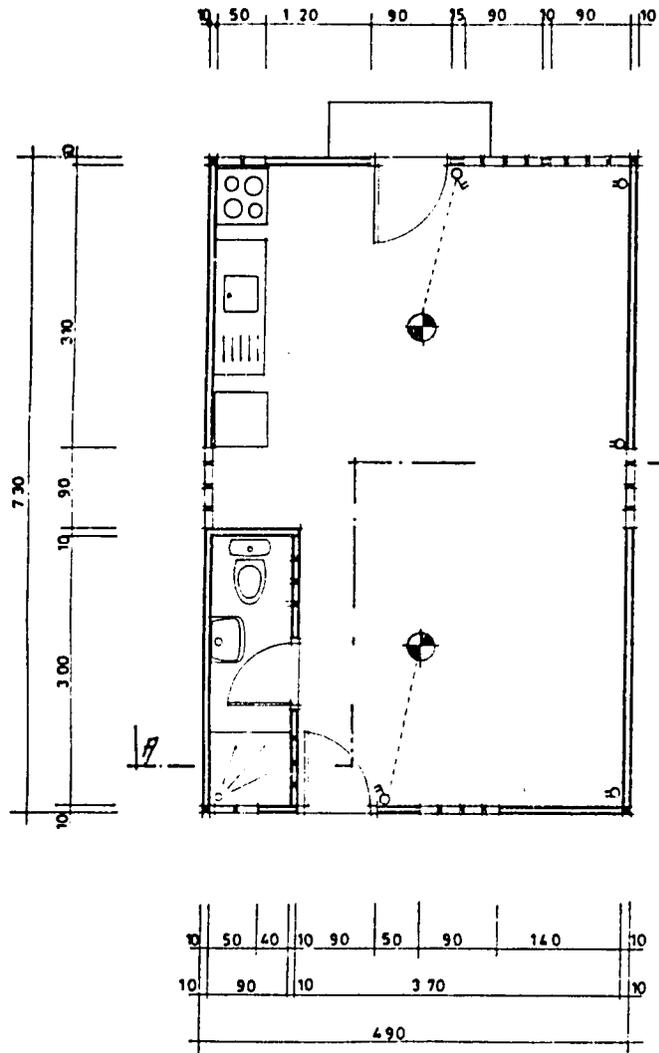
The proposed urban improvement program for Libreville will cause an immediate demand for housing to replace the homes which are demolished in the course of the upgrading. As the previous chapters make clear, the actual number of homes to be replaced will depend on the system of urban improvement chosen. If on-site upgrading is applied to all five target neighborhoods then the average for Cocotiers of 8 percent would result in a total of 349 houses to be demolished (based on an estimated 4,298 families in the combined project areas).

The 349 families to be relocated as a result of the urban upgrading program will need a quick solution to their shelter problem. Granted, they will be paid an indemnification for the value of their homes. It may be desirable, however, to offer a more satisfactory solution, particularly in view of the fact that the amounts paid in indemnification will fall far short of the costs of a new house. At the same time, the families from the target neighborhoods cannot afford to buy the completed homes offered by the formal sector today. For are they accustomed to the three and four bedroom villas built by the Ministry of Urbanism and the SNI for middle-income families. It is recommended that whatever solution is offered be compatible with the family's cultural standards and the economic capacity to pay.

This leaves two options. The first is to offer a ready built "core unit" cheap enough to insure that all the families to be relocated can meet monthly payments and have enough remaining in the family budget to continue to make additions and improvements as they chose. The second option is to make home-construction loans available, with an appropriate technical assistance program, and to let each family borrow according to its capacity and build according to its needs. In this chapter both options are examined. Two house plans are developed and several models are analyzed in the following section, and the possibilities of programs for financing home-construction are discussed in the next section.

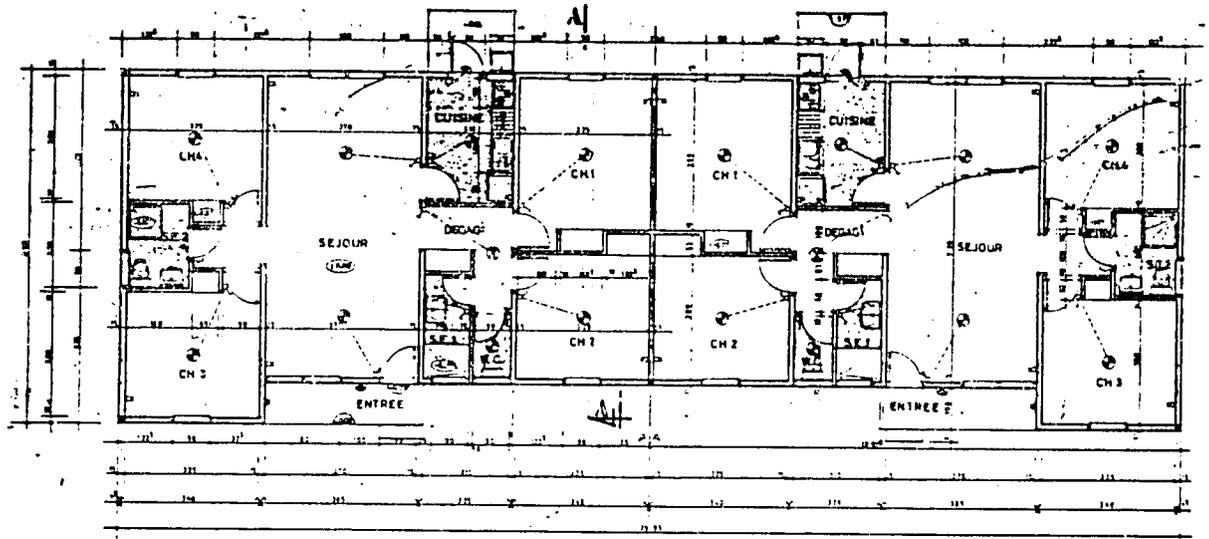
It would be highly remiss, however, to assume that the demand for housing stops with the relocated families. The very existence of the squatter settlements indicates a chronic need for housing which the formal sector is incapable of meeting. This situation is hardly particular to Gabon. In all developing countries the formal sector builds for a minority; the majority of the population resolves its shelter problem independently. In Gabon the informal construction sector is particularly dynamic, as is evidenced by the number of projects under way in any slum area, and by the frequent presence of small enterprises--block manufacturers, carpentry shops, and fabricators of metal armatures to name a few which dot the roadways.

Core House Designs

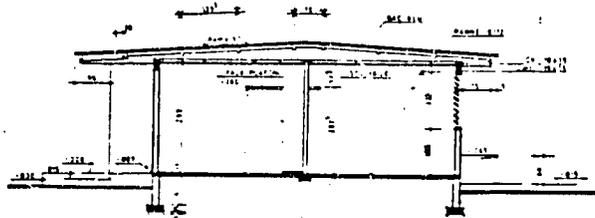


VUE EN PLAN Echelle 1/50

Completed House Design



PLAN



CROQUIS A - A



ELEVATION DROITE

## B. Core Housing

The plans presented on the previous pages are taken from SNI archives. The bedroom areas and the construction finishes have been eliminated from the core house. The completed house costs F.CFA 11,000,000. The core models differ only in materials. House 1 is in block, and House 2 has a treated wood siding. The core models have been estimated at F.CFA 3,360,000 and 3,195,659 (for block and wood, respectively) by two independent builders and the costs have been confirmed by SNI's own estimates. (Annex '2 gives a full analysis of construction costs.)

The estimates here were used to develop other house models with the following set of assumptions. Fixed costs (plumbing and electricity) were set at F.CFA 800,000. The remaining costs were estimated on a square meter basis at F.CFA 64,000 for block and 60,900 for wood. These assumptions give the following costs for varying sized units.

Table V.1  
of Core House Models  
In F.CFA '87

Model	In Cement Block	In Wood Siding
40 square meters	3,360,000.00	3,195,659.00
35 square meters	3,167,172.00	2,990,500.00
30 square meters	2,720,000.00	2,682,500.00
25 square meters	2,400,000.00	2,378,000.00
20 square meters	2,080,000.00	2,073,500.00

If the houses are financed at 11 percent, 100 percent over a period of twenty years, the debt service payment scales will look similar to those shown in Table V.2.

Table V.2  
Estimated Debt Service Payments for Core House Models  
In F.CFA '87

Model	In Cement Block	In Wood Siding
40 square meters	32,730.00	31,893.00
35 square meters	32,392.00	30,760.64
30 square meters	27,820.50	27,592.89
25 square meters	24,547.50	24,465.00
20 square meters	21,399.30	21,327.00

It is interesting that the difference between block and wood is hardly perceptible in debt service payments for the house.

At present no studies show the breakdown of incomes in the target neighborhoods, so it is impossible to determine at this time which model would be affordable by all the families to be relocated. The weighted average median income for all five target neighborhoods is F.CFA 165,614, based on figures in Mme. Manou's report. Thus the payment required for the largest model represents 19.5 percent of median income.

Families would also be paying off the cost of upgrading and land at approximately F.CFA 8,580 per month. Thus, the sum of payments for house and lot would come to about F.CFA 40,000 or about 24 percent of income. Although the limit recommended by Manou for percentage of income to be spent on housing is 30 percent, it should be noted that families need additional funds to make investments in improving their homes. So the largest model would probably be available, at best, to families in the upper half of the local income distribution scale. At the bottom end of the scale, the 20 square meter house would be affordable to families earning F.CFA 135,000 and above. Families with incomes below this amount would require some subsidy, which could be given in the form of a more generous indemnification for their existing houses. (Normally expropriations take into account the present value of a house. In this case the scale would have to be adjusted, to increase the amounts paid to poorer families.)

In truth, the core houses proposed here have caused some concern at the SNI, which is accustomed to building for families who are better off than most slum dwellers and to subsidizing costs. Admittedly, these core houses are very small, and they offer only a single area with no established divisions between public and private spaces. It is important to bear in mind, however, that the families will be able to add on to their cores immediately if they chose to do so, with the indemnification funds. Also the majority of families follow the "rural model" of housing, which does not differentiate between public and private spaces.

The beneficiary families in the target neighborhoods will all enjoy improved lots with decent drainage, garbage collection and sanitary disposal systems. If they move into core housing of a similar dimension to what they lived in before, they will, at the very least, be better off than they were previously.

### C. Home Improvement and Self-Help Systems

If given the option of spending F.CFA 3,000,000 on their own, or accepting the SNI solution, what would the majority of families choose? In most cases, families prefer their own solutions when it comes to housing. It may not represent maximum efficiency, but it is a fact of humanity that while a resident will always complain about public housing, no matter how brilliant its design, the same person will never complain about the house he himself has constructed, no matter how inefficient and poorly thought out.

A World Bank study of shelter programs for low-income families in developing countries reports on an evaluation of a project done in Zambia, "when participants are asked to compare their housing to other options provided by the Lusaka City Council, over 75 percent profess to believe that their housing

is superior" (Keare and Parris, page 32). The same study goes on to suggest that families may in fact have a valid point. In the experience in El Salvador "it has been estimated that certain families ... have saved up to 30 percent of costs by building their own houses" (Op.Cit. p. 74).

Exactly what could a family build on its own with a construction financing loan? The model house design was costed out by a formal sector builder and by an informal contractor as part of the analysis given in the previous section. The costs are surprisingly similar, with the caveat that the formal sector builder could not make a sufficient profit on an order of any fewer than one hundred houses, while the informal sector builder based his price on a project of one. This would suggest that loans, under similar terms could finance the following constructions:

Table V.3  
Possible Home Improvement Projects  
For Financing Under Construction Loans Program

Item	Cost	Monthly Debt Service Payment
one bathroom, 3 M2 with 2 separate walls	540,000.00	5,451.00
one bedroom, 9 M2 with 2 separate walls	620,000.00	6,259.00
one additional living area 5M2	1,580,000.00	15,950.00
Cement Finish on a Core House	336,000.00	3,392.00
Paint Job for a Core House	159,200.00	1,607.00

The SNI should maintain a reference list of construction costs, both for materials and labor. Families should present plans to the SNI for approval, along with an estimate by their chosen contractor. The SNI should give technical assistance to families and approve plans before the families approach banks for financing. Loan amounts should be disbursed in quotas, coordinated with the progress of the construction, which would be supervised by SNI technicians.

Borrower families would be responsible for buying materials on their own (although a voucher system has been used in some cases), and for finding their own builders. It should be noted that this system benefits both the borrowers and the local building industry. Families currently buy block, wood, steel and services on credit, and they may pay up to 20 percent per month in interest. The loans would allow them to realize significant savings (11 percent per annum instead of 240 percent per annum). At the same time the producers can use the influx of capital to increase their own inventories. The high cost of credit indicates that the producers would prefer cash to time

payments.

Given the history of low-income housing programs in Gabon, a loans program could offer a special advantage. The Minister of Habitat y Logement et Urbanism has announced his intentions to lower housing standards to be able to offer housing to a greater number of families. He has met with criticism from the public and private sector and may have a difficult time presenting truly affordable houses, like the core units shown here. A loans program would make the abrupt change away from three and four bedroom villas, at subsidized prices, much more palatable.

Construction loans program can be very difficult to manage and always require a certain period of adjustment. Highly successful programs have evolved in Peru, Colombia, and Ecuador, but each country has stumbled before getting their programs on course. In Gabon, a loans program could rely on the private banks to manage credit and on the SNI to give technical assistance and loan approvals. In the long run, home construction financing could prove the most useful to the low-income populations of Gabonese cities. In the short run, the proposed urban upgrading projects are highly recommendable as an appropriate vehicle to get such a program off the ground.

#### D. Formal Sector Versus Informal Sector

The provision of core house units, or the provision of home construction loans each involve contracting private builders. But the contractors who would work for individual families come from a very different segment of the population than those who are traditionally contracted by the SNI for its mass housing projects. In reality, there is no reason that the SNI could not contract informal sector builders for its programs, and in the case of the proposed upgrading projects, the SNI should consider this possibility.

One cannot really speak of upgrading a community without thinking of its economy. If informal sector builders are employed, the project will have a greater impact on the areas in question and it can be assumed that profits will be spent not only within Gabon, but within the very target neighborhoods. Formal sector builders will tend to spend their profits in Europe.

Formal sector builders may not be interested in a program of core housing in upgraded sites. Formal sector builders are more comfortable on clean sites where they can build one hundred houses in a quick series. The sites in the urban upgrading project will necessarily be scattered and will not always offer optimum building conditions.

Insofar as the houses will be built for particular families, it must also be considered that the "clients" might want to have some input in the design or detailing of the houses. An informal sector family will find it much easier to explain its needs to an informal sector builder than to a formal sector builder, who comes from an entirely different socio-economic class.

The SNI should supervise the construction closely and prequalify informal sector builders, as it does with the formal sector. It could offer training courses for home builders, as some housing institutions do in conjunction with home construction financing programs. If the SNI trains builders from the target neighborhoods to construct its core units, it will have a stronger

influence on future constructions, which will doubtless follow in all the slum settlements.

## VI. Recommendations

The SNI should design and implement an urban improvement program in the city of Libreville beginning in the five target neighborhoods of Petit Paris, Venez Voir, Akebé-Likouala, Cocotiers and Derriere la Prison. The program should aim to accelerate the progressive development process by which informal sector settlements are transformed into safe, accessible neighborhoods which offer a full range of public and community services and maintain a home according to its own particular needs and means.

Program objectives are to provide a solution to natural hazards, mainly floods and erosion, to improve sanitary conditions by providing a solution for domestic waste, to provide access ways for each house and a road system so that house lots can be included on the cadastral map and sold to residents, to provide the technical and financial assistance necessary to allow each family to become owner of its lot, to leave each lot with an individual connection to potable water mains and to electrical power lines, to provide community services, such as schools, parks, clinics, day-care centers etc., and to establish a program to assist families in the continued improvement of their own homes on an individual basis.

The program should avoid any off-site relocation of families, and all housing demolition as far as possible. This implies that on-site upgrading should be applied wherever possible. Where conditions oblige, a renovation project could be permitted. Any families whose homes must be demolished should be relocated within the same site, and close to their former homestead. These families would be paid an indemnification for their homes, in accordance with Gabonese practice, and would also be eligible for a home construction program. They should be able to choose between purchasing a core unit on their new lot, (at affordable prices) or taking out a housing loan to build on their own. In any case, the construction and relocation of families must take place before demolition of their homes. Other families could apply for home-improvement loans under the project after the on-site upgrading is completed.

The program costs should be entirely recovered from beneficiary families. Program design must include a plan for cost recovery in which the charges correspond to the characteristics of each lot. Families with larger and better located lots would pay a higher price. The price per square meter should be calculated to include costs of expropriations, demolitions, roads, civil works, hydraulic works, individual sanitary solutions, title clearances and delivery. Costs of public infrastructure would be recovered by the SEEG through its present system of user charges and levies to cover future investments. Home improvement costs would be paid by individual families according to each loan.

The SNI should establish a coordinating office to manage program implementation and long-term assistance to families from the target neighborhoods, and from surrounding marginal settlements. The implementation team should include functionaries from the SEEG, from the Mayor's Office, from Public Works and from departments such as Health and Education which may also play a part in the long-term assistance program.

If the program is to be successful, however, a single agency must be responsible for its implementation. It would be desirable, nonetheless, to

include representatives from other agencies in the implementation process, because, after all, they will be maintaining and operating the project components after the construction phase. During that construction phase, the SNI alone should direct the project and technicians from other agencies should be seconded to work directly with the SNI

As mentioned above, the coordinating office would have the additional function of providing information, assistance, and acting as community liaison before, during, and after the construction phase. It would manage home improvement loans programs and would develop relations with the informal construction sector.

In the long term this office should broaden its coverage to provide other squatter settlements not only with technical and financial assistance, but also with information regarding urban development. This last point cannot be stressed enough. Squatter settlements may emerge on a right of way simply because families are unaware that a highway is planned for the area. Families will settle precisely where the cost of infrastructure is prohibitively high rather simply because they have no way of knowing where easily serviced land is available, or about an up and coming site and service program. The unnecessary expenses of upgrading projects could often be avoided if families were given a certain direction and technical guidance at the outset.

It is strongly recommended that the SNI use its community assistance office for the present upgrading project as a base to develop a wider range of action. In the near future the peripheral areas of Libreville which belong to the Ministry of Domaines, will be subject to increased squatting. A general program along the lines of urban homesteading is highly recommended, and the SNI should be the agency to take charge.

The SNI should have a general plan of future roads and right of ways in the peripheral areas and should stake out lots on the uncleared lands immediately. The undeveloped lots should be leased to interested families on a first come, first serve basis. The renewal of leases should be conditional on families' making required improvements on the lots. Families who have established a home and who are living on the rented lots would have the right to purchase the land from the GOC under an appropriate financing plan. Families who do not build within a specified period would lose the right to continue leasing.

Perhaps the most important recommendation for any urban development program is speed. Once the program has been decided upon, no more than a year should elapse between start and finish. From a strictly technical point of view the design should be developed during one rainy season. Construction should be terminated, and people comfortably rehoused well before the next rainy season. The target neighborhoods, like all informal settlements, are very dynamic and the population will change (and probably increase) even during the course of one year. Finally the living and work habits of the beneficiaries will inevitably be interrupted during the construction period and for this reason alone, the discomfort should be made as brief as possible.

## VII. Review of GOG Policies in View of Recommendations

The actions recommended in this report would require GOG to shift its focus away from middle-income families, and toward the growing urban informal sector. This sector has been, until the present, the concern of the municipalities. In Libreville, the mayor's office has followed very enlightened policies in providing public services (water supply and electric power), but undeveloped lands remain the property of the national government, specifically of the Ministry of Domaines. GOG should create an alliance between the national government agencies and the municipalities to coordinate upgrading of existing slum areas and the careful planning of the emerging informal communities.

GOG is in an ideal position to take effective actions to improve existing informal urban communities and to assist in the orderly formation of new settlements. Because Gabonese cities are still small, and growing, with ample supplies of peripheral land, they can indeed initiate adequate urban policies before it becomes too late. But such policies will require that GOG change its emphasis from its traditional housing programs for a small number of middle-class families, to a program of wider action, focusing on the growing informal sector communities.

In the context of this general panorama, it is recommended that GOG develop the following additional programs or policies.

- 1) A plan for the sale and leasing of government land is of utmost importance. In the context of urban upgrading, GOG must be able to sell serviced lots to the residents of target neighborhoods. In a wider context, GOG should develop a system for leasing undeveloped land to builders and to individuals. Renters should be encouraged to undertake improvement projects on their own.

At present the GOG owns the largest tracts of urban lands in Gabon (according to Ministry of Urbanism). The unoccupied land represents a grave temptation for squatters and a high opportunity cost for the government. Even if the available land were leased at a token fees, GOG could realize a significant income. Funds acquired through leasing could be invested in infrastructure and public services.

In fact, the Ministry of Urbanism has the legal means to sell land to users, but the system must be made operable on a wide scale and should be promoted among potential beneficiaries.

- 2) A program for continuing urban upgrading projects on a permanent basis should be developed. As the map of Libreville suggests, the five target neighborhoods will only represent the start of urban improvement. Several surrounding communities suffer from the same problems of natural hazards. Individual residents have no means to deal with problems which affect the entire community. As the proposed urban upgrading projects should be fully cost recoverable, and should be replicable in other neighborhoods. But GOG will have to establish an office, agency, or program to help such neighborhoods undertake community improvement projects. The GOG should develop a plan to offer technical assistance and financing to groups.

3) The GOG should support and facilitate the development by SNI and the private sector of housing programs affordable by families in the lower-income brackets. In the past GOG housing programs have emphasized middle-income families and, in particular, government employees. As such, construction costs have always been subsidized, standards are higher than those generally found in developing countries, and production levels are low. The Minister of Urbanism has recognized the need to increase production levels dramatically, which will require eliminating subsidies and reducing the standard house plans.

In fact standards are not defined by building codes or requirements, so the proposed change implies no legal maneuvering. But it will require that GOG demonstrate its commitment to lower income families and to the concept of minimum standard "core" housing. GOG will have to desist entirely from building three and four bedroom villas and from subsidizing costs if it intends to initiate a new, believable policy.

4) The transition to affordable, minimum homes will not be easy, particularly considering the expectations created by GOG in the past. To make the break more palatable, it is recommended that GOG discontinue its construction programs and concentrate exclusively on financing home construction with informal sector families and builders.

5) The above recommendations cannot be carried out unless GOG establishes a system for making loans available to individuals and groups from low-income sectors. Traditionally, the CreFoGa finances mortgages for homes built by the SNI or by the Ministry of Urbanism. CreFoGa must add lines of credit which finance home construction for individuals and private builders. Credit lines for community improvement programs and for land purchase should also be developed.

As GOG's primary home finance agency, CreFoGa could also work through private banks, to offer incentives and stimulate home finance programs in the private sector.

6) The proposed alliance between national government and the municipalities should be accompanied by effective municipal development strategies. In the long run, the problem of squatter settlements will confront the cities, not the national government. But while lands remain the property of the national government, however, the municipalities can only take limited actions. The city of Libreville has proved that it can provide infrastructure on a city-wide basis to all communities, and can generate funds to operate and to replace public service systems. The municipality could clearly play a significant role in developing, managing, selling, and leasing urban land. A new role for the municipalities should be developed accordingly.

The situation in other Gabonese cities was not studied during this technical assistance mission. However, the capabilities of the country's secondary cities should be brought to the same level as that of the capital.

## VIII. Project Development Scenario

In line with the last recommendation made in Chapter VI, a scenario for successful project development requires intense, accelerated work, with more emphasis on implementation than on planning. GOG seems to have recognized this fact by placing the responsibility for the project squarely on the shoulders of the SNI, an institution known for its capacity to get things done.

Nonetheless, the proposed urban upgrading project does require a base study to determine the optimal plan for each target neighborhood and overall project costs. Several additional studies as companions or follow-ups to the base study are recommended, but these should not block an immediate pass to implementation. The terms for the base study are outlined in the first section of this chapter, and recommended procedures for implementation and complementary studies are discussed in the following sections.

### A. Base Study

GOG should commence a clear dialogue with appropriate financing agencies prior to initiating a base study. The request for funding should include a description of the proposed project and its objectives as well as a request for assistance in project preparation. The program description should underline GOG's intentions of undertaking a pilot urban upgrading program to benefit residents of five squatter settlements in Libreville. It should explain the program's wider context; i.e. the eventual development of a program to support all informal sector communities in Libreville. The possibility of extending the program to secondary cities should also be mentioned.

In describing program objectives, GOG should emphasize the fact that beneficiaries represent the lowest income groups in the city. The importance of stimulating community participation and collaboration in improving its own situation should be pointed out. The upgrading would consist in minimal but essential civil works and in the provision of services and assistance packages to encourage the progressive development of the target neighborhoods. No eradication and no off-site relocation of families would be contemplated in the program. The program would include a cost-recovery component.

