UPGRADING OF MARGINAL NEIGHBORHOODS IN MOROCCO

Prepared for

Ministry of Housing and Regional Development
Direction of Housing
Rabat, Morocco

and

Office of Housing and Urban Development
Agency for International Development
Washington, DC 20523

Prepared by

PADCO, Inc.
1834 Jefferson Place, NW
Washington, DC 20036

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FOREWORD

A. UPGRADING IN MOROCCO

After trying several different approaches to resolve the problems of marginal settlements in Morocco, the government decided to include settlement upgrading as one of the major housing programs in its Three Year Development Plan from 1978 - 80. While general policy and guidelines have been established by the Ministry of Housing and Regional Development (MHAT), site selection, project design and implementation are the responsibility of the Regional Delegations working independently of each other. Since projects initiated during the Three Year Plan are now either completed or well into implementation, it was felt that it would be beneficial to review and document upgrading activities in order to identify problems, procedures and solutions which could be shared among all Delegations.

B. REVIEW OF UPGRADING ACTIVITIES

A team of architect/planners visited 18 projects in nine Delegations during February and March 1983. The original focus was on projects in the Small and Medium Sized Bidonville (PMB) Program. However, other types of upgrading activities were also identified which lead to an expansion of the scope of the review to include upgrading of:

- urban bidonvilles
- urban clandestine neighborhoods
- rural commercial/administrative centers

C. REPORT FORMAT

The report is divided into two parts:

- **PART I: Upgrading in Morocco** includes a short history of the development of marginal settlements in Morocco and the government's approach to them. Examples of various types of upgrading activities and conclusions on what can be learned from the Moroccan experience are also cited.
- **PART II: Upgrading Handbook** includes recommendations to consolidate and codify present activities into a comprehensive upgrading program. The handbook is divided into sections relating to stages of project development:
  - Administrative framework
  - Project preparation and design
  - Project realization
  - Project follow-up

While experiences gained by Regional Delegations during implementation of upgrading programs serve as the basis of the handbook, these have been supplemented with experiences from other countries. Thus, the handbook does not dictate specific activities or solutions but outlines a systematic approach to be used by MHAT and the Regional Delegations for the programming, design and realization of upgrading projects.

PART I: UPGRADING OF MARGINAL NEIGHBORHOODS

CHAPTER I

HISTORICAL BACKGROUND AND EVOLUTION OF GOVERNMENT'S APPROACH TO UPGRADING

A. DEVELOPMENT OF MARGINAL NEIGHBORHOODS

Before the establishment of the French Protectorate in the early 1900's, there were virtually no examples of bidonvilles or "clandestine" housing settlements in Morocco. Beginning in the 1930's, however, a combination of local and international economic and social conditions occurred which contributed to the establishment and rapid growth of these types of settlements. During this time, a dual housing system was created and firmly established. Conventional housing of European standards was provided for the French and well-to-do, while the more modest and poorer Moroccan families were obliged to live in the medinas or in "temporary" housing in marginal neighborhoods which also lacked adequate services. This dual housing system remained in place after Independence and was reinforced in the following decades by rapid population growth and significant rural-urban migration. During this time, examples of marginal housing and uncontrolled urban growth became prevalent in many Moroccan cities. For example, the 1971 census indicated that 48 percent of urban households were without water connections, 32 percent had no electricity and 45 percent were without sanitary installations.

In recent years the rate of urban growth has been considerably higher than the general population growth. The average annual population growth rate for Morocco between 1970-1980 was 3.0 percent while the average annual growth rate of the urban population during the same period was 4.6 percent. This compares to 4.4 percent average for the same period for middle income countries as defined by the World Bank. As of 1980 the estimated urban population of Morocco was 8.3 million, or 41 percent of the total population. If the recent growth rates continue, an urban population of 20.4 million (56 percent of the total population) can be expected by the year 2000.

There are no precise figures on the magnitude of marginal and squatter neighborhoods in Moroccan cities but a recent estimate by the World Bank indicated that approximately 25 percent of the urban population live in squatter settlements with an additional 10 percent living in badly deteriorated housing which is beyond repair. This is substantiated by 1980 figures for two cities:

	Total Population	Squatter Settlements	Percent of Total
Meknes	360,000	72,000	20.0
Kenitra	216,000	64,000	29.6

If there are no activities to control urban development and trends continue as at present, it is estimated there could be as many as 3 million new residents of marginal neighborhoods in urban areas by the end of the century.

Thus, not only must future increases in urban population be accommodated, but the existing housing conditions of a significant segment of the present population must also be upgraded.

B. DESCRIPTION OF MARGINAL NEIGHBORHOODS IN MOROCCO

A brief description of different types of marginal neighborhoods in Morocco has been developed by combining several of their most evident physical aspects such as size, street patterns, and building materials with their location and manner of development. Marginal settlements have been divided into two main groups: 1) "bidonvilles" or squatter settlements and 2) "clandestine" or illegal developments.

1. Bidonvilles

a. **Large bidonvilles.** These neighborhoods house between 30,000 and 80,000 inhabitants and often have zones or extensions created by government attempts to regroup families from smaller bidonvilles. Thus, some part of the bidonville may have somewhat regular street patterns, water fountains, etc. Construction materials may vary with the age of the house; more recent work being done with modern and/or scavenged materials. Because of their age, most of these neighborhoods are now located relatively close to the city center and to sources of informal employment.

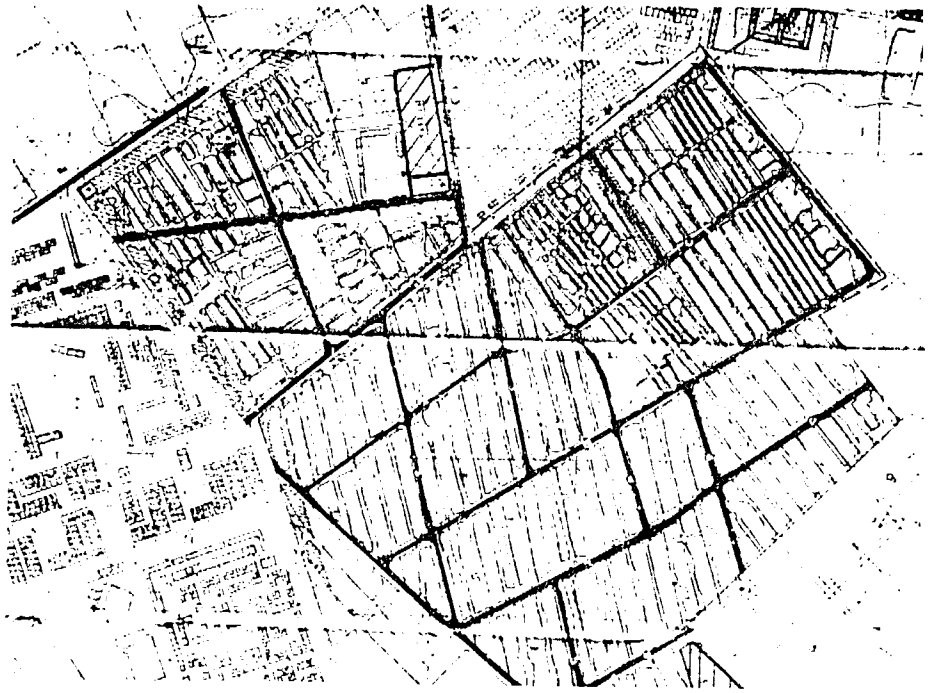
b. **Small bidonvilles.** Two types are considered: the first type includes bidonvilles which began as semi-rural "douars" on the edge of urban development and are now surrounded by the built-up area of the city. The street patterns of these neighborhoods are generally rural and irregular in nature, with most houses originally built from traditional materials such as wattle and daub, stone or mud blocks. Some houses may also have traditional roofs.

The second type includes bidonvilles located on unused government or private land within the city, or on land not considered to be suitable for residential development. In these neighborhoods street and plot patterns are also somewhat irregular depending on site characteristics and houses are built of used or reclaimed building materials such as currugated tin, wood from packing crates and cardboard.

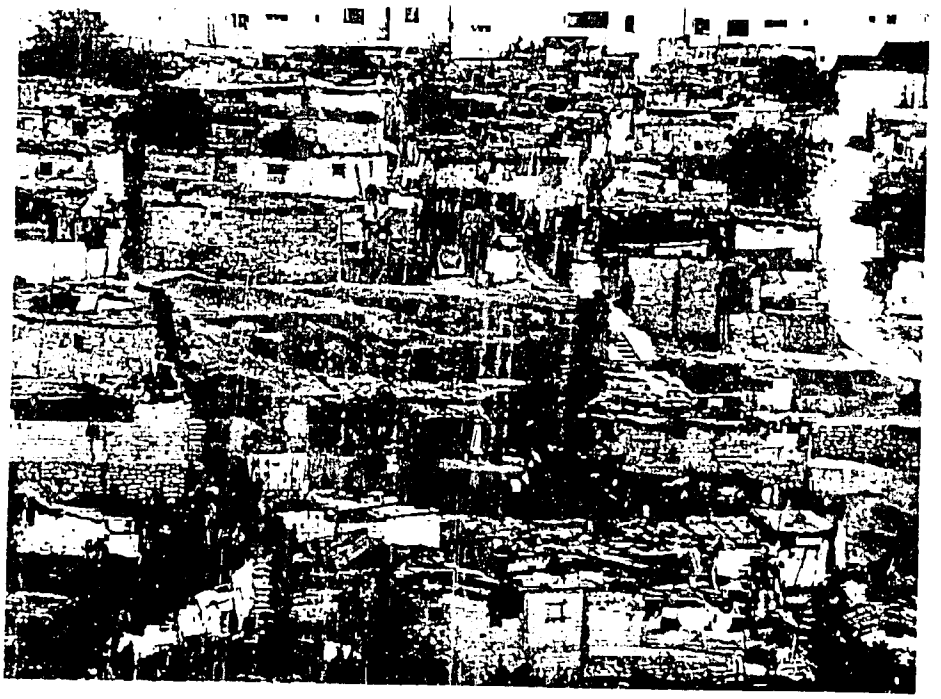
Within all bidonvilles room arrangements and sizes tend to be roughly similar; i.e. relatively small, rectangular rooms around a small courtyard open to the sky but walled in from the street. The number of rooms and size of the court vary.

