

BIBLIOGRAPHIC DATA SHEET1. CONTROL NUMBER
PN-AAJ-1902. SUBJECT CLASSIFICATION (300)
LDOC-0000-G224

3. TITLE AND SUBTITLE (300)

Initial environmental examination, proposed 1978 Togo AID development grant/housing guaranty program

4. PERSONAL AUTHORS (100)

LaNier, Royce

5. CORPORATE AUTHORS (101)

National Savings and Loan League

6. DOCUMENT DATE (110)

1977

7. NUMBER OF PAGES (120)

56p.

8. ARC NUMBER (170)

T0301.54096681.L287

9. REFERENCE ORGANIZATION (190)

NSLL

10. SUPPLEMENTARY NOTES (500)

11. ABSTRACT (950)

12. DESCRIPTORS (920)

Environmental impact
Environmental engineering
Environmental health
TogoHousing
Technical assistance

13. PROJECT NUMBER (100)

912046500

14. CONTRACT NO.(100)

AID/otr-C-1347

15. CONTRACT TYPE (100)

16. TYPE OF DOCUMENT (100)

PN-AAJ-190

To

301.54096681

L287

INITIAL ENVIRONMENTAL EXAMINATION

PROPOSED 1978 TOGO

AID DEVELOPMENT GRANT/HOUSING GUARANTY PROGRAM

PREPARED FOR OFFICE OF HOUSING

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

PREPARED BY

ROYCE LANIER, ENVIRONMENTAL PLANNING CONSULTANT

NATIONAL SAVINGS AND LOAN LEAGUE

NOVEMBER 1977

TABLE OF CONTENTS

I. COUNTRY BACKGROUND AND DESCRIPTION OF PROPOSED AID TECHNICAL ASSISTANCE AND HG PROGRAMS

A. Existing Environmental Conditions 1

B. Lomé's Shelter Needs 1

C. Identified Target Population 3

D. Proposed AID Technical Assistance and HG Programs 3

II. ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

A. Identification of Selected Areas of Environmental Concern and Probable Impact of AID Program Components 5

B. Discussion of Critical Issues and Recommendations for Mitigating Measures to Eliminate or Minimize Identified Adverse Impacts 17

III. THRESHOLD RECOMMENDATION

A. Technical Assistance Program 22

B. Housing Guarantee Program 22

I. COUNTRY BACKGROUND AND DESCRIPTION OF PROPOSED AID TECHNICAL ASSISTANCE AND HG PROGRAM

The information contained in this section of the IEE is drawn from the draft Shelter Sector Analysis of Togo dated September 1977 and the Project Design Paper of July 1977. For additional background data these documents should be consulted.

A. Existing Environmental Conditions

The maritime region of Togo has an equatorial climate with consistently moderate to high temperatures, and high humidity. There are two rainy seasons--April to June and October to November, yielding an average annual rainfall of over 1000 mm. Soil conditions and land forms do present some constraints to development in the Lomé area. Much of the existing city is located on a narrow sand bar along the coast which has less than two meters elevation at its highest point. A lagoon separates this section of the city from the mainland which slopes gently to the north. The soils north of the lagoon are a mixture of sand and dense clays. Ponding of surface water is common throughout the area and is particularly critical along the northern and western boundary of the Lomé District.

The major health problems are infectious and parasitical diseases associated with poor sanitary conditions. On a country-wide basis, malaria, river blindness, infectious gastro-intestinal diseases and measles, followed closely by bronchial pneumonia, infectious pneumonia, infant diarrhea, tetanus and malnutrition are responsible for the high rate of mortality, particularly among infants. The major cause for these widespread diseases can be traced to the poor hygienic conditions found in most Togolase settlements, which result from limited or non-existent sanitary facilities and poorly distributed potable water. The combination of natural environmental conditions which favor the breeding of insects, parasites and other disease organisms and man-made environmental conditions which favor the spread of infectious diseases have resulted in a life expectancy of only forty-one (41) years among the population.

B. Lomé's Shelter Needs

The rapid growth of Lomé as the capital and chief commercial and industrial center of the country has had a significant impact on the traditional housing and living patterns. The city is presently in a transitional stage of growth, being transformed from a collection of traditional villages around an administrative and commercial town into a major urban center along the West African coast. Lomé's population rose from 86,000 in 1960 to 193,000 by 1970 and is presently estimated at approximately 280,000 to 300,000. By 1985 the Lomé population is expected to reach 700,000. A pattern of large lots (400 to 600m²) with single story houses occupying a small percentage of the land area inside the compound has caused the city to spread into peripheral areas. Problems of overcrowding have not been avoided despite the spread of the city and subdivision of land into large lots.

A look at room occupancy rates, particularly among low-income groups, and the doubling up of households, categorized as "lodged for free" reveal extensive overcrowding. To assess the scale of overcrowding, one must consider the

average number of rooms per household as well as the number of people per household. Table I below indicates room occupancy levels by tenure for Bé, a large low-income area, and for Lomé as a whole. As can be seen, more than half the tenant and "lodged for free" households occupy one-room units.

TABLE I
ROOM OCCUPANCY LEVELS IN BE AND
DISTRIBUTION BY TENURE IN BE AND LOMÉ¹
(in percentages)

Type of Tenure	1	2	3	4	5	Bé	Lomé ²
Owners	9.4	21.7	11.5	11.5	45.9	20.5	41.1
Tenants	54.6	40.4	3.1	1.1	0.2	52.5	29.0
"Lodged for free"	55.8	25.7	10.3	3.9	4.3	27.0	25.7
Occupancy levels for all types of tenure	46.2	32.1	7.3	3.8	10.6		

SOURCE: UNDP/CCL Studies, and Togolese authorities.

¹ Data for Bé are 1974, and data for Lomé are 1971.

² 4.2% of those surveyed in Lomé did not respond.

Another dimension of crowding is the large number of households per compound in low-income areas. Surveys, conducted by UNDP and CCL, estimate an overall average of three households per compound, assuming one- to two-family compounds among those earning over 15,000 CFAF in 1974 and nine households per compound among those below that income level. Given these figures, the number of people per compound in low-income neighborhoods range from 30-54, or an approximate average of six people per room. Most of these are accommodated in temporary structures built of palm branches, mud brick and thatch or in "wagons," which are rows of five to fifteen rental compartments built one or two rooms deep along one wall of a compound. In either case, sanitary facilities are minimal, usually consisting of one toilet per compound with no running water. All cooking takes place in a commonly shared outdoor kitchen or on individual charcoal pots placed just outside the door of each dwelling unit. The GOT has recently set forth a proposed program for meeting the housing needs of low-income groups in Togo. The Ministry of Planning has determined that the GOT should provide housing for all households with income below 30,000 CFAF per month and projects there will be 91,690 such new households in Lomé by 1985.

The Office of Housing SSA indicated a median income level in Lomé of 15,000 CFAF (\$US 62.50) per month and estimates approximately 38,000 to 44,000 new households in Lomé between 1975 and 1985 whose incomes are at or below the median. Effective demand for this income group (that is, both the ability and the willingness to pay), was estimated at an average of 2,000 new units per year. The proposed housing program of the GOT projects construction of 300 "economic housing" units in Lomé in 1977.

C. Target Population

The target population for all Office of Housing programs is identified as those families earning less than the median income of 15,000 CFAF per month. Surveys conducted in 1974 in Bé, a representative low-income neighborhood make it possible to outline a social and economic profile of low-income households. About two-thirds of the population was born outside the city but strong ethnic and family ties ease the transition from rural to urban life for most of the new migrants. Doubling up of families is common, and recent arrivals are often lodged for free with members of their family or village. Occupational categories commonly found among the low-income group surveyed include artisans, construction workers, taxi drivers, seasonal workers, unskilled or semi-skilled port laborers, salaried public and private lower-level employees, servicesector employees and petty traders, i.e., street vendors, almost all of whom are women.

Although women make up only 4% of the salaried labor force, they are economically significant among low-income groups. Wives frequently remain in the village with the younger children until the husband is established in a job in the city. They may also go back to the village at harvest time as a means of contributing to the family's support. Once in the city the women are expected to be able to contribute toward their own and their children's support. Despite a 90% illiteracy rate (80% among men) and lack of training, many of the women have a strong business sense; many of them purchase small franchises to sell a number of goods ranging from prepared foods to canned goods. The women also tend vegetable gardens for their families' use, and sell or exchange the remaining balance for other goods.

The survival of many of the urban low-income groups is buttressed by a strong system of dependency on members of the extended family, both within the city and in the village. Trade in kind is commonly practiced in urban areas among various households. At the same time, strong links to the village allow for an exchange of staple goods for money.

D. Proposed AID Technical Assistance/Housing Guarantee Program

Technical Assistance will be provided under two separate programs. A Development Grant (DG) of \$500,000 will be used to provide the following:

- Two resident advisors to be seconded for a period of two years each to the Minister charged with public works, housing and urbanization for the purpose of assisting in the development of GOT capacity to undertake and coordinate a range of shelter activities for low-income groups.
- Short-term technical expertise (TDY) for special purposes to assist in establishing and planning of the initial operations of the new shelter-related GOT institutions including the HG Program discussed below.

- Participant training for GOT professionals particularly those attached to the new shelter-related institutions.

Secondly, a grant of \$429,000 under the Improvement Program for the Urban Poor (IPUP) will be used to field a technical advisor for a period of three and one half years to assist the GOT to evaluate community needs, to formulate specific proposals for program intervention, to design a delivery system for these services and to assign technicians as appropriate to implement the projects.

The Housing Guaranty Program (HG) will consist of the following separate components:

- Neighborhood upgrading
- Sites and services with "core compound" housing units
- Small loans for building materials.

Initially the Togo HG Program will focus on upgrading of living conditions in an existing low-income neighborhood in Lomé. The neighborhood of Bé has been identified as a suitable choice, and it is expected that this element of the program will concentrate on the following improvements of infrastructure:

- Provision for sanitary sewage disposal
- Extension of water distribution system to provide individually metered connections to each compound
- Extension of street lighting and electric power distribution to individual households
- Provision for garbage collection and disposal
- Grading and paving of major roads within existing rights-of-way to provide for storm water drainage and separation of vehicular traffic from pedestrian traffic, which includes roadside shopping.