The base study should require no more than six weeks and should overlap with the end of the rainy season to permit adequate observation and quantification of the worst conditions in the target neighborhoods. The study team should include professionals qualified in hydraulic, sanitary, and soils engineering, planning, urban finance, low-income housing, and community development.

The base study should include, but not necessarily be limited to, the following points:

- 1) Identify systems for resolving physical problems, i.e. drainage on and off the sites, access ways which permit adequate garbage removal, water supply (including fire hydrants), electrical power supply, and terracing requirements.

General plans for on-site upgrading should be drawn up for each site to

determine feasibility. The necessary engineering works should be quantified.

2) Estimate the costs of the actions recommended for each site, including breakdowns for earth works, hydraulic engineering, sanitary engineering, road construction, water and electrical power supply, community services, demolitions and indemnification, new home construction and home improvement loans. Priority activities should be indicated within each category, and general priorities should be set among the different activities.

3) Determine global program costs and a demonstration of affordability by the target population.

4) Identify staff requirements for implementation.

5) Identify special additional needs for project implementation, including additional equipment, assistance, and information.

6) Establish a timetable for program implementation.

7) Recommend the composition of the coordinating office and the implementation team.

8) Set physical and financial goals for the program.

9) Elaborate a general financing plan, determining the participation of different agencies and of beneficiaries.

10) Analyze the capacity of GOG to undertake the program.

#### B. Complementary Studies

The complementary studies should be short and to the point. The following studies would be helpful, but are not essential for the successful implementation of an urban-upgrading project.

Socio-Economic. A simple questionnaire should be formulated and applied to all residents of the target neighborhoods to determine the following:

Population size--how many persons, how many families, how many households;

Economic situation--sources and amount of household and family incomes, number of persons working, number of persons employed and self-employed;

Tenure--number of home owners, number of renters, current rental payments, purchase price and procedures for buying land and homes;

Land use--number of commercial and business establishments, residence of owners, incomes generated;

Expenses--number of households paying property taxes and amount paid, number of households paying user charges for water and electricity and amount paid, family budget for food and for home improvement;

Ages of residents and number of persons attending primary, and secondary schools and institutions of higher education;

Size of lot, size of homes and number of years of occupation; and,

Community organizations--what groups exist within the community, how many persons belong and who are the leaders.

Informal Sector Building Costs. A city-wide study is recommended to determine the number of informal builders and their level of operations. This should include a census of manufacturers and vendors of building materials which determines the prices for materials, including major and minor purchases and sales on credit. Costs of labor, including overhead and administrative costs should be determined, according to current practices. Finally, the study should detect the networks used by informal builders and to find clients. It should also quantify the presence of authentic "self-help" construction versus contracted builders within the informal community.

The study should identify the strong and weak points in the informal construction sector, and should include a calculation of its total production as well as total capacity to produce.

Land Ownership in Libreville. In view of the growing informal and squatter communities in Libreville, it would be extremely useful for the municipality to learn who owns what land within the city and on the peripheral areas. Within squatter settlements certain families hold title (which may or may not be legal) to their land. On the outskirts of the city different agencies hold title to lands, and have committed certain sectors to different purposes. Land where tenure is unclear or abandoned areas should be identified, as well as sectors where squatters' invasions have already begun.

Demographic Situation in Libreville. A short study should determine the city growth rate over the past fifteen years, due to migrations and to vegetative growth. Population growth for the next twenty years should be projected.

#### C. Procedures for Implementation

A number of construction details will have to be determined on-site. The implementation team should establish an office on-site and begin work as soon as the program has been approved. A very general timetable for program implementation is shown on the next page. It could be applied separately in each target neighborhood, or simultaneously in several.



## ANNEXES

1. Frequently Used Terms
2. List of Contacts
3. Reference Documents
4. Plans for Petit Paris and Venez Voir (H.P. Gauff)
5. Plans for Akebé-Likuoala
6. Ministry of Urbanism Project Outline and Cost Estimates
7. Cocotiers
8. Cocotiers - Urban Renovation Project (with building details)
9. Cocotiers - On-Site Urban Upgrading Project (with building details)
10. SNI - Additional Information
11. CreFoGa - Additional Information
12. Minimum House, Plans and Cost Estimates

## Frequently Used Terms

<b>CreFoGa</b>	The Government Housing Finance Corporation, Crédit Foncier Gabonais.
<b>F.CFA</b>	Franc de la Caisse Franco-Africain; Currency used in French West Africa
<b>GOG</b>	Government of Gabon
<b>Informal Sector</b>	For purposes of this report, informal sector refers to families who do not depend on regular, registered employment as the major source of income and families who do not live in regular, legally-approved neighborhoods. In brief, informal sector families pay neither income taxes nor property taxes, but they are not tax evaders. Their incomes and their residences simply fall outside legal definitions.
<b>Ministry of Urbanism</b>	Ministry of Urbanism, Shelter and Housing
<b>Progressive Development</b>	The process of transformation from an informal community to a formal one
<b>RHUDO</b>	Regional Housing and Urban Development Office, AID
<b>SEEG</b>	Société des Eaux et d'Electricité Gabonaise, National water and electrical power supply company
<b>SNI</b>	Société National Immobiliere, National Housing Company
<b>squatter</b>	Occupant of abandoned or unused land
<b>USAID</b>	United States Agency for International Development

List of Contacts

Agis Immobilier  
Mme. Victoire Ndong-Méy'e  
tel. 76-57-22

Citibank of Gabon  
M. Kishore K. Gopaul, Directeur Général,  
tel. 73-03-83

Crédit Foncier du Gabon, CreFoGa  
M. N'Koghé Essingone Adrien, Directeur Général  
tel. 72-47-45

GMCE Gabonaise de Moquette Carrelage Etancheite,  
M. Jacky-Maurice Caillon, President, private builder and contractor for the  
SNI and others  
tel. 72-44-69, 74-00-95

Mairie de Libreville  
M. Louis-Georges Ozouaki-Ongonwqu, Directeur des Reseaux Cedés  
tel. 14-26-57, 72-24-21

Ministere des Domaines, du Cadastre, de l'Urbanisme et du Droit de la Mer  
M. Augustin Nzoughet Mendome Edane, Directeur Général d'Urbanisme et des  
Aménagements Fonciers

M. Jean Enane-Ngo, Directeur d'Urbanisme.

Departement d'Habitat et Logement

M. Mackanga Ngoma  
Directeur Général de l'Habitat et du Logement,  
tel. 73-20-82

M. Mboula Cyrille, Ingeniuer Bâtiment, Directeur de l'Assistance al Auto-  
Constrution.

RHUDO-USAID Office in Abidjan  
tel. 32-55-13, 32-54-69

Mr. Michael Lippe, Director  
Mr. Michael Enders  
Mr. David Benson

Société des Eaux et d'Electricité Gabonaise (SEEG)  
M. Maurice Moiri, Ingeniuer Sanitaire et Hidraulique, Directeur Técnico.  
tel. 76-12-82 , 76-12-23

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Oliver, Roland and Fage, J.D., A Short History of Africa, Penguin Books, Middlesex, England, 1978.

USAID Files, RHUDO Abidjan ;

Internal Memorandums referring to previous visits to Gabon by:

M. Lippe, June 10, 1985

G. Deikun, August 5, 1986

M. Lippe, February 12, 1987

Société Nationale Immobilière  
tel. 76-05-81, 76-05-92

M. Issembe, General Director

M. Antoine N'Goua, Architect D.P.L.G., Deputy Director

M. Josephat Rapontchombo, Civil Engineer and Director of the Department of  
Plans (Directeur des 'Etudes du Patrimoine et de la Promotion.) of the SNI

M. Edzou, Civil Engineer, Director of Operations

M. José Antonio Vicente, Technical Advisor (retired as of 17 September) from  
French Assistance Program

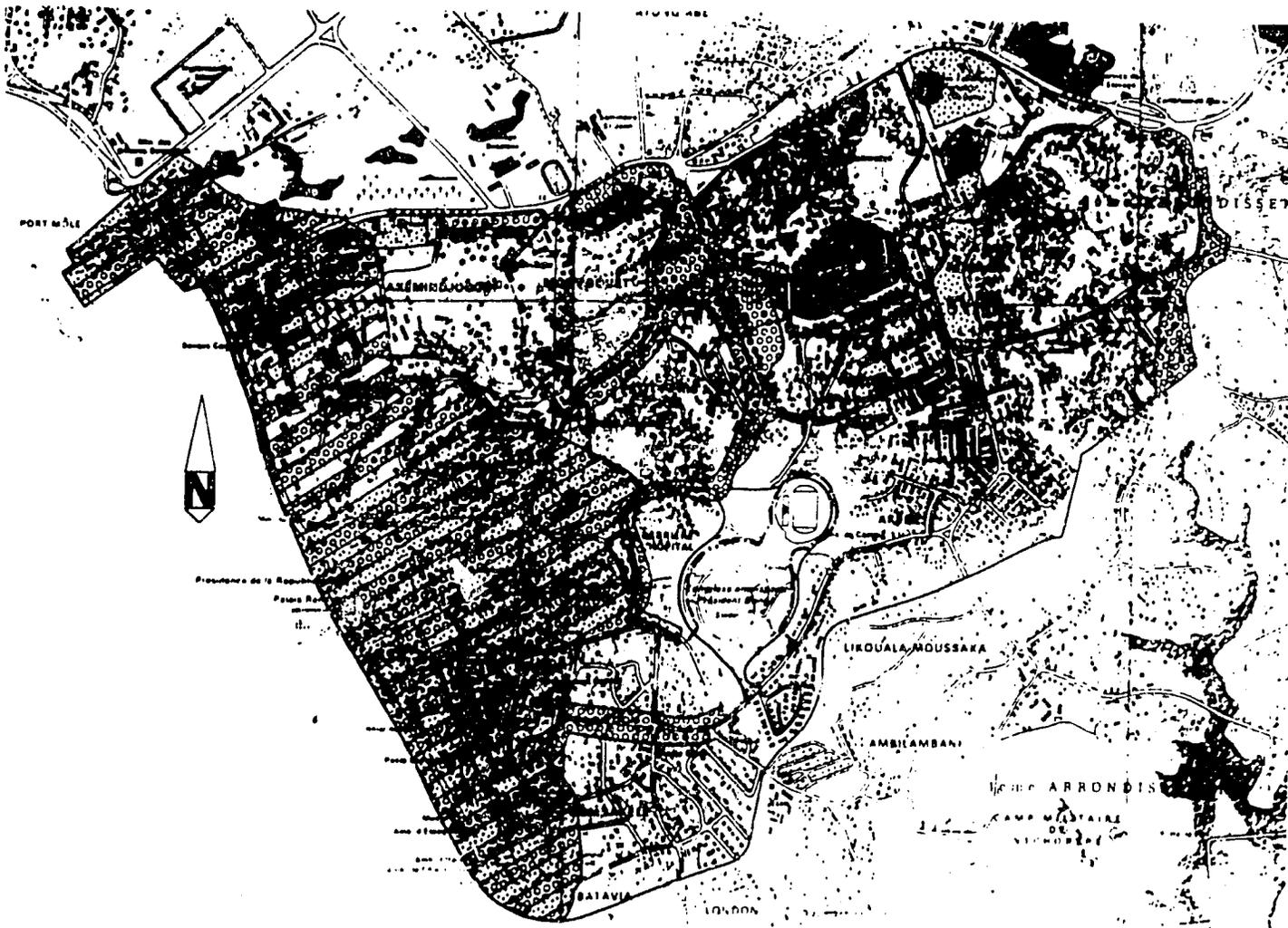
U.S. Embassy

Mr. Warren Clark Jr., Ambassador to Gabon

Mr. Kenneth Scott, Deputy Chief of Mission

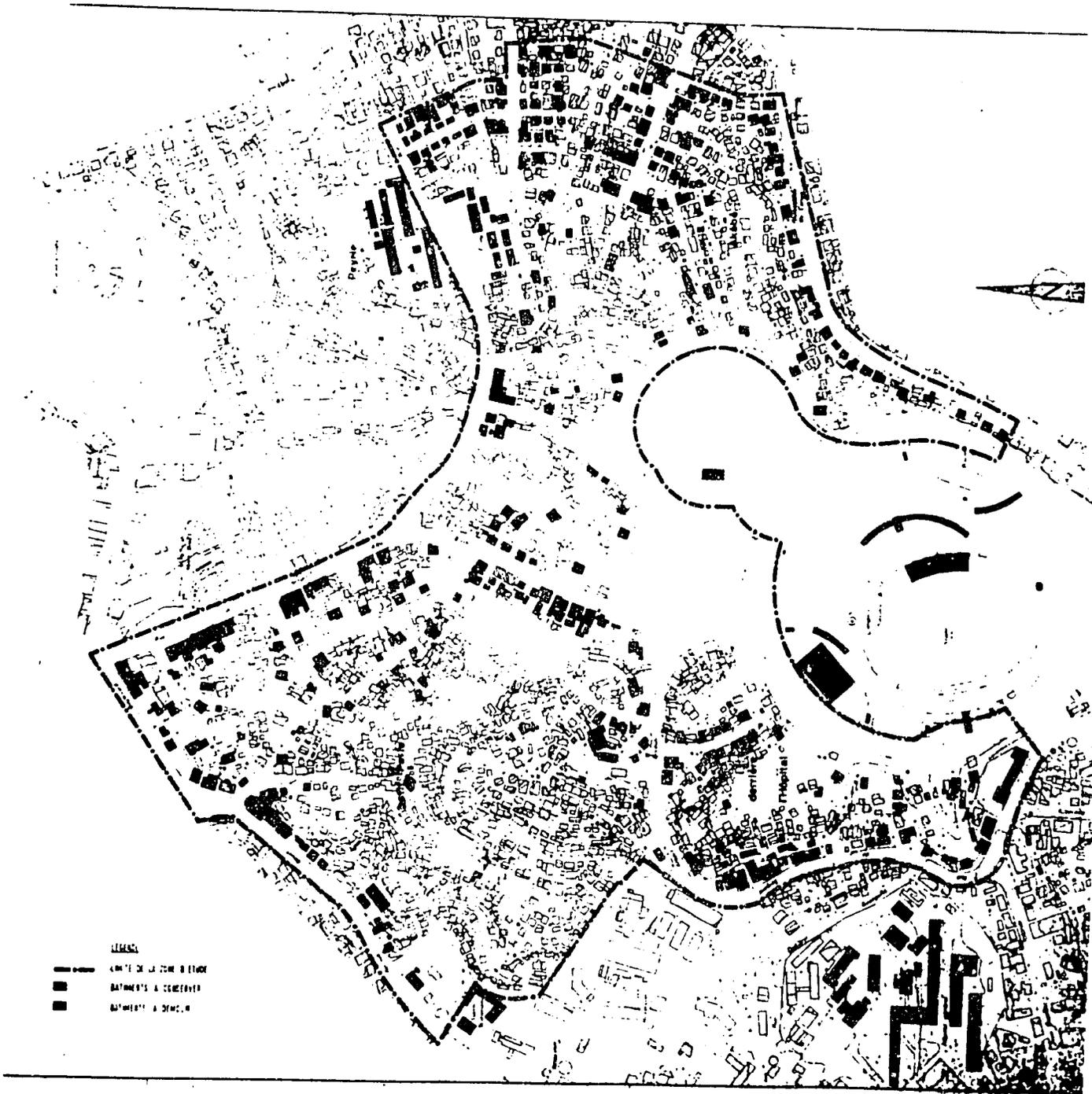
Plans for Petit Paris  
From Urban Development Plan for Libreville 1982  
by H.P.Gauff

Existing Land Use Plan



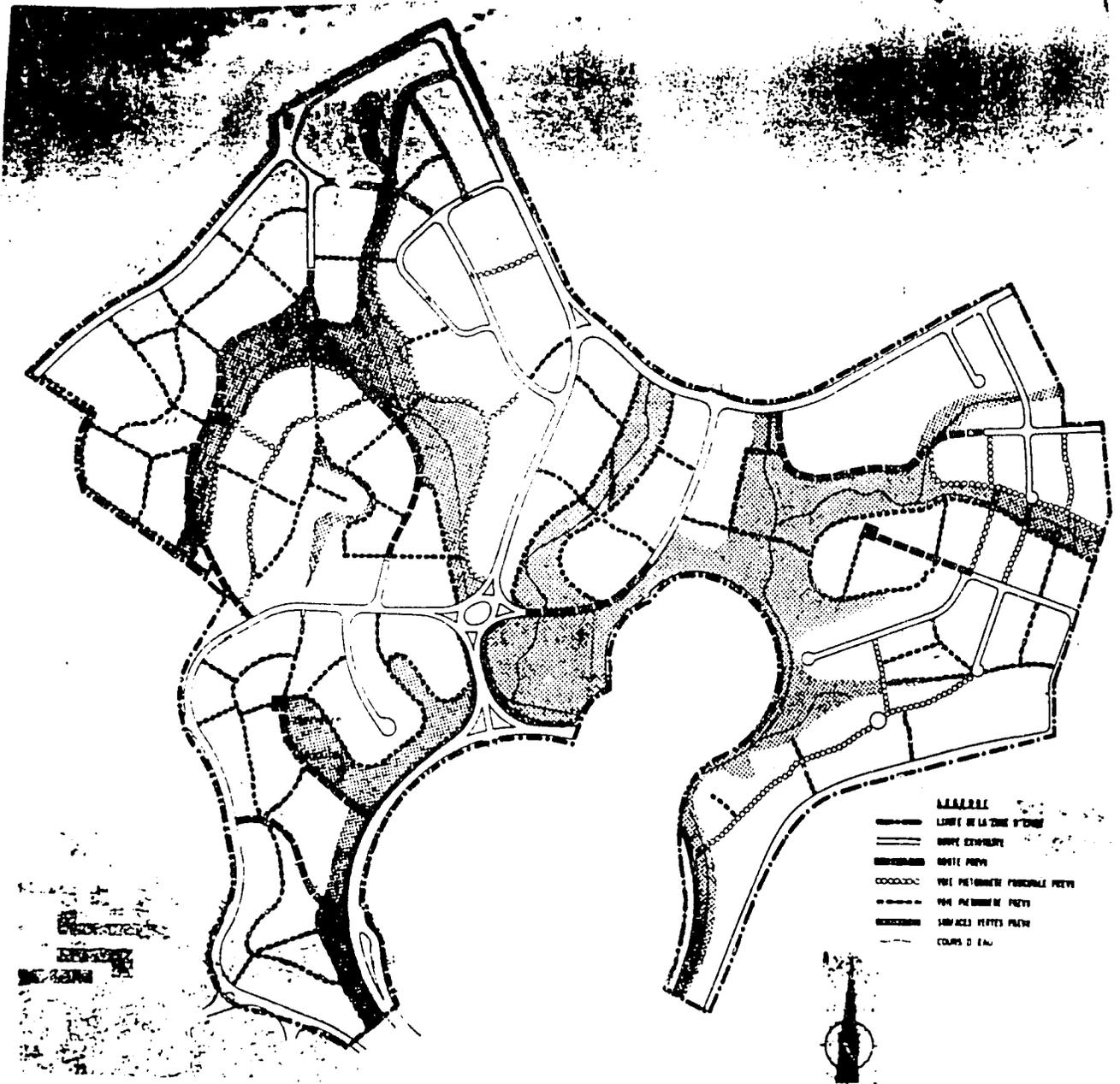
Plans for Petit Paris  
From Urban Development Plan for Libreville 1982  
by H.P.Gauff

Existing Structures



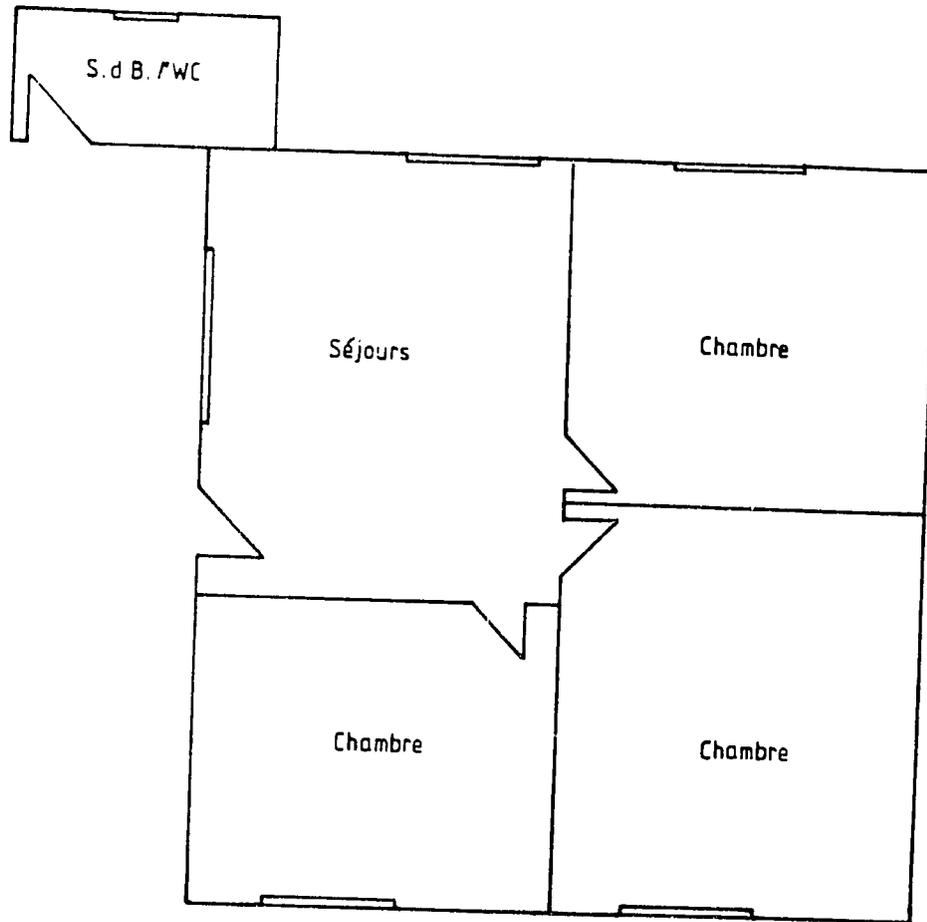
Plans for Petit Paris  
From Urban Development Plan for Libreville 1982  
by H.P.Gauff

Proposed Redevelopment Plan



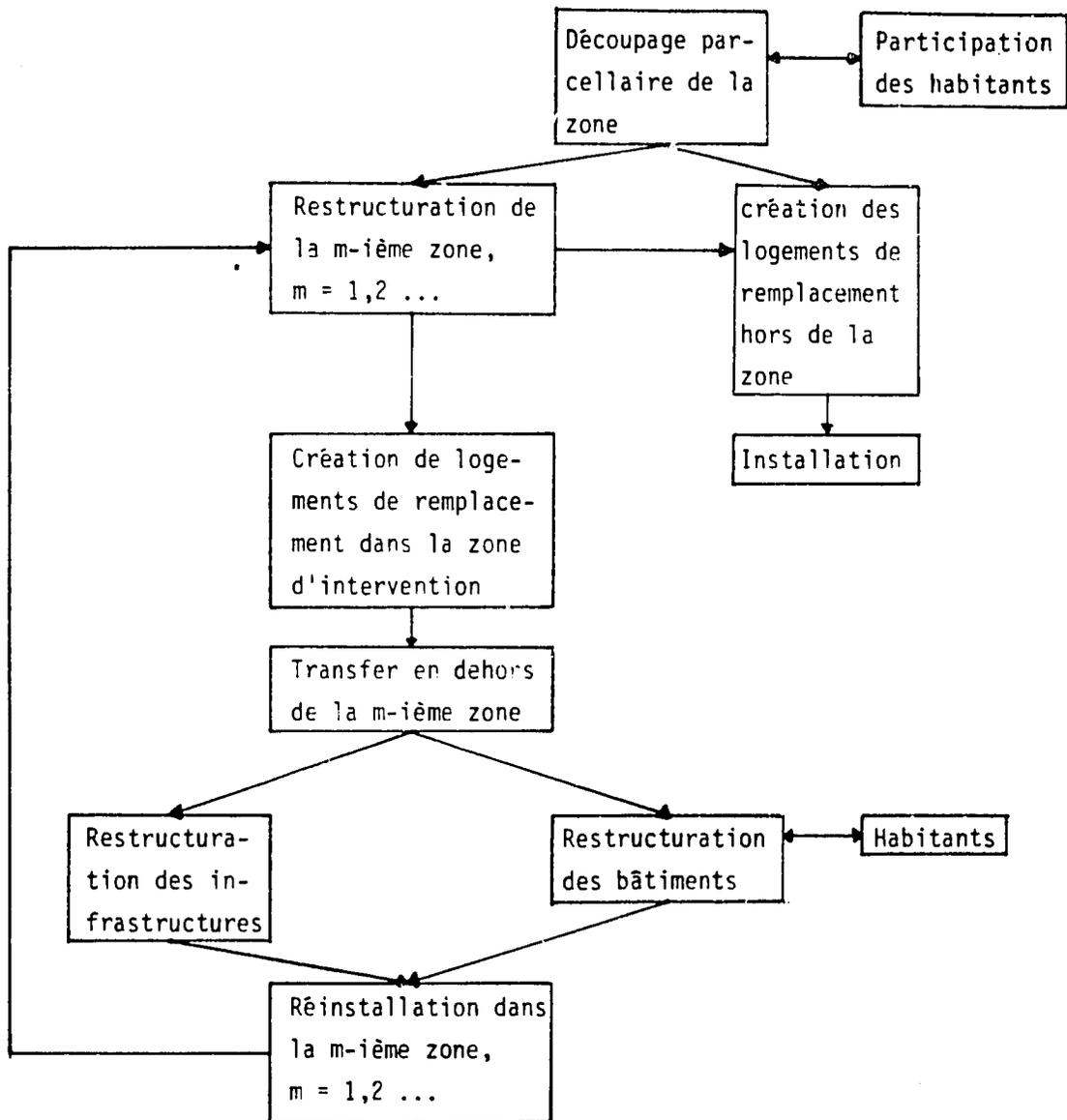
Plans for Petit Paris  
From Urban Development Plan for Libreville 1982  
by H.P.Gauff