2. Clandestine Settlements

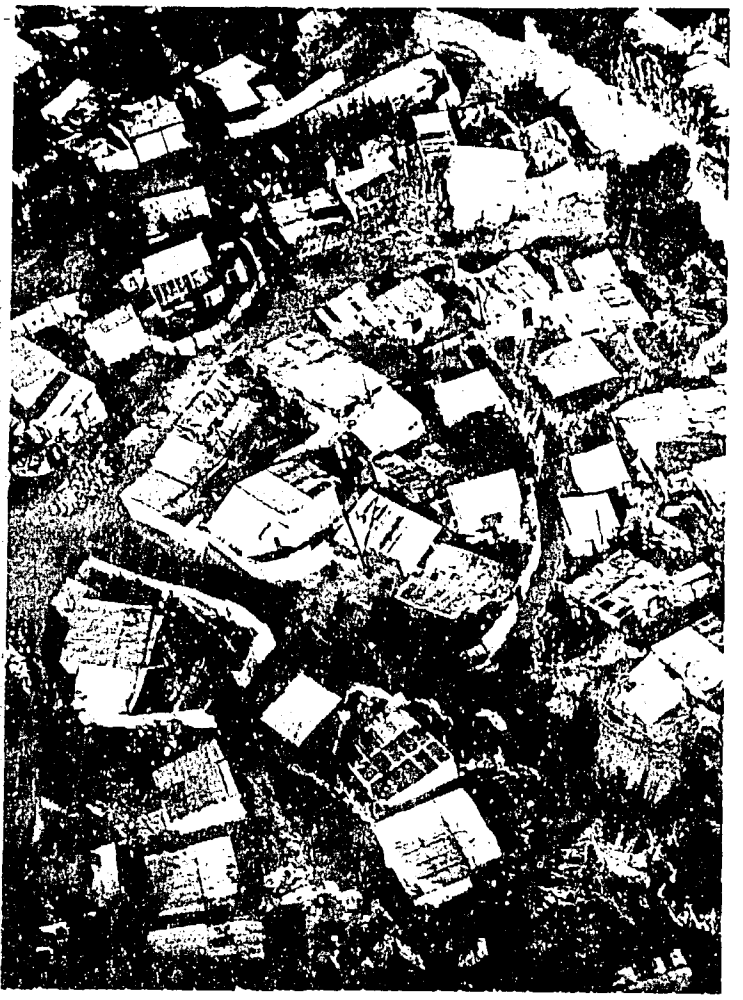
The main distinction between bidonvilles and clandestine developments is the types of materials used for housing construction. In clandestine neighborhoods, permanent materials such as cement block and reinforced concrete are used. Also structures are multi-story sometimes with as many as four or five floors. There are two main types of clandestine settlements:



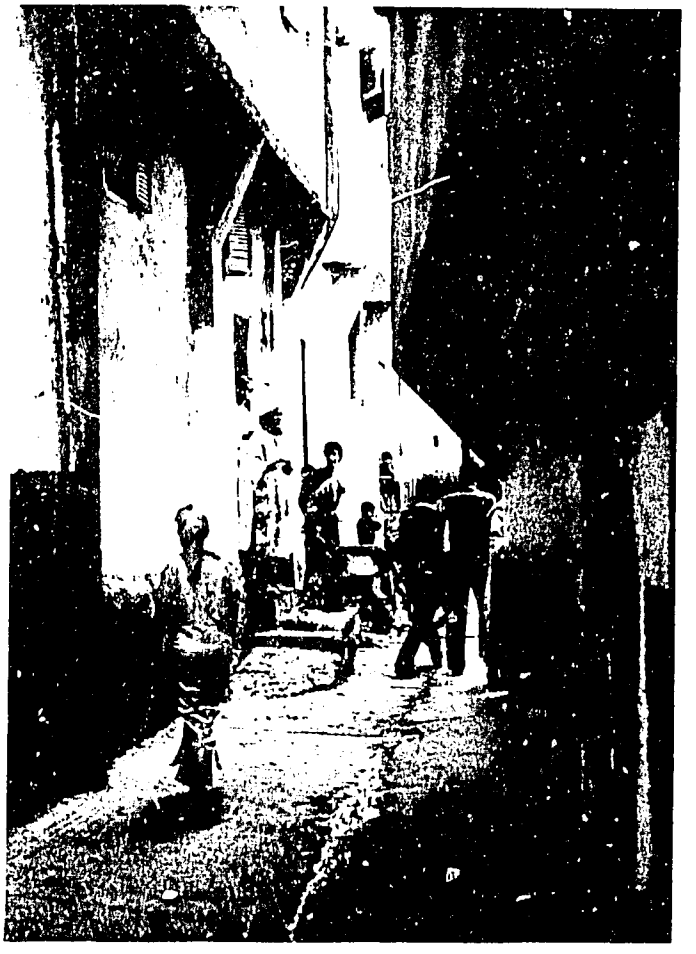
The plan of the Saknia neighborhood in Kenitra shows the generally regular pattern of streets and pedestrian ways in much of the area



Doum in Rabat is an example of a large bidonville in this case with an irregular street pattern resulting from the topography of the site



Semi-rural douars with irregular circulation patterns can become small bidonvilles when surrounded by expanding urban development



Hajja in Rabat is an example of a spontaneously developed clandestine neighborhood where the housing has been improved but access and services are still limited

a. **Spontaneous developments.** This type of neighborhood results from the progressive upgrading of an existing bidonville and thus has irregular layout and plot sizes, narrow pedestrian ways or streets and a lack of urban services. This does not appear to be the normal pattern of evolution for bidonvilles but it has occurred in some cities.

b. **Planned development.** While still being done outside of formal procedures and approvals, a property owner or developer will "sell" plots to individuals based on a subdivision plan. The plan may not meet government standards but it usually has rectangular plots and a regular street pattern. Since the plan has not been approved or coordinated with municipal activities, the development will have few or no urban services. In spite of this, residents are willing to build permanent structures.

C. EVOLUTION OF PREVIOUS GOVERNMENT APPROACHES TO PROBLEMS OF MARGINAL NEIGHBORHOODS

During the late 1940's, when urban bidonvilles were perceived by the French Protectorate as potential centers of nationalistic fervor, the government, with the intention of relocating and dispersing bidonville inhabitants, took steps to create new housing projects for low-income Moroccan families. Some of the housing approaches which were tried included "model" or "satelite cities", "village centers", and in particular, the ubiquitous "trame Ecochard", which consisted of uniform 8 x 8 meter standard housing units distributed throughout the urban and rural areas of the country. In spite of the construction of a significant number of housing units during this period, none of these early programs were able to effectively "rehouse" bidonvilles dwellers, diminish the population pressures on existing bidonvilles or lead to the eventual control of urban growth.

With Moroccan independence in 1956, the new government not only inherited urban and housing problems associated with the ever growing size and number of bidonvilles, but also many of the same attitudes concerning preferred actions to be taken regarding the future of these marginal neighborhoods. Thus, rehousing bidonville inhabitants remained the major thrust of government housing programs, projects eventhough during this period tried to take into account the means of bidonville families through a significant reduction of standards. For example, projects called "trames sanitaire ameliorees" and simply "trames sanitaires" were undertaken in which bidonville dwellers were offered plots as small as $35m^2$ and supplied with only essential infrastructure on which to relocate their old shacks. Even this "minimum standards approach", however, did not have the desired impact of reducing the number of bidonvilles or slowing their growth. Thus, throughout the 1960's and 1970's, while government housing programs continued to be oriented towards the elimination of bidonvilles by the relocation of their inhabitants, the idea that such marginal neighborhoods could be given permanent status or that they could be improved to even minimally acceptable standards was not officially considered.

Towards the end of the 1960's, the Ministry of Interior gave the first indications that a policy change in favor of bidonville "upgrading" might be more effective in the long run and that at least some experience should be obtained in this regard. It was not until the late 1970's, however, that the first manifestations of this change of view occured in the programs of the newly created Ministry of Housing and Regional Development. Prodded by the prospects of significant financial assistance from the

World Bank and USAID and guided by a new Minister who was interested in establishing more effective ways of dealing with the ever growing bidonville problem, the Ministry included the upgrading of several large-sized bidonvilles in its 1978-1980 Three Year Plan. The partial upgrading of 38 small and medium sized bidonvilles was also undertaken during this period.

One reason behind this change in policy was a growing awareness of the advantages to be gained by the upgrading approach. Given very limited government funds for housing as well as a rapidly growing housing deficit, estimated to be more than 800,000 housing units in 1977, the Ministry of Housing realized that it could no longer continue expensive programs to rehouse bidonville dwellers if it also wished to meet new demands for housing and urban infrastructure. Advantages and benefits to be gained from upgrading bidonville neighborhoods were perceived to include the following:

- the possibility of providing immediate improvement in the standard of living and access to goods and services for poorer families without creating sudden or excessive social or economic disruptions
- the possibility that a certain flexibility could be maintained in project development which would respond more appropriately to real needs and capacities of poor families
- the possibility of allocating public and private resources to achieve a rational balance between government financed infrastructure improvements and private housing investment
- the possibility of integrating the informal sector with the city economy in a way which encourages individual initiative in the improvement of housing

D. DIRECTIVES FROM NATIONAL DEVELOPMENT PLANS

The Three Year Development Plan of 1978 - 1980 was the first to include the upgrading of marginal or bidonville housing as one of its major housing programs. As established by the Plan, this program has the following objectives:

- Legalize the tenure of bidonville residents and acknowledge their right to occupy their plot
- Reorganize bidonvilles to provide basic infrastructure (water, electricity, streets, sewers . . .)
- Permit and encourage self-help housing construction
- Provide neighborhoods with needed public facilities and services
- Plan activities which will create employment opportunities as part of the upgrading

These principles were first applied to upgrading the Doum Hajja Maadid neighborhoods of Rabat and later extended to similar large scale projects in

Casablanca, Meknes, and Kenitra. It is envisioned that these types of projects could eventually be replicated throughout the Kingdom.

Even though not specified by the Plan, the upgrading of 38 small and medium sized bidonvilles was also undertaken during the same period. These projects are being executed based on the close cooperation and support of local authorities, the Promotion Nationale, the Ministry of Youth and Sports and the concerned populations.

The Five Year Plan of 1981-1985 called for the continuation and expansion of these upgrading efforts in order to improve housing conditions for a maximum number of families and help regain control over urban development. Small and medium sized bidonville upgrading projects in 10 secondary cities will be financed with a loan guaranteed by USAID, which may also finance a large scale upgrading project in Tetouan. Other projects are being planned and implemented by the Delegations with MHAT financing as part of the Five Year Plan.

The improvement of clandestine neighborhoods is a more recent development and a comprehensive program has not been formulated to deal with these areas. There have been local efforts to control and improve clandestine activities such as the Montflueri project in Fes which will be discussed in the next chapter. Preliminary studies have also been initiated by the Ministry to ascertain the magnitude of the problem and identify potential solutions.

CHAPTER II

CASE STUDIES OF UPGRADING PROJECTS

A. FIELD VISITS

Field visits to various upgrading projects were made by a team of two Architect/Planners under contract to USAID and an architect assigned by MHAT between February 28 and March 21, 1983. Projects were selected from those undertaken during the Three Year Plan (1978-1980) since they are nearer to completion than programs started during the present Five Year Plan. Most projects visited involved upgrading activities with the exception of two rehousing projects, one older project in Marrakech to rehouse residents from the Medina and a new project in Settat. The delegations and projects visited are listed in Table I-1 and shown on Figure I-1.

The original intention of the field visits was to review only the upgrading projects which are a part of MHAT's Small and Medium Bidonville Program (PMB) to document and share the experiences with all Delegations. However, it soon became evident that there were other types of projects underway, knowledge of which could be of value to professionals involved in project planning and design. Therefore, it was decided to expand the scope of the review to include other types of upgrading activities such as clandestine neighborhoods and rural commercial centers.

B. URBAN BIDONVILLE UPGRADING

As indicated earlier there are two types of programs which have been started under the Three Year Plan: a) large integrated projects financed by international organizations, and b) small and medium sized projects planned and financed by the Ministry. Not only is there a difference in size, but also in the sophistication of planning, degrees of activity and the commitment of resources and personnel. The following descriptions as well as Annex A and Table I-2 indicate the variety of activities undertaken by different Delegations. For each example, basic data is given on existing conditions, population, upgrading activities, costs, and administrative procedures.

1. Large Bidonville Upgrading Project. Bordj Moulay Omar, Meknes

a. Physical characteristics

Area: 46 hectares Number of Units: 4,520 Units/Hectare: 98

- **The upgrading site** is located on the northeast edge of the urban area about 2 kilometers from the center of the modern city. The site slopes gradually away from the built up sections of the city and is in some places defined by cliffs of 10 to 20 meters high. The soil is rocky with rock outcroppings and some areas of solid rock, thus, making the installation of utilities difficult.

- **Plots** are irregular in shape but are usually grouped into rectalinear blocks which provide for convenient access and servicing of most areas. The typical plot size is $60m^2$ with a range of $30m^2$ to $100m^2$.