The number of households affected by each component will vary, but one or more components should affect a majority of the households in Bé. It is expected that two million dollars will be set aside for the neighborhood upgrading element of the program, plus an additional \$500,000 to be applied toward the cost of developing a sanitary sewage treatment facility.

Implementation of the Sites and Services element must await land acquisition by AGETU, one of the new GOT institutions. The program envisions providing basic infrastructure services for approximately 400 lots and the construction of two to four core housing units on each lot within a common walled compound. Each lot is to be provided with a shared sanitary facility and a common courtyard kitchen. Infrastructure services are to be similar to those provided in the neighborhood upgrading program. For this element of the program two million dollars is to be set aside.

The third element of the HG program is to provide a revolving fund of \$500,000 for small loans for building materials of up to \$500 each. Initially these loans would be available for improvements to existing houses in the neighborhood upgrading project area and to families seeking to expand their core units in the sites and services project area. The roll-over of these loan funds are to be made available to other families with similar income levels for improving or expanding their units.

II. ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

This section of the IEE sets forth the reasonably foreseeable effects that the proposed AID assistance program will have on the human environment in Lomé. To ensure that all relevant environmental consequences of AID's proposed actions have been considered, the country's physical, social, economic and other related environmental base line conditions were examined. The detailed findings of this research and field investigation are set forth in the Togo Shelter Sector Analysis (September 1977) and are summarized in Section I of this report.

A. Identification of Selected Areas of Environmental Concern and Probable Impacts of AID Program Components

An impact identification matrix was developed as a means of identifying the potential incidences between critical areas of environmental concern and specific components of AID's proposed assistance program. The summary findings of the Initial Environmental Evaluation are presented in Table II. This evaluation has served to answer three basic questions:

1. What are the most critical environmental concerns indigenous to the area of Togo in which the proposed AID assistance program is to be implemented?
2. What specific components of AID's assistance program are anticipated to affect areas of critical environmental concern and at what level of concern?
3. What is the nature of the anticipated environmental impact (adverse or beneficial) between the proposed AID program actions and selected areas of environmental concern?

TABLE II

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1 LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	COLUMN 2 LEVEL OF PROJECT CONCERN*	COLUMN 3 PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	COLUMN 4 ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
PROGRAM/PROJECT IMPACTS ON THE ENVIRONMENT			
<u>NATURAL ENVIRONMENT</u>			
1. EXISTING WATER RESOURCES:			
A) SURFACE (RIVERS, LAKES, RESERVOIRS)	P	Storm Drainage Sewage Disposal	(+) A reduction in the raw sewage and sediment discharged into surface waters may be expected.
B) UNDERGROUND (AQUIFERS)	NA	Some areas north of the lagoon could be critical, but not be.	
C) ESTUARY	NA		
D) OCEAN	P	Storm Drainage Sewage Disposal	(+) A reduction in the raw sewage & sediment discharged into surface waters may be expected.
2. ENVIRONMENTALLY SENSITIVE AREAS:			
A) UNIQUE OR UNSTABLE GEOLOGIC FORMATIONS	NA		
B) WETLANDS, MARSHES, FLOODPLAIN, AND ESTUARIES	P	Sites and Services	(-) Site selection criteria must be rigorously followed to avoid environmentally sensitive areas.

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

TABLE II

CHECKLIST FOR ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1 COLUMN 2 COLUMN 3 COLUMN 4

LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
c) AQUIFER RECHARGE AREAS	C	Sites and Services	(-) Site selection criteria must be rigorously followed to avoid areas of critical environmental concern.
d) RARE OR ENDANGERED PLANT AND ANIMAL SPECIES AND THEIR HABITATS	U		
e) HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES	U		Care should be taken to avoid encroachment on the religious shrine "sacred forest" located on the project area.
3. INFLUENCE ON EXISTING AND/OR FUTURE LAND USE ACTIVITIES AND DEVELOPMENT PATTERNS WHICH MAY AFFECT:			
a) WILDLIFE REFUGES	NA	Why NA? Is there no wildlife?	
b) PRIME AGRICULTURAL LANDS	U		

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
 U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
 P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
 C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
 M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

-7-

X

TABLE II

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
c) VALUABLE NATURAL RESOURCES--FORESTS, WETLANDS, MINERALS, ETC.	P	Sites and Services	(-) Site selection criteria must be rigorously followed to avoid areas of critical environmental concern, particularly wetlands
d) OPEN SPACE/RECREATION LANDS	U		
e) ECOLOGICAL BALANCE OF THE AREA/REGION	U		
f) STABILITY AND PRESERVATION OF HUMAN SETTLEMENT AREAS	P	Total Program	(+) Improved sanitary conditions and demonstration of workable means of providing urban services in existing neighborhoods.

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

TABLE II

CHECKLIST FOR ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
4. ECOLOGICAL CONSEQUENCE OF INTRODUCING NEW OR DIFFERENT TECHNOLOGICAL SYSTEMS ASSOCIATED WITH COMMUNITY INFRASTRUCTURE & SERVICES:			(+-) Individual water connects may increase usage of water unless metering or other controls are instituted; waterborne sewage would increase usage, but system not yet selected.
A) WATER CONSUMPTION VERSUS SUPPLY LIMITATIONS	M	Water Supply and Distribution Sanitary Sewage Disposal	
B) ENERGY REQUIREMENTS	U	Electricity to be used only for lighting.	
C) AMBIENT AIR QUALITY	U		
D) WATER QUALITY	C	Sanitary Sewage Disposal	(+) Alternative treatment & disposal methods to be explored.
E) CHANGE IN AGRICULTURAL PRACTICES AND USE OF HUMAN WASTE FOR FERTILIZER	C	Sanitary Sewage Disposal	(+) Land disposal of treated night soil to be explored.

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

TABLE II

CHECKLIST FOR ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
<p><u>HUMAN ENVIRONMENT</u></p> <p>1. TRADITIONAL CUSTOMS & SOCIO-CULTURAL CONDITIONS:</p> <p>A) COMMUNITY CHARACTER & COHESION</p> <p>B) SOCIAL ORGANIZATION</p> <p>C) INSTITUTIONAL STRUCTURES</p> <p>D) LIFE STYLES & CULTURAL TRADITIONS</p> <p>E) FAMILY PATTERNS & VALUES</p> <p>F) DEMOGRAPHIC OR SOCIAL PROFILE</p>	<p>U</p> <p>U</p> <p>U</p> <p>U</p> <p>U</p> <p>U</p>		<p>The proposed Be upgrading program and the concept of the multi-family sites and services compounds have been examined and found to be compatible with existing customs and socio-cultural conditions.</p>

-10-

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

TABLE II

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
G) LEVEL OF PERSONAL SAFETY & CONVENIENCE	P	Roads, Streets & Sidewalks	(+). Greater separation of pedestrian & vehicular traffic.
2. ESTABLISHED HOUSING CONCEPTS AND PRACTICES:			
A) BUILDING MATERIALS	U	The proposed sites and services component and the materials loan component as presently designed would not represent a significant departure from established concepts and practices.	
B) CONSTRUCTION TECHNIQUES	U		
C) HOUSING FORM AND STYLES	U		
D) INTERIOR DESIGN OR STRUCTURE	U		
E) SPATIAL RELATIONSHIPS OF STRUCTURE TO OTHER SHELTER COMPONENTS (COURTYARDS, COOKING AREA, BATH, ETC.)	U		

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

TABLE 11

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
F) POPULATION DENSITY	P	Total Program	(+) Existing densities in Bé have increased in recent years, resulting in significant deterioration in environmental quality, proposed program should upgrade existing conditions
G) HOUSING LOCATION	P	Sites and services	(+/-) Site selection criteria must be rigorously followed to assure ready access to public services and centers of employment.
3. EFFECT ON PUBLIC HEALTH AND GENERAL WELL-BEING:			
A) COMMUNICABLE DISEASE CONTROL AND ENVIRONMENTAL HEALTH CONDITIONS	C	Sanitary Sewage Disposal Potable Water Supply Garbage Collection	(+) Existing sanitary conditions include considerable health hazards which should be reduced by program efforts.
B) DISPLACEMENT AND RELOCATION OF POPULATION	U	As existing rights-of-ways seem adequate, little or no displacement is expected.	

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

TABLE II
CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
LIST OF SELECTED CRITICAL ENVIRONMENTAL CONCERNS	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE IMPACTS--NEGATIVE (-) POSITIVE (+)
c) EMPLOYMENT/INCOME GENERATION	C	Roads, Streets & Sidewalks Waste handling System	(+) Existing roadside commerce will be expanded and given suitable facilities. Labor intensive waste handling system will be considered.
d) LAND TENURE AND/OR STABILITY OF HUMAN SETTLEMENT AREAS	U		
e) INCOME EXPENDITURE PATTERN	M	Total Program	(-) Cost recovery mechanism will vary, but individuals will pay some portion of costs for service they do not now have.