Schematic Design of Houses for Proposed Redevelopment Plan



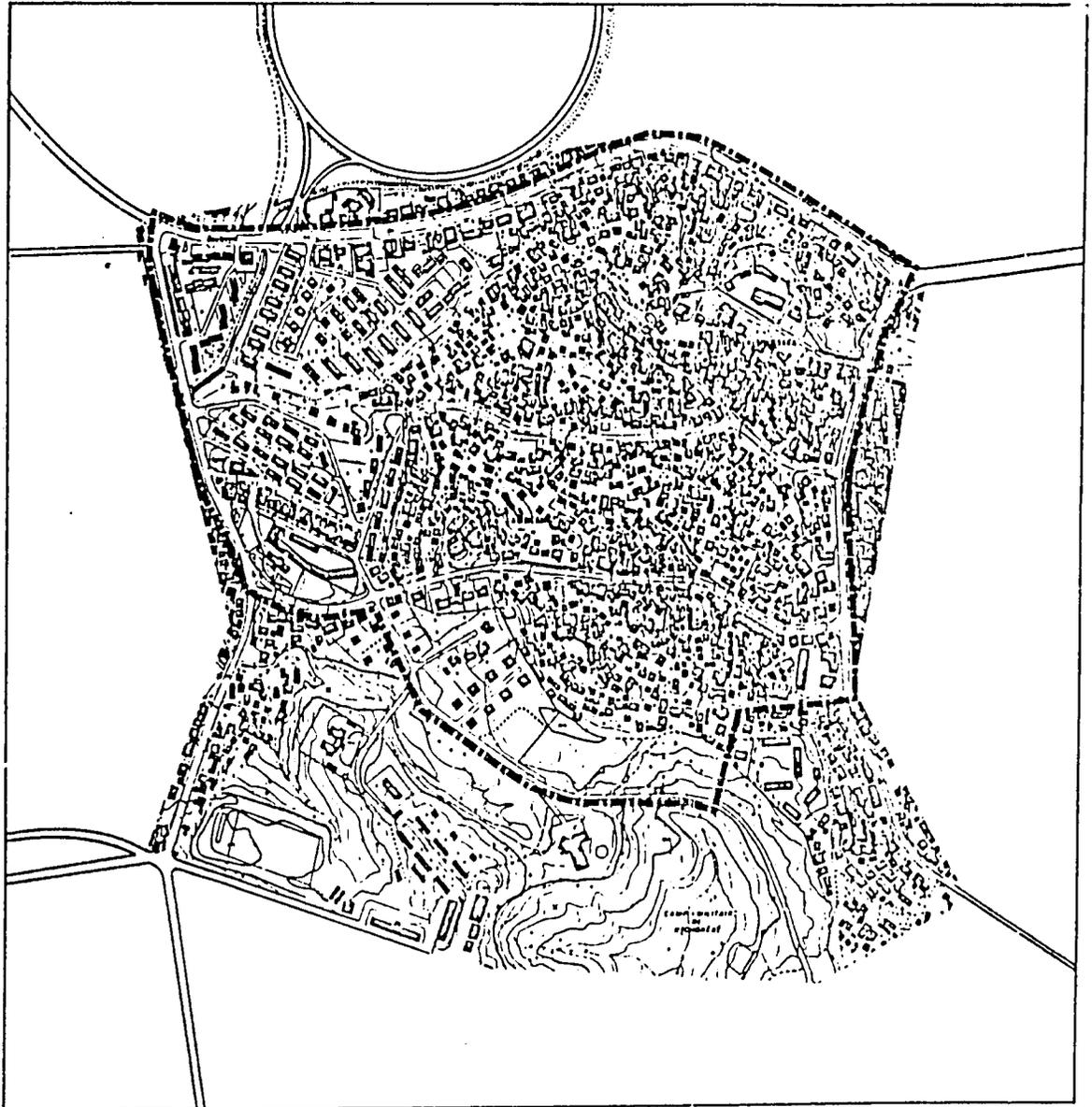
Plans for Petit Paris  
 From Urban Development Plan for Libreville 1982  
 by H.P.Gauff

Flow Chart Showing Proposed Project Implementation



Proposed Urban Renewal Plan for Akebé-Likooula  
by G.E.R.I. Gabon S.A.R.L.  
Report to Min. Urb. 1985

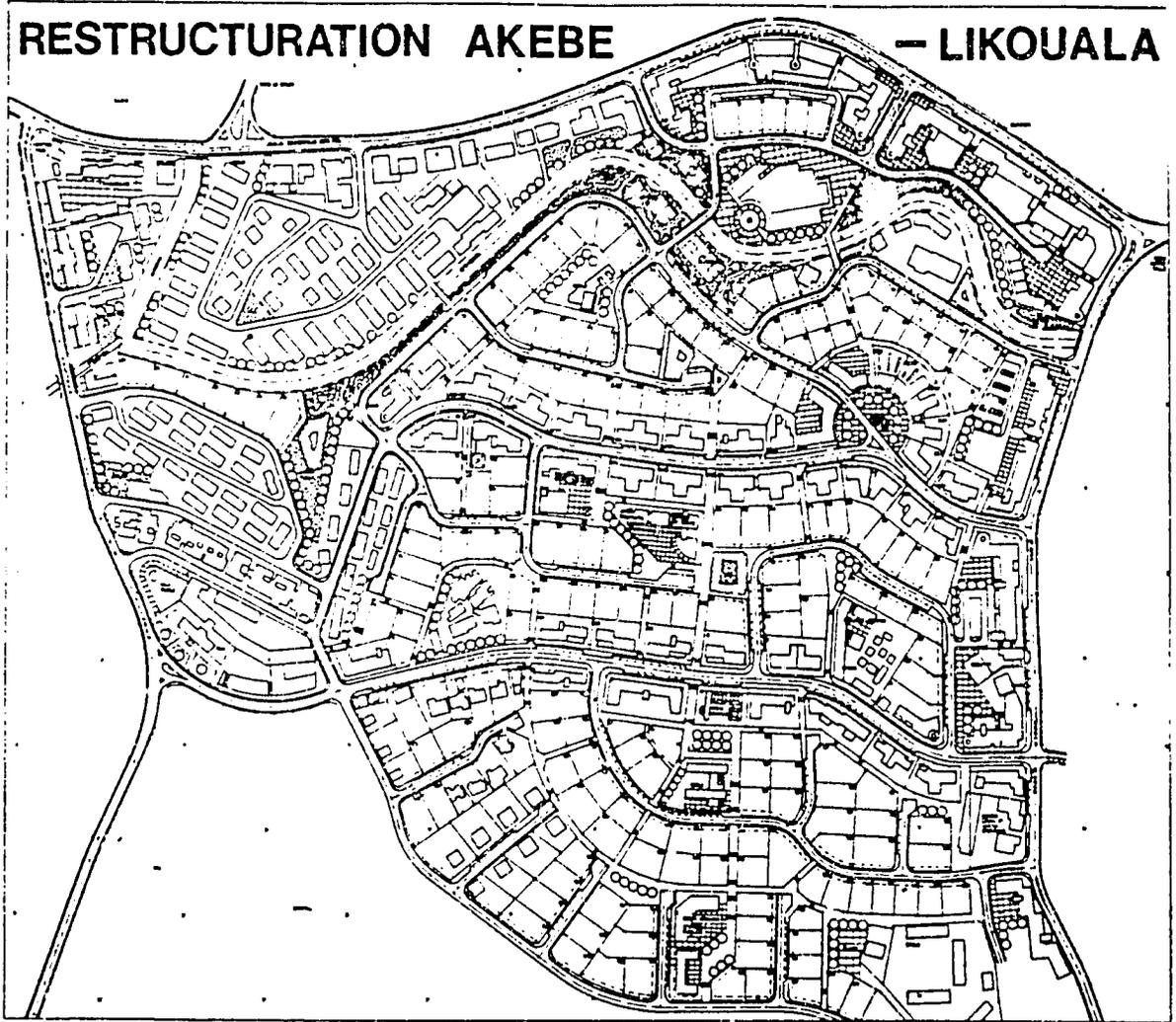
Plan of Existing Community



Proposed Urban Renewal Plan for Akebé-Likooula  
 by G.E.R.I. Gabon S.A.R.L.  
 Report to Min. Urb. 1985

Proposed Reconstruction Plan

**RESTRUCTURATION AKEBE - LIKOUALA**



**Légende :**

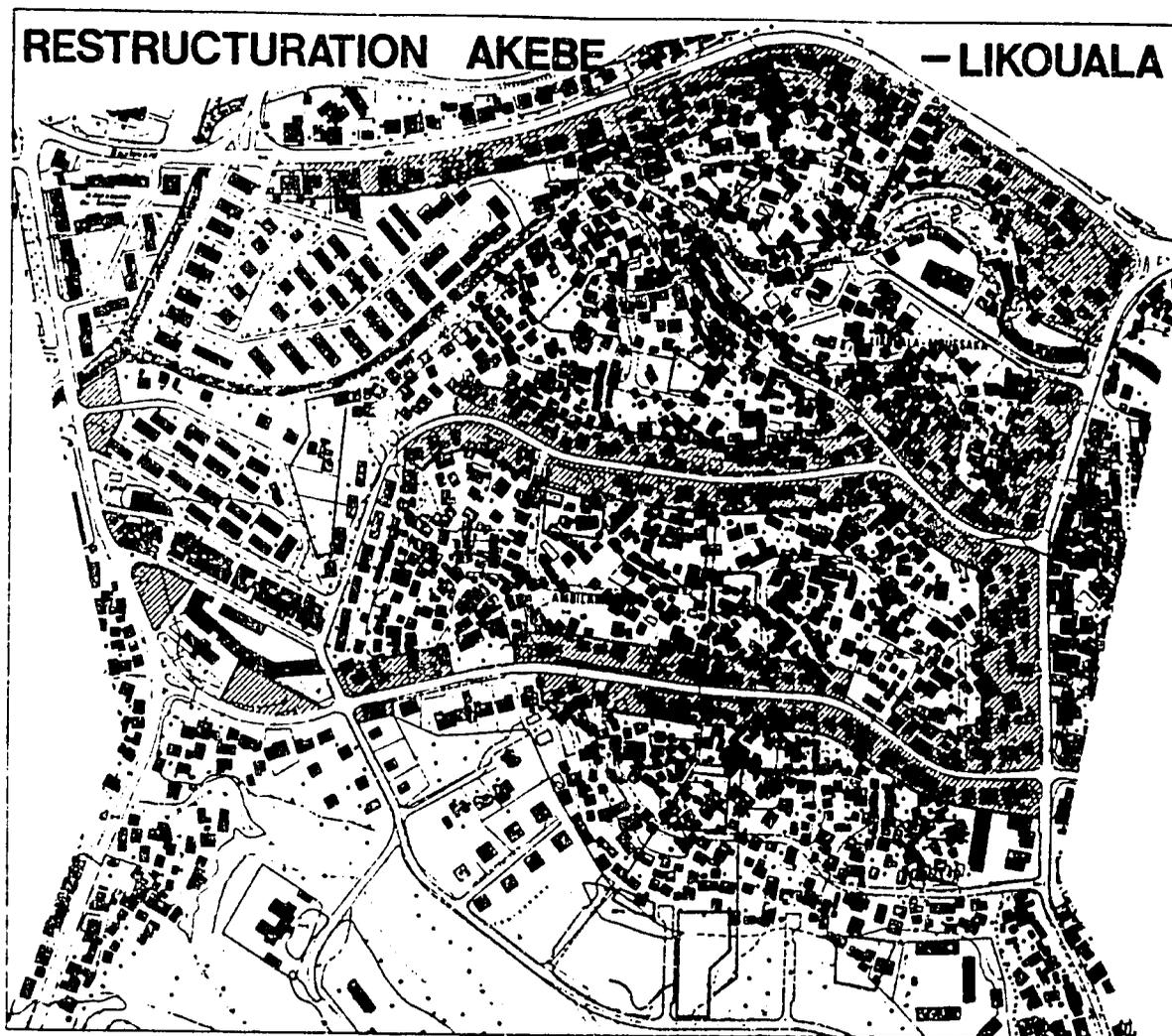
-  VOIRIE SECONDAIRE A CREER
-  VOIRIE TERTIAIRE A CREER  
EMPREINTE DE 8.00m - CHANSSURE DE 6.00m
-  VOIE PIETONNE
-  PARCING
-  PLACE PUBLIQUE
-  JARDIN PUBLIC ET ESPACES VERTS/  
TERRAINS DE SPORT
-  AIRE DE JEUX POUR ENFANTS
-  ALIGNEMENTS D'ARBRES

-  EQUIPEMENTS URBAINS
-  CONSTRUCTIONS R+1  
MAGASINS ET LOGEMENTS
-  CONSTRUCTIONS R+2/R+3  
ZONE MIXTE
-  CANALISATION
-  TRACÉ ET ZONE D'ENTRETIEN
-  ALIGNEMENT OBLIGATOIRE
-  PARCELLES D'HABITAT NOUVELLES OU MODIFIEES  
LOTISSEMENT
-  PARCELLES A UTILISATION MIXTE  
R+1
-  ZONE MIXTE DENSIFIEE -  
INTEGRATION PARTIELLE DE CONSTR. EXISTANTES
-  PARCELLAIRE EXISTANT/  
SANS NUMEROTATION

65

Proposed Urban Renewal Plan for Akebé-Likouala  
by G.E.R.I. Gabon S.A.R.L.  
Report to the Ministry of Urbanism, 1985

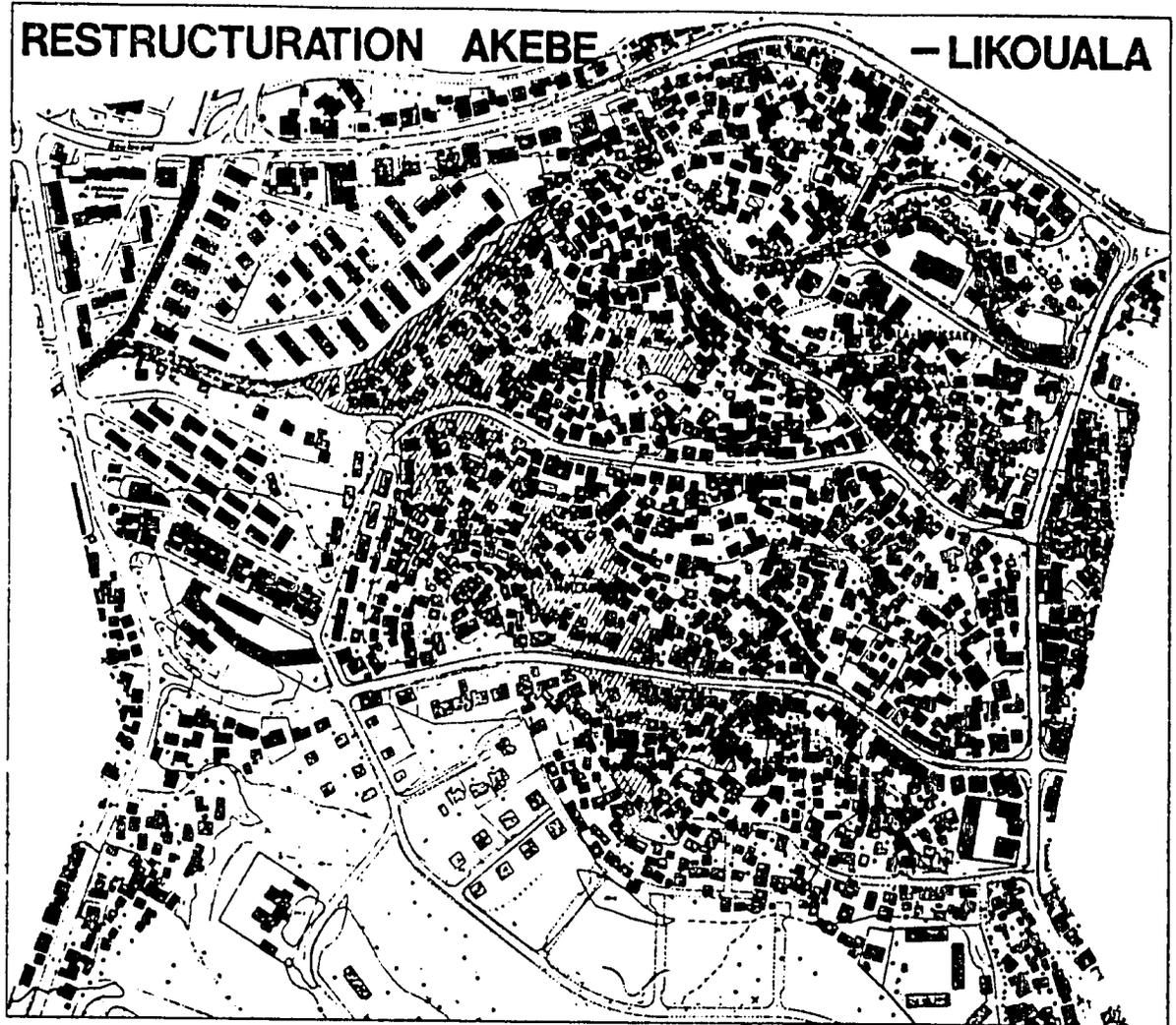
Plan of Existing Construction  
Showing Houses to be Demolished



G.E.R.I.'s proposal calls for the demolition of houses in poor physical condition. By wiping clean the site, the area should be able to rebuild with no problems. The theoretical argument appears schematically on page 5 of this annex. Shaded areas indicate constructions to be demolished.

Proposed Urban Renewal Plan for Akebé-Likooula  
by G.E.R.I. Gabon S.A.R.L.  
Report to Min. Urb. 1985

Plan Showing Houses to be Demolished for Flood Control and Roads



All shaded areas show constructions to be demolished for reasons of renewal. A comparison with the plan on page 3/10 will demonstrate that virtually all the houses are slated for demolition in the urban renewal program.

Proposed Urban Renewal Plan for Akebé-Likoaula  
by G.E.R.I. Gabon S.A.R.L.  
Report to Min. Urb. 1985

Schematic Plans of Zone Before and After Renewal

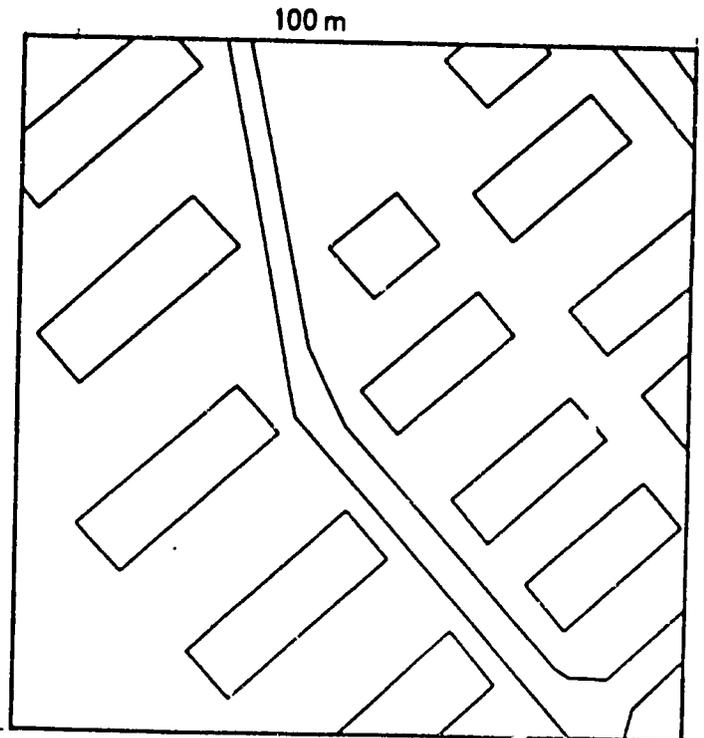
Spontaneous  
Development

(Before  
Renewal)



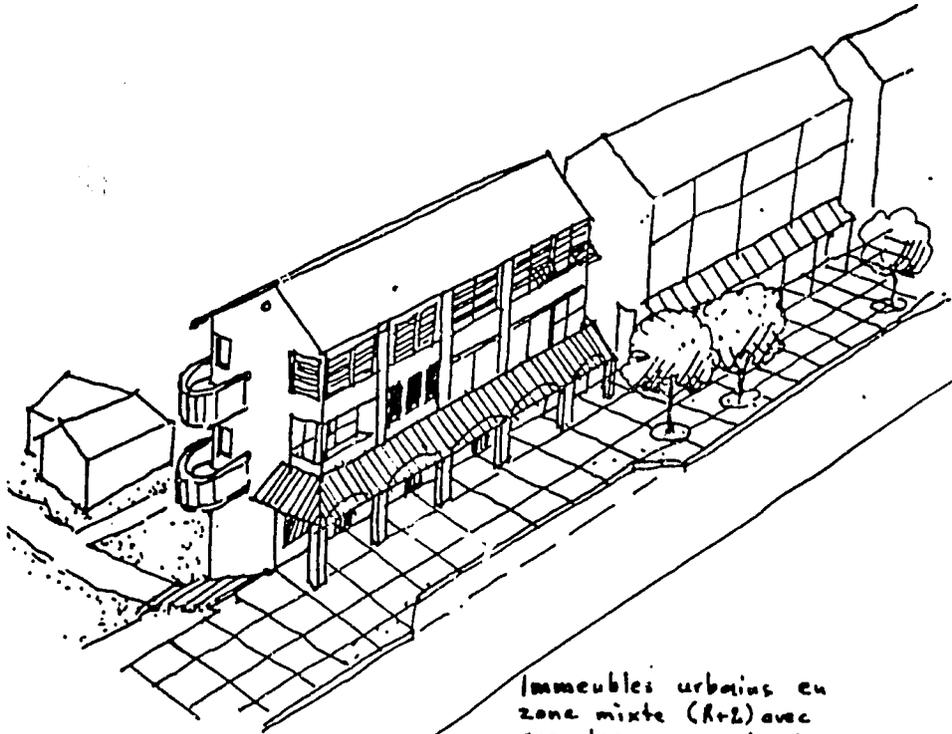
Planned  
Development

(After  
Renewal)

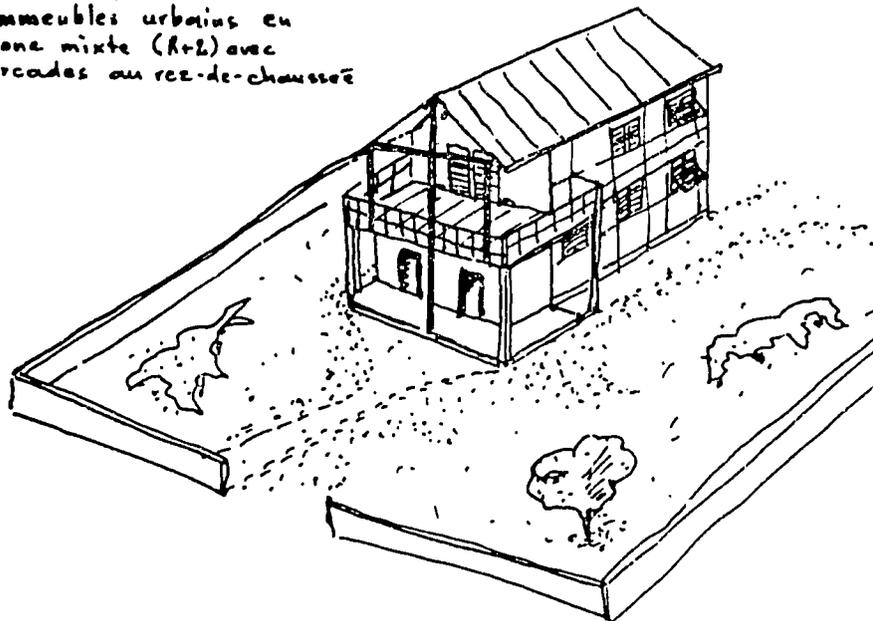


Proposed Urban Renewal Plan for Akebé-Likooula  
by G.E.R.I. Gabon S.A.R.L.  
Report to Min. Urb. 1985