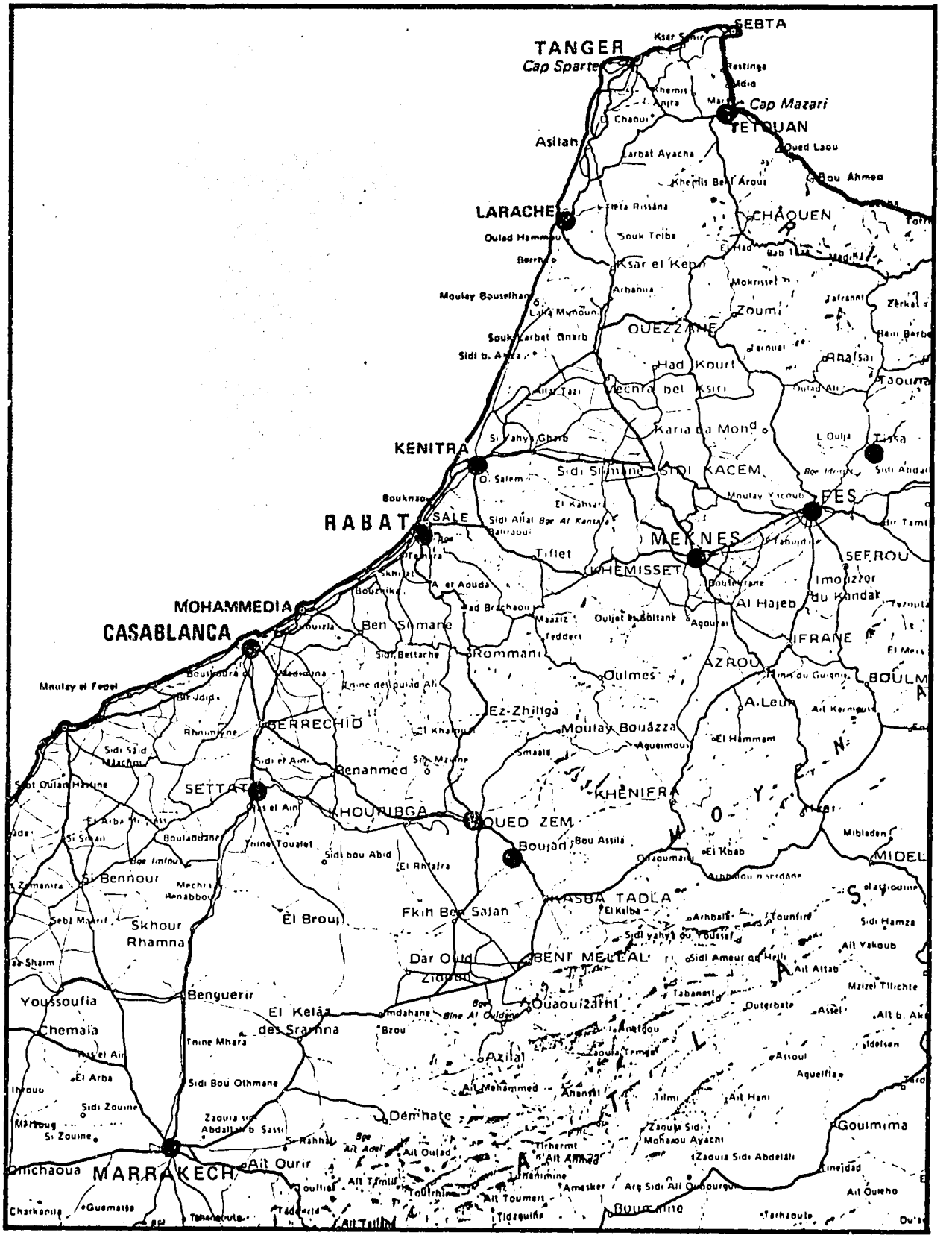
TABLE I-1

PROJECTS VISITED FOR CASE STUDIES
February 28 - March 21, 1983

DELEGATION	PROJECT	PROGRAM
Casablanca	Derb Bachkow	Small and Medium Bidonville
Fes	Ben Souda Douar Genie Montfleuri Tissa	Future Project Small and Medium Bidonville Clandestine Development Upgrading Rural Center Upgrading
Kenitra	Saknia	Large Bidonville (IBRD financing)
Khouribga	Boujad-Kouacha Oued Zem	Small and Medium Bidonville Small and Medium Bidonville
Marrakech	Akioud/Koudia Mohammedia Sidi Mbarak Sidi Youssef Ben Ali	Small and Medium Bidonville Rehousing Small and Medium Bidonville Future Project
Meknes	Bordj/Moulay/Omar	Large Bidonville (IBRD financing)
Rabat	Doum/Hajja/Maadid	Large Bidonville (IBRD financing)
Settat	Lalla Mimouna El Gara	Small and Medium Bidonville Rehousing
Tetouan	Dersa Larache-Quartier Neuf	Future (Possible USAID financing) Small and Medium Bidonville

FIGURE I-I

CITIES VISITED FOR CASE STUDIES
February 28 - March 21, 1983



- **Age.** The neighborhood was founded in the 1930's and has grown as the need for urban housing has increased.

- **Adjacent land use.** Because of its location on the edge of the urban area, the bidonville is surrounded on three sides by agricultural land or open space. Middle income residential development is located adjacent to the project on the south side.

b. Project residents

Number of residents: 31,800 Density: 691/ha Number of Households: 5,579

- **Population.** The density of 691 persons/hectare is the highest of the projects visited with the exception of the upgrading project in Rabat (density 729/ha). The average family size (5.7 persons) and average number of families per plot (1.23) are typical of larger upgrading projects.

- **Income.** Almost half of the households are below the urban poverty threshold of DH 350.

c. Existing conditions

- **House construction** was usually of mud and woodframe with a plaster and lime finish. Used or salvaged corrugated metal sheets are most common for roofing material which is held in place by rocks or other heavy objects. Some units are built entirely of used or seavengered building materials.

- **Water** is supplied by a system of 40 standpipes for the entire zone. The supply network operates at capacity thus requiring replacement to accommodate increased demand.

- **Sanitation.** Evacuation of waste and storm water is entirely by surface ditches constructed by residents. There is no underground system or house connections.

- **Electricity.** There is no electrical distribution system.

- **Streets.** Access roads through the adjacent middle income neighborhoods are surfaced and in good condition, streets or pathways within the site are either unpaved or in poor condition and will require repaving.

d. Improvement activities

Total Cost, DH 33,629,000 Cost/Unit, DH 7,440 Cost/m^2 DH 73.1

- **Land.** The government through the use of eminent domaine is acquiring the approximately 13 acres of private land within the project. Once land is in public ownership, the plots will be demarcated to establish existing patterns. Only minor adjustments are envisioned before granting secure titles to residents. The charges for title will vary according to the size of the plot. Families residing on plots smaller than $40m^2$ will be moved to

TABLE II-2

DATA FROM SELECTED UPGRADING PROJECTS

PROJECT	AREA (Hectares)	NUMBER OF PLOTS OR UNITS	PLOTS/HECTARE	% PERMANENT CONSTRUCTION	NUMBER OF RESIDENTS	DENSITY (Persons/Ha)	NUMBER OF HOUSEHOLDS	AVERAGE HOUSEHOLD SIZE	AVERAGE MONTHLY INCOME	COSTS (1000 DH)							
										POTABLE WATER	STORM/SANITARY SEWER	ELECTRICITY	STREET IMPROVEMENTS	OTHER COSTS	TOTAL	COSTS PER HECTARE	COSTS PER UNIT
Casablanca - Derb Bachkou	11	1,325	120	0	5,493	499	1,325	4.2	-	-	2,000	-	-	-	2,000	182	1.5
Fes - Ben Souda	14	550	39	0	7,800	557	1,450	5.4	-	-	-	-	-	-	-	-	-
Fes - Tissa	11	200	18	0	1,400	127	200	7.0	-	-	-	-	-	-	-	-	-
Kenitra - Saknia	64	6,544	102	0	35,240	551	6,919	5.1	-	7,015	12,687	7,305	11,627	32,197	70,831	1,106	10.8
Khouribga - Boujad	3	223	74	0	1,067	356	223	4.8	-	-	470	-	-	-	470	157	2.1
Marrakech - Sidi Mbarak	4	288	72	5	2,600	650	288	9.0	+300	-	381	-	-	-	381	95	1.3
Meknes - Bordj Moulay Omar	46	4,520	98	0	31,800	691	5,579	5.7	+350	3,343	5,877	5,397	2,701	16,311	33,629	731	7.4
Rabat - Doum	24	3,210	134	40	17,500	729	3,600	4.9	374	3,091	2,071	5,241	6,800	9,853	27,056	1,127	8.4
Tetouan - Dersa	96	4,757	49	95	31,730	330	5,766	5.6	-	14,00	46,800	10,826	48,886	41,205	161,717	1,685	34.0
Tetouan - Larache	4.5	300	67	4	2,000	444	350	5.7	+300	900	425	700	425	120	2,570	571	8.6

new plots if it is financially feasible. Approximately 780 infill plots will be provided on vacant land to improve the land use efficiency of the project site.

- **Infrastructure**

  - Water supply will be provided by an expanded system of standpipes (1 to 100 households) with the option for 100 percent private connections to be done by the beneficiaries.

  - Sanitation. A combined sanitary/storm sewer system is being installed which will provide for 100 percent connections. Connection boxes or manholes are being installed at the same time as the lines to permit easy connection when beneficiaries are ready to do so. Because of the rocky site, water lines are being installed in the same trench above the sewer lines. Approximately 200 meters of off-site collector is needed to connect into the city system. There is no treatment of effluent before it is discharged into an adjacent stream.

  - Electricity. An overhead electrical distribution system will be installed to service all properties and provide street lights for the circulation system including pedestrian paths as well as vehicular streets.

  - Streets will be improved to three different levels: 1) off-site collectors will handle buses and heavy vehicles; 2) internal vehicular streets which will be paved with curb and sidewalk; and 3) pedestrian ways which will be improved by the residents.

- **Community facilities.** The only addition to existing facilities will be 10 new classrooms added to an existing elementary school.

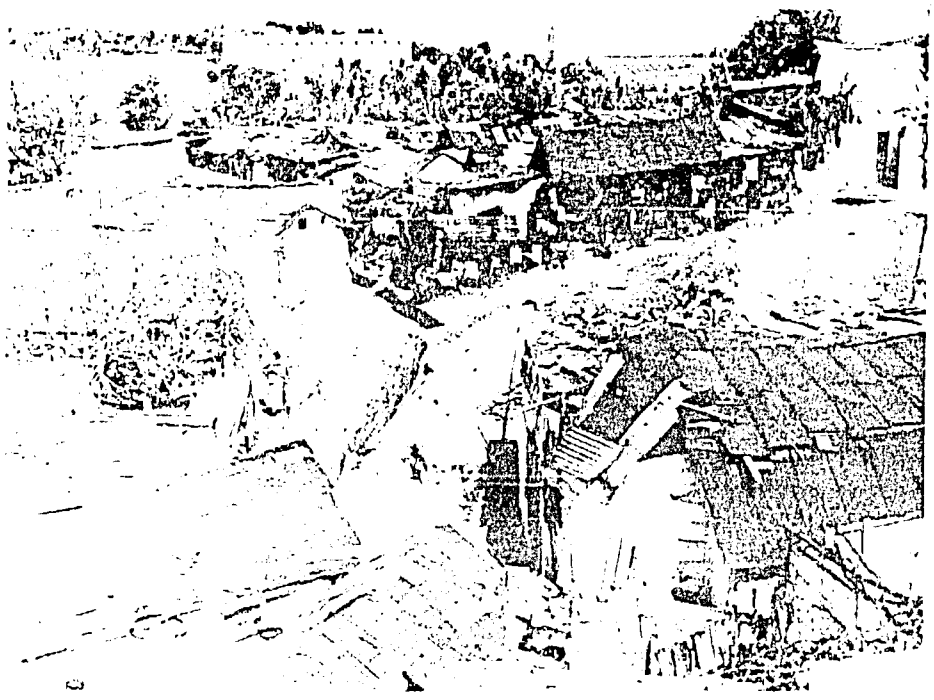
- **Housing improvement programs.** A building materials loan program serving an estimated 2,525 households is included in the project. The average loan is set at DH 3,465 which is the cost of a $12m^2$ room and toilet. Technical assistance and house plans will also be provided to all families who so desire.

e. Administration

- **Steering committees.** The World Bank has worked with the GOM to establish steering committees that serve as advisory and coordinating groups.