*COLUMN 2 SYMBOLS: NA -- THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U -- THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P -- THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C -- THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M -- MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION SHEET

COLUMN 1

COLUMN 2

COLUMN 3

COLUMN 4

LIST OF SELECTED AREAS OF ENVIRONMENTAL CONCERN	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE PROGRAM IMPACTS NEGATIVE (-) POSITIVE (+)
LOCATIONAL FACTORS POTENTIALLY IMPACTING PROGRAM/PROJECT			
1. NATURAL HAZARDS: A) SEISMIC DISTURBANCES	NA		
B) FLOODING / High Water Table	M	Storm Water Drainage/ Sanitary Sewage	(-) System used must take into account this existing constraint.
C) DROUGHTS	NA		
D) TORNADOES, HURRICANES, OR SIROCCOS	NA		
E) LANDSLIDES, ROCK SLIDES, OR UNSTABLE SLOPE CONDITIONS	NA		
F) FIRES	NA		
G) SOIL STABILITY--SHIFTING SANDS, EXPANDING CLAY, EROSION, ETC.	NA		

COLUMN 2 CODE:

- NA - THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
- U - THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
- P - THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
- I - THIS AREA OF CONCERN IS CONSIDERED CRITICAL
- M - MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION SHEET

COLUMN 1

COLUMN 2

COLUMN 3

COLUMN 4

LIST OF SELECTED AREAS OF ENVIRONMENTAL CONCERN	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE PROGRAM IMPACTS NEGATIVE (-) POSITIVE (+)
2. ENVIRONMENTAL HEALTH PROBLEMS: A) WATER QUALITY _____	U		
B) CLIMATE AND AMBIENT AIR QUALITY _____	M	Sanitary Sewage Disposal/ Garbage Collection	(-) Frequency of collection, handling & treatment methods & disposal techniques must consider climatic conditions.
C) EXPOSURE TO COMMUNICABLE DISEASES _____	P	Sanitary Sewage Potable Water Supply Garbage Collection	(+) Proposed programs should reduce exposure to communicable diseases.
D) MAN-MADE NUISANCE--NOISE, ODORS, TOXIC MATERIALS, ETC. _____	U		
3. AVAILABILITY AND CAPACITY OF BASIC COMMUNITY INFRASTRUCTURE AND SERVICES: A) TRANSPORTATION--ACCESSIBILITY TO JOBS, SERVICES, ETC. _____	C	Sites and Services	(+) Site selection criteria must be rigorously followed to assure ready access to public services & centers of employment.
B) WATER SUPPLY AND DISTRIBUTION _____	P	Water Supply & Distribution	(+) Accessibility should be improved affecting individual hygiene.
C) SEWAGE COLLECTION, TREATMENT AND DISPOSAL _____	C	Sanitary Sewage	(+) At present there is no treatment; improved collection & disposal methods are intended as well as some form of treatment.
D) HEALTH CARE _____	NA		

*COLUMN 2 CODE: **NA** - THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT
U - THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE
P - THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE
C - THIS AREA OF CONCERN IS CONSIDERED CRITICAL
M - MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

CHECKLIST FOR
ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION SHEET

COLUMN 1

COLUMN 2

COLUMN 3

COLUMN 4

LIST OF SELECTED AREAS OF ENVIRONMENTAL CONCERN	LEVEL OF PROJECT CONCERN*	PROGRAM/PROJECT COMPONENTS LIKELY TO CAUSE CHANGES	ENVIRONMENTAL NATURE OF PROBABLE PROGRAM IMPACTS NEGATIVE (-) POSITIVE (+)
E) SOLID WASTE DISPOSAL	M	Garbage Collection & Disposal	(+/-) Collection will remove neighborhood problems, but disposal could cause regional scale problems.
4. Urban/Regional Growth and Land Use Considerations: A) Strains on the Capacity of Existing Natural Systems (Food Production, Water Supply, etc.) or Man-made systems (public transport, electrical supply, schools, etc.) Due to Prevailing Physical Growth Pattern of Urban Center(s) Anticipated To Be Possible HG Sites	NA		
B) Identifiable Important Environmental Resources Threatened By the Process of Urbanization	P		(-) Site selection criteria must be rigorously followed to avoid areas of critical environmental concern.
● Rare or Endangered Plant & Wildlife Habitats			
● Wetlands			
● Agricultural Lands			
● Flood Plains			
● Forests			
● Historic, Archeologic & Culturally Significant Sites			
● Unique Natural Areas			
● Scarce or Critical Raw Materials			

COLUMN 2 CODE: NA - THIS AREA OF CONCERN IS NOT APPLICABLE TO THE COUNTRY, REGION OR THE PROPOSED PROJECT

U - THIS AREA OF CONCERN IS UNLIKELY TO BE OF IMPORTANCE

P - THIS AREA OF CONCERN IS POTENTIALLY OF IMPORTANCE

C - THIS AREA OF CONCERN IS CONSIDERED CRITICAL

M - MITIGATING MEASURES REQUIRED TO AVOID SIGNIFICANT EFFECT

B. Discussion of Critical Issues and Recommendations For Mitigating Measures To Minimize Identified Adverse Impacts

The following discussion is presented of those issues identified in Column 2 of Table II as being of critical (C) concern or requiring mitigating (M) measures in order to minimize adverse effects. Likely causal relationships between these concerns and specific components of the proposed AID program are discussed. Recommendations are presented for program modification and/or for incorporating mitigating measures. An indication is also given as to whether the anticipated effect is expected to be beneficial or adverse.

**Impact
Rating**

NATURAL ENVIRONMENT

Environmentally Sensitive Areas

(-) ● Aquifer Recharge Areas

As the quality of Lomé's water supply is dependent on protection of the underground aquifer, it will be crucial to identify recharge areas and to avoid encroachment which could contaminate the aquifer or reduce infiltration. The sites and services element of the HG program will provide an opportunity to assist the GOT in establishing criteria for project site selection and a mechanism for protecting critical environmental resources.

Ecological Consequences of Introducing New or Different Technical Systems in Conjunction with Community Infrastructure and Services:

(+-) ● Water Consumption Versus Supply Limitations

The daily capacity of the four municipal wells which supply Lomé is 13,000 m³, which is adequate for current requirements. In addition, there are some 139 shallow wells which serve limited local areas. The Third Development Plan of Togo (1976-1980) gives high priority to water resource development. The Canadian Government is assisting with the extension of the water supply and primary distribution network in Lomé. Community standpipes are the principal source of water for household consumption. The extension of individual water connections into each compound will undoubtedly stimulate some increase in usage. The effects of this action are not likely to be significant if present plans of including only one tap per compound are maintained, as each tap will still be serving three or more families. It may also be possible to include a system of individual metering and to increase user rates in order to recover the costs of providing the additional service lines.

The use of a waterborne sewage system would be far more likely to increase the consumption of water, but no decision has been reached at this time as to the type of sewage system to be included in the project. Consideration of various sewage handling systems should include the potential effects each will have on water consumption and supply.

Impact
Rating

(+-)

- Water Quality
- Change in Agricultural Practices and Use of Human Waste for Fertilizer

The community of Bé is located on a narrow sand bar along the coast. Storm water is collected in open, unpaved ditches and channels to either the lagoon on the north or the ocean on the south. There is very little elevation change as the high point is less than two meters above sea level; thus much of the storm water reaches the ocean by percolation through the porous sand rather than as surface runoff. Maintaining this aspect of the stormwater drainage system is desirable from an environmental point of view so long as sanitary wastes are kept separate and ponding of storm water is minimized or controlled. The existing system for handling sewage in the Bé area presents a number of health and environmental hazards. Most households are served by dry pit privies. These are emptied manually with buckets or by vacuum pump trucks. The night soil collected in this manner is subsequently dumped untreated into the ocean. The proposed project will explore alternative methods of collecting, treating, and disposing of night soil. Any form of treatment will reduce the pollution effects of raw sewage on the receiving water bodies. There are, however, significant differences in the likely effects of the various alternatives. A detailed examination of these differences should be made prior to selecting a system.

In addition to the potential effects on water quality, the proposed project could potentially increase the quantity of sludge available for application as a soil conditioner on agricultural lands. At present, the night soil which is collected in Lomé is not treated; consequently, it is not suitable for agricultural uses. Alternative systems of collection, treatment, and disposal of sanitary sewage are to be considered in developing the project. In considering the possibility of land application, the availability of suitable sites must be evaluated along with the precautions necessary to avoid groundwater contamination and the potential benefits for agricultural production.

HUMAN ENVIRONMENT

(+)

Public Health and General Well-Being:

- Communicable Disease Control and Environmental Health Conditions

A number of environmental factors influence the general level of health of low-income families in Lomé. The physical environment of the target population is characterized by: (1) a lack of proper sewage collection and disposal; (2) limited access to a potable water supply due to dependence on either contaminated wells or public standpipes where the risk of contamination from mishandling is high; (3) infrequent or no collection of solid waste (garbage)

Impact
Rating

which accumulates in between buildings and in the streets; and (4) a humid and hot climate favorable to the survival of disease-bearing insects and other vectors. The spread of communicable diseases is further aggravated by overcrowding. It is customary to accommodate extended family members within the same structure or to build temporary dwellings within the compound for their use. Similarly, the practice of renting rooms is prevalent as a means of augmenting family income. The result is a fairly high persons per room housing density, particularly in the Bé area. These environmental conditions contribute to the short life expectancy, which is only 41 years of age.

Although no component of the initial project addresses the density per room aspect of the public health issue, it is expected that the proposed improvements in water supply, garbage collection and sewage disposal will improve the sanitary conditions sufficiently to reduce individual exposure to health hazards within the project area. Significant improvements in public health cannot, however, be expected until such time as the entire city environment has been similarly upgraded, and care must be taken in designing the collection and disposal system to minimize adverse effects on those involved with the handling of human wastes.

(+)

● Employment

In addition to the temporary construction-related jobs associated with the project, some new long-term opportunities should result. Existing roadside commercial facilities will be expanded and given a more permanent status by incorporating them into the replanning of the public rights-of-way. The economic viability of such facilities is of course dependent on public accessibility and the availability of alternative sources for similar goods or services. Consequently, a precise estimate of the number of new jobs is not possible; but it is reasonable to assume that one person for each compound within the area affected would take advantage of the opportunity to establish some type of commercial operation. The alternative waste collection treatment and disposal systems to be explored offer even greater employment potential. Analysis of these alternatives should give considerable attention to the prospects for maximizing labor intensive techniques.

(-).

● Income Expenditure Pattern

Effective demand, i.e., need combined with an ability to pay, for services will be used in designing the project components. The objective will be to see that no significant shift in income expenditure patterns occurs as a result of the project, although some changes are inevitable if cost recovery mechanisms are to be used. Household expenditures in Bé presently average 20% for housing and 45% for food. It is reasonable to assume that higher rates for water, the additional charges for electric lighting, and a modest increase in taxes, user fees, or other methods for recovering part

Impact
Rating

of the costs of sewage and garbage collection can be absorbed within the category of expenditures called "fuel and domestic maintenance," which at present constitutes about 8% of the family budget. Care must be taken, however, to assure that the additional costs are modest and are closely related to benefits.