Examples of High Density and Low Density Housing  
Proposed for the Site



Immeubles urbains en  
zone mixte (R+2) avec  
arcades au rez-de-chaussée

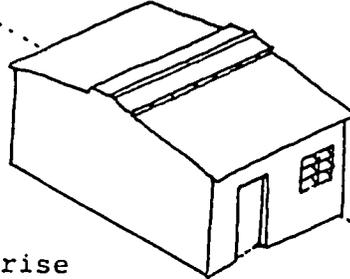


Exemple d'une maison  
individuelle en R+1  
dans le lotissement urbain

Proposed Urban Renewal Plan for Akebé-Likooula  
by G.E.R.I. Gabon S.A.R.L.  
Report to Min. Urb. 1985

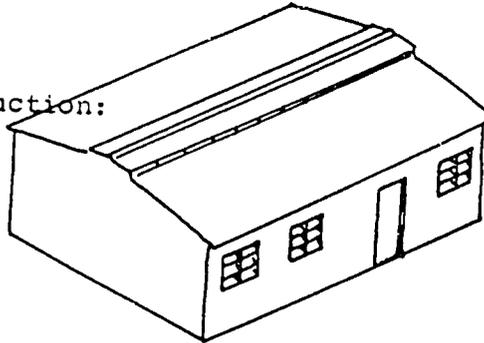
Expandable Core House Unit Design

Phase initiale:  
1 pièce principale  
1 salle d'eau  
1 cuisine  
(construit par entreprise  
ou tacheronnage)

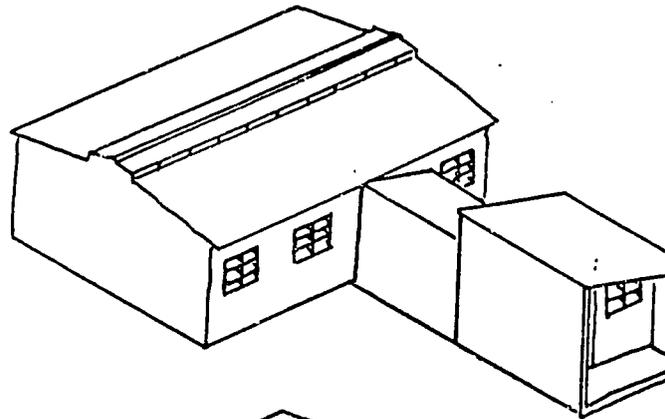


Phases  
d'autoconstruction:

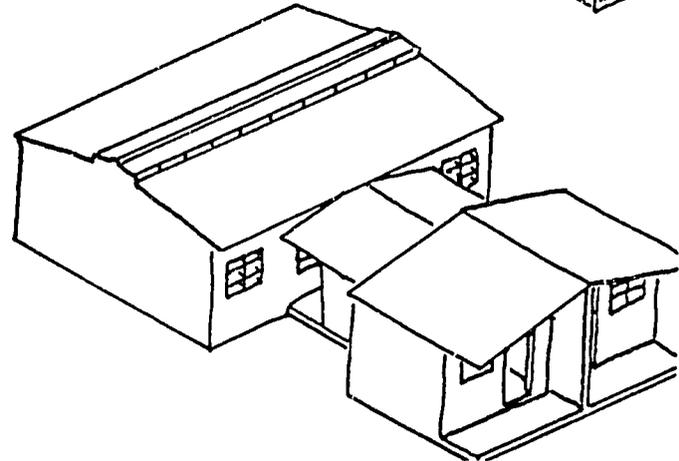
Phase 2:  
2 pièces



Phase 3:  
3 à 4 pièces



Phase 4:  
4 à 5 pièces



Proposed Urban Renewal Plan for Akebé-Likooula  
 by G.E.R.I. Gabon S.A.R.L.  
 Report to Min. Urb. 1985

## Proposed Densities

Zone	Surfaces en ha	Nombre des logements créés et existants	Densités logts/ha	Habitants	Densités hab./ha
I	10,37	174	16,1	835	80,5
II	6,21	63	9,2	285	46,0
III	11,94	129	11,0	655	55,0
IV	7,18	96	15,0	540	75,0
Sous-total I - IV	<u>35,70</u>	<u>462</u>	Moyenne <u>13,0</u>	<u>2315</u>	<u>65,0</u>
1	13,45	149	11,1	745	55,5
2	5,13	73	14,2	365	71,0
TOTAL	<u>54,28</u>	<u>684</u>	Moy. tot. <u>12,6</u>	<u>3425</u>	<u>63,0</u>

Cela implique un taux d'occupation de logement de 5 personnes/logement.

Proposed Urban Renewal Plan for Akebé-Likooula  
 by G.E.R.I. Gabon S.A.R.L.  
 Report to Min. Urb. 1985

Proposed Urban Services

Equipement	Surface en m <sup>2</sup>	Remarques
Jardin public	2600	à aménager et à agrandir (en zone II)
Places publiques	1225 2400	2 places créées en zone I
Ecole	2600	en zone IV
Ecole	1800	en zone III
Supermarché	4800	en zone I
Jardin d'enfants avec aire de jeux	1500 900	en zone II en zone IV
Centre de santé et dispensaire	1600	en zone IV
P.T.T., Banques et Services Publics et Centre communautaire	1800	en zone II
Terrains de sports	4000	en zone I
Espaces verts intégrés et aires de jeux pour enfants	4800	Dans toutes les zones
Total des surfaces (équipements créés)	<u>30,025</u>	<u>3,0025 ha</u>

Proposed Urban Renewal Plan for Akebé-Likooula  
 by G.E.R.I. Gabon S.A.R.L.  
 Report to Min. Urb. 1985

Proposed Land Use

Désignation	Surface en ha
Habitat existant * (218 logements)	18,58 ha
Habitat à créer * (467 logements)	25,35 ha
Equipements urbains existants	0,85 ha
Equipements urbains à créer	1,25 ha
Espaces verts, places et terrains de sport	1,75 ha
Voirie, chemins piétonniers et parkings Environ 4 km	4,00 ha
Canal du M'batavéa avec zone de service et de protection (espace vert) 1000 m de long	2,50 ha
Surface totale	<u>54,28 ha</u>

\* avec zones mixtes.

Urban Renewal Plan for 3 Target Neighborhoods  
Outline and General Budget  
Min. Urb. 1985

Demolitions and Expropriations

EVALUATION

AMENAGEMENT DES QUARTIERS :

- ALIBELIDUALA

- PETIT PARIS

- VENEZ-VIEIL

DEMOLITION - EXPROPRIATION

QUARTIER	TYPE DE CONSTRUCTION	DEMOLITION			EXPROPRIATION			TOTAL GENERAL
		NOMBRE	PRIX	TOTAL	NOMBRE	PRIX	TOTAL	
AREN LINDIALA	cases en dur	95	1.361.250	129.318.750	72	5.445.000	392.140.000	521.358.750
	cases en planchee	220	72.600	15.972.000	168	2.420.000	405.600.000	422.532.000
PETIT - PARIS	cases en dur	190	1.361.250	258.637.500	144	5.445.000	784.800.000	1.042.717.500
	cases en planchee	444	72.600	32.234.400	338	2.420.000	817.660.000	850.196.400
VENEZ - VIEIL	cases en dur	138	1.361.250	187.852.500	105	5.445.000	571.125.000	759.577.500
	cases en planchee	412	72.600	29.911.200	311	2.420.000	757.440.000	787.371.200
								4.383.752.350
								4.400.000.000

24

Urban Renewal Plan for 3 Target Neighborhoods  
 Outline and General Budget  
 Min.Urb, 1985

Relocation Scheme

OPERATION DE RELOGEMENT (EVALUATION SUPERFICIE)

DESIGNATION	ARENE LIMOUSIN	PETIT PARIS	VIENNE VOIR	TOTAL GENERAL
- Nombre de personnes devant faire l'objet du relogement	1,600	4,868	6,592	12,537
- Nombre de ménages devant faire l'objet de relogement	11	791	1,011	2,037
- Surface utile des ménages (moyenne 600 m <sup>2</sup> /m) (m <sup>2</sup> )	105,600	474,600	642,000	1,222,200
- Surface utile en vols divers (15 % de la surface utile ménages) (ha)	10,560	47,460	64,200	122,220
- Surface utile en vols divers (15 % de la surface utile ménages) (ha)	15,840	71,190	96,300	183,330
- Surface utile en équipements (10 % surface utile ménages) (m <sup>2</sup> )	10,560	71,190	96,300	183,330
- Surface utile en équipements (10 % surface utile ménages) (ha)	1,056	4,746	6,420	12,222
- Surface totale utile (m <sup>2</sup> )	132,000	593,250	802,500	1,527,750
- Surface totale utile (ha)	13,200	59,325	80,250	152,775

\* Le coût des travaux sera fonction de la topographie et de certains détails.

1/2

Urban Renewal Plan for 3 Target Neighborhoods  
Outline and General Budget  
Min. Urb, 1985

Beneficiary Populations

POPULATION

(1) Cette population est possible si l'on tient compte de la répartition du type d'habitation suivant :

- 40 % à 1 niveau
- 5 % à 2 niveaux
- 15 % en construction dense

DESIGNATION	AREM LIKOUALA		PETIT PARIS		VENEZ V'IN		TOTAL GENERAL	
	N	%	N	%	N	%	N	%
Nombre de personnes pouvant être recensé en compte après l'opération	1,614	59,551	3,984	47	2,471	30	8,404	40
Nombre de ménages pouvant être recensé en compte après l'opération *	240		647				1,365	40
Nombre de personnes devant faire l'objet de relogement	1,087	40,451	4,868	57	6,582	70	12,537	60
Nombre de ménages devant faire l'objet de relogement	176		791		1,000		2,037	
Population totale **	2,687	100	8,852	100	9,471	100	20,941	100
Nombre de ménages ***	437	100	1,440	100	1,528	100	3,405	100

\* Tous retenus à 1,15 personnes par unité d'habitation (6,15/uh)

\*\* D'après enquêtes socio-démographiques (D.G.M.U. Juillet 8) et Novembre 1981.

\*\*\* Un ménage égal une unité d'habitation ou une famille moyenne.

Urban Renewal Plan for 3 Target Neighborhoods  
Outline and General Budget  
Min. Urb, 1985

Cost of Civil Works

TRASSEMENTS GENERAUX

DESIGNATION	UNITE	PRIX UNITAIRE (CFA)	AREE LIQUIDA		PRIX	PARIS		VEMZ - VOIR		TOTAL GENERAL (CFA)
			QUANTITE	TOTAL		QUANTITE	TOTAL	QUANTITE	TOTAL	
Débrassement au nettoyage	m <sup>2</sup>	10,000,000	54,28	542,800	10,000,000	542,800	47,00	470,000	10,000,000	1,049,600,000
Décharge terre végétale	m <sup>3</sup>	180	542,800	97,704,000	650,000	117,000,000	470,000	84,600,000	291,304,000	291,304,000
Fédération des bords	m <sup>3</sup>	3,727	10,856	32,856,000	97,000	292,530,000	21,150	42,507,500	392,284,000	392,284,000
Sablons de sable	m <sup>3</sup>	6,400	3,600	23,040,000	65,000	412,500,000	14,100	40,240,000	579,780,000	579,780,000
Sablons ordinaires	m <sup>3</sup>	1,800	54,280	98,518,200	67,000	117,975,000	235,000	426,525,000	643,018,200	643,018,200
Sablons d'apport	m <sup>3</sup>	282,250	282,250	11,290,000,000	195,000	7,807,500,000	23,500	102,225,000	12,179,725,000	12,179,725,000
Aménagement du cours d'eau	m <sup>1</sup>	281,250	1,000	281,250,000	1,500	421,875,000	2,000	562,500,000	1,265,625,000	1,265,625,000
Voies secondaires	m <sup>1</sup>	91,200	643	58,641,600	770	70,224,000	557	50,798,400	139,664,000	139,664,000
Voies tertiaires	m <sup>1</sup>	84,800	4,168	370,086,400	4,991	423,352,000	3,610	303,928,000	1,100,366,400	1,100,366,400
Espaces libres et chemins piétons	m <sup>2</sup>	730	16,264	11,887,320	14,500	10,525,000	14,100	10,293,000	36,495,320	36,495,320
Caniveaux	m <sup>1</sup>	50,600	9,522	481,812,000	11,000	556,700,000	8,332	421,485,200	1,469,997,200	1,469,997,200
Dalles	m <sup>1</sup>	50,600	200	10,120,000	1,000	50,600,000	173	8,708,400	69,428,400	69,428,400
2 buses @ 1500 m <sup>2</sup>	m <sup>2</sup>	7,300,000	2,00	14,600,000	1,000	7,300,000,000	2,000	14,600,000,000	29,500,000,000	29,500,000,000
2 buses @ 1000 m <sup>2</sup> sous rive	m <sup>2</sup>	28,200,000	1,00	28,200,000	1,000	28,200,000,000	1,000	28,200,000,000	57,400,000,000	57,400,000,000
				2,729,499,452		1,356,614,000		2,170,516,000	18,291,632,452	18,291,632,452
									18,291,632,452	18,291,632,452

**Urban Renewal Plan for 3 Target Neighborhoods  
Outline and General Budget  
Min.Urb, 1985**

**Cost Break Downs**

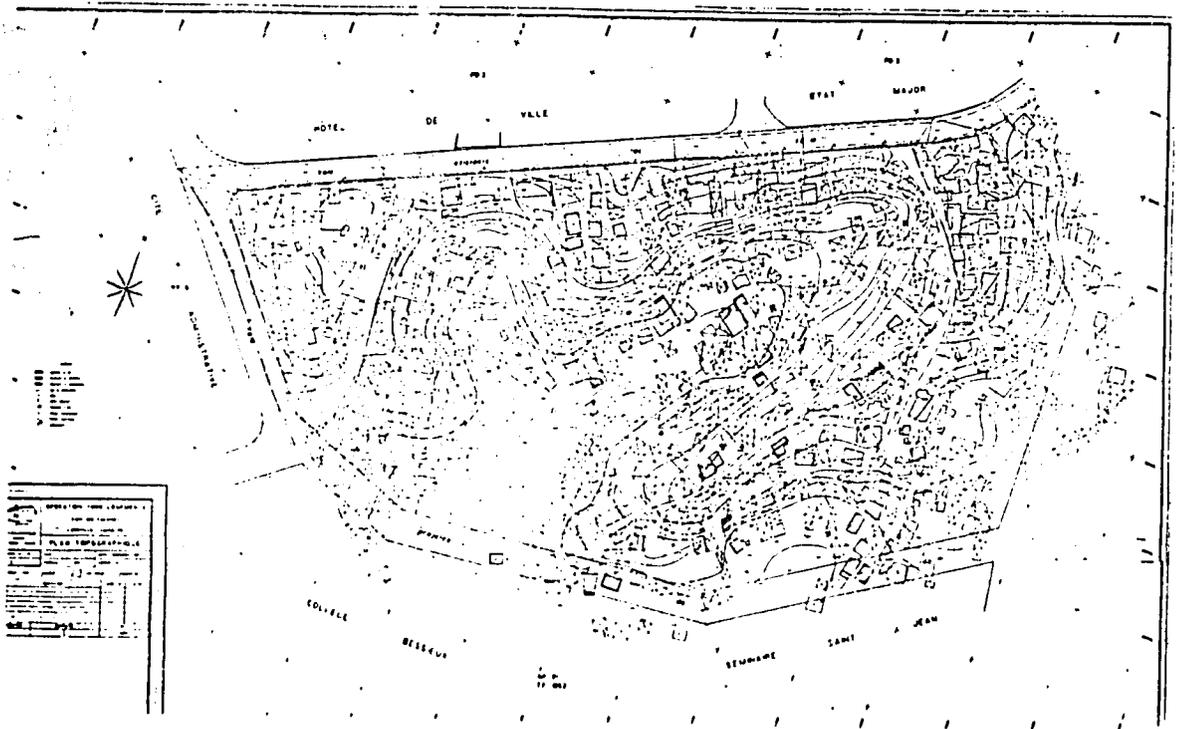
Urban Improvement Projects Renewal

Prix/Urbanisme Plan Trois Quartiers

Action	Unite	Prix Unitaire	Quantite	Total	Prix/m²/m³
<b>Preparation et Desolition</b>					
cases en dur	case	1361250.00	423.00	575808750.00	421837.91
cases en planche	case	72600.00	1072.00	77827200.00	57016.26
logements temporales	logement	0.00		0.00	0.00
incendization- cases en dur	case	5445000.00	321.00	1747645000.00	1280472.53
indemnization- case en planche	case	2420000.00	819.00	1981980000.00	1452000.00
Total.....				4363460950.00	3211326.70
<b>1. Terrassement</b>					
1.1 Nettoyage generale	m²	137.94	1662800.00	229366632.00	168034.16
1.2 decoupage vegetale	m²	180.00	1662800.00	299304000.00	213270.33
1.3 Gros mouvements de terre	m³	4850.00	213464.45	1035302600.00	758463.44
1.4 Profilages finales	m³	6400.00	82700.00	529280000.00	387750.92
1.5 Remblais d'apport	m³	4350.00	500750.00	2178262500.00	1595796.70
1.6 Murs de soutènement/	m³	0.00	0.00	0.00	0.00
Total.....				3742845100.00	2742011.06
<b>2. Voiries</b>					
2.1 Aménagement cours d'eau	m1	281250.00	4500.00	1265625000.00	927197.80
2.2 Voiries secondaires	m1	91200.00	1970.00	179664000.00	131621.98
2.3 Voiries tertiaires principales	m1	64800.00	12768.00	827366400.00	606129.23
secondaires	m1	50600.00	25376.00	1486425600.00	1088956.48
				0.00	0.00
2.5 voiries diagonales	m1	90800.00	613.00	55660400.00	40776.85
2.6 escaliers et rampes	unite	7300000.00	7.00	51100000.00	37435.90
Total.....				3865841400.00	2832118.24
<b>3. Services Publiques</b>					
3.1.1 Tranchee pour l'electricite	m1	1440.00	30702.00	44210880.00	32388.92
3.1.2 Fourniture et pose de forreau	m1	30860.00	30702.00	947463720.00	694112.62
3.1.3. Réseau B"	m1	27015.00	30702.00	829414530.00	607629.69
3.1.4. Fourniture et pose de forreau	m1	14200.00	30702.00	435968400.00	319390.77
3.2 Aqueduc au domicile	m1	16220.00	30702.00	497986440.00	364825.23
3.3 Réseau des eaux usages	m1	2027.50	30702.00	62248305.00	45603.15
Total.....				2817292275.00	2063950.38
<b>Estimatif - 5 Quartiers</b>					
Incendizations				2092.00	585054.00
1. Demolitions				138022.2170.77	3211326.70
2. Terrassements				1178511.8545.64	2742011.06
3. Voies et Chemins				12172444203.08	2832118.24
4. Services Publiques				8870658753.08	2063950.38
				0.00	
Sous Total.....				49145310764.56	11434460.39
<b>Autres</b>					
Services Communaires	m2	50000.00	19000.00	950000000.00	279247.50
Relocations		5000000.00	2037.00	10185000000.00	2993827.16

Cocotiers, Plans and Photographs  
September, 1987

General Plan of Zone



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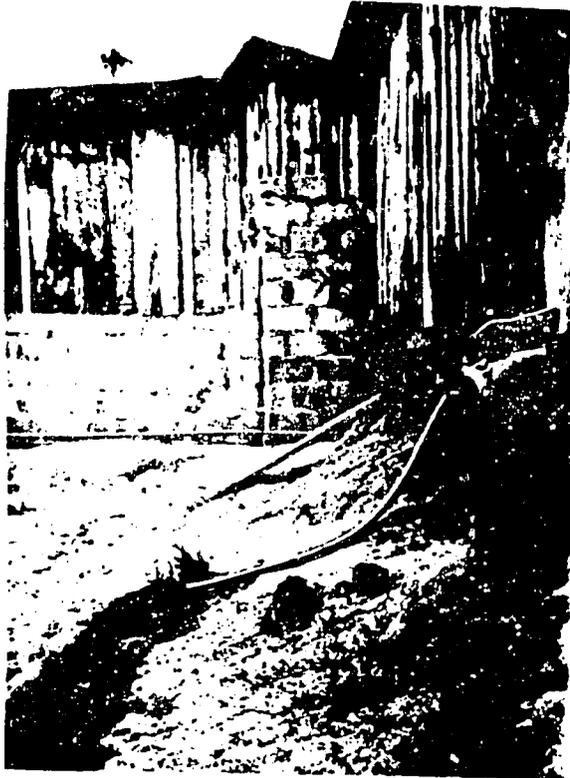
Cocotiers, Plans and Photographs  
September, 1987

In its higher sectors,  
Cocotiers suffers from  
erosion. (right)

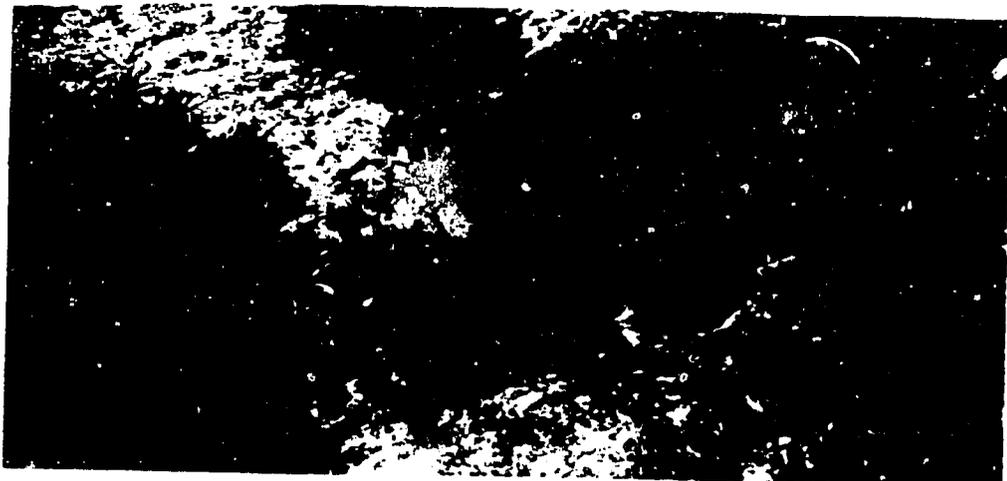
In the lowlands, it  
experiences floods every  
year. (below)



Cocotiers, Plans and Photographs  
September, 1987



Erosion is produced by the un-  
controlled run-off from domes-  
tic waste waters combined with  
rain and stormwater coursing  
through the area.



Cocotiers, Plans and Photographs  
September, 1987



An efficient retaining wall can make all the difference between erosion and stability.



Cocotiers, Plans and Photographs  
September, 1987

Public Standpipes and Electric Power Cables bring adequate water and electric supply to the entire site.



Cocotiers, Plans and Photographs  
September, 1987

Examples of Progressive Development



New Block houses go up around  
and next to the existing wood  
shanties.