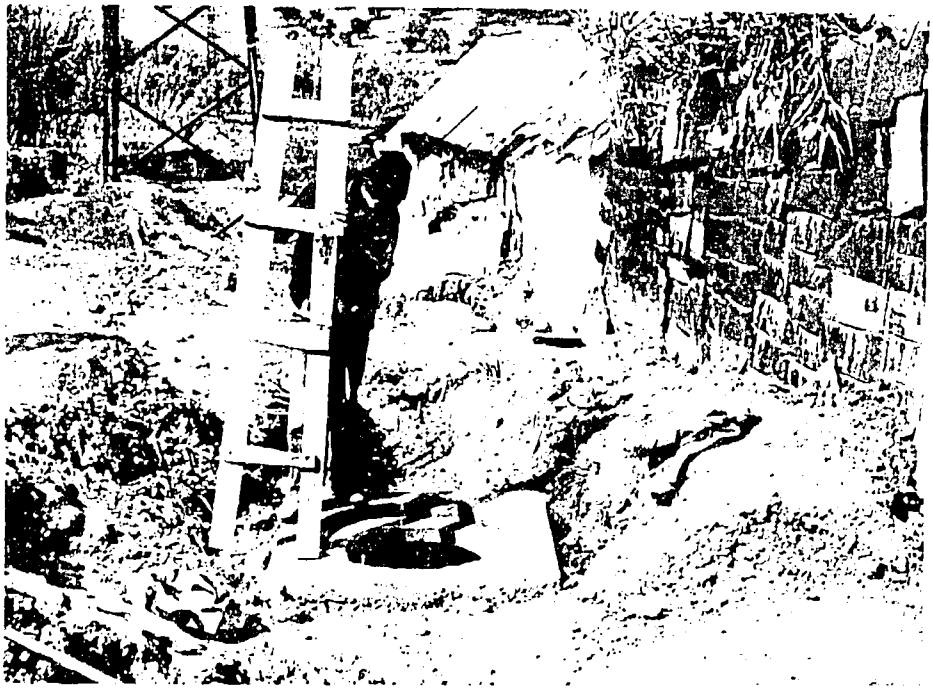
  - The Interministerial Project Coordinating Committee at the national level is made up of representatives of the various ministries involved with project implementation and is responsible for general policy and administrative and budgetary oversight.

  - A Project Steering Committee has also been established in Meknes to coordinate the execution of the project. The Provincial Governor is



Salvaged materials and corrugated metal sheets are the most common building materials in Bordj Moulay Omar Project in Meknes

The bidonville is located at the edge of the modern section of Meknes. Solid waste removal is one of the problems to be resolved by the upgrading project



A sanitary/storm sewer system is one of the improvements to the neighborhood

chairman of the committee which is composed of representatives of government agencies and municipal departments involved in the project.

- **Principal implementing agencies**

  - Ministry of Housing and Regional Development (MHAT). Principal responsibility for project implementation rests with MHAT through the Housing Directorate which coordinates upgrading activities within the Ministry and with the Regional Delegation of Meknes which is responsible for construction and technical assistance to beneficiaries. A special Project Technical Unit has been organized within the Regional Delegation which is responsible for: supervision of consultants preparing final designs and documents and the supervision of construction; preparing of contract awards; coordinating and monitoring of construction activities; preparing of payment orders and accounting of project expenditures; determining land tenure and requesting the issuance of land titles; helping households obtain improvement loans; and establishing monthly payments by beneficiaries.

  - The municipality of Meknes is responsible for off-site infrastructure and for maintenance of all new infrastructure improvements once completed.

  - The Banque Centrale Populaire is responsible for collection of plot charges and for the administration of the home improvement loan program. Payments are made directly to the bank which then gives the Project Technical Unit a monthly accounting of those who have made their payments.

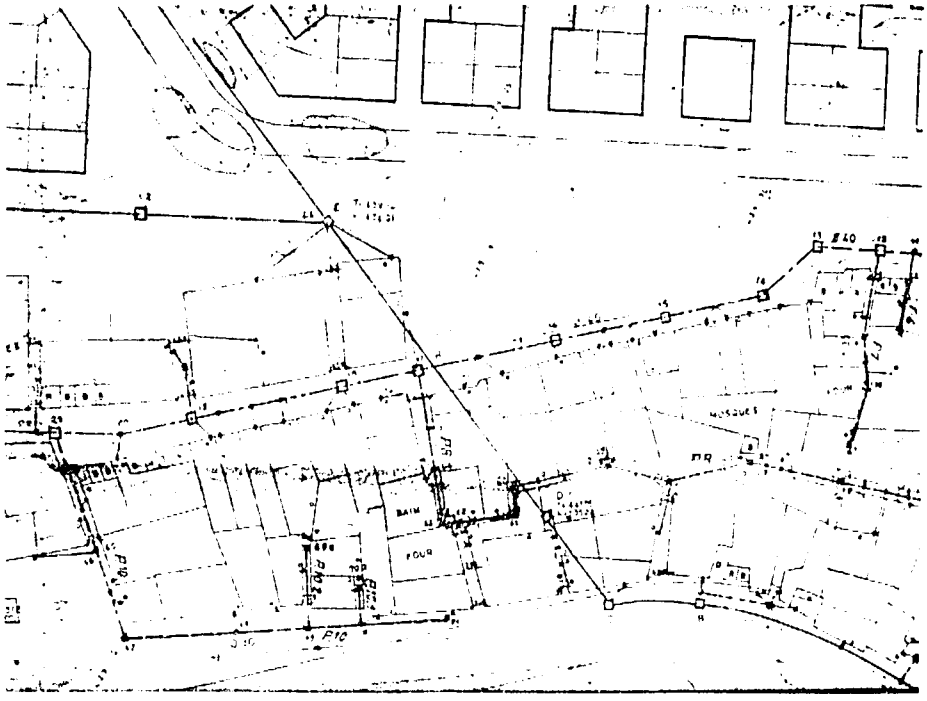
f. Finance. The project is financed through a combination of national and local funds and a loan from the World Bank which covers about 50 percent of total costs. Approximately 75 percent of total costs will be recovered through charges to beneficiaries for plots and user charges. The remaining costs will be divided between the municipality and the national government.

2. Small Bidonville Upgrading Project which began as a semi-rural douar. Douar Sidi Mbarak, Marrakech

a. Physical characteristics

Area: 4 hectares Number of units: 288 Units/Hectare: 72

- **The site.** The formerly semi-rural douar which is located approximately 4 kilometers from the center of Marrakech will soon be surrounded by the expanding residential development of the city. Plots are in basically rectangular blocks and have good access to streets and pedestrian ways. The site is basically flat and soil is sandy with few rocks and no rock outcroppings, thus creating no unusual problems for the installation of underground utilities.



The regular plots of a proposed subdivision can be seen at the top of the plan of a portion Sidi Mbarak with its irregular shaped plots and circulation

Most construction in Sidi Mbarak is in traditional materials although some residents have started to build in permanent materials such as concrete block

- **Adjacent land use.** A moderate income residential area is located to the east of the Douar while a planned government subdivision is immediately adjacent to the north. Land on the remaining sides is undeveloped.

b. **Project residents**
Number of residents: 2600 Density: 650 Number of Households: 288

- **Population.** A socio-economic survey has not been done so there is little information available concerning project residents. The above figures are estimates and it appears likely that the number of households may be low since there is usually more than one household per plot.

- **Income.** The median household income is estimated at DH 300 per month.

c. **Existing conditions**

- **Construction.** The majority of houses (95 percent) are built with traditional materials which is usually mud walls which have been plastered. The remaining structures are built of modern materials (cement blocks with concrete columns and slabs).

- **Urban services**

  - Water and electrical distribution systems exist in most parts of the neighborhood but figures are not available on the number of individual connections.

  - Sanitation. Surface channels dug by the residents provided drainage of sanitary and storm water.

  - Streets are not paved with the exception of some pedestrian ways which were paved by the residents.

d. **Improvement activities**
Total cost: DH 381,000 Cost/Unit: DH 1,324 Cost/m^2: DH 9.5

- **Infrastructure.** The only activity undertaken for Sidi Mbarak was the installation of a combined storm/sanitary sewer system servicing all areas of the Douar and connecting into an adjacent city wide collector. Connections are the responsibility of individual owners and some have already been made. Improvements to streets and the water and electrical distribution systems are planned in conjunction with the development of the adjacent government subdivision.

e. **Administration.** There were only two agencies involved in the implementation of this project.

- **The Regional Delegation of Marrakech** which was responsible for design and document preparation, construction coordination, and tendering procedures for the purchase of building materials and construction equipment supply.

- **The Promotion Nationale** a government agency charged with providing work for unemployed citizens, furnished labor. Because of the favorable site conditions, the work was successfully completed on schedule.

f. **Finances.** Funds were provided by MHAT and the Promotion Nationale. At the present time, a program for cost recovery has not started but is anticipated in the future.

3. **Small Bidonville Upgrading Project** on unused land. Quartier Neuf-First Phase, Larache

a. **Physical characteristics**
Area: 4.5 hectares Number of plots: 300 Plots/hectare: 67

- **The project site** is located about 2.5 kilometers from the center of this secondary town. The plot layout is very irregular but at a relatively low density with poorly defined open areas and circulation space among scattered structures.

- **Age.** The site has a uniform slope of about 3 percent from the east to the west side. The soil is very sandy which required the shoring up of some trenches during the installation of underground utilities. Since the neighborhood was established over 30 years ago, it was one of the older marginal neighborhoods visited.

- **Adjacent land use.** The predominate surrounding use is residential with a moderate income neighborhood on one side, an extension of the marginal neighborhood which will be the second phase of the upgrading project on another, and a planned government middle income subdivision on another side. To the west is a main collector street and open space and agricultural land.

b. **Project residents**
Number of Residents: 2,000 Density: 444 Number of Households: 350

- **Population.** A detailed survey was not conducted for the project, so the above figures are estimates. The estimated employment status of heads of households was 8 percent unemployed, 56 percent in temporary employment with the remaining 36 percent either being employed in a stable job or retired.

- **Income.** The estimated median monthly income for households is DH 300.

c. **Existing conditions**

- **House construction.** Temporary materials consisting mostly of corrugated metal sheets and flattened metal containers are used for 96 percent of the housing units. The remaining houses are built in permanent materials such as cement blocks.

- **Urban services**

  - Water is supplied by two standpipes connected to the main supply line which is 500 meters from the site.

  - Sanitation. There was no storm or sanitary sewer.

  - Electrical service was provided to one side of the site where about 8 percent of the households have individual connections.

  - Streets. As mentioned earlier, the circulation space was not organized into identifiable streets or pedestrian ways except at the edge of the site. All surfaces were the existing sandy soil.

d. Improvement activities
Total cost: DH 2,570,000 Cost/Unit: DH 8,566 Cost/m^2: DH 57.2

- **Land.** The site was acquired by MHAT at a cost of DH 2 per square meter. It is the intention that land titles will be given to all residents before the completion of the project. Undeveloped areas at the edges of the site were divided into $80m^2$ plots assigned to residents that were displaced to create new streets and pedestrian ways. Plots are also made available to families who are ready to build new houses. Eventually, all the plot limits will be redefined to create regular plots.