LOCATIONAL FACTORS POTENTIALLY IMPACTING PROGRAM/PROJECT

Natural Hazards:

(-)

● Flooding/High Water Table

Selection of the Bé neighborhood entails certain site limitations which will affect the type of stormwater drainage system and the sanitary sewer system used in the project. These constraints are discussed above in the section entitled "Ecological Consequences of Introducing New or Different Technical Systems in Conjunction with Community Infrastructure and Services".

A thorough analysis of these constraints is needed in order to formulate performance standards for the system to be used.

Environmental Health Problems:

(-)

● Climate and Ambient Air Quality

The humid, hot climate of the Lomé area suggests the need for frequent garbage collection and substantially modifies the effectiveness of certain methods of treating and disposing of both garbage and sanitary wastes. In exploring alternative methods, the natural limitations of the location must be given consideration and adequate guidelines established to assure the effectiveness of the project.

Availability and Capacity of Basic Community Infrastructure and Services:

(+-)

● Transportation -- Accessibility to Jobs, Services, etc.

Locational criteria of the sites and services element of the program could be critical with respect to the impact of the project on employment possibilities and access to public services. The costs of providing adequate services and accessibility to employment must be given consideration in site selection along with such factors as land costs and its suitability for subdivision and construction.

(+)

● Sewage Collection Treatment and Disposal

Present collection methods are inadequate in that they involve substantial health hazards for the employees as well as local residents. There is at present no treatment of the night soil which is collected and dumped directly into the ocean. The project anticipates extension of sanitary facilities within the project area.

Impact
Rating

so that every compound has at least one toilet which is connected with some form of collection system, possibly a holding tank emptied regularly using vacuum trucks. Some form of primary treatment is intended, and alternative forms of disposal will be explored. This aspect of the project offers one of the more important benefits for the area residents. In addition, the project should be approached as a pilot effort or as a first step toward a city-wide sanitary system. Consequently the full extent of its environmental effects should be explored prior to a decision as to what type system would be adopted.

(+)

• Solid Waste Disposal.

Collections and removal of solid waste (garbage) from the project area does constitute a potential improvement in the health conditions of the local residents. Disposal of solid waste must be given careful attention; however, in order to avoid a substitution of a local for a regional problem. The quantity of wastes requiring disposal should be kept to a minimum by sorting and recycling techniques which may also offer added benefits, such as employment generation.

III. THRESHOLD RECOMMENDATION

Based upon the preceding environmental evaluation, it is recommended that the Technical Assistance portion of the Togo Program be given a Negative Determination requiring no further environmental review and the Housing Guaranty portion be given a Positive Determination.

A. Technical Assistance Program

The proposed technical assistance actions are non-project related in that they involve a general range of activities which are directed toward institution building, skill development, and academic research. These types of action are identified in AID regulation 16 (Section 216.2(a)) as not representing a major federal action significantly affecting the human environment. A Negative Determination is therefore recommended for the Technical Assistance portion (DG- and IPUP-funded) of the Togo Program.

B. Housing Guaranty Program

The IEE has identified several components of the proposed HG Program which should be subjected to further Environmental Analysis due to the potential significance of these actions on the human environment. Specifically, the EA should document the consequences of alternative sites and services locations and focus on evaluation of the various systems for collection, treatment and disposal of solid waste (garbage) and sanitary wastes which could be incorporated in the program. Those environmental concerns likely to be affected by these components of the project are identified in Table II and discussed in Section II of the IEE. The objective of the recommended EA should be to establish suitable environmental standards which will guide the development of the infrastructure components of the project as well as establish site selection criteria for new land to be developed. In order to accomplish this, the full range of social, economic and physical benefits to be derived from the various alternative systems must be explored and weighed against the feasibility of implementation considering the constraints of institutional, economic and natural systems involved. The following specific issues should be addressed in the EA:

1. Contribution to Environmental Goals
2. Capital and Operating Cost
3. Environmental Effects (See Section II B of IEE.)
4. Operability, Reliability, Flexibility.

It is further recommended that the EA be conducted in collaboration with .GOT personnel as a part of program feasibility studies. This would most logically occur after placement of the technical advisor/coordinators funded under the DG portion of the Togo Program.

PROJECT DESIGN PAPER

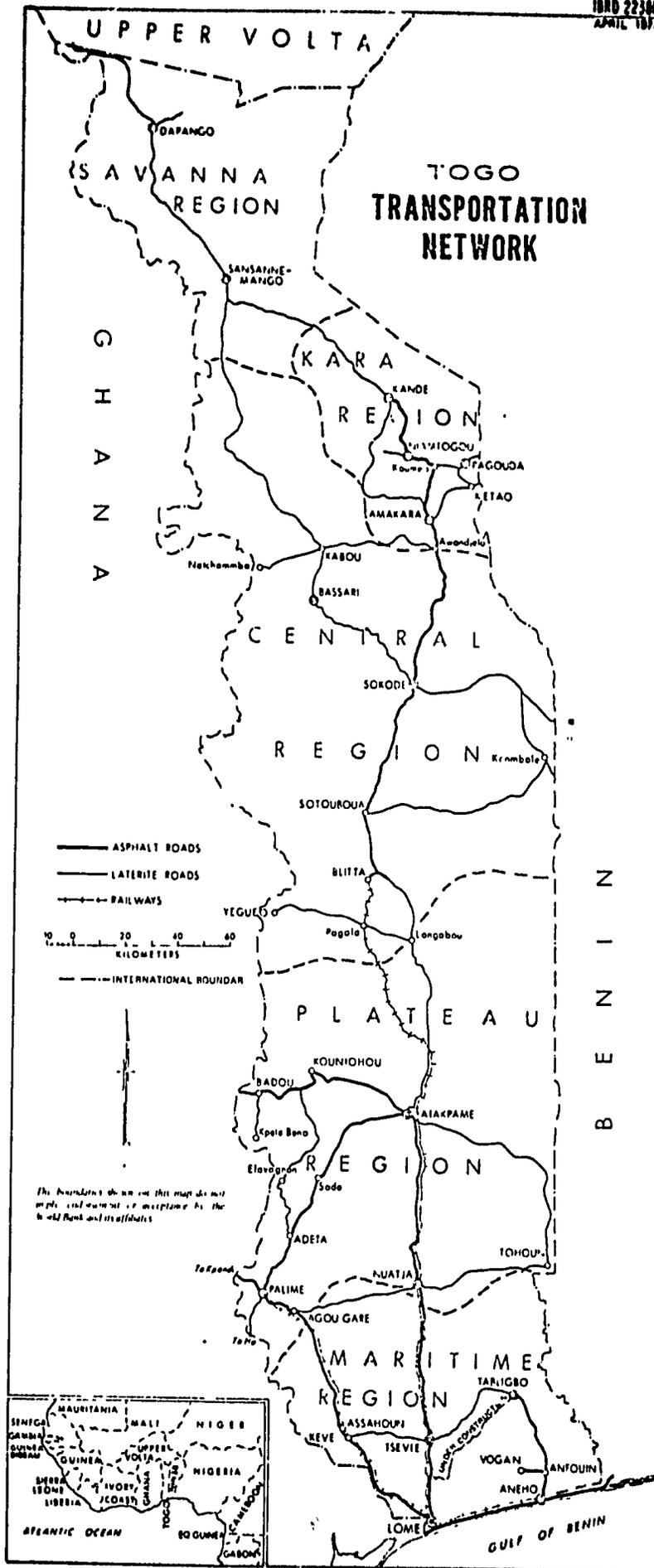
T O G O

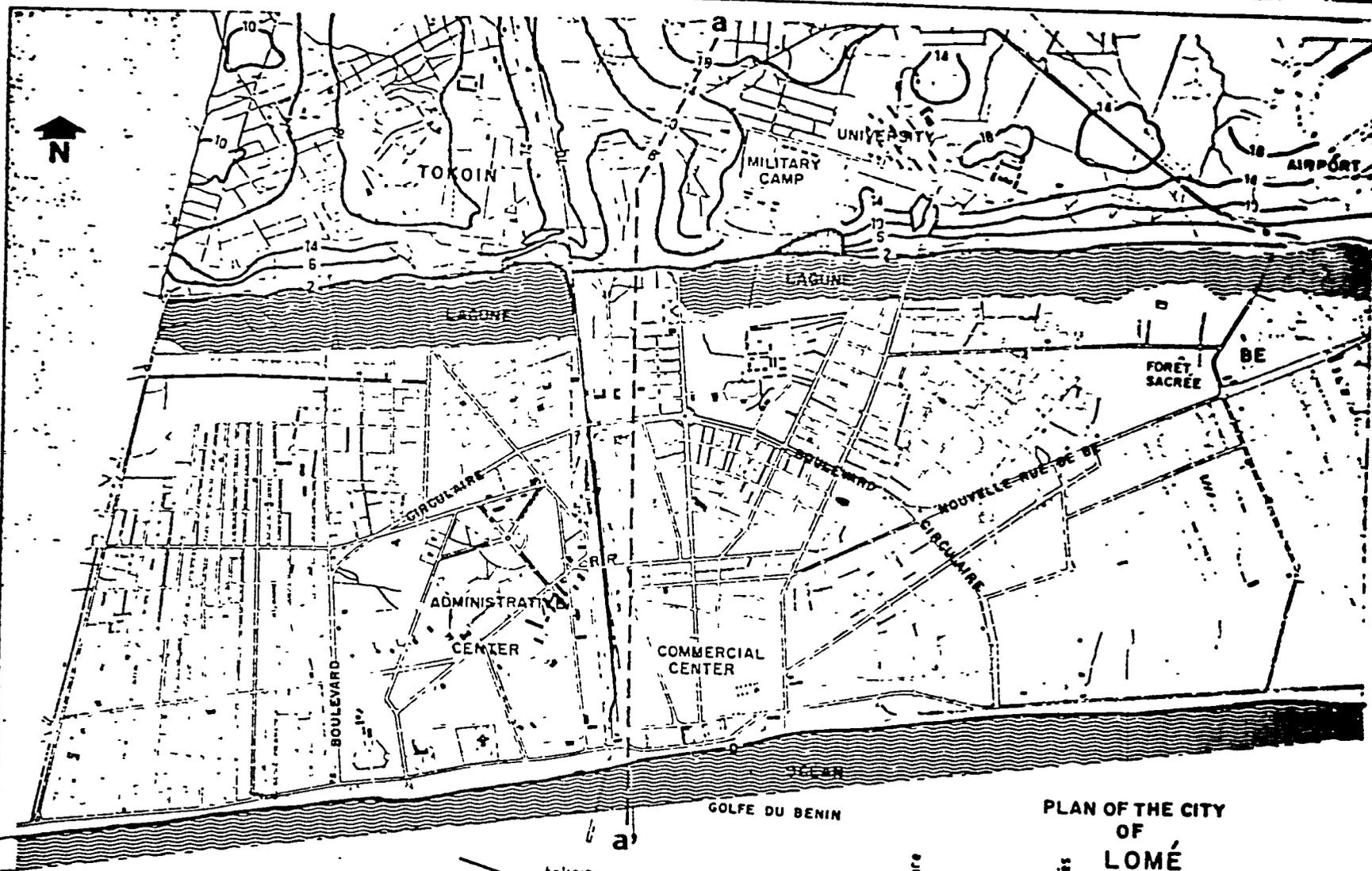
CONTENTS:

- I. Background/Shelter Situation
 - A. Urban Growth and Infrastructure
 - B. Togolese Institutions in Housing
 - C. Major Constraints
- II. Proposed Shelter Program
 - A. Sites and Services with "Core Compound" Housing Units
 - B. Neighborhood Up-grading
 - C. Small Loans for Building Materials
 - D. Technical Assistance
- III. Recommendations to GOT
- IV. Issues From PID Approval
- V. Project Development
- VI. Logical Framework Matrix

July, 1977
(revised October, 1977)

Office of Housing
U.S. Agency of International Development
Department of State
Washington, D.C.





PLAN OF THE CITY
OF
LOMÉ

ECHELLE
0 200 400
100 300 500m 1km

coupe a.a'
échelle identique au plan pour les longueurs
1"m par m. pour les hauteurs

51

RELIEF

I. BACKGROUND/SHELTER SITUATION

The project proposed in this paper is based on the Shelter Sector Assessment: Togo, September 1977, and the approved PID for a program in Togo. At present, the Government of Togo is beginning to organize public and para-public institutions which will address the problems apparent in the shelter sector. These were studied extensively in 1974 and 1975 by a joint team of UNDP experts and Togolese professionals of the Centre de la Construction et du Logement, (OCL), and the results of these reports are included and updated in the Togo SSA. SER/H has also consulted with the World Bank, which provided valuable information on the Togolese economy, but is not presently involved in urban or shelter activities in the country.

A) Urban Growth and Infrastructure:

Togo's urban population is growing at a rate which is over three times the national average. The rapid urbanization process is taxing government's ability to provide adequate services and infrastructure to urban centers of various sizes, and is creating an annual demand for housing which is well beyond any level of production that has been planned or achieved in the past.

Lome alone accounts for almost two-thirds of the housing demand in urban centers. Its population has been increasing at a rate of 9.8% per annum. As the capital and major urban center, it has attracted a disproportionate number of rural migrants from the north, and the surrounding Maritime Region as well as drawn residents from nearby towns. Its population is expected to reach approximately 700,000 by 1985, more than two and a half times the present estimate of 280,000.

The city itself has spread and absorbed such peripheral areas as Tokoin and Ba, which now account for half of Lome's population. The administrative annexation of these areas merely formalized the effective boundaries of Lome. The diffuse growth of the city is partly due to the settlement patterns and the manner in which dwelling space is organized. Single-story units built within walled compounds on relatively large lots are predominant in Lome. The compounds contain an average of three households in low-income areas, and the dwelling units cover about one-third of the area of the lot. The remaining area is formed into several courtyards which function as outdoor kitchens, social space, laundry room, vegetable gardens, enclosures for goats and chickens, and even as a sleeping area during the dry season. The units are largely of masonry with corrugated tin roofs, which discourage any concentration of activity indoors.

With the rise in prices of both land and construction materials, the system of "auto-construction", common in the villages, and to a certain extent in towns, is an increasingly difficult solution to the housing needs of low-income people. As a result, the rental of one or two rooms in relatively large compounds has become more common, particularly in Lome, the capital.

With the disorganized sprawl of the city, the problems of providing infrastructure and services - which were inadequate to begin with - have grown even more acute. Lome's water supply system does not extend to many quarters of the city, and a substantial portion of the population obtains water from shallow wells, which have water of poor quality. Sanitation problems are even more serious, as approximately 14% of the city's residents have no

sanitation facilities whatever. Among the remaining portion of the population, the predominant system for the disposal of human waste is the use of bucket latrines. The night soil is collected and dumped into the ocean about fifteen kilometers from Lome. The combination of an inadequate supply of clean water, an inadequate waste disposal system, and a minimal water-borne sewage system, contributes to the prevalence of parasitic and infectious diseases among a large portion of the population.

B) Togolese Institutions in Housing:

Public authorities in Togo have just begun the process of formulating a housing policy to meet the growing shortage in urban centers. The preliminary actions to develop a national housing policy statement were undertaken by a Special Commission established to study housing and urban conditions. The Commission recommended that Housing and Town Planning be added to the portfolio of the Minister of Public Works, which was done early in 1977. At present this Ministry is being reorganized to form new line Departments of Housing and Town Planning. The government also intends to form three para-statal agencies under the authority of the Minister of Public Works, with responsibility for implementing programs in housing and urbanization.

Two existing institutions have been most active in housing to date. These are the Banque Togolaise de Developpement (BTD), a development finance institution in which the Government of Togo (GOT) is the majority stockholder, and the Centre de la Construction et du Logement (CCL), under the authority of the Ministry of Public Works, which undertakes research studies in low-cost building methods, as well as construction oversight and other activities.

The Banque Togolaise de Developpement operates a conventional mortgage lending program, under which 920 new units were financed in 1976. Approximately 60% of the BID's total assets are in medium and long-term housing loans. BID's long-term lending for 1976 accounted for 85% of the total long-term credits extended to the economy by the banking sector. The present credit requirements preclude low-income borrowers from having access to financing from the formal sector, although BID officials have expressed considerable interest in extending their lending activities to include low-income groups.

The Centre de la Construction et du Logement maintains a research center at Cacavelli, staffed by architects and engineers. In addition to its research activities, it has been commissioned to design and oversee the construction of several large-scale housing projects, including a 200 unit middle-income project managed by the BID. CCL also operates a training program for both urban and rural construction workers.

The new institutions proposed in the national housing policy statement are:

1. AGETU (L'Agence d'Equipement des Terrains Urbains):

This agency is intended to be the mechanism through which control over urban land development and speculation will be exercised. It will be established as a public institution but will have financial autonomy and will be empowered to undertake commercial ventures. Its primary responsibilities will be the purchase, sub-division, development, and sale of urban land, and the provision of tracts of land equipped with infrastructure for the operations of the proposed housing authority, and other developers.

It is hoped that AGETU can control the land speculation which has developed in the Lome area in recent years, by requiring that all vacant land on the market be sold to AGETU at the official price. Togolese authorities report that although a policy of setting official prices has been in operation, most land is sold for several times the official price. The GOT proposes to tax idle and under-utilized land as a further disincentive to land speculation.

2. F.N.H. (Fonds National de l'Habitat):

Present plans call for this fund, intended to specialize in the financing of housing, to be administered by SNI (Societe Nationale d' Investissement), a national investment facility under the authority of the Ministry of Finance. F.N.H. is to be responsible for the financing of secondary lines for infrastructure services, and the individual connections for low-income groups. It is also planned that FNH be responsible for making funds available for the construction of housing units for low-income families, and for the training of professionals in the housing sector. Since January 1, 1977, a tax of 1% of salaries has been paid by employers, and set aside for the funding of F.N.H. Plans call for F.N.H. to receive additional revenue from budgetary allocations and special taxes.

3. SITO (Societe Immobiliere Togolaise):

Plans exist for this agency, created in 1970, but largely moribund in recent years, to be restructured as a housing authority with responsibility for promoting and developing housing programs in rural and urban areas. Funds for any low-cost housing which SITO may develop could be provided by F.N.H.

C) Major Constraints

The three core elements of the housing delivery system are constrained by a variety of problems which must be addressed if Togo is to expand its capacity to meet the shelter needs of low-income families. These include:

1. Land and Infrastructure

Population growth and rapid in-migration have doubled the densities in Lome's low-income areas in the past decade, and caused wide-spread speculation in urban land. GOT efforts through AGETU to control this speculation and to acquire land for low-income families are essential for a resolution of the problems now caused by high land prices.

With the condition of infrastructure services as described above, the environmental and health conditions among low-income residents of Lome are poor. Efforts to expand the supply of potable water are presently under way, but little or nothing is being done to address the problem of sanitation. The proposed project includes the construction of a low-cost sewage collection and disposal system which would be appropriate to the physical characteristics of Lome, and to the resources of the GOT.

2. Construction

Togo appears to have developed a construction industry with the capacity to undertake both large and small scale projects. While management capability could be improved, sufficient manpower of all skill levels exists, both in the formal sector, as well as among the low-income population which uses the system of "auto-construction. This method of building is constrained by the lack of credit among low-income groups, which are left to build their units incrementally as money for materials becomes available, a process

which may take as long as 10 years for a house to be completed.

3. Finance

A large segment of Togo's population does not participate in the formal financial sector. While there is evidence of informal lending activities among low-income groups, and of savings in the form of commodities, especially building materials, the financial sector has not at present developed instruments and mechanisms appropriate to the low-income portion of the population.

The Banque Togolaise de Developpement is the only financial institution which extends long-term credit for housing finance. Long-term financing is generally not available to low-income families because of the existing requirement that borrowers be salaried employees, or have the written guarantee of a salaried person. As the BTD is interested in extending credit for housing to low-income groups, it appears that the credit review and collection procedures developed by the Bank could be adapted to the economic circumstances of low-income borrowers, thus alleviating some of the financial constraints. The Bank's program of making small loans for the purchase of construction materials offers a particularly appropriate vehicle for speeding the process of "auto-construction".