Cocotiers, Plans and Photographs  
September, 1987

The Hazards of Erosion



80



**Cocotiers Urban Renovation Project**  
**Project Costs: Lots 150 Meters Squire; 10m X 15m**

Urban Improvement Project Libreville		Renovation P/Cocotiers-Plan de lots 150 m2 - 10 X 15 Prix/S.N.I.				
Action	Unite	Prix Unitaire	Quantite	Prix Total	No. Menages	Prix/Menage
<b>Preparation et Demolition</b>						
cases en dur	case	500000.00	96.00	48000000.00	530.00	90566.04
cases en planche	case	166666.67	247.00	41166666.67	530.00	77672.96
logements temporales	logement	750000.00	150.00	112500000.00	530.00	212264.15
indemnization- cases en dur	case	5445000.00	96.00	522720000.00	530.00	986264.15
indemnization- case en planche	case	2420000.00	247.00	597740000.00	530.00	1127811.32
<b>Total.....</b>				<b>1322126666.67</b>	<b>530.00</b>	<b>2494578.62</b>
<b>1. Terrassement</b>						
1.1 Nettoyage generale	m2	200.00	109000.00	21800000.00	530.00	41132.08
1.2 decapage vegetale	m2	180.00	109000.00	19620000.00	530.00	37018.87
1.3 Gros mouvements de terre	m3	1120.00	85510.00	95771200.00	347.00	275997.69
1.4 Profilages finaux	m3	250.00	88510.00	22127500.00	347.00	63768.01
1.5 Remblais d'apport	m3	2659.00	1197.34	3183715.77	347.00	9174.97
1.6 Purs de soutenevent/	m3	4250.00	465.75	2026012.50	347.00	5838.65
<b>Total.....</b>				<b>123108426.27</b>	<b>347.00</b>	<b>354779.33</b>
<b>2. Voies</b>						
2.1 Aménagement cours	m1					
2.2 Voiries secondaires	m1	47500.00	675.00	32062500.00	347.00	92359.14
2.3 Voiries tertiaires	m1	32500.00	1411.00	45957500.00	347.00	132154.18
2.4 Caniveaux principaux et secondaires	m1	39660.00	1350.00	53541000.00	347.00	154296.83
2.5 voiries diagonales	m1	19830.00	360.00	7138800.00	347.00	20572.91
2.6 escaliers et rampes	unite	730.00	205.00	149550.00	347.00	431.27
<b>Total.....</b>				<b>132909450.00</b>	<b>347.00</b>	<b>400315.42</b>
<b>3. Services Publiques</b>						
3.1.1 Tranchee pour l'electricite	m1	1440.00	3232.00	4654080.00	347.00	13412.33
3.1.2 Fourniture et pose de fourreau	m1	30860.00	3232.00	99739520.00	347.00	287433.78
3.1.3. Réseau BT	m1	27015.00	3232.00	87312480.00	347.00	251620.98
3.1.4. Fourniture et pose de fourreau	m1	14200.00	3232.00	45894400.00	347.00	132260.52
3.2 Acueduct/service au domicile	m1	16220.00	3232.00	52423040.00	347.00	151075.04
3.3 tuyaux des eaux usages	m1	2027.50	3232.00	6552880.00	347.00	18884.38
<b>Total.....</b>				<b>296576400.00</b>	<b>347.00</b>	<b>854687.03</b>
<b>Grand Totale</b>						
1. Demolitions				1322126666.67		2494578.62
2. Terrassements				123108426.27		354779.33
3. Voies et Chemins				212167171.47		400315.42
4. Services Publiques				452994126.80		854687.03
5. Services Communaires				0.00		
<b>Total.....</b>				<b>2175311007.94</b>		<b>4104360.39</b>

**Cocotiers Urban Renovation Project**  
**Project Costs: Lots 120 Meters Square: 8m. X 15m.**

Cocotiers- Plan lots 120 m2		Prix/S.M.I.				
Action	Unite	Prix Unitaire	Quantite	Total	No. Menages	Prix/Menuage
<b>Preparation et Demolition</b>						
cases en dur	case	500000.00	95.00	45000000.00	530.00	90566.04
cases en planche	case	166666.67	247.00	41666666.67	530.00	77672.56
logements temporaires	logement	750000.00	150.00	112500000.00	530.00	212264.15
indemnization- cases en dur	case	5445000.00	95.00	522200000.00	530.00	986264.15
indemnization- case en planche	case	2420000.00	247.00	597740000.00	530.00	1127811.32
Total.....				1322126666.67	530.00	2494576.62
<b>1. Terrassement</b>						
1.1 Nettoyage generale	m2	200.00	51616.25	10323250.00	347.00	29750.30
1.2 decapage vegetale	m2	180.00	51616.25	9290925.00	347.00	26775.30
1.3 Gros mouvements de terre	m3	1120.00	28355.00	31757600.00	347.00	91520.46
1.4 Profilages finaux	m3	250.00	7080.75	1772187.50	347.00	5107.17
1.5 Remblais d'apport	m3	2659.00	1079.74	2871023.66	347.00	8273.66
1.6 Murs de soutenezent/	m3	4350.00	453.00	1970550.00	347.00	5676.82
Total.....				57985541.16	347.00	167105.31
<b>2. voies</b>						
2.1 Amenagement cours d'eau	m1	0.00	0.00	0.00	0.00	0.00
2.2 Voiries secondaires	m1	47500.00	675.00	32062500.00	347.00	92399.14
2.3 Voiries tertiaires	m1	32500.00	1056.00	34320000.00	347.00	98904.30
2.4 Caniveaux principaux et secondaires	m1	79560.00	1350.00	53541000.00	347.00	154296.53
2.5 voiries osetonales	m1	19830.00	360.00	7138800.00	347.00	20572.91
2.5 voiries osetonales	m1	730.00	205.00	149650.00	347.00	431.27
2.6 escaliers et rampes	unite		14.00	0.00	347.00	0.00
Total.....				127211950.00	347.00	366606.04
<b>3. Services Publiques</b>						
3.1.1 Franchise pour l'electricite	m1	1440.00	2522.00	3631680.00	347.00	10465.94
3.1.2 Fourniture et pose de fourreau	m1	30860.00	2522.00	77628920.00	347.00	224290.64
3.1.3. Réseau BT	m1	27015.00	2522.00	68131830.00	347.00	196345.33
3.1.4. Fourniture et pose de fourreau domicile	m1	14200.00	2522.00	25812400.00	347.00	103205.75
3.2 tuyaux des eaux usages	m1	16220.00	2522.00	40905840.00	347.00	117667.15
3.3 tuyaux des eaux usages	m1	2027.50	2522.00	5112355.00	347.00	14735.69
Total.....				231425025.00	347.00	666930.91
<b>Grand Totale</b>						
1. Demolitions				1322126666.67		2494576.62
2. Terrassements				68565812.15		167105.31
3. Voies				194306672.91		366606.04
4. Services Publiques				353473381.12		666930.91
5. Services Communaires				0.00		
Total.....				1958466532.85		3695219.87

**Cocotiers Urban Renovation Project**  
**Project Costs: Lots 105 Meters Square: 7m. X 15m.**

Action	Unite	PRIX/D.M.I.		Total	No. Menages	Prix/Menage
		Prix Unitaire	Quantite			
<b>Preparation et Demolition</b>						
cases en dur	case	500000.00	96.00	48000000.00	530.00	90566.04
cases en planche	case	166666.67	247.00	41166666.67	530.00	77672.96
logements temporais	logement	750000.00	150.00	112500000.00	530.00	212264.15
indemnization- cases en dur	case	5445000.00	96.00	522720000.00	530.00	986264.15
indemnization- case en planche	case	2420000.00	247.00	597740000.00	530.00	1127811.32
<b>Total.....</b>				<b>1322126666.67</b>	<b>530.00</b>	<b>2494576.52</b>
<b>1. Terrassement</b>						
1.1 Nettoyage generale	m2	200.00	45543.75	9108750.00	347.00	26250.00
1.2 decapage vegetale	m2	180.00	45543.75	8197375.00	347.00	23625.00
1.3 Gros mouvements du terre	m3	1120.00	15146.00	16963520.00	347.00	48860.22
1.4 Profilages finales	m3	250.00	3786.50	946625.00	347.00	2728.13
1.5 Remblais d'apport	m3	2559.00	536.50	2490153.50	347.00	7175.13
1.6 Murs de soutenelement/	m3	4350.00	453.00	1979550.00	347.00	5678.52
<b>Total.....</b>				<b>39677473.50</b>	<b>347.00</b>	<b>114344.30</b>
<b>2. Voies et Chemins</b>						
2.1 Aménagement cours d'eau	m1	0.00	0.00	0.00		0.00
2.2 Voiries secondaires	m1	47500.00	675.00	32062500.00	347.00	92399.14
2.3 Voiries tertiaires	m1	32500.00	901.00	29282500.00	347.00	84387.61
2.4 caniveaux principaux:	m1	39650.00	1350.00	53541000.00	347.00	154296.63
secondaires	m1	19830.00	360.00	7136600.00	347.00	20572.91
2.5 voiries piétonales	m1	720.00	205.00	149650.00	347.00	421.27
2.6 escaliers et rampes	unite		14.00	0.00	347.00	0.30
<b>Total.....</b>				<b>122174450.00</b>	<b>347.00</b>	<b>352087.75</b>
<b>3. Services Publiques</b>						
3.1.1 tranchée pour l'électricité	m1	1440.00	2212.00	3185280.00	347.00	9179.42
3.1.2 Fourniture et pose de fourreau,	m1	30860.00	2212.00	68262320.00	347.00	196721.33
3.1.3. Réseau BT	m1	27015.00	2212.00	59757180.00	347.00	172210.89
3.1.4. Fourniture et pose de fourreau	m1	14200.00	2212.00	31410400.00	347.00	90519.56
3.2 aqueduc/ service au domicile	m1	16220.00	2212.00	35876640.00	347.00	102396.66
3.3 tuyaux des eaux usages	m1	2027.50	2212.00	4484830.00	347.00	12924.58
<b>Total.....</b>				<b>202976650.00</b>	<b>347.00</b>	<b>584952.56</b>
<b>Grand Totale</b>						
1. Demolitions				1322126666.67		2494576.52
2. Terrassements				60602481.14		114344.30
3. Voies et Chemins				186606508.65		352087.75
4. Services Publiques				310025027.38		584952.56
5. Services Communaires				0.00		
<b>Total.....</b>				<b>1879360683.83</b>		<b>3545963.55</b>

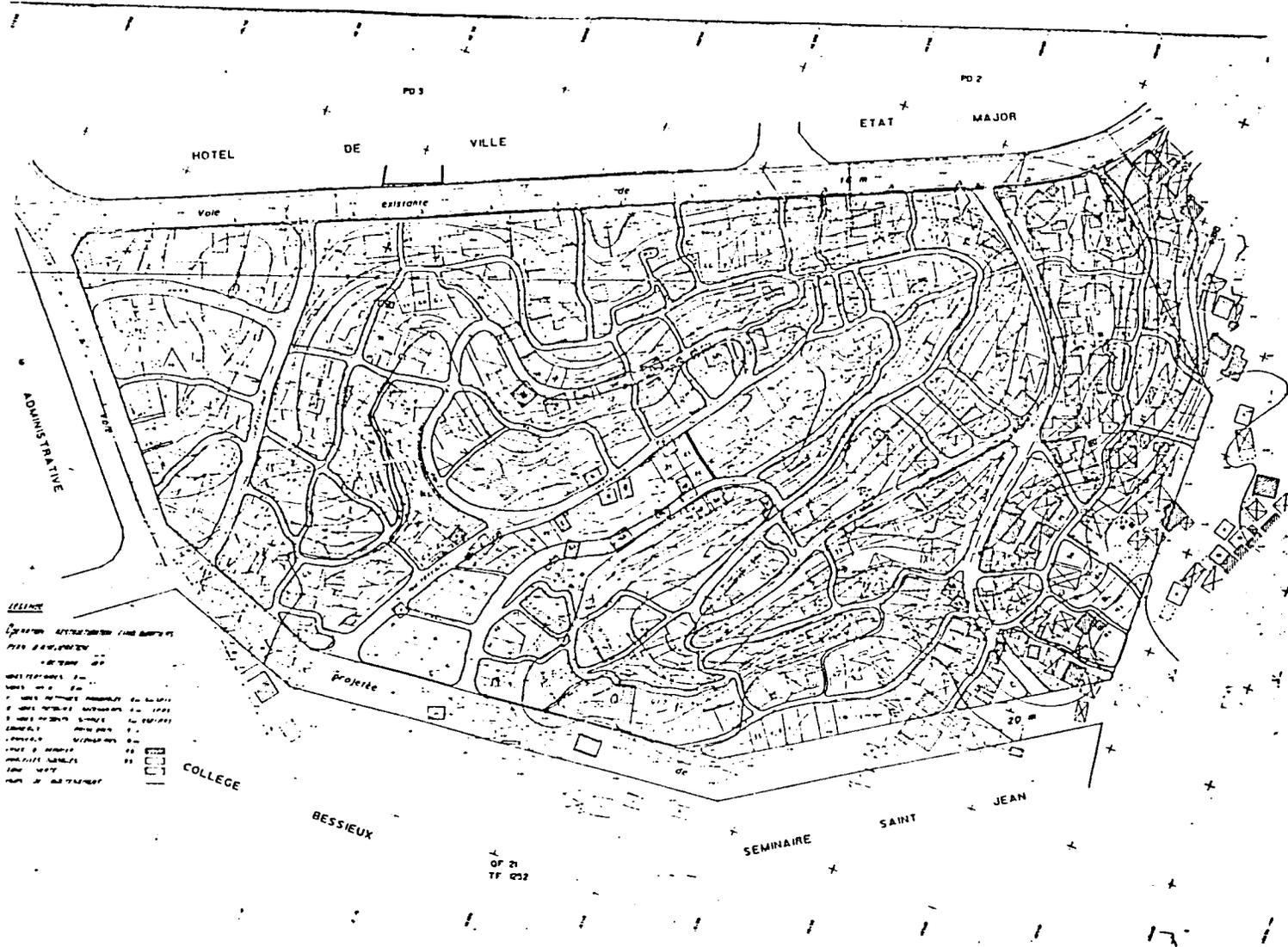
**Cocotiers Urban Renovation Project**  
**Project Costs: Lots 96 Meters Square: 6.4m. X 15m.**

## Cocotiers- Plan Lots 96 m2 - 15 X 6.5

Action	Unite	Prix/S.N.I.		Total	No. Menages	Prix/Menage
		Prix Unitaire	Quantite			
<b>Preparation et Demolition</b>						
cases en dur	case	500000.00	96.00	4800000.00	530.00	90566.04
cases en planche	case	166666.67	247.00	41166666.67	530.00	77672.96
logements temporaires	logement	750000.00	150.00	112500000.00	530.00	212264.15
indemization- cases en dur	case	5445000.00	96.00	522720000.00	530.00	986264.15
indemization- case en planche	case	2420000.00	247.00	597740000.00	530.00	1127811.32
Total.....				1322126666.67	530.00	2494578.62
<b>1. Terrassements</b>						
1.1 Nettoyage generale	m2	200.00	41640.00	8328000.00	347.00	24000.00
1.2 decabage vegetale	m2	180.00	41640.00	7495200.00	347.00	21600.00
1.3 Gros mouvements de terre	m3	1120.00	10495.00	11754400.00	347.00	33874.35
1.4 Profilages finales	m3	250.00	2623.75	655937.50	347.00	1890.31
1.5 Remblais d'apport	m3	2659.00	900.50	2394429.50	347.00	6900.37
1.6 Murs de soutènement/	m3	4350.00	322.90	1404615.00	347.00	4047.88
Total.....				32032582.00	347.00	92312.92
<b>2. Voies et Chemins</b>						
2.1 Amenagement cours d'eau	ml	0.00	0.00	0.00		0.00
2.2 Voiries secondaires	ml	47500.00	675.00	32062500.00	347.00	92399.14
2.3 Voiries tertiaires	ml	32500.00	791.00	25707500.00	347.00	74095.01
2.4 Caniveaux principaux et secondaires	ml	39660.00	1350.00	52541000.00	347.00	154296.83
2.5 voiries piétonales	ml	19830.00	360.00	7138800.00	347.00	20572.91
2.6 escaliers et rampes	unite	730.00	205.00	149650.00	347.00	431.27
Total.....				118599450.00	347.00	341785.16
<b>3. Services Publiques</b>						
3.1.1 tranchée pour l'électricité	ml	1440.00	1992.00	2868480.00	347.00	8252.51
3.1.2 Fourniture et pose de fourreau	ml	30860.00	1992.00	61473120.00	347.00	177155.97
3.1.3. Réseau BT	ml	27015.00	1992.00	53813880.00	347.00	155083.23
3.1.4. Fourniture et pose de fourreau	ml	14200.00	1992.00	28286400.00	347.00	81517.00
3.2 Aqueduc/service au domicile	ml	16220.00	1992.00	32310240.00	347.00	93113.08
3.3 tuyaux des eaux usages	ml	2027.50	1992.00	4038780.00	347.00	11639.14
Total.....				182790900.00	347.00	526774.53
<b>Grand Totale</b>						
1. Demolitions				1322126666.67		2494578.62
2. Terrassements				48925845.71		92312.92
3. Voies				181146134.01		341785.16
4. Services Publiques				279190711.82		526774.93
5. Services Communaires				0.00		
Total....				1831389358.19		3455451.62

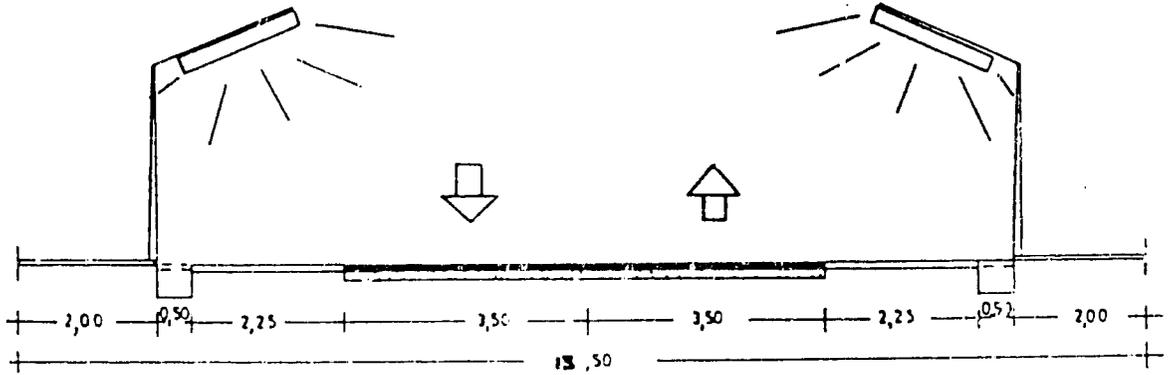
Cocotiers- Plan Lots 105 m2 - 15 X 7.06

Cocottiers On-site Urban Upgrading  
General Site Plan

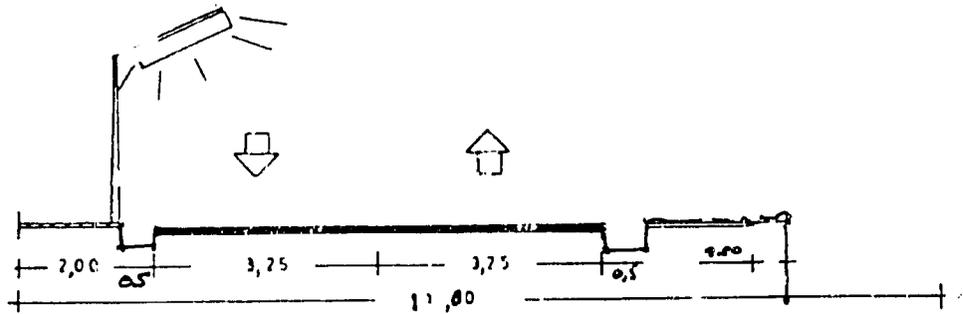


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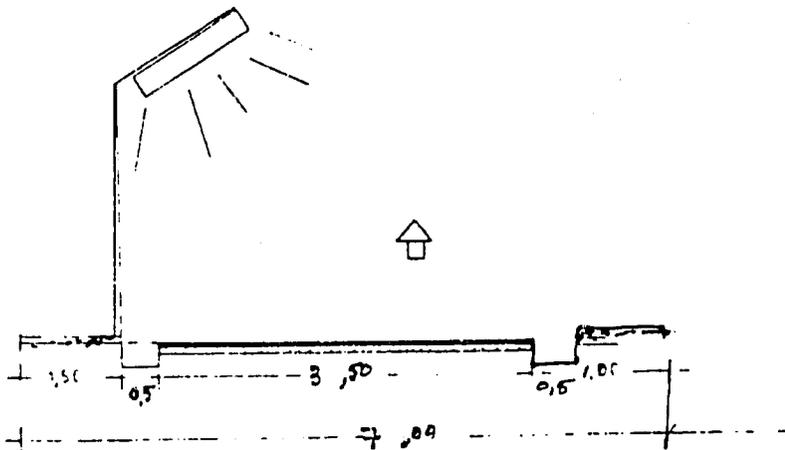
Cocotiers On-Site Urban Upgrading  
Details of Vehicular Roadways



Route secondaire  
VOIE TERMIÈRE / DE 3<sup>e</sup>

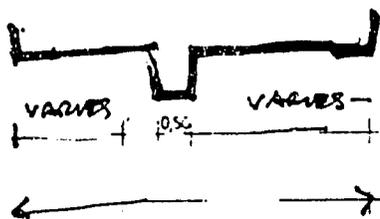
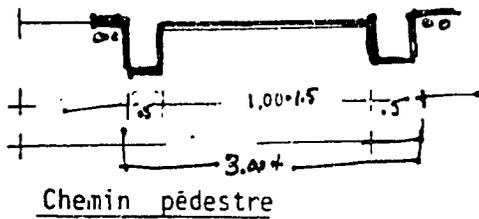
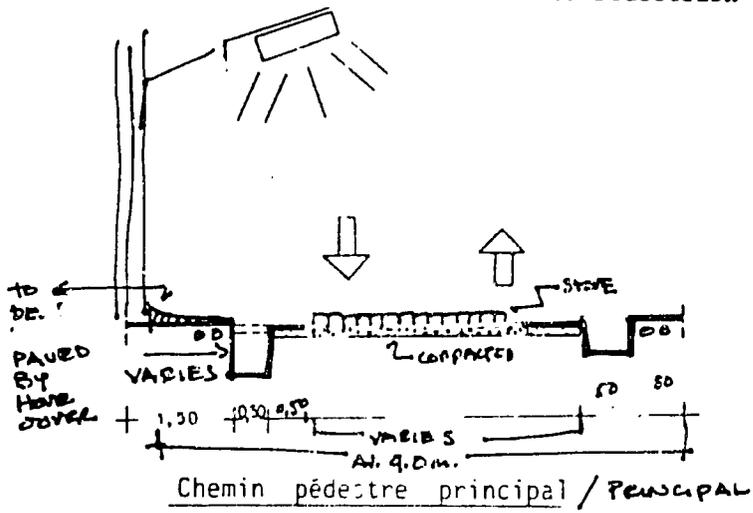


Route collectrice / VOIE DE 4<sup>e</sup>



92

### Cocotiers On-Site Urban Upgrading Details of Pedestrian Roadways



92

**Cocotiers On-Site Urban Upgrading  
Estimated Project Costs**

Project de Restructuration En F.C.R. de 1967		Evaluation Economique		Project pour Cocotiers	
Action	Unite	Prix Unitaire (de la S.N.I.)	Quantite	Total	Prix/Personne
<b>Preparations</b>					
Indemnizations-cases en dur	cas	5445000.00	6.00	32670000.00	61641.51
Indemnizations- cases en planche	case	2420000.00	37.00	89540000.00	166543.40
Demolitions- cases en dur	case	1361250.00	6.00	8167500.00	15410.38
Demolitions- cases en planche	case	72600.00	37.00	2686200.00	5668.30
Total...				133063700.00	251063.58
<b>1. Voiries</b>					
1.1 Voies Tertiaires Nouvelles	ml	32500.00	235.00	7527500.00	14410.38
1.1.1. Voies Tertiaires- Reparees	ml	16250.00	290.00	4712500.00	8891.51
1.2 Voies de Quatrieme - Nouvelles	ml	23214.29	740.00	17178571.43	32412.40
1.2.1 Voies de Quatrieme- Reparees	ml	11607.14	150.00	1741071.43	2285.64
1.3 Chemins Piétons	ml	4642.86	2469.00	11463214.29	21528.71
1.4 Chemins Piétons 2e	ml	1857.14	866.00	1608285.71	3034.50
1.5 Chemins Piétons 3e	ml	2000.00	689.00	1378000.00	2600.00
1.6 Escaliers	ml	16000.00		0.00	0.00
Total.....				45719142.86	86262.53
<b>2. Oeuvres de Terrassement</b>					
2.1 Murs de Soutement					
Moins d'un metre	ml	16000.00	1508.00	24128000.00	45524.53
Plus d'un metre	ml	28500.00	1301.00	37078500.00	69953.43
2.2 Caniveaux Principaux	ml	242715.20	100.00	24271920.00	45796.08
2.3 Caniveaux Secondaires	ml	182039.40	580.00	105382852.26	199212.93
2.4 Ponts	ml	n.l.	38.00	n.l.	n.l.
Total.....				191061272.26	360492.57
<b>3. Infrastructure</b>					
3.1 Fosses Septiques	unite	65000.00	530.00	34450000.00	65000.00
3.2 Evacuation des Eaux Usages	ml	2027.00	4310.00	8736370.00	16463.72
3.3 Reseau d'Electricite	ml	27015.00	4310.00	116434650.00	219688.02
3.4 Reseau d'Eau Potable	ml	11570.00	4310.00	49866700.00	94088.11
Total.....				209487720.00	395259.85
<b>4. Apports au Developpement Progressif</b>					
Financement de Construction	unite	1500000.00	388.00	582000000.00	1098113.21
<b>Grand Total:</b>					
Indemnizations				133063700.00	251063.58
Voies				45719142.86	86262.53
Terrassement				191061272.26	360492.57
Infrastructure				209487720.00	395259.85
Sous Total.....				579331835.12	1093078.93
<b>Financement de Construction</b>				582000000.00	1098113.21
<b>Grand Total.....</b>				1161331835.12	2191192.14

**SNI - Additional Information  
Société Nationale Immobilière**

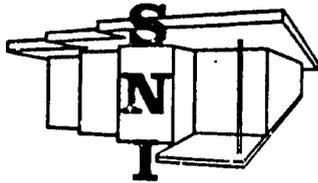
This annex includes a general description of the history and composition of the SNI (pp. 2-3), a description of building materials and systems used in Gabon, and copies of two decrees which transfer the five target neighborhoods for urban improvement projects to property of the SNI.