- **Infrastructure**

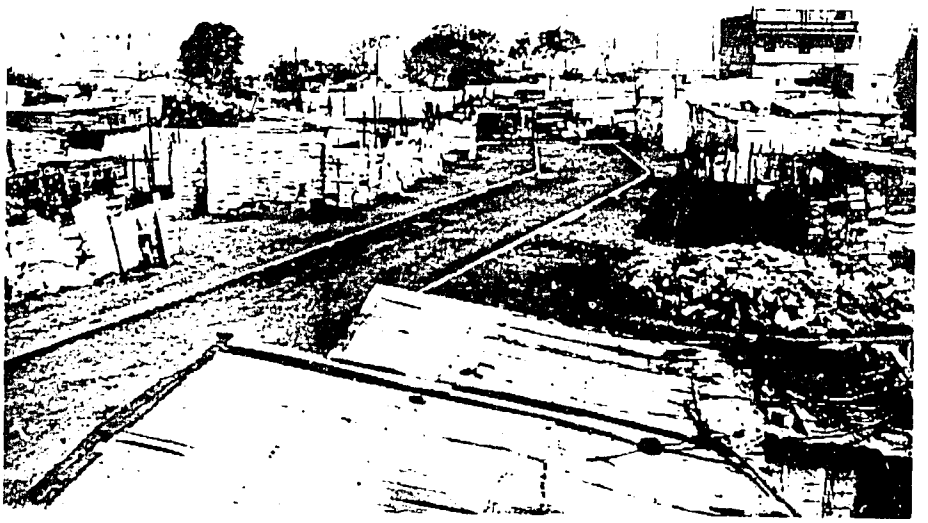
  - Sanitation. All the piping for a sanitary/storm sewer has been installed but house connections will not be permitted until the system is connected to the main collector which will be extended by the municipality to serve the planned subdivision adjacent to the upgradining site.

  - Streets. The internal street system is complete except for surfacing which has not yet been scheduled. There are concrete curbs for vehicular streets which have rights-of-way of 14,10 and 8 meters. It will be the responsibility of the residents to pave pedestrian ways.

  - Water and electrical systems will be expanded in the future. Design is still in the preliminary planning stages.

- **Housing improvement programs.** Technical assistance and house plans are provided to residents. Since most plots are the same size, a standard plan is used by all families. They are given assistance to modify the interior arrangement to suit their needs but are asked to respect the front facade. The plan is typical of those seen in other projects with two levels of living space around an interior court. A representative of the Delegation visits the site at least once a week to review progress and give technical advice on construction questions.

Families displaced by the creation of a vehicular and pedestrian circulation system were assigned new plots located on vacant land at the edges of the site



Flattened metal containers are a common building material in Quartier Neuf

e. **Administration.** Because of the small size of the project, a limited number of agencies have been involved with implementation.

- **Regional Delegation of Tetouan.** The technical staff of the Delegation was responsible for surveys, site design, plot layout, preparation and execution of bid procedures for the purchase of materials and street construction, technical review and supervision of construction activities and documentation for land title procedures.

- **Regional Office of Public Works** was responsible for technical design and document preparation for the street system.

- **Promotion Nationale** provided the labor for the installation of the sewer system. It was intended originally that they also build the roads but that proved to be infeasible because of the lack of proper large scale equipment needed for the work.

- **The Municipality of Larache** will have responsibility for the installation of off-site infrastructure and for the maintenance of the system once work has been completed.

f. **Finance.** Funds for the sewer system materials and street construction were provided by MHAT through the Regional Delegation. It is proposed to recover costs through charges to residents for their titled plots but payment procedures have not yet been established.

C. OTHER TYPES OF UPGRADING ACTIVITY

1. Upgrading of a planned clandestine neighborhood. Montfleuri, Fes

a. Physical characteristics

- **The site** is located three kilometers from the center of Fes between major roads to Immouzer and Sefrou. It is designated for low density housing (50 persons/hectare) in the master plan of Fes even though it is located outside the city boundaries at the present time and is attached to a rural commune. It is anticipated that the area will soon be integrated into the new urban limits of Fes. Since the time of the protectorate, the area has been used for small scale agriculture, orchards, and grazing of animals. After 1960, well to do families from Fes were attracted to the area along the route to Immouzer where they built villas on plots of at least 2,000m^2.

b. Conditions before the project

- **Clandestine activity.** During the 1970's, speculators started to subdivide large land parcelles into plots for moderate cost housing because of the high demand for this type of house, the reasonable cost of land at the time and the closeness to the city center. Between 1977 and 1980, more than 50 hectares were subdivided and built up without following urban

regulations. Attempts to control this development and to bring planning documents up to date proved futile.

Between 1976 and 1980, land costs increased from DH 80 to DH 240 per square meter. With these higher land costs, plots which would have formerly been single family were built with two or three floors to allow for rental units.

- **Infrastructure and services.** This densification of the area exacerbated the problems created by the poor planning of the uncontrolled development. Problems were:
  - poorly laid out narrow roads
  - no water supply or sewer system
  - lack of garbage collection
  - water pollution
  - distruction of the natural environment.

c. **Improvement activities.** In spite of demolitions and an educational program by authorities, the zone became more and more uncontrollable. It was necessary to develop a new approach if the problems were going to be resolved.

- **Community meetings.** The seriousness of the problems was explained to area residents in order to enlist their cooperation in temporarily stopping clandestine development until new procedures could be worked out.
- **Collection of unauthorized subdivision plans.** The Delegation was able to collect and review most of the subdivision plans and realign and correct a large number of them including some which had already been "sold" but not executed. More appropriate solutions were proposed to improve access to plots, better integrate the subdivision into the overall urban context and save existing greenery.
- **Creation of homeowners association or "amicale".** It was felt that a homeowners association was important to:
  - help mobilize the population around concrete problems and concerns
  - provide input to officials concerning problems and the means to resolve them
  - direct the participation of residents in the financing of studies and construction projects which the commune could not afford.

Weekly meetings were held at which officers were elected and the "amicale" divided into commissions to study various problems and solutions. Commissions included:

- Commission for informing the population
- Commission for roads
- Commission for infrastructure
- Commission for health
- Commission for contact with Public Authorities

Meetings of the commissions permitted local authorities, technicians and the population to be mutually informed of progress and activities. While there was some slow down of work in the area to allow time for the commissions to become established and work out programs, the area is now stabilized and the development is legal.

d. **Administration.** Procedures and activities in the following areas were used to control development:

- **Land transactions.** The Delegation called together several land owners and real estate agents to explain the problems and proposed urban regulations. They subsequently signed an agreement that they would not subdivide or sell land without first informing the Delegation. Letters were sent to government agencies dealing with land title requesting that any transaction not approved by the admnistration be blocked.

- **Provisional permits.** The Delegation instituted for the review of subdivision and building plans and the issuing of provisional approvals. Thus, construction can be started while completing the more lengthy permit procedures required by the commune.

- **Urban planning and architecture.** The "amicale" hired a private architectural firm to provide technical expertise to assist the Commission of Roads to study existing subdivisions and construction for improving the situation. The firm provided planning and architectural specifications, typical plans for owners who had not yet built, and technical assistance to residents concerning correct application of building standards and materials.

- **Health.** The "amicale" rented a truck to provide garbage collection to the community. They also tested water from wells for safety until a system of public fountains could be installed.

- **Infrastructure.** The association is working with local utility companies on studies for the installation of distribution systems for water and electricty. In cooperation with the commune, it is also providing for the installation of the principal collectors of the storm and sanitary sewer system. Activities are financed by the association.

e. **Finance.** A total of DH 60 per square meter of built up area is collected from residents at stages in the process to regularize property ownership:

- application for a temporary building permit
- application for an electrical connection
- application for a sewer connection and occupancy permit.

2. **Upgrading of a Rural Center.** Tissa

a. **Physical characteristics**
Area: 11 Hectares Number of plots: 200 Plots/hectare: 18.2

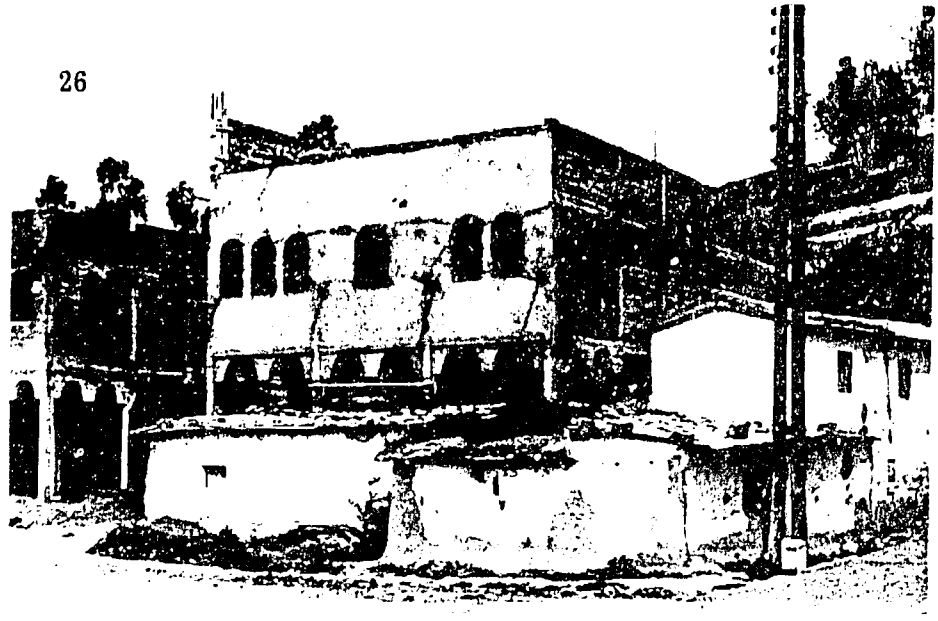
- **The site.** Tissa is located about 45 kilometers from Fes and is a commercial and administrative center for the surrounding villages and agricultural areas. The 11 hectares included in the program comprise the commercial center and some surrounding residential areas. The site is basically flat but is limited by a steep hill on the north side. The soil is good quality and presents no problems for improvement activities.
- **The surrounding uses** are the administrative center to the north, agricultural uses to the east and west and a planned government subdivision to the south.

b. **Project residents**
Number of residents: 1,400 Density: 127

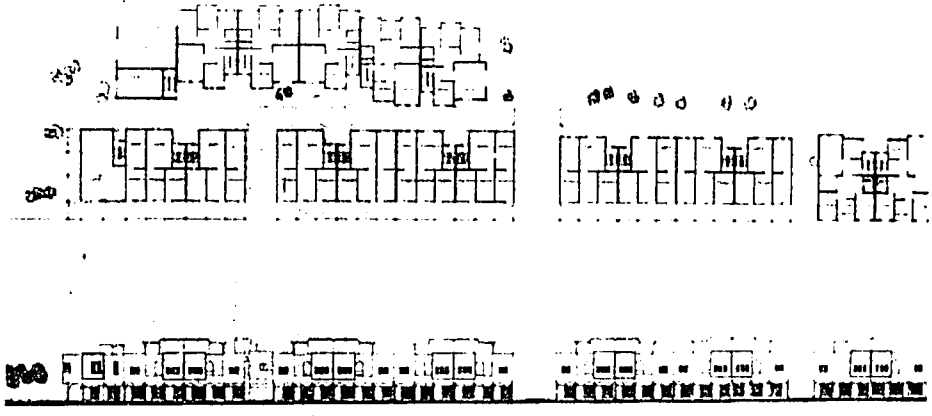
A socio-economic survey was not done for the project so there is limited information available on area residents. The above figures are estimates of the technical staff of the Delegation.

c. **Existing conditions**

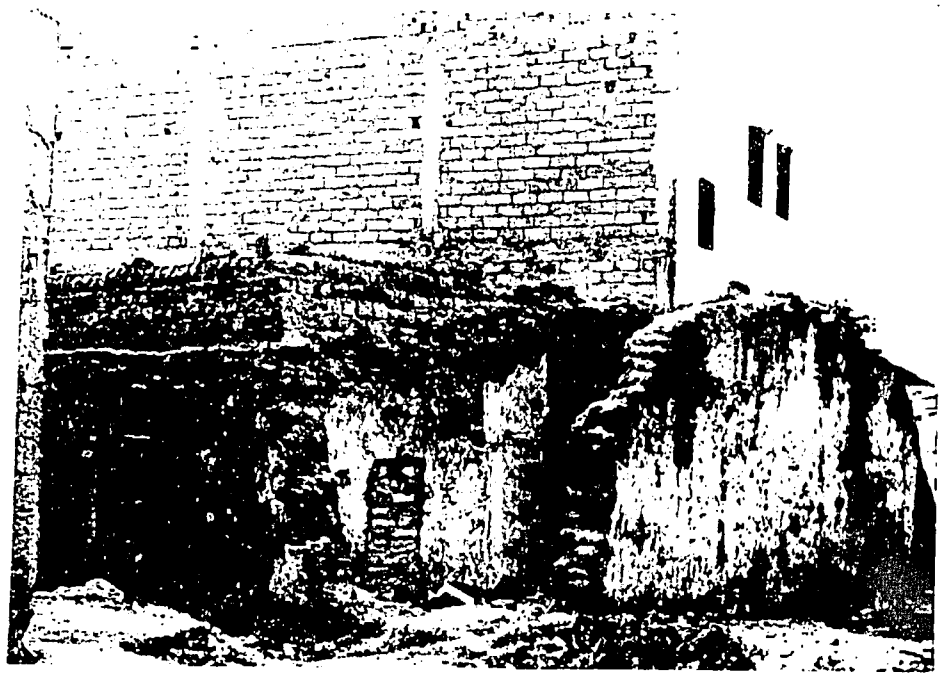
- **House construction.** Almost 100 percent of the structures in Tissa were built with traditional materials of mud walls and wood and mud roofs which are plustered and painted. In some cases corrugated metal sheets have been used for roofing.
- **Water.** There is a water distribution system along main streets with about 30 percent of residents having individual connections. The remaining population uses three wells for potable water.
- **Sanitation.** A sanitary sewer system has been installed in part of the village but is not in operation because there is no treatment facility. Most households use septic systems which do not appear to be a problem because of the low density.
- **Electricity.** The electrical distribution system serves most of the village and approximately 70 percent of households are connected to the system.