II. SUGGESTED SHELTER PROGRAM

The evaluation of shelter conditions in Lome has revealed two areas of major concern. With the rapid population growth of the urban area, the housing stock needs to be expanded by approximately 2,000 to 4,000 units per

year through 1985 for families below the median income level. Of equal importance is the need to up-grade existing housing, the majority of which lack both water and sewage facilities. The conditions suggest that a Housing Guaranty (HG) program can be designed which will address existing problems in the context of both public sector institutional efforts and the common patterns of the informal sector. Such a program would contain three related housing solutions:

- a) Sites and Services with "Core Compound Housing" Units as a means of expanding the supply of housing which can be appropriately designed, built for, and amortized by families below the urban median income level;
- b) Neighborhood Upgrading via the provision of basic water and sewage infrastructure facilities and connections in an existing neighborhood, in conjunction with present GOT efforts to extend primary infrastructure lines;
- c) Small Loans for Building Materials to be provided primarily in support of (a) and (b) above, as well as in support of "auto-construction" efforts common in the informal sector, which has provided nearly all of the new housing units needed to accommodate past population increases.

In addition, it is recommended that technical assistance for approximately two person-years be provided under the Development Grant included in the Togo P.I.D., in the form of an advisor to the Minister of Public Works, Housing and Urbanization.

A) Sites and Services with "Core Compound Housing" Units

This element of the proposed program should be tied into the commencement of the operations of AGETU, the para-public land development agency. As an authority is needed to assemble the site (or sites) for a sites and services project, it is recommended that AGETU be designated to implement this element of the proposed program. The allocation of a portion of the HG loan funds to AGETU should assist the GOT in establishing this agency with an initial program to develop new land for housing development.

In this regard, care must be taken in selecting a suitable location for the proposed sites and services project. The GOT has selected a site 15 kilometers outside of Lome to resettle "squatter" groups from the Zongo quarter, because land at this distance from the urban center was significantly less costly than land closer in. Sub-divisions which are far from the city center impose two major constraints on project development. In the first instance, with very little public transportation available, residents would find commuting to job centers either impossible or very costly, thus making the sub-division area unattractive to low-income families. Secondly, the cost of extending infrastructure lines to distant locations appreciably raises the total cost of each lot in the sub-division, and imposes unnecessary economic and technical burdens of the infrastructure system. Therefore, in selecting appropriate locations for such a project, the trade-offs between an initially higher cost for more centrally located land should be weighed against the transportation and infrastructure costs associated with more distance locations.

The costs of amortizing a serviced site (without a core unit) on a single family basis in the Lome area would require monthly payments equal to the amount most low-income families now pay in rent, approximately 2,000 to 5,000 CFAF, and would preclude a family whose income is below the urban median income level from being able to construct a shelter on the site. The Lome median income level is estimated to be 15,000 CFAF per month, indicating that families below this income level spend between 13% and 33% of their incomes for housing. Thus a core unit must be provided for a sites and services project to be attractive to low-income families.

This element of the proposed program envisions the subdivision of a site or sites, to be selected and acquired by AGETU, into approximately 400 lots, the provision of basic water and sewer infrastructure for each lot, and the construction of two to four core housing units on each lot within a single compound. The individual lots or compounds would be designed with shared sanitary facilities and a common courtyard kitchen. As an illustration, the compounds could contain an average of three expandable core housing units, with two to three rooms each. Approximately 60% of the compounds could contain three core units for three nuclear families, 20% could have two core units for two nuclear families, and 10% could have four core units. The remaining 10% of the lots might be set aside for single families of a higher income level, which would purchase only the serviced site at market prices, and build homes using existing mortgage finance facilities, rather than HG financing. This mix of income levels is consistent with

current and preferred practice in the Lome area, and provides for substantial flexibility in the subdivision to meet the needs of a variety of family groups.

This kind of shared compound is the predominant settlement pattern in Lome, and represents a transition from traditional rural settlement patterns. The vast majority of people in the urban area live in such compounds, enclosed with masonry walls, with several nuclear families (or households) which comprise either an extended family group, or families with common ethnic and geographic origins. This pattern prevails as well in almost all recently built middle and upper-income housing units, to which several small units are added inside the lot or compound walls. Retaining this traditional settlement pattern allows for several significant advantages in the provision of housing services for families whose incomes are below the urban median income level:

1. Substantial cost reductions can be achieved through the use of shared water and sanitary facilities, which often account for as much as 40% of the construction cost of single family housing units. These basic water and sanitary facilities would be of the kind described below for the neighborhood upgrading element of the program.
2. Land use densities of 200 people per hectare can be achieved without subdividing land into lots which would be perceived by most Togolese as too small. Because the core units would be expandable, higher densities can be achieved over time within the compounds proposed under this element of the program. It is

recommended that 60% of the total site be set aside for housing, subdivided into relatively large lots or shared compounds, with a target of 180 M² for each nuclear family of 5 to 6 persons. It should be noted that this area actually includes small "shops"

run by the market ladies along most residential streets. The compound sizes and allocations as proposed, would be as follows:

- 60% of compounds with 3 core units of 540 M²

- 20% of compounds with 2 core units of 380 M²

- 10% of compounds with 4 core units of 700 M²

plus

- 10% of compounds with no unit provided, of 200 M²,
financed by AGETU.

3. The income mix, as noted above, for the proposed subdivision would allow for families of different income levels to share a common community. The single family sites sold to higher income families, would not be developed with HG resources. Rather these sites would be developed by AGETU using its own resources, and then sold at market prices, which is consistent with proposed GOT strategies for AGETU operations.

Thus the proposed "sites and services with core compound housing units" elements of the program would allow for flexibility to meet the needs of different family groups with different income levels, while still achieving efficient land-use densities, and providing needed

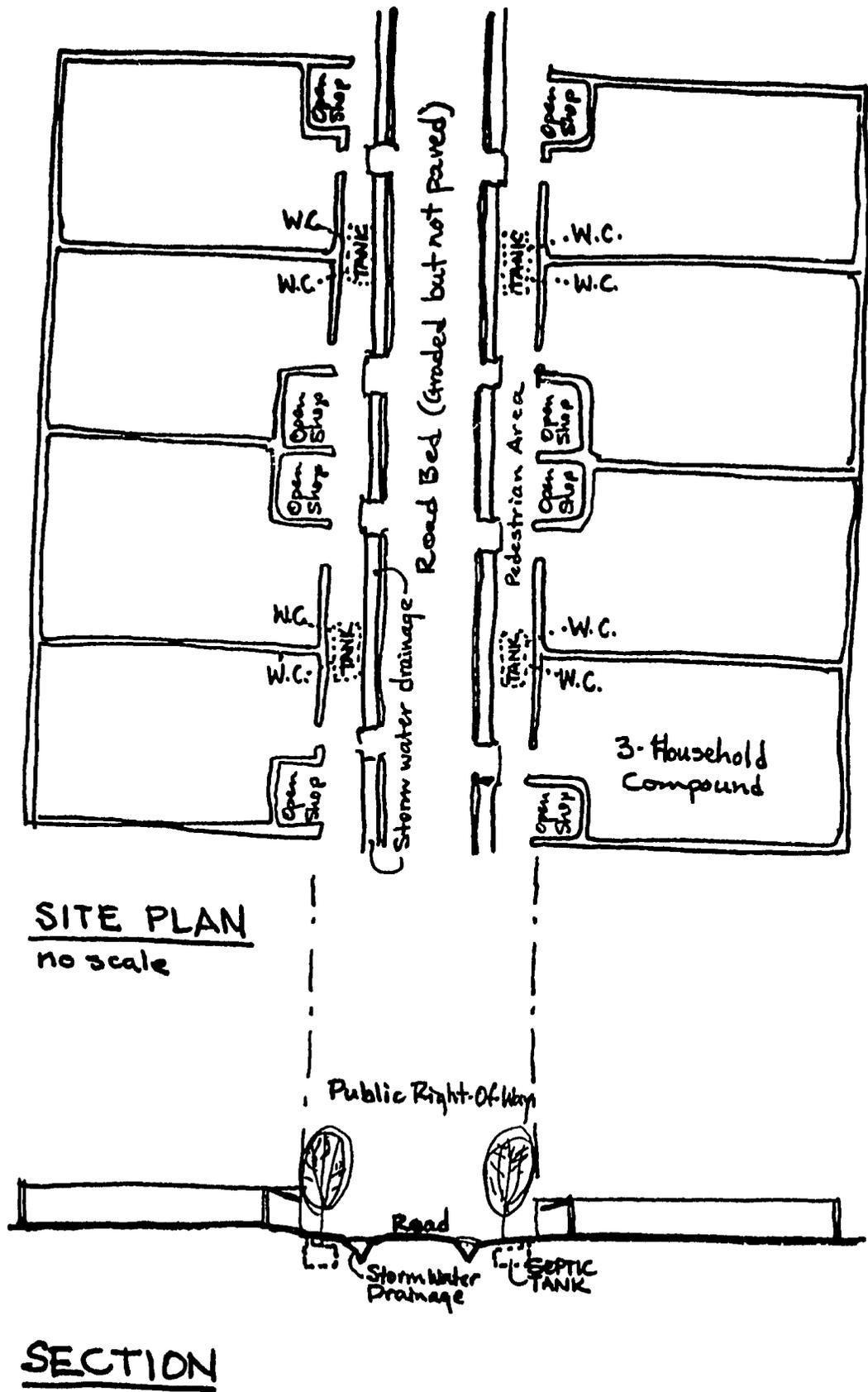


FIG.2 - Conceptual layout of sites and services project with multiple core unit compound houses.