Among the pertinent facts which emerge from a review of the total information, the following are considered most interesting:

The SNI is 77 percent owned by the national government. The majority of the remaining shares belong to the Caisse Centrale de Cooperation Economique.

The SNI was created in 1976 by a fusion of two previous housing agencies; the ONH and the SGAEI. At the time the total endowment of the new organization was represented by 874 dwelling units of which 474, or 54 percent were in Libreville. The SNI also acquired an additional 445 units in construction. In the following years, SNI production is outlined as follows:

1977	371 units	2,833.0 million F.CFA
1978	306 units	3,103.0 million F.CFA
1979 - 1982	671 units	12,122.5 million F.CFA
1982 - 1986	860 units	8,677.0 million F.CFA



## SOCIÉTÉ NATIONALE IMMOBILIÈRE

Société Anonyme d'Intérêt National au capital de 750.000.000 de francs CFA

Siège Social : B. P. 515 - LIBREVILLE - GABON

Téléphone : 76.05.81 - 76.05.92

R. C. 340 B - Statistique n° 90 180 R

### OBJET :

La Société Nationale Immobilière a été créée par ordonnance n° 4/76/PR du 14 janvier 1976 par la fusion de l'Office National de l'Habitat (ONH) (1) et la Société Gabonaise d'Aménagement et d'Équipement Immobilier (SGAEI) (2).

La concentration en 1976, des moyens détenus par la SGAEI et l'ONH, deux organismes ayant une même vocation : réalisation de programmes de construction de logements sociaux répondait à une volonté politique : doter notre pays d'une efficace institution à caractère public et social chargée de concevoir, construire et gérer, sous le contrôle de l'État, des logements modernes et confortables pour les familles et personnes de conditions modestes, à un prix compatible avec leurs ressources.

Aujourd'hui, la Société Nationale Immobilière, organisme agissant dans le cadre de la Politique du Gouvernement en matière d'Habitat Social, est un outil d'intervention bien adapté. Face à la diversité des besoins, la S.N.I a réalisé à ce jour d'importants projets d'habitat : 4.200 logements ont été construits représentant un investissement de près de 40 milliards de F.CFA. Le financement de ces projets a été souvent assuré par l'État ou des circuits directement contrôlés par lui particulièrement depuis 1982. En effet, après le désengagement de la Caisse Centrale de Coopération Economique du financement de l'Habitat (1974), les seules ressources dont disposaient la S.N.I étaient les Prêts de la Banque Gabonaise de Développement (B.G.D) dont le délai d'amortissement est trop court (10 ans sans différé) et le Taux d'intérêt trop élevé (8,5 %) pour le logement social. C'est à partir de 1981 que l'État a décidé d'affecter des dotations budgétaires pour l'Habitat Social. Le Fonds National de l'Habitat (FNH) (3) créé en 1976 participe également au financement de l'Habitat (infrastructures et bâtiments).

### LES STRUCTURES JURIDIQUES

La S.N.I, Société Anonyme d'Économie Mixte, est dotée d'un capital social de 750.000.000 de F.CFA reparti entre :

- La République Gabonaise.....	76,91 %	(6 sièges)
- La Caisse Nationale de Sécurité Sociale.....	0,03 %	(1 siège)
- La Commune de LIBREVILLE.....	0,21 %	(1 siège)
- La Commune de PORT-GENTIL .....	0,21 %	(1 siège)
- La Caisse Centrale de Coopération Economique.....	22,64 %	(3 sièges)

(1) ONH : Etablissement Public

(2) SGAEI : Filiale de la Caisse Centrale de Coopération Economique

(3) FNH : Participation des employeurs à l'effort de construction.

LES ACTIVITES DE LA S.N.I

Les actions de la S.N.I convergent vers deux directions :

a) La production et la gestion des lotissements destinés à la location simple ou location vente.

b) La réalisation de travaux d'infrastructures et/ou de construction pour le compte de l'Etat, des Collectivités locales ou des privés.

Les activités de la S.N.I, définies dans le tableau ci-annexé, pourraient être ainsi résumées :

1.1 REALISATION DES PROGRAMMES D'HABITATIONS SOCIO-ECONOMIQUES

- . Elaboration des programmes
- . Constitution des réserves foncières
- . Recherche et mise en place des financements adaptés en priorité aux faibles revenus
- . Conception des projets (architecture, urbanisme, aménagement des terrains)
- . Lancement des appels d'offres, en vue de l'obtention des prix de revient les plus avantageux
- . Etablissement des marchés
- . Direction et contrôle des chantiers, réception des logements.

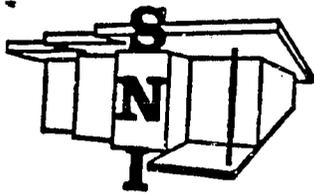
1.2 GESTION ET ENTRETIEN DU PATRIMOINE IMMOBILIER

- . Etablissement des contrats de location des logements cédés en location simple, en location vente et en promesse de cession
- . Gestion locative des logements (calcul des loyers, encaissement, contentieux, etc...)
- . Etablissement des contrats de maintenance technique des installations (ascenseurs, climatiseurs, appareils de bureau)
- . Contrôle et surveillance des travaux d'entretien (entretien courant, grosses réparations).

2.1 MISSIONS DE MAITRISE D'OUVRAGE DELEGUEE REALISEES POUR LE COMPTE DES TIERS

- . Etudes
- . Etablissement de convention de maîtrise d'oeuvre
- . Lancement et dépouillement des appels d'offres
- . Préparation des marchés
- . Direction et surveillance des travaux
- . Contrôle des règlements
- . Réception et livraison des logements.

4/10



27E

## SOCIÉTÉ NATIONALE IMMOBILIÈRE

Société Anonyme d'intérêt National au capital de 750.000.000 de francs CFA

Siège Social : B. P. 515 - LIBREVILLE - GABON

Téléphone : 76-05-81 - 76-05-92

R. C. 340 B - Statistique n° 90 180 R

### LES MATERIAUX DE CONSTRUCTION AU GABON

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La construction au GABON comme partout ailleurs dans le monde a beaucoup évolué avec le progrès technique. Le développement des moyens économiques, la croissance du pouvoir d'achat ont permis une nette distinction entre le domaine traditionnel et celui de l'économie moderne.

Le domaine industriel où l'économie moderne emploie les produits et les techniques de la production machiniste. Cette production industrielle prend le pas sur la construction artisanale et traditionnelle à la fois. On peut constater que la construction des cases dans les villages n'est plus traditionnelle mais plus ou moins un mélange de traditionnel et de produits issus des techniques industrielles.

Le domaine traditionnel c'est celui artisanal qui emploie les moyens, les matériaux trouvés sur place, celui que l'on tire de la terre et de la forêt environnante. Le mode de mise en oeuvre est lié étroitement à la vie des villages. La plupart des habitations ont été construites avec des matériaux locaux.

En effet avant la pénétration européenne toutes les ethnies gabonaises employaient pour la construction, l'écorce déroulée et martelée d'"OKALA" ou la longue palme effeuillée du palmier raphia fixée à une armature de piquet fiché dans le sol. Chez certaines ethnies on ajustait adroitement à ces pieux des planches de "bambou", une rangée au dehors, une autre dedans, les fissures étant remplies par des feuilles de palmier.

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66

### MATERIAUX DISPONIBLES

On trouve dans le pays :

- Le sable : provenant des cours d'eau
- La pierre ou bloc de latérite : ces deux produits n'ont pas fait l'objet d'une exploitation systématique pour la construction.

S'il n'existe pas de constructions en pierre de taille, la pierre est souvent utilisée pour la construction.

- Les argiles: Proviennent de la décomposition de certaines espèces granitiques ; imbibée d'eau, l'argile devient plastique et maléable. Cette qualité lui permet d'être modelée sous différentes formes.

Au GABON l'on trouve une gamme d'argiles: latérite, kaolin... donnant un matériau appelé "banco".

Le banco est un mélange d'argile latérite plus eau. Le mélange peut être armé de plantes ligneuses (palme, bambou de chine, etc...).

#### - Critique du banco

Sa faible résistance à l'écrasement impose des constructions à rez-de-chaussée. Faible résistance au feu. Facilement attaqué par les termites, mauvaise résistance à l'humidité et à l'eau.

#### - Avantages :

- Facile à travailler
- Disponible sur place
- Libre exploitation excluant la notion de propriété.

Dans les villages, le ciment s'emploie pour le crépissage des murs en banco. Il s'utilise sous forme de barbotine pour lisser les surfaces de planchers dont le support est en banco.

On s'en sert pour la fabrication des agglomérés pleins ou creux. La quantité des constituants étant empiriquement calculée. Le ciment s'emploie dans les constructions en béton armé ou non.

Le ciment est considéré au village comme un produit de luxe.

- Utilisation en zone urbaine

Dans les villes, le ciment trouve son plein emploi.

- le bois :

L'immensité de sa forêt assure au GABON une autosuffisance en matière de bois tropicaux. Principale ressource : l'okoumé. L'okoumé utilisé en ébenisterie, se transforme facilement en contre-plaqué.

Autres ressources : l'Ozigo, le Sipo, l'Ilomba.

L'industrie du bois s'est spécialisée dans les quatre principales activités suivantes :

- . Les sciages écoulés essentiellement sur le marché local
- . Les placages
- . Le contre-plaqué (en 1985 75.000 m<sup>3</sup> dont les 8/10 sont exportés)

Il convient de préciser qu'il existe des obstacles à la réalisation intégrale des maisons en bois : obstacles psychologiques (le logement en bois représente un recul social, difficultés d'entretien, mauvaise durabilité, esthétique, cherté) obstacles économiques (le bois n'est pas homologué par les organismes de prêts immobiliers).

- Le bambou de raphia :

Le bambou se présente sous forme de perche pleine de 3 à 6 cm de diamètre et de 6 à 10 mètres de long.

La branche de raphia dépouillée de sa limbe est coupée à l'aide d'une machette.

- Utilisation :

On juxtapose les rondins en les tissant pour former les pignons, les cloisons et les planchers.

- Inconvénients :

- Aucune résistance au feu
- Très faible résistance à la compression
- Faible résistante à l'humidité.

- Le bambou de bois :

Rondin creux, ce bambou peut avoir un diamètre allant de 6 à 10 centimètres et de hauteur variant entre 2 à 4 mètres. C'est un excellent élément d'ornement.

Il peut servir pour les canalisations d'eau de pluie et d'eau usée. Il peut également être utilisé comme élément de remplissage de murs, planchers et toitures à ossature de bois.

**S. N. I.** (suite)

Avec la colonisation, se sont introduites de nouvelles techniques de construction.

- La terre battue :

Cette technique consiste à assujétir avec des liants une armature de pieux et de lattes de palmes ou de lianes entrecroisées dans un quadrillage serré : on note là une imitation de l'armature du béton. Ensuite on bourre à la main le clayonnage avec de la terre glaise réduite en boue après malaxage aux pieds ("poto-poto"). En séchant, le "poto-poto" se retracte légèrement, ce qui provoque des fissures au niveau des montants de bois. Ces fissures sont colmatées par les femmes au moyen d'un enduit de terre qu'elles appliquent sur l'ensemble de la surface des murs. Dans la case, l'addition de kaolin (argile blanche alluviale) à l'enduit, par exemple l'amidon de manioc peut donner un agréable crépi blanc.

- La brique de terre séchée au soleil :

Répandu par les missionnaires, elle n'a pas connu une grande expansion du fait de la complexité de sa conception. La technique consiste à tasser la terre battue dans un moule fait de quatre planches clouées en rectangle. La fabrication est rapide mais nécessite un stockage prolongé pendant le temps de séchage. Son emploi fait appel aux lois de la maçonnerie occidentale : équilibre, rectitude et verticalité des murs.

- LE CIMENT .

Il existe actuellement au GABON :

- Une usine de fabrication de clinker à NTOUM .  
dont la capacité est de 1000 T. j / 350.000 T. an.

- Deux usines de brøyage de clinker : LIBREVILLE  
et FRANCEVILLE dont les capacités sont respectivement de 270  
à 300.000 tonnes an et de 150.000 tonnes an.

Capacité de production de ciment au GABON :  
647.500 tonnes an.

10/10

MINISTÈRE DES DOMAINES, DU CADASTRE ET DE  
L'URBANISME, CHARGÉ DU DROIT DE LA MER  
MINISTÈRE DE L'HABITAT ET DU LOGEMENT  
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REPUBLIQUE GABONAISE  
-----  
UNION-TRAVAIL-JUSTICE  
-----

N° 001507 /PR/MIN.DCUM. MIN.HL.

/ ) E C R E T  
-----

Créent une Zone d'Aménagement Immobili-  
lier à Li'reville sur un terrain de  
109 851 m<sup>2</sup> dans la section PD du  
plan cadastral et cédant à titre pro-  
visoire ledit terrain à la Société  
Nationale Immobilière.

-----  
LE PRESIDENT DE LA REPUBLIQUE  
CHEF DE L'ETAT

Vu la Constitution ;

Vu les Décrets n°s 453/PR et 454/PR du 27 Mars 1984, por-  
tant composition du Gouvernement et les textes modificatifs subséquents ;

Vu le Décret-Loi n° 12/PM du 16 Février 1961 conférant  
à la Société d'Aménagement et d'Équipement Immobiliers (actuelle Société  
Nationale Immobilière) la maîtrise d'ouvrage dans les Zones d'Aménagement  
Immobiliier ;

Vu la Loi 3/81 du 8 Juin 1981, fixant le cadre de la ré-  
glementation d'Urbanisme ;

Vu le Décret n° 77/PR du 6 Février 1967 réglementant  
l'octroi des concessions et location des terres domaniales et les textes  
modificatifs subséquents ;

Vu la lettre n° 1305/PR du 23 Juin 1986 ;

Vu le Décret n° 001506 /PR du 23/9/86 déclarant  
d'utilité publique les travaux d'étude et d'aménagement prévu dans la  
zone définie ci-après à l'article 1er du présent Décret ;

Sur le rapport du Ministre d'Etat, Ministre des Domaines  
du Cadastre et de l'Urbanisme, Chargé du Droit de la Mer, et du Ministre  
de l'Habitat et du Logement :

103

D E C R E T E

ARTICLE 1er.- Est classé : "Zone d'Aménagement Immobilier (Z.A.I.)", un terrain de 109 851 m<sup>2</sup> sis à Libreville dans la section PD du plan cadastral, se comportant comme indiqué au plan annexé au présent décret.

ARTICLE 2.- La maîtrise d'ouvrage dans cette Zone d'Aménagement Immobilier est conférée à la Société Nationale Immobilière - S.N.I.

ARTICLE 3.- Le terrain, visé à l'article 1er ci-avant, est cédé à titre provisoire et gratuit à la S.N.I.

ARTICLE 4.- Sur ce terrain, la S.N.I. devra réaliser des travaux d'aménagement Immobilier et y construire des logements socio-économiques après avoir effectué le lotissement de la zone.

ARTICLE 5.- La S.N.I. sera tenue de se conformer aux règlements d'urbanisme, de ne pas construire sans avoir obtenu le permis de lotir et l'autorisation de construire préalable, et de respecter toutes les règles d'hygiène, de salubrité publique et de police.

ARTICLE 6.- Elle fera son affaire du déguerpissement des personnes éventuellement installées sur les lieux.

ARTICLE 7.- Après réalisation partielle des travaux, la S.N.I. pourra faire constater, lot par lot, la mise en valeur effectuée et obtenir l'attribution à titre définitif des parcelles concernées, afin d'en disposer dans le cadre du programme d'aménagement immobilier dont la réalisation lui a été confiée.

ARTICLE 8.- Elle devra, après en avoir reçu notification, opérer l'enregistrement du présent décret, dans le délai d'un mois de sa date.

ARTICLE 9.- La cession, objet de l'article 3 ci-avant, est soumise à tous les règlements domaniaux, fiscaux et fonciers que l'Etat a institués ou instituera dans l'avenir.

┌

- Les tôles :

Elles se présentent sous forme plate et ondulée. Les feuilles de tôle galvanisée ou d'aluminium sont utilisées en couverture.

- Le chaume :

Pour la confection des toitures, on utilise du chaume ou de la paille dans certains villages. La pose se fait par superposition de bottes, chaque couche de bottes étant reliée par des ligatures non apparentes. Le chaume présente quelques inconvénients : attaque des rongeurs, faible résistance au feu.

- Conclusion

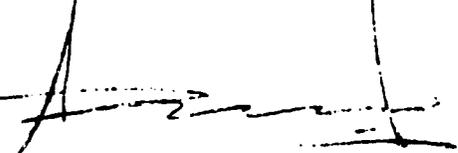
Les mutations dues à l'exploitation des richesses du sous-sol gabonais ont fait pénétrer le modernisme dans les villages. Ainsi, tous les matériaux de construction sont représentés dans les villages avec quelques dominantes. Le toit de tôle est ainsi devenu un critère de richesse dans les zones rurales. Mais le coût des transports et le manque d'industries proches rendent très difficile la construction "en dur", parpaings creux ou brique de terre cuite.

Actuellement en zone rurale, le type de construction "moderne" le plus répandu est l'association de la planche usinée et de la tôle ondulée quand les possibilités le permettent.

ARTICLE 10.- Le présent décret sera enregistré, publié et communiqué partout où besoin sera.

Fait à Libreville, le 23 Septembre 1986

Par le Président de la République  
CHEF DE L'ETAT



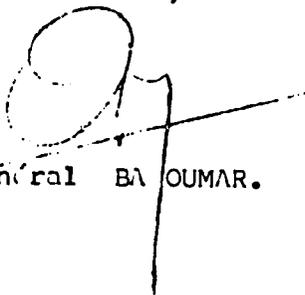
EL HADJ OMR BONGO.

Le Premier Ministre,  
CHEF DE GOUVERNEMENT



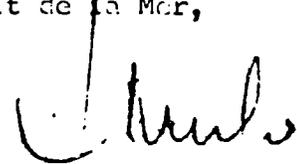
Léon MEBIAME.

Le Ministre de l'Habitat et du  
Logement,  
Commandant en Chef des Forces  
Armées Gabonaises,



Général BA OUMAR.

Le Ministre d'Etat, Ministre  
des Domaines, du Cadastre et  
de l'Urbanisme, Chargé du  
Droit de la Mer,



Henri MINKO.

10.3/10

PRESIDENCE DE LA REPUBLIQUE

MINISTERE DE L'HABITAT ET DU  
LOGEMENT

VISA du  
Président de la Chambre  
Administrative de la Cour  
Suprême

REPUBLIQUE GABONAISE

UNION - TRAVAIL - JUSTICE

DECRET N° 001506 /PR/MHL  
déclarant d'utilité publique les travaux  
d'aménagement et de réhabilitation des zones  
définies au présent décret.

LE PRESIDENT DE LA REPUBLIQUE  
CHEF DE L'ETAT

Vu la Constitution;

Vu les décrets n°s 453/PR et 454/PR du 27 Mars 1984 fixant la  
composition du Gouvernement et les textes modificatifs subséquents;

Vu la loi n° 6/61 du 10 Mai 1961, réglementant l'expropriation  
pour cause d'utilité publique;

Vu le décret n° 00513/PR/MHL du 25 Avril 1986 portant attributions  
et organisation du Ministère de l'Habitat et du Logement;

La Chambre Administrative de la Cour Suprême consultée;

LE CONSEIL DES MINISTRES ENTENDU :

.../...

A

107

D E C R E T E

ARTICLE 1er. - Sont déclarés d'utilité publique les travaux d'aménagement et de réhabilitation des zones ci-après indiquées du plan cadastral Libreville :

- NZENG-AYONG (Zône 3)
- AGONDJE (YM6 - 1)
- PETIT PARIS Section L, Surface 181.476 m2
- VENEZ-VOIR Section KF, Surface 19 ha,70 ares
- LIKOUALA MOUSSAKA, Section GA, surface 271.804 m2
- NKEMBO-COCOUIERS, Section PD, parcelle 5 surface 109.85
- DERRIERE LA PRISON, Section SC-TE2, surface 210.415 m2.

ARTICLE 2. - L'urgence est déclarée pour la prise de possession des b. à exproprier.

ARTICLE 3. - Le Gouverneur de la province de l'Estuaire déterminera par arrêté de cessibilité la liste des parcelles et des droits réels immobiliers à exproprier, après consultation de la Direction Générale des Domaines, de la Direction Générale du Cadastre et de la Direction Générale de l'Urbanisme.

ARTICLE 4. - Les expropriations nécessaires devront être réalisées dans le délai de six mois à compter du jour de l'approbation du programme annuel des travaux prévus dans le cadre de la construction des équipements socio-économiques.

AP

.../...

ARTICLE 5.- Le Ministre d'Etat, Ministre des Domaines, du Cadastre, de l'Urbanisme, Chargé du Droit de la Mer, le Ministre de l'Habitat et du Logement sont chargés chacun en ce qui le concerne de l'exécution du présent décret qui sera enregistré, publié selon la procédure d'urgence et communiqué partout où besoin sera.

Fait à Libreville, le 23 Septembre 1986

Par le Président de la République  
CHEF DE L'ETAT

EL HADJ OMAR BONGO.

Le Premier Ministre  
CHEF DU GOUVERNEMENT

Léon MEBIAME.

Le Ministre d'Etat, Ministre des Domaines, du Cadastre, de l'Urbanisme, Chargé du Droit de la Mer

Henri MINKO.

Le Ministre de l'Habitat et du Logement  
Commandant en Chef des Forces Armées.

Général OUMAR.

P. Le Ministre de l'Economie des Finances et des Participations.

Le Ministre Délégué

Mamadou DIOP.

AMPLIATIONS :

- P.R. .... 2
- P.M. .... 2
- MDCUCDM ..... 4
- MHL ..... 1
- MINICORTM ..... 2

Proposal for Program for Financing Home Construction  
CreFoGa, 1986

**CONDITIONS DE PRETS  
FINANCES PAR LE CRE.FG.GA.**

**I - PRETS A CARACTERE SOCIAL OU «PRETS  
SOCIAUX DU CREDIT FONCIER DU GABON»**

- 1°) - Familles disposant de revenus mensuels compris entre 150 et 200 000 francs CFA et qui accèdent pour la première fois à la propriété :
- quotité maximum du prêt : 9 000 000 F. CFA.
  - apport personnel minimum : 6% du montant de l'investissement global.
  - taux d'intérêt : 3%.
  - durée maximum du crédit : 18 ans
- 2°) - Familles disposant de revenus mensuels compris entre 250 et 450 000 F. CFA :
- quotité maximum du crédit : 15 000 000 F. CFA.
  - apport personnel minimum : 15%.
  - taux d'intérêt : 8%.
  - durée maximum du crédit : 18 ans

**II - PRETS ORDINAIRES**

- Familles dont les revenus mensuels sont compris entre 450 000 et 600 000 F. CFA :
- quotité maximum du prêt : 20 000 000 F. CFA.
- apport personnel : 20%.
- taux d'intérêt : 11%.
- durée du crédit : 8 à 12 ans au maximum.