The new commercial center in Tissa will have an arcade with shops, offices and businesses on the ground floor and residential uses above



Entrances to residences are located on a pedestrian way in the center of the block



Residents continue to live on a portion of the old plot while the new building is under construction

- **Streets.** The principle vehicular streets are paved but without curbs or side walks. Pedestrian ways are usually dirt with open drainage channels made by residents.

d. **Improvement activities**

- **Land** is owned by the government and all homeowners will be given titles to their plots for a minimal charge of DH 5 per square meter. The plot layout is being completely changed on a progressive basis. All families will receive new plots of the same size regardless of the size of their original plot.

- **Housing improvement.** Technical assistance has been provided by the Delegation in the form of house plans and supervision and coordination of construction activities. Usually the family continues to live on a portion of the original plot while the new building is constructed. In some cases temporary shops have been built in front of the new structure so that there is no interruption of business activity.

e. **Administration.** The Regional Delegation of Fes has been the only agency involved with the project. They have provided technical assistance for a cadastral survey of existing plots, site planning and design concepts, house plans and monitoring of construction.

f. **Finance.** Other than the cost of staff time for technical assistance, no other public funds have been spent on the project. The financing of all new construction has been by the owners. The Delegation is investigating sources of funds to provide loans or grants to those families who cannot afford to build new structures.

D. SUMMARY OF CASE STUDIES

The above examples of activities, the summary of project characteristics in Table II-2 and the project descriptions in Annex A indicate that there is no set pattern for upgrading programs in Morocco but that they are and can be responsive to the conditions and needs unique to the population of a neighborhood. The projects vary in size from three hectares to 96 hectares, in population from 1,067 residents to 35,240 residents, in percentage of permanent construction from zero to 100 percent and in cost of project improvements from DH 381,000 to DH 166,717,000. In spite of this variety in activities, there are basic elements which can be identified as contributing to the success of upgrading projects.

1. Positive Program Characteristics

a. **Comprehensive project planning and design.** The upgrading project in Meknes is an example of comprehensive planning for project improvements including not only physical but social and economic components as well. Advantages to be gained from proper planning of upgrading projects include:

- activities will be designed to meet the needs of project beneficiaries

- problems during implementation will be minimized

- benefits from available funds will be maximized

b. **Community participation.** Not only is participation important to determine the needs of residents, but it can also be the key to successful implementation of a project. In Montflueri, the administration was not able to control development activities until they had the active support of the neighborhood's homeowners. The Montflueri association has also participated directly in funding of needed infrastructure improvements, while in Tissa the households have financed all improvement activities.

c. **Guaranty of land tenure.** Experience in several projects indicates that once families are assured of long term occupancy of their plot, they are willing to make a substantial commitment of funds and time to improve their living conditions, often to a level greater than would be anticipated by their level of income. Tissa is a good example where families who lived in small single story structures of traditional materials have built three story, permanent structures.

d. **Technical assistance for housing improvement.** One of the main inputs of the Delegation in Fes was to provide building plans and technical assistance to residents. The importance of this service has been shown in many of the projects and should be given a high priority when formulating project activities.

e. **Cost recovery.** The World Bank projects in Rabat and Meknes have started cost recovery procedures which seem to be working well and officials intend to institute procedures in other projects. It is felt that priority should be given to establish a national cost recovery policy which could put the PMB program on a sound financial basis while assuring equality for all beneficiaries.

2. Areas for Improvement

While many projects are progressing well, there are still some areas which indicate a need for improved communication between Delegations and the sharing of ideas and procedures.

a. **Insufficient programming.** Programming is sometimes done for only specific activities without developing an overall plan and schedule for a complete upgrading package.

b. **Incomplete engineering design.** Engineering studies have not been as detailed as they could have been resulting in unnecessary problems during construction.

c. **Use of Promotion Nationale for inappropriate assignments.** Because of difficult site conditions and lack of equipment, there have been delays in construction projects undertaken by the Promotion Nationale.

d. **Failure to implement procedures.** Procedures for land tenure and cost recovery while anticipated, have generally not been instituted. It is important that guidelines be established at a national level to start these activities, especially cost recovery which is not a popular program for local officials.

It is evident that Morocco has a large and useful upgrading program underway which is making significant achievements in improving marginal areas. In order to share this valuable experience, it is felt that the need at this time is to consolidate and codify the best features and procedures of the Moroccan experience into a comprehensive handbook which can be distributed and used by Regional Delegations and other agencies. The handbook should include procedures and standards for each phase of project development, i.e. programming and design, community participation, implementation, and cost recovery. Part II contains a suggested format for the handbook which is based to a maximum extent on the Moroccan experience but has also been supplemented by successful experiences from other countries.

ANNEX A: DATA FROM SELECTED UPGRADING PROJECTS

PROJECT: Derb Bechkou
CITY: CASABLANCA
DELEGATION: CASABLANCA

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	11
NUMBER OF PLOTS OR STRUCTURES	1,325
PLOTS OR STRUCTURES/HECTARE	120
DISTANCE FROM URBAN CENTERS	3
EXISTING CONSTRUCTION	%
Traditional	
Temporary	100
Permanent	

ADJACENT LAND USES

North: Industrial

East: Middle-income residential

South: Vacant government land. Future sites & services project

West: Middle-income residential

SOIL CONDITIONS

Good soil, few rocks. Easy installation of utilities

TOPOGRAPHY

Has slope of ± 1 percent

II. PROJECT POPULATION

NUMBER OF RESIDENTS	5,493
DENSITY (persons/hectare)	499
NUMBER OF HOUSEHOLDS	1,225
AVERAGE HOUSEHOLDS SIZE	4.2
HOUSEHOLD INCOME (DH/month)	

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	on-site
Number of standpipes	3
Plots/standpipe	442
Percent connections	0
STORM & SANITARY SEWER	
Distance to collector	adjacent
Percent connections	0
ELECTRICITY	
Distance to supply	adjacent
Percent connections	0

IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Storm/sanitary sewer	2,000	182	1.5
Totals	2,000	182	1.5

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation	Feasibility and technical studies, construction supervision, materials supply socio-economic survey, beneficiary registration
Ministry of Interior	
Promotion National Labor	

PROJECT: Ben Souda
CITY: FES
DELEGATION: FES

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	14
NUMBER OF PLOTS OR STRUCTURES	550
PLOTS OR STRUCTURES/HECTARE	39
DISTANCE FROM URBAN CENTERS	15
EXISTING CONSTRUCTION	%
Traditional	
Temporary	
Permanent	

ADJACENT LAND USES

North: Main access road and neighborhood commercial center

East:

South: Railroad and rural land

West: Rural land

SOIL CONDITIONS

Clay soil with high water table

TOPOGRAPHY

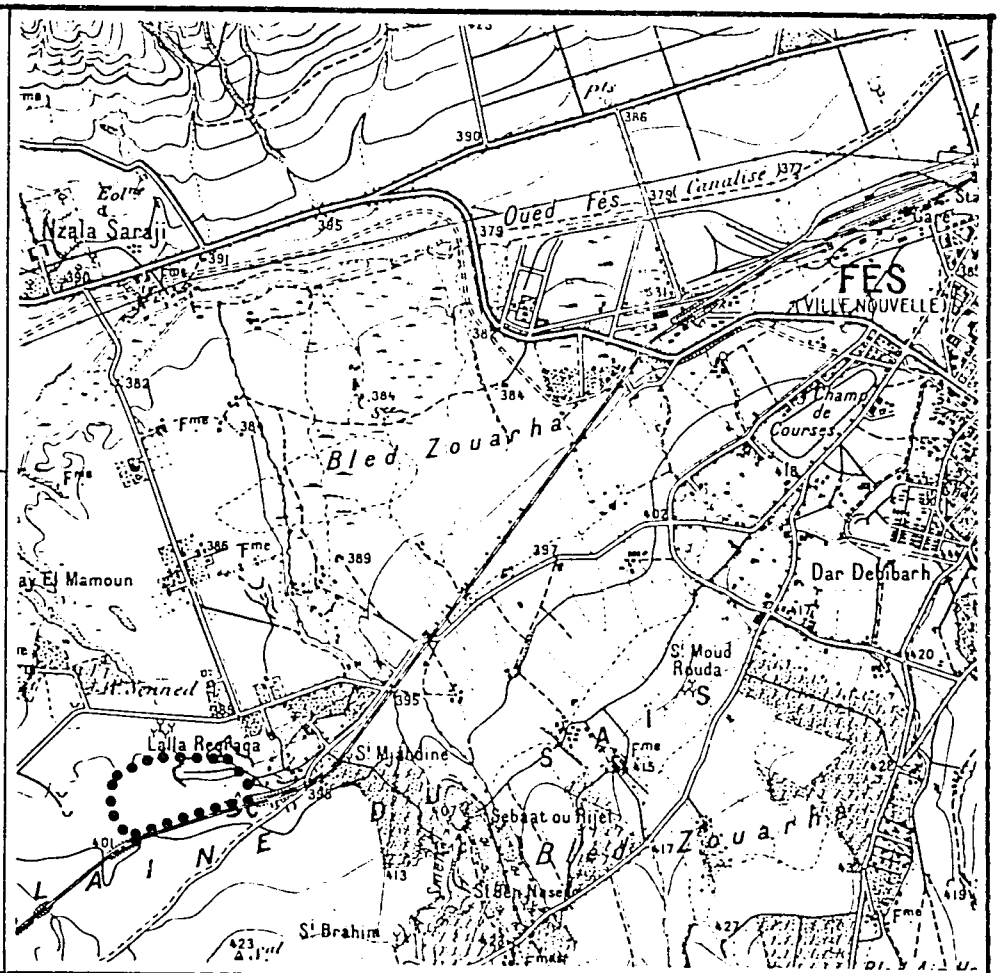
Basically flat but road and railroad embankments are higher

II. PROJECT POPULATION

NUMBER OF RESIDENTS	7,800
DENSITY (persons/hectare)	557
NUMBER OF HOUSEHOLDS	1,450
AVERAGE HOUSEHOLDS SIZE	5.4
HOUSEHOLD INCOME (DH/month)	%
0-199	10.8
200-399	31.7
400-599	24.2
600-799	13.3
800+	11.9

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	on-site
Number of standpipes	2
Plots/standpipe	275
Percent connections	0
STORM & SANITARY SEWER	
Distance to collector	18K
Percent connections	0
ELECTRICITY	
Distance to supply	on-site
Percent connections	



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Early planning atage costs not available	-	-	-
Totals			

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation	Site identification preliminary and feasibility studies