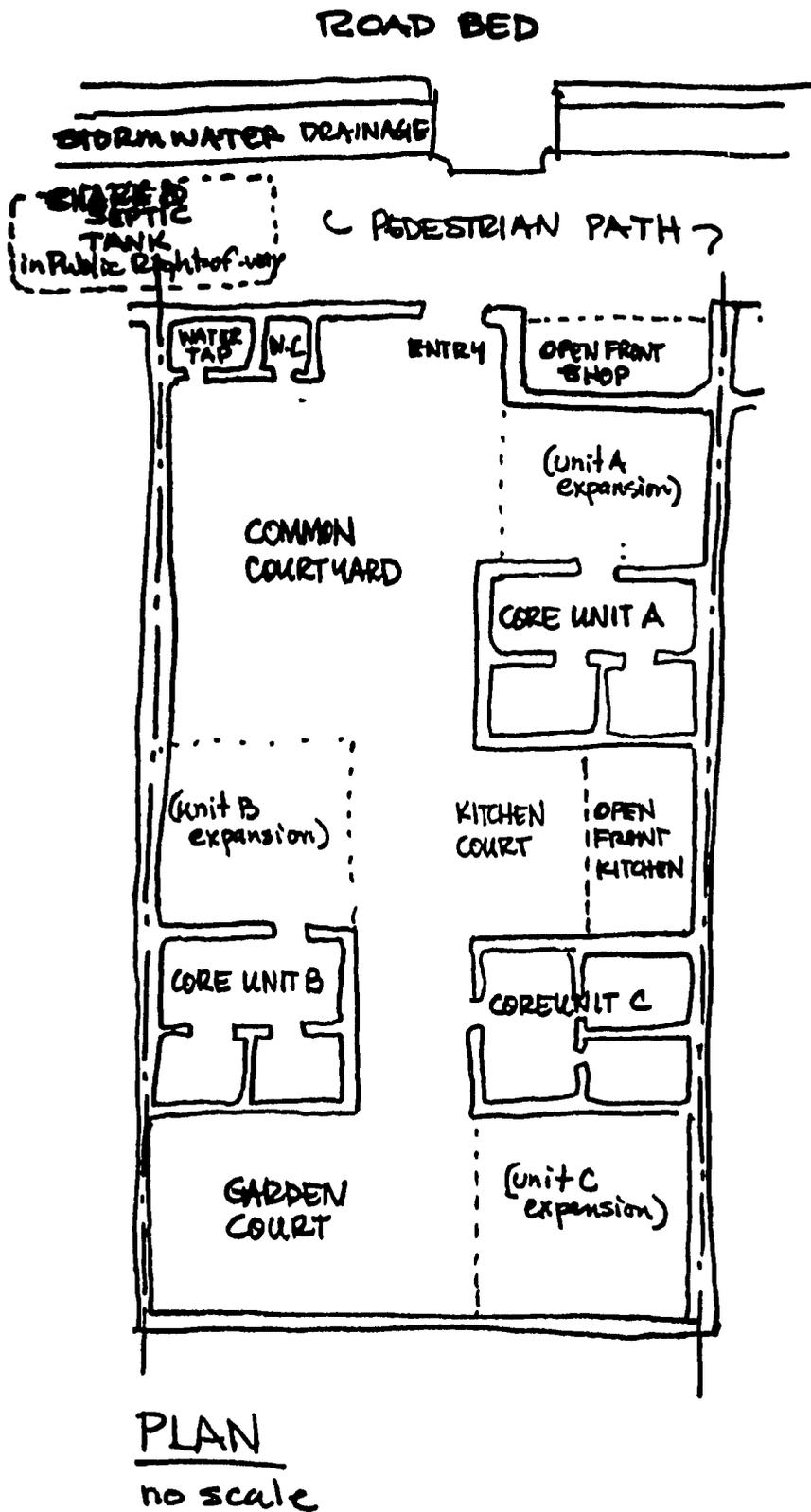


FIG.3 - Conceptual layout compound house with expandable core units for three households.

additions to the housing stock at costs affordable by families below the urban median income level.

Available information suggests that the compounds containing two to four core housing units can be built for a total of approximately \$5,000, or 1 to 1.5 million CFA. Present mortgage terms of 10 years require monthly payments well above that which can be afforded by families below the median income level. By pooling the incomes of several families, the average of which would be below the median income level, the proposed compounds could be amortized under an HG loan program over a term of 15 years at 10% interest, with each nuclear family paying between 2,000 and 5,000 CFA per month, which is approximately the range most families presently pay for two-room rental units in compounds without any infrastructure services.

Further development of this element of the program will require additional information from GOT authorities. It must first be determined if units of the type described above in compounds with shared water and sanitary facilities will be attractive to families below the median income level. Information available to the Team strongly suggests that the proposed units would not only be marketable, but also entirely consistent with present living patterns and government's housing policy. In addition, cost data must be developed to determine if units of the type proposed can actually be built for 1 to 1.5 million CFA.

The low-cost housing research information developed by the Centre de la Construction et du Logement could be used as the basis for cost estimation, even though CCL has not to date been commissioned to develop and design low-cost housing for urban areas.

Finally, the program requires an institution to commission and manage it. While the GOT has proposed that SITO, as a housing authority, be responsible for development and management of low-cost housing, the experience in other countries indicates that such agencies commonly encounter difficulties in collecting monthly payments from low-income families under lease-purchase or mortgage financing arrangements. The Banque Togolaise de Developpement, however, has a record of experience in the development and management of large-scale housing projects. Further study should be undertaken to determine how the BTD's credit review and collection procedures could be adapted to the economic circumstances of the low-income borrowers which would benefit from this kind of project.

B) Neighborhood Upgrading

It is recommended that a project be initiated to provide urban infrastructure and services to an existing community in the city of Lome, in order to bring the primary lines being provided or planned by the GOT to low-income urban dwellers. Although most areas of the city are in need of similar assistance, the community of Be' is recommended for the initial effort. As recently as the 1960 census, the community of Be' was a traditional Togolese village of about 8,000 people living in large compounds. The gross density of the village was approximately 100 people per hectare. By 1974 the gross density of Be' had increased to more than 200 people per hectare, due primarily to in-migration. It is in fact the former villages of Be' and Tokoin (North of the Central city) which have absorbed most of the population growth of the city of Lome. Extensive documentation exists which supports the general impression that Be' is the low-income section of the city.

Like most other areas of the city, Be' is serviced by a few public water taps and latrines. Less than 15% of the lots have running water. The roads are unlighted and unpaved, and there is little provision for surface drainage or for the separation of vehicular and pedestrian traffic. Although a substantial portion of the population of Be' are tenants, most of the landlords are residents who have added rental units to their own houses (or compounds), which accounts for the doubling of

the gross density of the area. The increased density, though not excessive for an urban community, does indeed give cause for concern in the absence of sanitary facilities and an adequate source of safe water.

Be' is located south of the lagoon which divides the city, on the low, flat sand bar which also houses the administrative and commercial center of Lome, as well as the area of original settlement, the new port, and the existing tourist facilities. This entire section shares a common set of problems with respect to the provision of urban services, particularly the disposal of water borne sewage, waste water, and storm water. A gravity flow drainage system is not feasible due to the uniform low elevation, less than two meters above sea level.

It is recommended that an upgrading program be initiated which would include:

1. The provision of individually metered water connections to each lot;
2. The grading and paving of major roads within existing rights-of-way to provide for surface water drainage and the separation of vehicular from pedestrian traffic, which includes roadside shopping;
3. The provision of street lighting;
4. The installation of septic tanks adjacent to each lot but located within the public right-of-way;

5. The purchase of one or two vacuum pump trucks for servicing septic tanks (the removal of night soil). (The Ministry of Health is responsible for operation of the existing sanitary system. At present the Ministry owns two vacuum trucks and has budgeted for the purchase of three new ones);
6. The construction of a small anerobic digester plant to provide primary treatment of the nightsoil;
7. A pilot project to demonstrate the market value and utility of treated nightsoil as a soil conditioner/fertilizer suitable for land application rather than disposal in the ocean. (At present the agricultural produce marketing board purchases fertilizer from abroad and re-sells it throughout rural areas at reduced prices. When mixed with chemical fertilizer, treated nightsoil is particularly valuable for reconditioning the kinds of relatively poor soils common in the sub-Sahara region);
8. Short-term building materials or home improvement loans, which would be administered separately under Section C of the proposed program. This would allow individual owners to build toilet and shower facilities on their lots, which would be connected to the water supply lines, the septic tank (w.c. only), and the storm water drainage (shower and other fixtures).

Further development of this element of the recommended program will require the exploration of an appropriate cost recovery mechanism for

the infrastructure facilities and services which are to be provided. The potential exists for cost recovery to be made through tax revenues, special assessments, and user fees, or some combination of these. This will have to be discussed with GOT authorities to determine which of the mechanisms would best suit the project and GOT resource management.

Additional information is needed from the GOT to determine more precise cost estimates for each of the infrastructure components. General cost figures indicate that about 3,000 lots could be served by a project costing approximately U.S.\$ 2 million. This estimate does not include loans to individuals for on-site improvements, which would be administered under a separate element of the program. It also does not include the cost of acquiring the needed vacuum trucks, the construction of the nightsoil treatment plant, or the pilot program (for approximately one year) to demonstrate the utility of treated nightsoil for agriculture. Approximately U.S.\$ 500,000 of the HG funds will be set aside to cover a portion of the cost of trucks and the anerobic digester plant. In this regard, the appropriate scale of operation for this plant must be determined and an assessment made of the degree to which its capital costs can be recovered through taxation or user fees.

C) Small Loans for Building Materials

The third element of the proposed HG loan program would be the provision of small loans (of up to US \$500), initially for the improvement of housing units located in the existing neighborhood to be upgraded, and for families seeking to expand their core units in the sites and services project area, when and if their incomes increase enough to allow them to amortize a building materials loan. The roll-over of these loan funds could be made available to families with similar income levels, to provide building materials loans for home improvements or core units.

The vast majority of housing units in Lome are built through a kind of informal "auto-construction" system. Families generally employ semi-skilled artisans to build with materials purchased by the owners, often with unskilled labor provided by family members. Such construction is usually done in stages, with a family saving to purchase materials, and constructing first walls, then roof, etc., and eventually expanding the structure. This common pattern could be used to augment the housing stock by the provision of building materials loans to families below the median income level.

It is recommended that approximately US \$500,000 of the HG loan be set aside for small loans for building materials, under a program administered by the Banque Togolaise de Developpement (B.T.D.). The B.T.D. has such a program in operation at present, and made a total of 3,500 such loans during 1975-76 for an average of 140,000 CFA (\$580) each, for a term of two years. Were this term extended to five years,

loans for building materials of up to \$500 could be amortized by families below the urban median income level. Further development of this element of the proposed program will require discussions with B.T.D. to confirm its interest in the administration of the fund, and to establish the criteria and procedures for its operation.