Les ressources affectées à cette tranche de crédit ne peuvent dépasser une fraction de 20% des ressources globales disponibles de la banque

**III - PRETS PROMOTEURS**

Société agréées de promotion des logements socio-économiques :

- coût moyen des logements du type agréé par la Commission Nationale de l'Habitat et de l'Urbanisme : 6 à 9 millions.
- quotité du crédit à l'appréciation du Comité de Direction.
- taux d'intérêt : 3%.
- durée maximum du crédit : 20 ans

**GARANTIES COMMUNES  
AUX DIFFERENTS PRETS**

- Hypothèque de 1<sup>er</sup> rang sur le terrain et la construction
- Assurances obligatoires Décès-Invalidité + Incendie
- Délégation de salaire.

**REMISE DE FONDS**

- Dès que le montant de l'apport personnel est investi, le prêt est débloqué entre les mains de l'emprunteur en 3 tranches égales.

**MODALITES  
DE REMBOURSEMENTS**

- Par mensualités constantes
- Différé accordé : 3 à 6 mois suivant la catégorie des prêts

Libreville le 3 Mars 1986

## REFLEXION SUR UNE POLITIQUE D'HABITAT SOCIAL AU GABON

Le Président de la République dans son discours du 11 Mars 1980 à la Nation, déclarait qu'il souhaitait voir s'instaurer une politique favorisant la construction de véritables logements socio-économiques.

En effet, l'accession à un logement décent est un droit que le Chef de l'Etat entend consacrer au profit de chaque Gabonais.

Dans cette optique, il nous appartient donc de bâtir une véritable politique de l'Habitat, s'articulant autour du triptyque suivant :

- une occupation rationnelle de l'espace ;
- une Société de promotion et de construction ;
- un organisme de financement pourvu de ressources abondantes et permanentes.

### I UNE OCCUPATION RATIONNELLE DE L'ESPACE :

Afin d'éviter la prolifération des quartiers insalubres et de lutter efficacement contre les squatters, chaque ville du Gabon devrait avoir un schéma directeur d'aménagement urbain.

Les services du Cadastre s'assureraient désormais, avant toute cession de terrain que le bénéficiaire est capable de le viabiliser ou bien que ledit terrain se trouve dans un plan d'ensemble d'aménagement de V.R.D. par les autorités compétentes.

Les terrains qui seraient viabilisés dans le cadre de divers programmes par différents opérateurs, tels que Mairie, S.N.I., Travaux Publics, feraient l'objet d'une cession onéreuse.

Certes, ce principe souffrirait quelques exceptions, notamment au regard de l'âge des bénéficiaires et de leurs revenus.

Chaque cas ferait donc l'objet d'un examen minutieux par une commission adéquate.

#### . Cas d'un bénéficiaire jeune aux revenus insuffisants :

Le terrain serait cédé provisoirement, mais vendu dès que ses revenus s'amélioreraient.

3/7

- . Cas d'un bénéficiaire âgé (plus de 40 ans) aux revenus insuffisants :

Le principe étant que tout prêt immobilier ou foncier doit être soldé au moment de la Retraite, le terrain serait attribué provisoirement. Dans le cas où le bénéficiaire aurait des héritiers, ces derniers solderaient la dette, dans le cas contraire le terrain reviendrait aux Domaines.

- . Cas d'un bénéficiaire Jeune Cadre :

Le terrain serait cédé au prix coûtant, au moyen d'un crédit foncier dont l'amortissement serait plus long que le crédit immobilier auquel il serait couplé.

## II UNE SOCIETE NATIONALE DE PROMOTION ET DE CONSTRUCTION :

La SOCIETE NATIONALE IMMOBILIERE (S.N.I.) serait tout indiquée à condition de se restructurer et de se dynamiser.

### 2.1. - RESTRUCTURATION :

Cette restructuration devrait s'opérer au niveau de l'Organigramme, c'est-à-dire comprendre une nouvelle organisation interne à savoir :

- Direction Administrative et Financière ;
- Direction d'Exploitation ;  
chargée de la gestion de tout le parc immobilier existant en location vente ou location simple.
- Direction Technique ;
  - . Sous-Direction de la construction ;
  - . Sous-Direction de l'Autoconstruction.
- Direction des Achats et de Ventes de matériaux ;
- Inspection Générale ;  
Chargée des sous-directions provinciales.

### COMMENTAIRE :

Pourquoi la création des deux derniers Départements ?

La Direction des Achats et de Vente serait nécessaire, car il est notoirement connu que la cherté des matériaux alourdit les coûts de la construction. En effet, les consommateurs achètent les matériaux qui ont subi les augmentations successives des intermédiaires.

L'achat direct aux fournisseurs aurait alors cet inconstatable avantage de baisser les prix. Il serait bien entendu que seuls les matériaux utiles et nécessaires à la construction des maisons économiques seraient importés.

Car, il faut, d'une part, tenir compte de l'incidence de l'abattement consenti à l'importation de matériaux sur le budget de l'Etat, et, d'autre part, valoriser les matériaux nationaux afin d'en tirer le maximum de plus-value.

S'agissant de la vente, seules les personnes susceptibles de bénéficier de logements socio-économiques ou étant dans la catégorie accessible à l'auto-construction, auraient accès à cette Centrale de Vente.

La création d'une telle Direction se justifie par le simple fait que le fonctionnement de l'abattement, tel qu'il est pratiqué en ce moment, avantage beaucoup plus les sous-traitants de la S.N.I. que les "makayas".

**Exemple :**

Il est habituel que les sous-traitants bénéficient d'un certain abattement sur le coût des matériaux, le risque certain consiste à ce que ces matériaux soient détournés au profit d'autres marchés passés par ces sous-traitants, plutôt que d'entrer réellement dans la construction des marchés S.N.I.

Quant à l'Inspection Générale, elle trouve sa juste existence dans la politique de décentralisation, afin de permettre à chaque Gabonais, quel que soit le lieu où il se trouve, d'accéder à un logement socio-économique dans le cadre d'un programme S.N.I. ou dans celui de l'auto-construction.

Cette décentralisation non seulement cadrerait bien avec notre politique d'aménagement du territoire, mais encore présenterait bien d'autres avantages.

En premier lieu, l'industrie du bâtiment, utilisatrice d'une main d'oeuvre abondante, endiguerait ainsi le flux de l'exode provincial vers la capitale. Ensuite, l'autoconstruction, qu'elle soit collective ou individuelle nécessiterait l'assistance technique de la S.N.I. Enfin, la valorisation des matériaux de construction de chaque Province donnerait ainsi un cachet particulier à chacune d'elle.

Il reviendrait donc à l'Inspection Générale de coordonner toutes les sous-directions provinciales.

**2.2. - DYNAMISATION :**

Cette dynamisation reviendrait à scinder l'activité de la S.N.I. en deux volets d'activité :

- un volet socio-économique (autoconstruction)
- un volet spécial.

**- Volet Socio-économique (Autoconstruction)**

Ce volet constituerait l'activité prioritaire de la S.N.I., contrairement à ce qui se passe aujourd'hui, la S.N.I. serait obligatoirement à la fois maître d'oeuvre et maître d'ouvrage. Une seule exception cependant, la S.N.I. ferait participer la Petite et Moyenne Entreprise Gabonaise.

Je dis bien P.M.E. Gabonaise, car, je suis plus que persuadé que les grandes Sociétés de la Place donnent l'impression d'être moins disantes parce qu'elles utilisent des matériaux déjà amortis en provenance de marchés déjà terminés.

Ainsi, et comme je le disais plus haut, les matériaux importés avec abattement au profit de la S.N.I. vont purement et simplement grossir les stocks de ces grands sociétés pour être utilisés sur des marchés plus rémunérateurs.

### 3.1. - Au niveau national :

. Actualisation et application rigoureuse de nos textes : La Loi du 11 Décembre 1981 et l'Ordonnance du 29 Mars 1966, confèrent le monopole de la gestion des fonds publics (C.N.S.S., F.N.H., etc...) à la B.G.D.

Il conviendrait de l'étendre au CREFOGA qui devrait devenir la Banque de Développement de l'Habitat.

- . Dotations budgétaires, au moins pendant une dizaine d'années ;
- . Création ou affectation de certaines taxes notamment :
  - sur les droits d'enregistrement des baux et des prises d'hypothèques ;
  - sur les prestations de service touchant à l'immobilier ;
  - sur les loyers ;
  - sur les carrières de sable, de gravier.

. Avances du Trésor Public ;

. Emprunt obligataire ;

C'est à ce niveau que le propos du Président de la République concernant la participation des Assurances et des Banques trouve sa justesse.

En effet, le Gouvernement devrait mettre en place une réglementation obligeant lesdites institutions non seulement à souscrire, chaque fois que cela serait nécessaire, un emprunt national, le chef de file étant chaque fois la SONAGAR, mais encore de geler un pourcentage (%) bien déterminé auprès du CREFOGA et de la B.G.D.

. Fiche de réescompte.

Ce recours devrait être exceptionnel.

### 3.2. - Au niveau International :

Au niveau International le CREFOGA pourrait faire appel à des organismes comme l'U.S.A.I.D. aux U.S.A. et la B.I.R.D. (pour les V.R.D. surtout), à condition que l'Etat donne son aval et que le capital social du CREFOGA soit à 80 % gabonais.

Pour ma part, je reste persuadé que seul ce schéma pourrait permettre à mon pays un début de solution au problème du logement en général et du logement social en particulier.

Adrien N'KOGHE-ESSINGONE

La S.N.I. ne devrait plus être à la fois promoteur immobilier et banquier. La S.N.I. devrait être exclusivement consacrée à la construction. Son seul souci, serait de construire toujours davantage de logements afin d'être en mesure de satisfaire toutes les demandes.

Le CREDIT FONCIER DU GABON serait la Banque de la S.N.I. dans le cadre de ses programmes en lui assurant des ressources abondantes et permanentes.

Comment ?

- Dans le cadre du volet social :

Le schéma serait le suivant : pour un programme immobilier s'élevant à hauteur de 200 Millions F CFA, la S.N.I. s'autofinancerait à hauteur de 20 %, soit 40 Millions de Francs CFA, le CREFOGA participerait à hauteur de 80 %, soit 160 Millions de Francs CFA.

Dans le cas où l'accession se ferait par vente directe, les futurs acquéreurs solliciteraient des prêts auprès du CREFOGA, qui se substituerait au lieu et place de la S.N.I., mais pour une période plus longue.

En revanche, dans le cas où l'accession se ferait par location vente, la S.N.I. rembourserait le crédit en totalité.

- Dans le cadre du volet spécial :

Là encore la S.N.I. pourrait bénéficier du concours du CREFOGA, mais les ressources utilisées dans ce volet ne pourraient pas être des ressources affectées par le budget de l'Etat.

## II RESSOURCES ABONDANTES ET PERMANENTES :

Le Chef de l'Etat est clair là-dessus "...L'Etat contribuera, bien entendu, largement à la réalisation de ce programme..."

En effet, le financement du logement notamment social, s'articule autour de deux thèses :

- thèse de l'épargne privée ;
- thèse de l'intervention de l'Etat.

Il va sans dire que la première thèse est loin d'être accréditée au Gabon, compte tenu de la faiblesse, voire de la nullité de l'Epargne privée. En revanche, la deuxième thèse serait plus crédible. Elle a été adoptée par un bon nombre de pays comme la Suède, la Norvège où l'on trouve des Banques d'Etat pour le logement.

Un peu plus près de nous, on trouve le CREDIT FONCIER DU CAMEROUN, la BANQUE NATIONALE pour l'EPARGNE DE COTE D'IVOIRE.

Pour parvenir à alimenter le CREFOGA de ressources permanentes et abondantes, il y aurait donc lieu d'aménager des circuits privilégiés :

- Volet spécial S.N.I. :

Il serait plus qu'urgent voire impératif que la S.N.I. soumissionne désormais au même titre que les Grandes Sociétés, X, Y, ou Z, pour la construction notamment des édifices publics, en qualité de maître d'oeuvre.

La dynamisation de volet présenterait de multiples avantages :

. humainement et socialement, les jeunes nationaux de toutes les qualifications et de divers corps de métiers trouveraient des emplois ;

. économiquement, car dans le cadre des grands chantiers, la S.N.I. ferait participer la P.M.E. Gabonaise.

Ce serait là une matérialisation d'une des Résolutions du 11ème Congrès Extraordinaire du P.D.G. sur la P.M.E.

. financièrement, l'Etat aurait tout à gagner, car, dans la plupart des cas les grands chantiers appartiennent soit à l'Etat, soit aux Organismes étatiques financés en outre avec les fonds étatiques.

Ce serait donc une façon de retenir l'épargne publique. Cette rétention entraînerait une autre conséquence valable, à savoir le recyclage de l'Epargne dans d'autres secteurs de l'Economie Nationale.

Le secteur du bâtiment étant celui qui fait souvent appel à l'Epargne Publique et notre appartenance à la zone franc devraient nous obliger à nous pencher sérieusement sur cet aspect du problème.

Exemple :

Un cas très banal et bien apparenté à ceux que nous avons tous connu pendant la période exceptionnelle des travaux de l'O.U.A.

Soit, un édifice qui coûte à l'Etat à peu près 7 Milliards.

a) un tel marché traité par X, Y, ou Z, en admettant que les salaires versés aux Nationaux et les dépenses engagées par les Expatriés ainsi que les charges d'exploitation s'élèvent à 5 Milliards, favorise la sortie du Territoire National de 2 Milliards de Francs CFA qui peuvent être considérés comme un bénéfice net pour X, Y, ou Z.

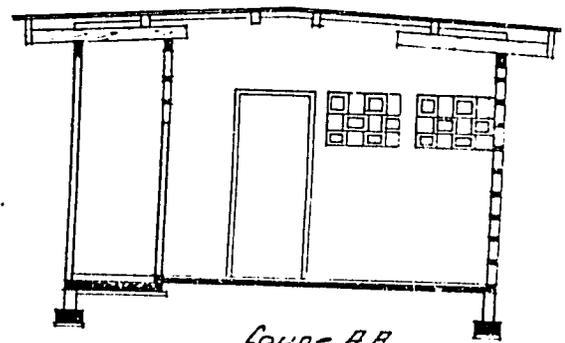
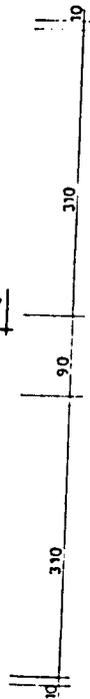
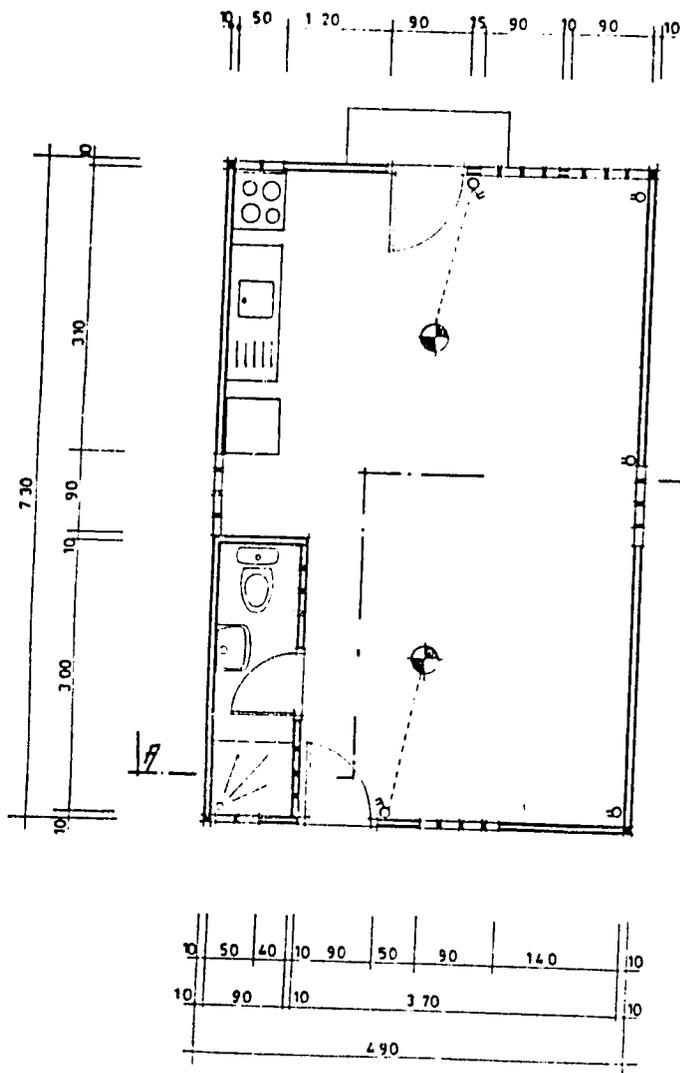
b) En revanche, si un tel marché était traité par la S.N.I., il est à peu près certain qu'un milliard au moins reviendrait à l'Etat.

La S.N.I. devrait devenir pour l'Etat, le véritable régulateur du secteur du bâtiment, je serai tenté de dire "LA BANQUE CENTRALE DU BETON".

2.3. - RELATIONS ENTRE LA S.N.I. ET LE CREFOGA :

Ces relations seraient définies dans le cadre d'une rationalisation des tâches entre deux organismes étatiques oeuvrant complémentirement dans un secteur donné.

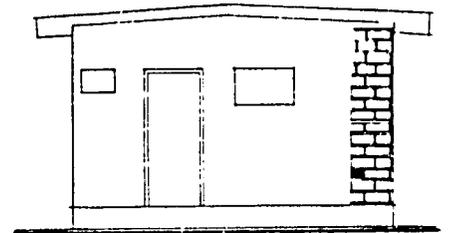
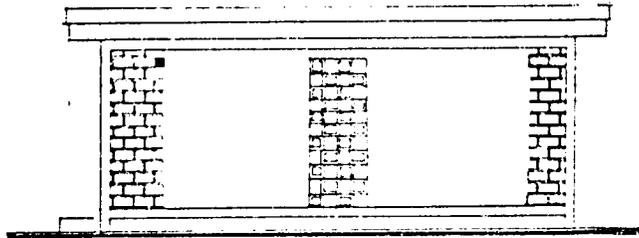
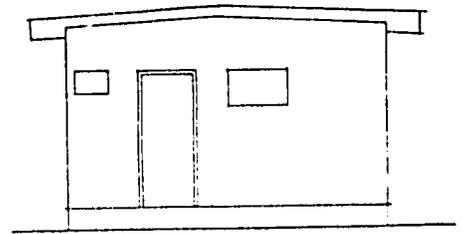
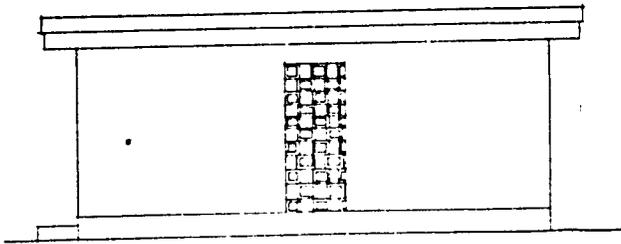
Core House Plans and Estimates  
Plan and Section



VUE EN PLAN Echelle 1/50

107

Core House Plans and Estimates  
Elevations



*Façade laterale Gauche*

*Façade Avant*

3/20

Annex 12

Core House Plans and Estimates  
Construction Cost Estimates  
(pp.3A-3C)

## Housing Costs; Societe National Immobiliere

Item	unite	prix/unit	S. N. I. Model L 2X3		Case Basique	
			quantite	total	quantite	total
<b>I. Terrassement</b>						
1.1 Decapage sol vegetal	m2					
1.2 Fouilles en rigoles	m3	6800.00	15.68	106624.00	6.08	41344.00
1.3 Remblai (terre & sable)	m3	3000.00	12.35	37050.00	8.29	24870.00
1.4 Complettement Remblai	m3	8000.00	7.11	56840.00	3.99	31920.00
Total.....				200514.00		98134.00
<b>II. Maconnerie</b>						
<b>II.A. Fondations</b>						
II.A.1. Beton en fond de fouille dose a 150 kg ciment	m3	130000.00	1.30	169000.00	0.42	54080.00
II.A.2. Beton dose a 300 kg ciment	m3	180000.00	3.63	652500.00	0.80	144000.00
II.A.3. Dallage au croit des murs porteurs	m2	205000.00	7.82	1602075.00	2.77	567850.00
II.A.4. Maconnerie d'agglomeres	m2	16200.00	39.70	643140.00	0.00	0.00
Total.....				3066715.00		765930.00
<b>III.B. Elevation</b>						
III.B.1. Maconnerie de 15 cm.	m2	9500.00	123.52	1173440.00	0.00	0.00
III.B.2 Maconnerie de 10 cm.	m2	8000.00	44.47	355760.00	73.74	589920.00
III.B.3. Chainages et linteaux	m3	205000.00	1.73	354650.00	0.67	136325.00
III.B.4. Fermes en beton.	m3	215000.00	1.00	213925.00	0.38	81700.00
III.B.5. Enduit en ciment	m2	3200.00	362.00	1158400.00	0.00	0.00
III.B.6. Encuit etanche	m2	4200.00	0.86	3591.00	0.00	0.00
III.B.7 Enduit crepis	m2	4200.00	25.25	106050.00	0.00	0.00
III.B.8. chape ciment refiuee	m2	4200.00	78.08	327936.00	0.00	0.00
III.B.9. chape bouchardee	m2	4900.00	7.00	34300.00	0.00	0.00
Total.....				3728052.00		807945.00
<b>III.C. Equipement</b>						
III.C.1. Bac a laver	unite	60000.00	1.00	60000.00	1.00	60000.00
III.C.2. cuisine	unite	37000.00	1.00	37000.00	1.00	37000.00
III.C.3. regard de visite	unite	45000.00	2.00	90000.00	0.00	0.00
III.C.4. regard siphonide	unite	65000.00	1.00	65000.00	1.00	65000.00
Total.....				252000.00		162000.00
<b>IV. Charpente Bois (structure-toit)</b>						
IV.1 pannes 60X120mm	m1	2660.00	120.45	320397.00	42.72	113635.20
IV.2 Planchs de 25mmX300mm	m1	5300.00	11.83	62699.00	4.00	21200.00
Total.....				383096.00		134835.20
<b>V. Couverture</b>						
V.1 "Nervural" S/10, compris toutes sujeteions	m2	8300.00	139.00	1153700.00	49.58	411514.00
V.2. accessoires	l	300.00	704.00	211200.00	249.00	74700.00
Total.....				1364900.00		486214.00
<b>VI. Menuiserie</b>						
VI.1 chassis 180X135 cm	unite	80000.00	2.00	160000.00	1.00	80000.00

VI.2. chassis 90 X 205	unite	73600.00	4.00	294400.00	1.00	40000.00	
VI.3. chassis 70 X135 + 90X240	unite	94350.00	1.00	94350.00	0.00	0.00	
VI.4. chassis w.c.	unite	18360.00	2.00	36720.00	1.00	18360.00	
VI.5. porte interieur	unite	61140.00	5.00	305700.00	0.00	0.00	
VI.6. porte interieur 80 X 207	unite	61140.00	3.00	183420.00	2.00	122280.00	
VI.7. Porte exterieur	unite	73800.00	1.00	73800.00	0.00	0.00	
VI.8. plafonnage interieur	m2	8100.00	89.95	728595.00	0.00	0.00	
VI. joint couvre joints	ml	1000.00	102.70	102700.00	0.00	0.00	
Total.....				1979685.00		260640.00	
VII. Revetements sols-murs							
VII.1. de sol mosaïque cerame 2 X 2 m2		10500.00	14.08	147787.50	0.00	0.00	
VII.2. murs cerame 2X2	m2	11000.00	8.69	95590.00	0.00	0.00	
VII.3. murs cerame 2 x 2	m2	2200.00	22.24	48917.00	0.00	0.00	
Total.....				292294.50		0.00	
VIII. Plomberie- Sanitaire							
VIII.1 alimentation general, tuberie	mi	est.	3.80	inclus au dessous			
VIII.2 tubes en cuivre	mi	4355.12	22.00	131770.00			
VIII.3 tubes, lavabo l'ave- mains	mi	3256.00	4.00	13024.00	8.00	26048.00	
VIII.4 tubes, douche evier	mi	4070.00	5.00	20350.00			
VIII.5 tubes lavoir et chute	mi	5087.00	7.50	38152.50			
VIII.6 W.C. y ventilation	mi	10175.00	8.00	81400.00			
VIII.7 lavabo	u	45728.00	1.00	45728.00			
VIII.8 lave-mains	u	39606.00	1.00	39606.00			
VIII.9 Evier en pres emaille	u	64785.00	1.00	64785.00			
VIII.10 equipement de douchiere	u	26670.00	1.00	26670.00			
VIII.11 cuvette WC	u	62948.00	1.00	62948.00			
VIII.12 robinet de passage	u	5292.00	1.00	5292.00			
VIII.13 Miroir	u	10227.00	2.00	20454.00			
VIII.14 Receveur de douche	u	93502.00	1.00	93502.00			
VIII.15 connection au comptoir global				2604.00			
Total.....				646285.50			
IX. Electricite							
IX.1 Tableau coupe-circuit	global			13833.00			
IX.2 lampes appliques au mur	u	11634.00	2.00	23268.00			
IX.3 lampes appliques au plafond	u	14690.00	9.00	132210.00			
IX.4 points lumineux	u	14960.00	1.00	14960.00			
IX.5 P.C. 2P + T	u	12936.00	1.00	12936.00			
IX.6 prise de courant 2 P + T	u	12369.00	11.00	136059.00			
IX.7 Prise de terre	u	20864.00	1.00	20864.00			
Total.....				354130.00			
X. Peinture	globale			911000.00			
Grand Total							
Terrassement				200514.00		98134.00	
Fondations				3066715.00		765930.00	
Elevation				3728052.00		807945.00	
Equipement				252000.00		162000.00	
Charpente-bois				383095.00		134835.20	
Couverture				1364900.00		486214.00	