PROJECT: Rural Center Upgrading
CITY: TISSA
DELEGATION: FES

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	11
NUMBER OF PLOTS OR STRUCTURES	± 200
PLOTS OR STRUCTURES/HECTARE	18.2
DISTANCE FROM URBAN CENTERS	-
EXISTING CONSTRUCTION	%
Traditional	100
Temporary	
Permanent	

ADJACENT LAND USES

North: Administration Center at top of hill
East: Agriculture
South: Planned government subdivision
West: Agriculture

SOIL CONDITIONS

Normal

TOPOGRAPHY

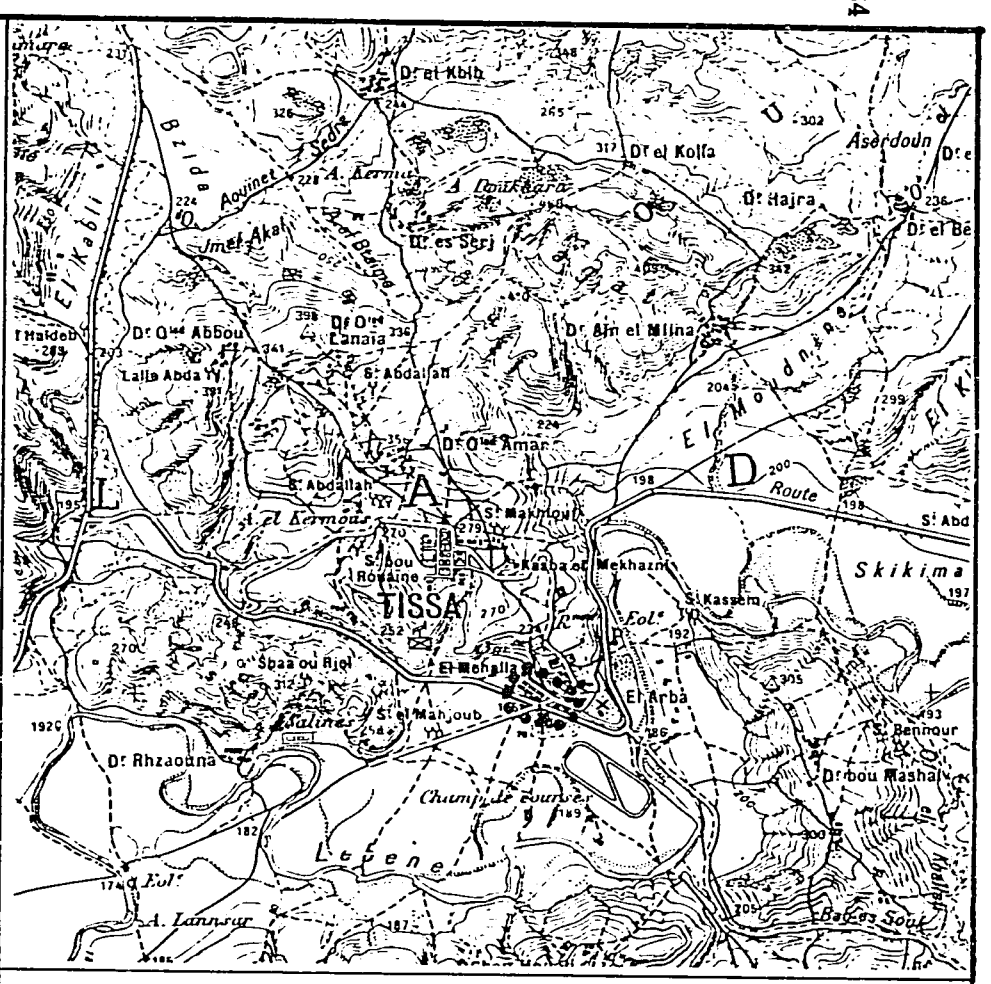
Site is flat

II. PROJECT POPULATION

NUMBER OF RESIDENTS	± 1,400
DENSITY (persons/hectare)	127
NUMBER OF HOUSEHOLDS	± 200
AVERAGE HOUSEHOLDS SIZE	7
HOUSEHOLD INCOME (DH/month)	%
0-300	50
300+	50

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	on-site
Number of standpipes	3
Plots/standpipe	66.7
Percent connections	30
STORM & SANITARY SEWER	
Distance to collector	on-site*
Percent connections	0
ELECTRICITY	
Distance to supply	on-site
Percent connections	70



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Technical assistance	-	-	-
Totals			

V. PARTICIPATING AGENCIES

Delegation	Site plan, technical assistance for housing improvements, house plans, land title preparation

*Lines installed in part of village but not in operation because there is no treatment. Most units use septic systems

PROJECT: Saknia
CITY: KENITRA
DELEGATION: KENITRA

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	64
NUMBER OF PLOTS OR STRUCTURES	6,544
PLOTS OR STRUCTURES/HECTARE	102
DISTANCE FROM URBAN CENTERS	2.8
EXISTING CONSTRUCTION	%
Traditional	
Temporary	100
Permanent	

ADJACENT LAND USES

North: Residential

East: Open space-low and marshy

South: Residential

West: Residential

SOIL CONDITIONS

Sandy soil, water table less than 1 meter for 70% of site

TOPOGRAPHY

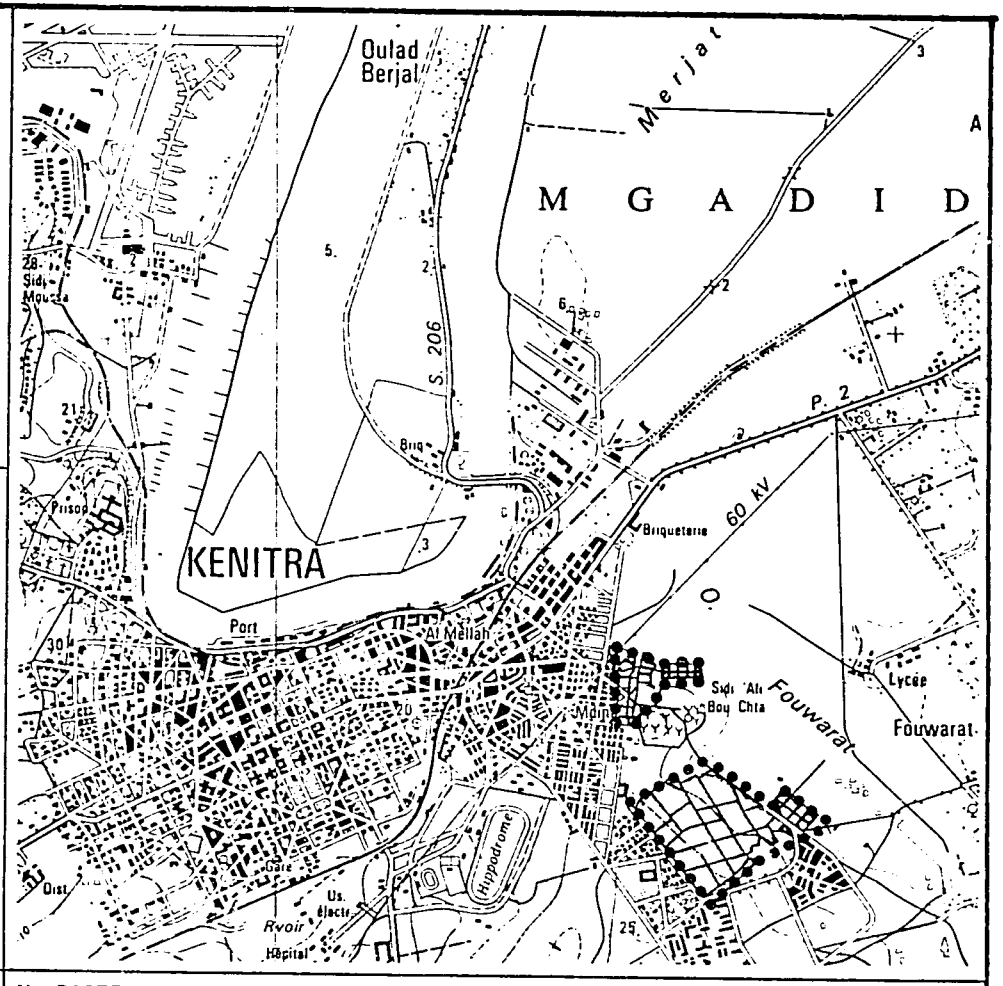
Slight slope ± 1% to low area.
Some sections subject to flooding

II. PROJECT POPULATION

NUMBER OF RESIDENTS	35,240
DENSITY (persons/hectare)	551
NUMBER OF HOUSEHOLDS	6,919
AVERAGE HOUSEHOLDS SIZE	5.1
HOUSEHOLD INCOME (DH/month)	%
0-149	15
150-299	20.3
300-499	28.7
500-700	18.0
700+	17.0

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	adjacent
Number of standpipes	50
Plots/standpipe	130
Percent connections	0
STORM & SANITARY SEWER	
Distance to collector	adjacent
Percent connections	0
ELECTRICITY	
Distance to supply	adjacent
Percent connections	0



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Land acquisition & site preparation	31,305	489	4.8
Potsble water supply	7,015	109	1.1
Storm/sanitary sewer	12,687	198	1.9
Electricity	7,305	114	1.1
Street improvements	11,627	182	1.8
Studies & documents	892	14	.1
Totals	70,831	1,106	10.8

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation (special project team	Project identification, preliminary design socio-economic survey, census of beneficiaries, housing T.A., construction supervision
Private consultants	Topographic and cadastral surveys, bid document preparation
Private construction companies	Installation of improvements

PROJECT: Kouacha
CITY: BOUJAD
DELEGATION: KHOURIBGA

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	3
NUMBER OF PLOTS OR STRUCTURES	223
PLOTS OR STRUCTURES/HECTARE	74.3
DISTANCE FROM URBAN CENTERS	2.5
EXISTING CONSTRUCTION	%
Traditional	100
Temporary	
Permanent	

ADJACENT LAND USES

North: Main road, agriculture

East: Agriculture

South: Bidonville

West: Residential

SOIL CONDITIONS

Rocky with rock out croppings

TOPOGRAPHY

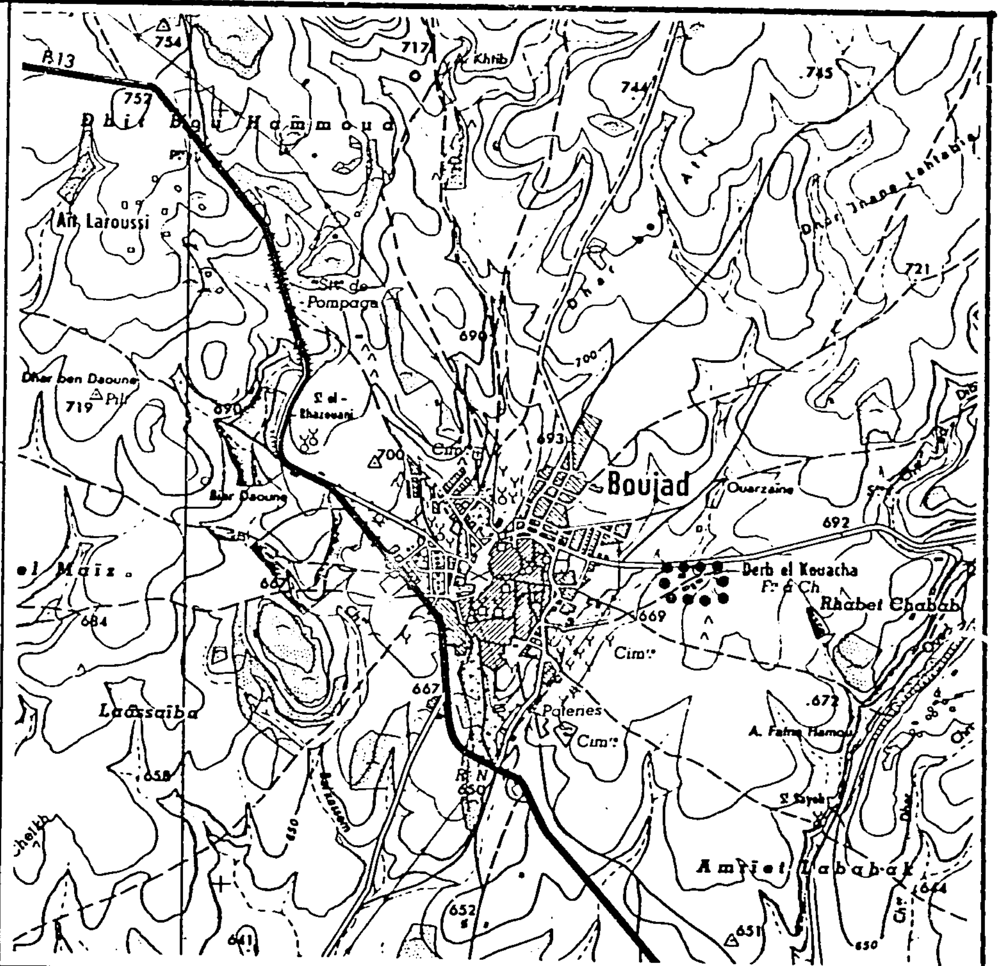
Moderate slope most of the site
Abrupt changes of 1-2 meters on south side