D) Technical Assistance

It is recommended that the technical assistance element of the proposed program, to be funded by a Development Grant, be used to provide the following:

1. A resident advisor to be seconded to the Minister of Public Works, Housing, etc. to assist in the development of the GOT capacity to undertake and coordinate a range of shelter activities for low-income groups, including assistance in the establishment of the new shelter-related institutions, where necessary. The services of such a resident advisor should be made available to the GOT for a period of approximately two years.
2. Short-term technical expertise (TDY) for special purposes to assist in the establishment and planning of the initial operations of the new shelter-related institutions.
3. Participant training for professionals of the GOT and the new institutions in shelter-related activities.

III. RECOMMENDATIONS TO THE GOT

Based on the Shelter Sector Assessment and discussions with Host Country authorities, it is suggested that the GOT be advised of the following recommendat:

A) Densities

Target densities for the development of Lome as an urban center growing at almost 10% per year, should be a minimum of 200 persons per hectare. This density is approximately that which prevails under present land use patterns in some central sections of the city, although it is suggested that for housing developments, at least 60% of the total land area be set aside for housing sites, as opposed to the 35% for housing reflected by existing standards.

As the population of the urban area grows, serious consideration should be given to further increasing target densities, to prevent the cost of providing infrastructure lines from increasing to the point where it may become an unnecessary constraint on the efforts of the GOT, and a burdensome drain on GOT resources. Higher densities than those now found in Lome are a prerequisite for the efficient development of an urban center, and for the successful operation of a system of urban infrastructure services.

B) Waste Disposal

The GOT is aware of and concerned about the present inadequacy of Lome's waste disposal system. The SSA concurs with the understanding which all parties appear to have regarding the enormous costs which would have to be incurred if a water borne waste disposal system were constructed in an area which is only one or two meters above sea level. Given these factors, it is recommended that the GOT give serious consideration to developing a city-wide waste disposal system of the type proposed for the sites and services and neighborhood upgrading elements of an HG loan program.

Such a system envisions the construction of holding tanks for the collection of human waste, which could be emptied by vacuum trucks and treated in a relatively inexpensive anaerobic digester. Surface drainage and other household waste water would be collected in storm drains along the public right of way, and either absorbed in the soil or emptied into the ocean. Building this kind of system appears to be possible with the resources available to the GOT, and would provide an adequate and workable solution to the existing problem of waste disposal. Systems of this type have been found to be effective in many urban areas throughout the developed and developing world, and would significantly improve conditions in Lome if it were installed.

In addition, it is recommended that the GOT undertake an assessment of the environmental costs of - and possible alternatives to - the emptying of raw sewage from the existing 12 kilometer water borne sewage system into the ocean, in the center of the city. If Lome is to serve as an international center for regional cooperation, and as a tourist center, this condition must be improved.

C) New Housing and Urbanization Institutions

Careful planning and exhaustive study have gone into the GOT's formulation of a housing policy statement and the proposed establishment of para-public institutions to implement this policy. At present the major constraint to making these institutions operational appears to be a lack of trained professional manpower. Given this situation it is recommended that these institutions be established in a phased sequence, starting with AGEIU. This agency will serve several vital functions, including the control of land speculation, the acquisition of land for housing and urban development, and the establishment of a land bank for future growth of the urban area. As suggested earlier, the development of the sites and services element of the

proposed HG loan program should be tied to the initial operations of AGEIU.

With regard to F.N.H., it is recommended that the funds collected through tax revenues be administered by F.N.H. as a part of the Societe Nationale d'Investissement (S.N.I.), rather than establish F.N.H. as a full scale institution. This fund should be operated on a cost recovery basis to the maximum extent possible, through the provision of long term credits, so as to conserve those resources set aside by the GOT, (and those obtained from foreign lenders), in support of housing and urban development.

Finally, the proposed reorganization and re-orientation of S.I.T.O. should be evaluated in terms of the need for such an agency and its potential utility. This recommendation is based on the present paucity of professional manpower. In addition, successfully establishing a national housing authority with the mandate to build and manage low-cost housing projects has proven to be difficult for many countries. Therefore, it is recommended that a variety of alternatives be thoroughly studied well before the agency is revived and reorganized.

IV. ISSUES RAISED IN P.I.D. APPROVAL

Of the two major issues raised in the P.I.D. approval message, the first, an assessment of the capability of Togolese institutions in housing development, has been addressed in preceding sections of this memorandum. The remaining issue, with regard to the GOT balance of payments and foreign exchange situation, the previous determination made during the P.I.D. review remains valid at the present time. That is that "although the current situation may be a problem, since loan repayments would not be required prior to 1980, the repayment burden stretching over a 30-year period, might not pose a serious difficulty for Togo."

The SSA review of the GOT budget for 1977 and its funding, suggests that a conscientious effort is being made by GOT authorities to correct the imbalance of the past several years, and return the economy to generally well managed development. Continued monitoring of this situation should be a part of further development of the project:

V. PROJECT DEVELOPMENT

It was agreed that further development of the project should take place as follows:

A) RHUDO/Abidjan will write the Minister of Public Works, Housing and Urbanization, etc., summarizing the general outline of the proposed program, as identified in Section II above, which was presented orally by the RHUDO to the Minister at the close of the field assignment.

B) If this proposed program is found to be of interest to the GOT, the RHUDO will request that specific cost data be provided on each of the following:

1. Cost of secondary and tertiary piped water delivery, per kilometer;
2. Cost of constructing septic tanks in public right of way, per unit;
3. Cost of road grading and paving, per kilometer;
4. Cost of construction of core compound units with shared sanitary facilities;
5. Cost of land in a potential site for the sites and services element of the program.

This information is necessary for the further development of the project, and will require that the GOT make the necessary effort to collect and calculate the data.

- C) RHUDO to return to Togo in September/October for further specific discussion of the cost data provided by the GOT, and issues regarding the several elements of the program.
- D) Environmental threshold statement and threshold decision in October.
- E) Project Paper development will be done by consultant in two phases:
 - 1. Neighborhood upgrading (element B of the proposed program) will involve activities by a number of existing GOT agencies. Costs, implementation issues, etc., developed during this phase of project development will be applicable to both this and the "sites and services with core compound houses" elements of the program, but do not require discussions with the as yet unnamed director of AGETU. This phase of the PP will be developed on TDY in November.
 - 2. As the GOT intends to name the director of AGETU in January, most of the work to develop the sites and services/core compound houses element of the proposed program can be done only after the director-designate is ready to participate. On this second TDY, (to take place in March), other administrative/management, etc. issues will be reviewed.
- F) Authorize by June 30, 1978.
- G) RDO/Niamey and the Ambassador at Lome are working out the issue of a new Bi-Lateral Agreement. Can authorization be made contingent, if the timing of this agreement doesn't track with the project development schedule?

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: _____ TOGO

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To improve the living conditions and environment of low-income urban families.</p>	<p>Measures of Goal Achievement</p> <ul style="list-style-type: none"> -GOT agencies carry out programs to improve shelter conditions for low income urban families -An increase in the number of shelter units and the extension of infrastructure services for low-income urban dwellers 	<ul style="list-style-type: none"> -Comparison with base line data. -Project Evaluation. 	<p>Assumptions for achieving goal targets:</p> <ul style="list-style-type: none"> -Continued GOT commitment to improving shelter conditions, and establishing shelter-related agencies. -Completed projects result in replicable improvements in shelter and environmental conditions.
<p>Project Purpose:</p> <ol style="list-style-type: none"> 1. Assist the GOT to develop the institutional capacity to carry out shelter and related service programs for low-income urban families. 2. Initiate minimum standard techniques in neighborhood up-grading and core housing on sites and services projects affordable by low-income urban families 3. Demonstrate the potential for developing a low-cost sewage collection and treatment system 	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ol style="list-style-type: none"> 1. Operational land development agency. 2. Completed initial up-grading and sites and services/core house projects. 3. Operating sewage and primary treatment system. 	<ul style="list-style-type: none"> -GOT statements and preparation of new programs -Project Evaluation 	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> 1. GOT has the capacity to plan and implement strategies to improve urban infrastructure. 2. Low-income urban families are able and willing to pay for improved shelter conditions. 3. GOT can recover costs via tax revenues.
<p>Outputs:</p> <ol style="list-style-type: none"> 1. Trained lead staff for GOT land development agency 2. Initial minimum standard projects: <ol style="list-style-type: none"> a. Neighborhood up-grading b. Sites and services with core houses. c. Small loans for home improvement. 3. Sanitation system 	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> 1. Director of land development/sites and services units 2. a. Extension of infrastructure services to 3,000 compounds housing approx. 9,000 nuclear families b. 2,400 core units on 800 compounds. c. Approximately 4,000 small loans. 3. Anerobic digester treatment plant and vacume pump trucks for approximately 90,000 urban dwellers 	<ul style="list-style-type: none"> -SFR/II project monitoring. -Technical assistance reports. 	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> 1. GOT funding and staff for new agencies are available. 2. Target group has ability to pay for core units. 3. Materials loans can be effectively administered.
<p>Inputs:</p> <ol style="list-style-type: none"> 1. AID: <ol style="list-style-type: none"> a. HC Loan b. DG 2. Technical assistance 3. GOT: <ol style="list-style-type: none"> a. In-kind counterpart contribution for T.A. b. Participation in capital cost of treatment plant. c. Contribution for sites & services project. 	<p>Implementation Target (Type and Quantity)</p> <ol style="list-style-type: none"> 1. a. \$5,000,000 b. 500,000 2. Two person years of a Housing Advisor to Ministry, plus short term TDY and training 3. a. Support services for TA equal to approx. \$125,000 b. Approx. \$500,000 c. Value to be determined 	<ol style="list-style-type: none"> 1. Disbursement records 2. Quarterly reports of TA advisors, and periodic TDY reports 3. SFR/II project monitoring 	<p>Assumptions for providing inputs:</p> <ol style="list-style-type: none"> 1. U.S. investor interest. 2. Suitable technicians available for T.A. 3. GOT budget allocations are sufficient to cover local contributions.