30

Menuiserie	1979685.00	26040.00
Revetments	564379.00	0.00
Plomberie & Sanitaire	911000.00	
Electricite	354130.00	
Peinture	1364900.00	
Grand Total	14189371.00	2481096.20

122

**Core House Plans and Estimates**  
**Estimate Presented by Pierre X, informal sector builder**

/ / ) DEVIS ESTIMATIF / -

	U	Quantité	P. Unité	P. TOTAL
<u>Terrassement</u>				
Fouille en Fordation	m3	8	4.400 F	35.200 F
Remblai compacte avec sable	m3	8	4.000 F	40.000 F
<u>Fondation</u>				
Béton propreté pour fondation	m3	2	60.000 F	120.000 F
Béton pour dalle	m3	4,5	60.000 F	270.000 F
Agglos 20 x20 x 40	m2	20	7.000 F	140.000 F
Agglos: 15 x 20 x 40	m2	305	6.900 F	210.450 F
Enduit	m2	80	4.200 F	336.000 F
Agglos 10 x 20 x 40	m2	30,8	6.400 F	197.120 F
<u>Menuiserie</u>				
Poste Isoplane (0,83 x 2,04 )	u	1	35.000 F	35.000 F
Porte pleine (0,83 x 2,04 )	u	2	140.000 F	280.000 F
Cadre portes	u	3	20.000 F	60.000 F
Fenetre en naco ( 0.9 x 0.45 )	u	3	50.000 F	150.000 F
<u>Charpente Couverture</u>				
Bac Alu	m2	40	4.000 F	160.000 F
Charpente en bois dur ( xylopehe)	m3	0,5	120.000 F	60.000 F
Charpente en blanche dur pour exterieur	m3	1.5	120.000 F	180.000 F
<u>DESCRIPTION LES TRAVAUX</u>				
<u>Peinture</u>				
Peinture vinylique (eau)	m2	184	800 F	147.200 F
Peinture (huile)	m2	10	1.200 F	12.000 F
<u>Plafond</u>				
Plafond en creux joints en CP.8mm eP.	m2	38	6.000 F	228.000 F
<u>Plomberie</u>				
W/C	f	1	?	?
Lavabo	u	1	60.000 F	60
Douche	u	1	68.000 F	
Evier (2buc)	u	1	105.000 F	
Fosse Septique	u	1	65.000 F	
Puisard	u	1	450.000 F	
<u>CARRALAGE</u>				
Revêtement en Carreaux (10 x20)	m2	32	14.000 F	448.000
Revêtement en Faïence ( 10 x 10 )	m2	5	12.000 F	60.000
<u>ELECTRICITE</u>				
- Remise en état circuit électrique	FF		178.000 F	178.000
- Interrupteur	u	2	3.800 F	178.000
- Prise	u	3	3.400 F	10.200
<u>Montant TOTAL.....=4.402.770</u>				

Arrêté le présent DEVIS à la somme de :

QUATRE MILLIONS QUATRE CENT DEUX MILLE, SEPT CENT SOIXANTE DIX FRANCS C. F. A. /-

123

**Core House Plans and Estimates**  
**Estimate by GMCF, Formal Sector Construction Co.**



**GABONAISE  
 DE MOQUETTE  
 CARRELAGE  
 ETANCHEITE**

B.P. 3473 - LIBREVILLE  
 Tél. : 72.44.69  
 72.44.59  
 74.00.95

Libreville, le 24 Septembre 1987

**OBJET : CONSTRUCTION D'UN STUDIO**

- Implantation du chantier :	=	50.000
- Fouilles en rinceles pour fondations 3,00 m3 à 6.500	=	19.500
- Béton dosé à 300 KGS pour semelles 0,7 x 0,15 : = 1,5 M3 à 82.500	=	123.750
- Soubassement agglos pleins de 15 : 5 M2 à 11.800	=	59.000
- Remblai sous dalle : 7,7 M3 à 8.500	=	62.900
- Dalle en B.A. épaisseur 7 cms. compris armature treillis soudé et chape refluite 35,6 M2 à 9.800 F	=	350.840
- Maçonnerie agglos béton creux de 0,10 71,5 M2 à 10.800	=	772.200
- Béton pour linteaux et chaînage : 0,5 M3 à 240.000	=	120.000
- Jambages sous évier 2 à 16.500	=	33.000
- Un fosse septique 4 Usagers - Un puisard	=	480.000
- Carpente	=	120.700
- Couverture bois flu 5. M2 à 6.500	=	33.250
- Menuiserie : 3 Portes Iso chassis pvc lames bois	=	195.000
- Sanitaires : 1 Evier - 1 Lavabo - 1 WC Accessoires	=	220.000

.../...

6/20

Annex 12

Core House Plans and Estimates  
Estimate by GMCE, Formal Sector Construction Co.

.../... 2

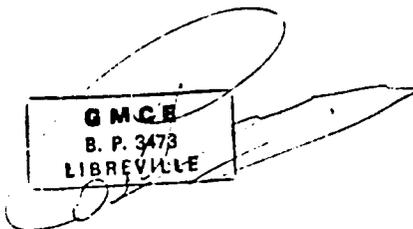
REPORT..... 3.046.390

- ELECTRICITE : 3 P.L - 2 PC T = 122.500

TOTAL H.T.....3.168.890

Soit pour 35,77 M2 = 88.590 F/M2

- AGGLOS BATIS A JOINTS PROPRES SANS ENDUIT.
- Pas de peinture
- Pas de plafonds int. et Ext. en C.P.



125

7/20

Annex 12

Core House Plans and Estimates  
Estimate for home construction by S.N.I.

126

8/20

AVIS N° 2993  
du 4/09/87DETAIL - ESTIMATIF

SETEG

- 3 -

AFFAIRE : ALIMENTATION MT/BT  
SNI NOMBA DOMAINE ZONE A/B

DESIGNATION	QTE	PRIX UNITAIRE		MO + FO U.	MONTANT TOTAL
<u>RESEAU MT :</u>					
. Ouverture de tranchée en terrain ordinaire et réfection y compris sablage et grillage avertisseur	80 ml	1 600	12 800	14 400	1 152 000
. Ouverture de tranchée en terrain bitumé et réfection	10 ml	20 145	44 200	64 345	643 450
. Fourniture et pose de fourreau PVC Ø 160	30 ml	8 775	6 700	15 475	464 250
. Plus-Value pour passage sous fourreau	30 ml		1 400	1 400	42 000
. Confection d'une boîte de jonction TRI-MONO	1	SEEG	SEEG	-	-
. Confection d'extrémités unipolaires simplifiées d'intérieur type EUI l'ens des 3	3	SEEG	SEEG	-	-
. Fourniture et pose de câble MT HN 33S23 3 x 150 mm <sup>2</sup> + 1 x 25mm <sup>2</sup>	150 ml	10 135	3 850	13 985	2 097 750
<u>POSTE DE TRANSFORMATION</u>					
. Fourniture et pose d'un poste de transformation URBAIN compact équipé de : 2 cellules IM, 1 cellule PM, un tableau TUR 4 départs, 1 jeu d'affiches réglementaires, paire de gants et clé isolée	1	11 792 500	953 000	12 745 500	12 745 500
. Confection de mise à la terre des masses du poste et du neutre BT	1	88 000	322 000	410 000	410 000
. Fourniture et pose d'un transformateur 400 KVA/20 KV/B2 y compris bornes	1	3 744 150	440 000	4 184 150	4 184 150
. Confection de dalle du poste	ENS	232 500	389 000	621 500	621 500
					.../...

127

9120

DIS N° 2993  
4/09/87

DETAIL - ESTIMATIF

**SETEG**

- 4 -

AFFAIRE : ALIMENTATION MT/BT SNI  
NOMBA DOMAINE ZONE A/B

DESIGNATION	QTE	PRIX UNITAIRE		MO + FO U.	MONTANT TOTAL
<u>RESEAU BT</u>					
. Fourniture et pose de supports PJ 10 - 330	1	110 220	225 000	335 220	335 220
10 - 440	2	124 340	255 000	379 340	758 680
10 - 910	7	163 900	285 000	448 900	3 142 300
Y compris numérotation					
. fourniture et pose d'arméments BT comprenant : ES	3	3 200	9 100	12 300	36 900
EAS	6	7 600	14 300	21 900	131 400
EADS	2	13 200	26 400	39 600	79 200
. Fourniture, transport, déroulage et réglage de câble BT torsadé 3 x 70 mm <sup>2</sup> + 1 x 54,6mm <sup>2</sup> + 2 EP	290 ml	2 665	3 050	5 715	1 657 350
. Confection de RAS BT sur PJ	2	52 000	49 800	101 800	203 600
. Fourniture et pose de câble BT souterrain 3 x 95 mm <sup>2</sup> + 1 x 50mm <sup>2</sup> ALU	65 m	4 000	2 900	6 900	448 500
. Ouverture de tranchée en terrain ordinaire et réfection y compris grillage et sable	30 m	1 600	12 800	14 400	432 000
. Confection de jonction EJAS 95/70	2	34 000	72 000	106 000	212 000
. Confection d'embouts thermoré- tractables l'ens. des 6	2	6 200	27 000	33 200	66 400
. Confection de terre du neutre réseau	2	42 000	142 000	184 000	368 000
. Confection de DPH 70/70	1	15 500	29 200	44 700	44 700
					.../...

128

10/20

DIS N° 2993  
 du 4/09/87

DETAIL - ESTIMATIF

SETEG

- 5 -

AFFAIRE : ALIMENTATION MT/BT SNI  
 NOMBA DOMAINE ZONE A/B

DESIGNATION	QTE	PRIX UNITAIRE		MO + FO U.	MONTANT TOTAL
. Fourniture et pose de fourreau PVC Ø 100	30 ml	6 800	6 200	13 000	390 000
. Plus-Value pour passage sous fourreau	30 ml		1 200	1 200	36 000
MONTANT - H.T. ....					30 702 850
RABAIS 2 % .....					614 057
<u>MONTANT TOTAL - H.T. ....</u>					30 088 793 F.

129

11/20

**SOPEL**  
B. P. 442 - Tél. 72-22-49  
LIBREVILLE

744  
57x8 + 10x10 + 12x15 + 25x16 = 303.292  
100 150 400 407

13.75

$\left[ \frac{x(8+10+12+25)}{4} \right] \cdot 4 = 303.292$

$\frac{55}{4} x = P.U. \cdot 82 \cdot \frac{x(25)}{4}$

28 OCTOBRE 1986

PAVILLON JUMELE TYPE "85"  
DEVIS QUANTITATIF ET ESTIMATIF  
POUR 1 BARRETTE DE 2 LOGEMENTS  
A 4 PIECES

$(x-8) \cdot 4 = P.U.$   
 $(x-10) \cdot 4$

CORPS D'ETAT: LOT N° VI - PLOMBERIE SANITAIRE

N°	Désignation des Ouvrages	U	Qtés	P. U.	Produits
601	Alimentation générale RDC et étage en tube galvanisé 20X27 et 15X21 placé dans la gaine à partir du pignon droit de la gaine -	ml	7,60		
	Distributions aux appareils en tubes cuivre 10 X 12 et 12 X 14 encastrés sous gaine à partir des nourrices placées 1 sous évier 1 mur côté WC étage	ml	44	Forfait	253.540
	Vanne d'arrêt intérieure au rez-de-chaussée dans la gaine				
602	<u>Canalisation en tubes PVC</u>				303.842
8	Ø 32 lavabo + lave-mains	ml	8		26048
10	Ø 40 douche évier	ml	10		40800
12	Ø 50 lavoiret chute étage, y compris ventilation	ml	15		76513,5
25	Ø 100 WC compris ventilation				162.000
613	Eviers aux regards extérieurs	ml	16		303.292
604	Lave-mains 34 X 29	u	2	39.606	79.212
605	Evier 85 X 50 en grès émaillé	u	2	64.785	129.570
606	Equipement de douchière	u	2	26.670	53.340
				.../...	

178



13/20

SOCIÉTÉ NATIONALE IMMOBILIÈRE

PAVILLON JUMÉLE TYPE "E 85"  
 DEVIS QUANTITATIF ET ESTIMATIF  
 POUR 1 BARRETTE DE 2 LOGEMENTS  
 A 4 PIÈCES.

6102  
 100  
 112

CORPS D'ÉTAT : VIII - PEINTURE

\*N.B./Les quantités portées ci-dessous ne sont données qu'à titre  
 indicatif et ne sauraient engager la S.N.I.

N°	Désignation des Ouvrages	U	Q	P.U.	Produits
801	Peinture polyvinylique 2 couches sur enduit ciment taloché intérieur et ext.				
	a) plafond	m <sup>2</sup>	102	1.300	132.600
	b) murs	m <sup>2</sup>	920	1.300	1.196.000
802	Peinture dito 2 couches + 1 couche impression à l'huile de lin sur plaf. CP	m <sup>2</sup>	94	1.500	141.000
803	Peinture glycéro 2 couches + 1 couche à impression sur boise- ries Int et Ext.	m <sup>2</sup>	172	1.500	258.000
804	Peinture dito 803 + 1 couche antirouille sur parties métalliques	F		1.500	
805	Rechampissage plintes peinture dito 803	ml	154	150	22.400
806	Numérotage 100 m/m	u	2	1.000	2.000
					1.822.000
					-----

13/20

14/20

SOCIETE NATIONALE IMMOBILIERE

PAVILLON JUMELE TYPE "L"  
 DEVIS QUANTITATIF ET ESTIMATIF  
 POUR 1 BARRETTE DE... LOGEMENTS A... P.

CORPS D'ETAT : TERRASSEMENT - II - MACONNERIE

N.B./ Les quantités portées ci-dessous ne sont données qu'à titre indicatif et ne sauraient engager la S.N.I.

N°	Désignation des Ouvrages	U	Q	P. U.	Produits
<u>I - TERRASSEMENT</u>					
01	Décapage de sol végétal sur 10 cm d'épaisseur moyenne	m2			
02	Fouilles en rigoles	m3	38.26	6.800	260.168
03	Remblai (terre + sable)	m3	52.47	3.000	157.410
104	Fourniture de sable pour complément de remblai	m3	14.21	8.000	113.680
	TOTAL.....				531.258
<u>II - MACONNERIE</u>					
<u>A/ FONDATIONS ET SOUBASSEMENTS</u>					
201	Béton de propreté en fond de fouille dosé à 150 Kg ciment	m3	2.60	130.000	338.000
202	Béton dosé à 300 Kg de ciment pour semelles et massif d'amarragement armé en acier Tor Ø 8 et Ø 6	m3	7.25	180.000	1.305.000
203	Dallage en béton dosé à 350 Kg de ciment armé d'un treillis soudé et de chapeaux en acier Tor Ø 8 au droit des murs porteurs	m3	15.63	205.000	3.204.150
204	Maçonnerie d'agglomérés pleins de 20 cm	m2	79.40	16.200	1.282.280
	<u>B/ ELEVATION</u> au-dessus plateforme				6.129.430
205	Maçonnerie d'agglomérés creux de 15 cm	m2	247.04	9.500	2.346.880
206	Maçonnerie d'agglomérés creux de 10 cm	m2	88.95	8.000	711.600

207	1°) chainages et linteaux en. béton dosé à 350 kg de ciment armé en acier lor Ø 8, épini- gles et cadres en acier doux Ø 6	m3	3,46	208.000	709.300
	2°) Fermes en béton sur murs por- teurs consoles seules sont armées en acier lor	m3	1,99	225.000	427.850
208	Enduit au mortier de ciment taloché	m2	724,32	3.200	2.317.824
209	Enduit étanche	m2	1,71	4.200	7.182
210	Enduit crépis rustique	m2	50,50	4.200	210.210
211	Calfeutrement au pourtour du bâti	m1	205,44	600	123.264
(212a)	chape ciment refluée	m2	156,16	4.200	655.872
(212b)	chape bouchardée	m2	14,00	4.900	68.600
	<i>plancher?</i>				
	TOTAL .....				7.578.582
					=====
	<u>C/ EQUIPEMENT</u>				
213	Bac à laver 1 compartiment	u	2	60.000	120.000
214	Paillasse de cuisine en béton armé	u	2	37.000	74.000
215	Regard de visite 40x40x40 int.	u	4	45.000	180.000
216	Regard siphonide <i>water?</i> <i>tuyau?</i>	u	2	65.000	130.000
	TOTAL .....				504.000
					=====
	<u>RECAPITULATION</u>				
	A/Fondation, soubassement.....				6.129.430
	B/Elévation.....				7.578.582
	C/Equipement.....				504.000
					14.212.012
					=====

16/20

SOCIÉTÉ NATIONALE ANONYME

PAVILLON JUMÉLÉ. TYPE "L"  
DEVIS QUANTITATIF ET ESTIMATIF  
POUR 1 BARRETTE DE.....2... LOGEMENTS A..S.P..

CORPS D'ÉTAT : III - CHARPENTE BOIS

N.B./ Les quantités portées ci-dessous ne sont données qu'à titre  
indicatif et ne sauraient engager la S.N.I.

N°	Désignation des Ouvrages	U	Q.	P.U.	Produits
301	Pannes en bois rouge 60 x 120 mm	m	240.90	2.660	640.794
302	Planches de rives Okoumé de 25 mm d'épaisseur 300 mm largeur	m	23.66	5.300	125.398
TOTAL.....					766.192

125

PAVILLON JUMBLE TYPE "L"  
 DEVIS QUANTITATIF ET ESTIMATIF  
 POUR 1 BARRETTE DE...2... LIXEMENTS A.S.P.

CORPS D'ETAT : IV - COUVERTURE

N.B./ Les quantités portées ci-dessous ne sont données qu'à titre  
 indicatif et ne sauraient engager la S.N.I.

n°	Désignation des Ouvrages	U	Q	P.U.	Produits
401	Pose de couverture bac "NERVURAL" 6/10° compris toutes sujétions	m2	278.87	8.300	2.314.621
402	Accessoires	U	704	300	211.200
TOTAL.....					2.525.821

PAVILLON JUMELE TYPE "L"  
 DEVIS QUANTITATIF ET ESTIMATIF  
 POUR 1 BARRETTE DE...<sup>2</sup>...LOGEMENTS N. 5 P.

CORPS D'ETAT : V - MENUISERIE MENUISERIE

N.B./ Les quantités portées ci-dessous ne sont données qu'à titre indicatif et ne sauraient engager la S.N.I.

N°	Désignation des Ouvrages.	U	Q	P. U.	Produits
501	Double chassis naco 9 lames 180 x 135 cm	u	4	80.000	320.000
502	Simple chassis naco 14 lames 90 x 205 cm	u	8	73.600	588.800
503	Ensemble simple chassis naco 9 lames 70 x 135 cm + porte isoplane avec imposte 90 x 240 cm (mur 0,15)	u	2	94.350	188.700
504	Simple chassis naco 3 lames 90 x 51,5 cm	u	4	18.360	73.440
505	Porte isoplane 90x207,5 (mur 0,10)	u			
506	Porte isoplane 90 x 207,5 cm (mur 0,15)	u	10	61.140	611.400
507	Porte isoplane 80x207,5 à condam- nation (mur 0,10)	u	6	61.140	366.840
508	Porte isoplane avec imposte 90 x 240 (mur 0,15)	u	2	73.800	147.600
509	Plafonnage en panneau de CP int.	m2	179.90	8.100	1.457.190
<del>510</del>	<del>Plancher bois</del>	<del>m2</del>	<del>154.12</del>	<del>1.500</del>	<del>231.180</del>
511	Joints couvre joints	m1	205.44	1.000	205.440
	TOTAL.....				<del>4.190.590</del> 3959 410

19/20

PAVILLON JUMELE TYPE "L"  
 DEVIS QUANTITATIF ET ESTIMATIF  
 POUR 1 BARRETTE DE... 2... LOGEMENTS A.S.P...

CORPS D'ETAT : IX - REVETEMENTS SOLS-MURS

N.B./ Les quantités portées ci-dessous ne sont données qu'à titre indicatif et ne sauraient engager la S.N.I.

N°	Désignation des Ouvrages.	U	Q.	P.U.	Produits
901	Revêtements de sol en mosaïque grés cérame 2x2	m2	28.13	10.500	295.365
902	Revêtements muraux en mosaïque grés cérame 2x2	m2	17.38	12.000	191.180
903	Plinthes en mosaïque 2x2	m1	44.47	2.200	97.834
904	---	m2	---	---	---
TOTAL.....					584.379
I/ Terrassement -----					532.258
II/ Gros-œuvre -----					14.212.022
III/ Charpente-bois -----					766.252
IV/ Couverture -----					2.525.824
V/ Menuiserie - quincaillerie -----					895.420
VI/ Revêtements - sols -----					<del>4.190.590</del>
TOTAL -----					584.379
					<del>22.810.352</del>
					22.579.072

PAVILLON JUMELE TYPE "85"  
 DEVIS QUANTITATIF ET ESTIMATIF  
 POUR 1 BARRETTE DE 2 LOGEMENTS  
 A 4 PIECES

CORPS D'ETAT: LOT N°VII-ELECTRICITE

N°	Désignation des Ouvrages	U	Qtés	P. U.	Produits
701	Tableau de protection pour : coupe-circuit : Lumière : 3 c/c 10 A : P.C. : 2 c/c 16 A	u	2	13.833	27.666
702	Lampes simple allumage : a) douille à bout de fils en appli- : que - : b) douille à bout de fils en plafond	u	4	11.634	46.535
704	Points lumineux en applique sur 1 VV	u	18	10.962	197.316
706	Applique sanitaire de sécurité avec: : P.C. 2 P + T - : Prise de courant 2 P + T	u	2	12.936	25.872
708	Prise de terre	u	22	12.369	272.118
		u	2	20.864	41.728
					640.616

Arrêté le présent devis à la somme de:

SIX CENT QUARANTE MILLE SIX CENT SEIZE FRANCS CFA./-

RECAPITULATION

- <u>LOT 6 SANITAIRE:</u>	-	1.284.802
- <u>LOT 7 ELECTRICITE:</u>	-	640.616
En exonération à 5% et Hors T.C.A		<u>1.925.418</u>
		=====



20/1/20

DEVIS N° 2993  
du 3/09/87

## ADDUCTION D'EAU SNI NOMBA-DOMAINE

SETEG

- 1 -

## ZONE A/B

DESIGNATION	QTE	PRIX UNITAIRE		M.O. + F.	MONTANT TOTAL
		F.O.	M.O.	U	
<b>1° - <u>PIQUAGE</u></b>					
Piquage sur conduite F Ø 100 existante et comprenant :					
- Fouille, dégagement et coupe					
- Té 150/80/150					
- Robinet vanne Ø 80					
- BE, BU, joint et butée	2 ens	108 900	249 375	358 275	715 550
- Démolition et réfection mur de regard	2	250 000	129 920	379 920	759 840
- Pose bride major (fourniture SEEG)	2	-	4 000	4 000	8 000
<b>2° - <u>CANALISATION</u></b>					
Ouverture de tranchée en terrain ordinaire	215 ml		4 650	4 650	999 750
Fourniture et pose de tuyau fonte Ø 80	230 ml	7 300	4 270	11 570	2 661 100
Coude 1/8 Ø 80	2	10 190	32 480	42 670	85 340
<b>3° - <u>POTEAU D'INCENDIE</u></b>					
Fourniture et pose de poteau d'incendie comprenant :					
- Té 80/80/80					
- Robinet-vanne de Ø 80					
- Tuyau fonte Ø 80 (10ml)					
- Esse de réglage et BU					
- Butée, socle et bouche à clé complète	1 ens	370 965	101 095	472 060	472 060
MONTANT H. T. ....					5 617 300
Rabais 5 % .....					5 702 816 F
MONTANT TOTAL H.T. ....					280 865 F
					285 130 F
					5 417 510 F.
					5 226 425

140