II. PROJECT POPULATION

NUMBER OF RESIDENTS	1,067
DENSITY (persons/hectare)	356
NUMBER OF HOUSEHOLDS	223
AVERAGE HOUSEHOLDS SIZE	4.8
HOUSEHOLD INCOME (DH/month)	

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	
Number of standpipes(well)	1
Plots/standpipe	223
Percent connections	0
STORM & SANITARY SEWER	
Distance to collector	
Percent connections	0
ELECTRICITY	
Distance to supply	
Percent connections	0



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Storm/sanitary sewer	470	157	2.1
Totals	470	157	2.1

V. PARTICIPATING AGENCIES

PARTICIPATING AGENCIES	ACTIVITIES/RESPONSIBILITIES
Delegation	Site identification, supervision of construction, materials supply engineering
Promotion National Labor	

PROJECT: Sidi Mbarek
CITY: MARRAKECH
DELEGATION: MARRAKECH

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	4
NUMBER OF PLOTS OR STRUCTURES	288
PLOTS OR STRUCTURES/HECTARE	72
DISTANCE FROM URBAN CENTERS	4
EXISTING CONSTRUCTION	%
Traditional	95
Temporary	
Perman	5

ADJACENT LAND USES

North: Planned government subdivision

East: Residential

South: Vacant land

West: Vacant land

SOIL CONDITIONS

Sandy soil

TOPOGRAPHY

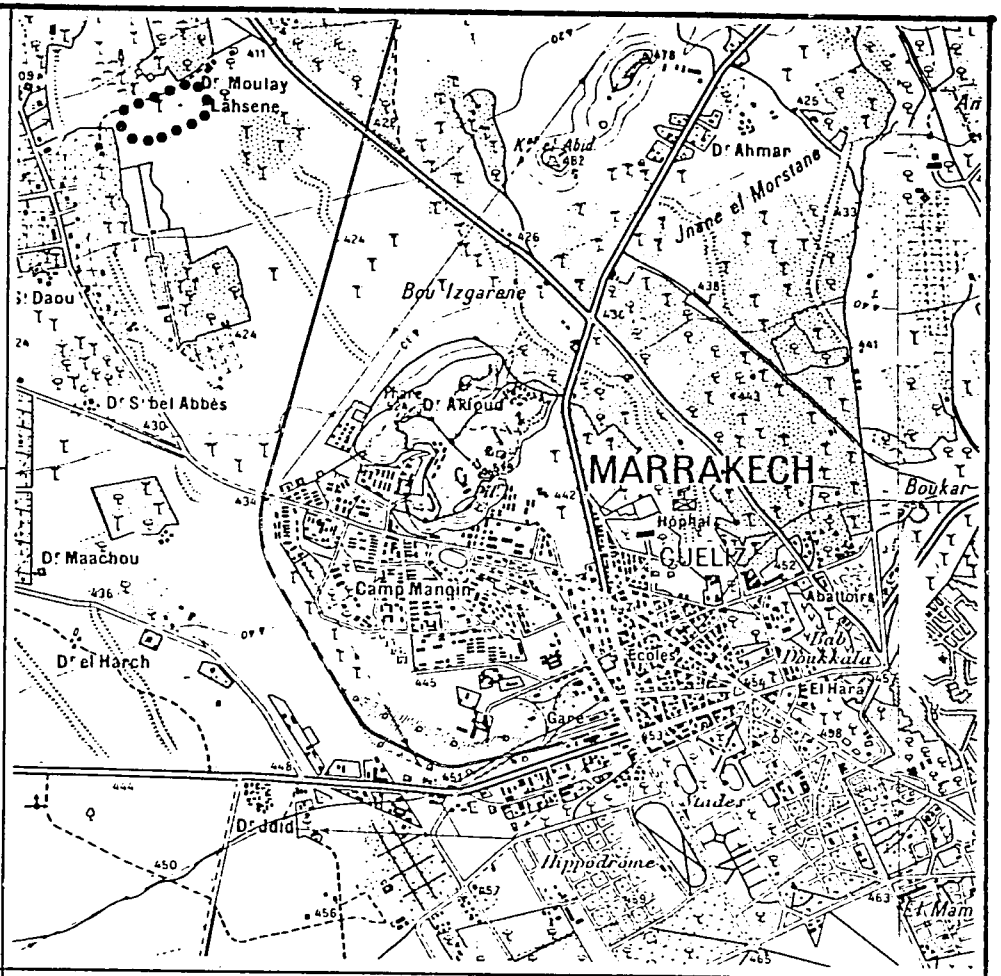
Site is flat

II. PROJECT POPULATION

NUMBER OF RESIDENTS	± 2,600
DENSITY (persons/hectare)	650
NUMBER OF HOUSEHOLDS	288
AVERAGE HOUSEHOLDS SIZE	9
HOUSEHOLD INCOME (DH/month)	
Median Income	± 300

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	on-site
Number of standpipes	
Plots/standpipe	
Percent connections	
STORM & SANITARY SEWER	
Distance to collector	
Percent connections	
ELECTRICITY	
Distance to supply	on-site
Percent connections	



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Storm/sanitary saver	381	95	1.3
Totals	381	95	1.3

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation	Planning, engineering, construction, supervision, material supply
Promotion National Labor	

PROJECT: Bordj Moulay Omar
CITY: MEKNES
DELEGATION: MEKNES

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	46
NUMBER OF PLOTS OR STRUCTURES	4,520
PLOTS OR STRUCTURES/HECTARE	98
DISTANCE FROM URBAN CENTERS	2
EXISTING CONSTRUCTION	%
Traditional	
Temporary	100
Permanent	

ADJACENT LAND USES
- North: Agriculture
- East: Agriculture
- South: Residential
- West: Agriculture

SOIL CONDITIONS
Rocky with rock out croppings

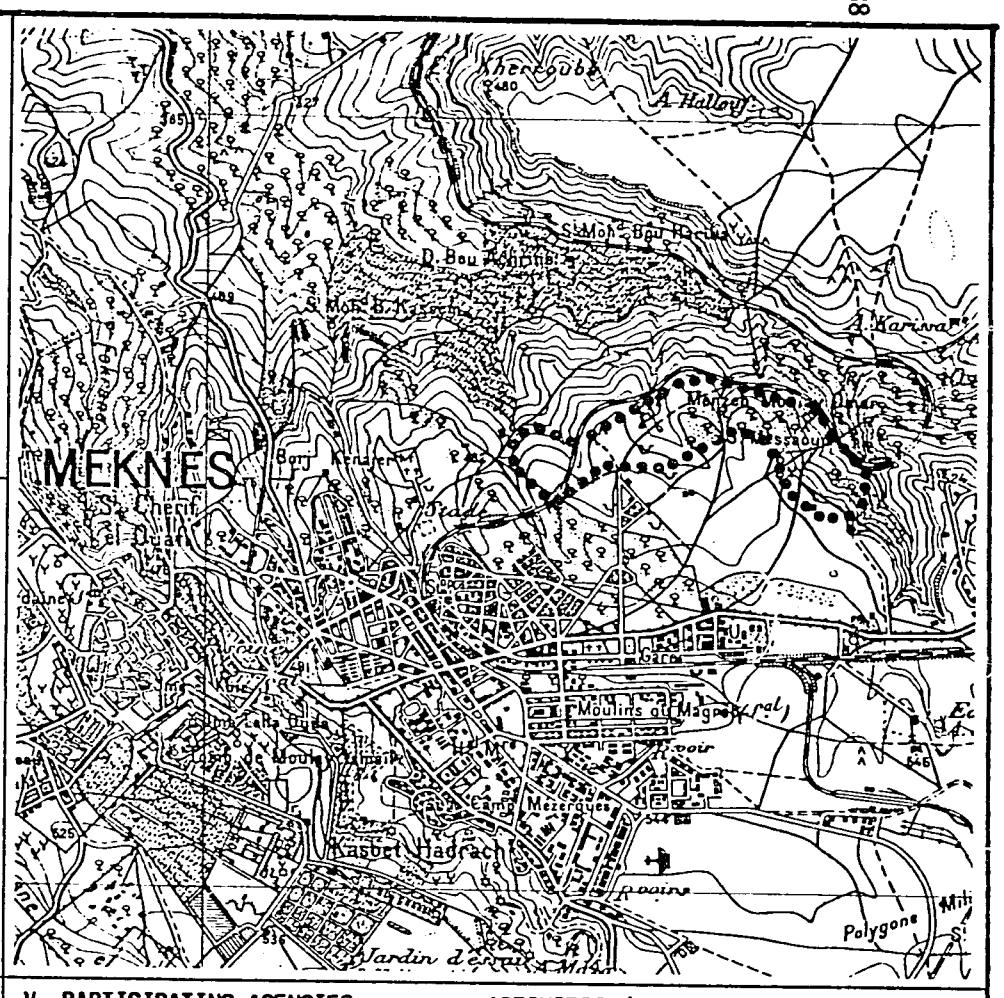
TOPOGRAPHY
Varying slopes to north and east limit defined by cliff of 10-20 meters

II. PROJECT POPULATION

NUMBER OF RESIDENTS	31,800
DENSITY (persons/hectare)	691
NUMBER OF HOUSEHOLDS	5,579
AVERAGE HOUSEHOLDS SIZE	5.7
HOUSEHOLD INCOME (DH/month)	%
0-149	7.4
150-299	22.3
300-499	40.7
500-699	17.7
700+	11.9

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	
Number of standpipes	40
Plots/standpipe	113
Percent connections	
STORM & SANITARY SEWER	
Distance to collector	
Percent connections	
ELECTRICITY	
Distance to supply	
Percent connections	



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Land acquisition	9,644	209	2.1
Site preparation and demolition	1,730	38	0.4
Potable water supply	3,343	73	0.7
Storm/Sanitary sewer	5,877	128	1.3
Electricity	5,397	117	1.2
Street improvements	2,701	59	0.6
Community facilities	1,848	40	0.4
Design and management	3,081	67	0.7
Totals	33,629	731	7.4

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation (special project team)	Project identification, preliminary design, socio-economic survey, census of beneficiaries, housing T.A., construction supervision
Private consultants	Topographic and cadastral surveys bid document preparation
Private construction companies	Installation of improvements

PROJECT: Doum
CITY: RABAT
DELEGATION: RABAT

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	24
NUMBER OF PLOTS OR STRUCTURES	3,210
PLOTS OR STRUCTURES/HECTARE	134
DISTANCE FROM URBAN CENTERS	2.5
EXISTING CONSTRUCTION	%
Traditional	25
Temporary	35
Permanent	40

ADJACENT LAND USES

North: School and open space

East: Bou Regreg River Valley

South: Ravine & Sites & Services Project

West: Middle to high-income residential

SOIL CONDITIONS

Sandy/clay soil approximately 2 meters deep over rock

TOPOGRAPHY

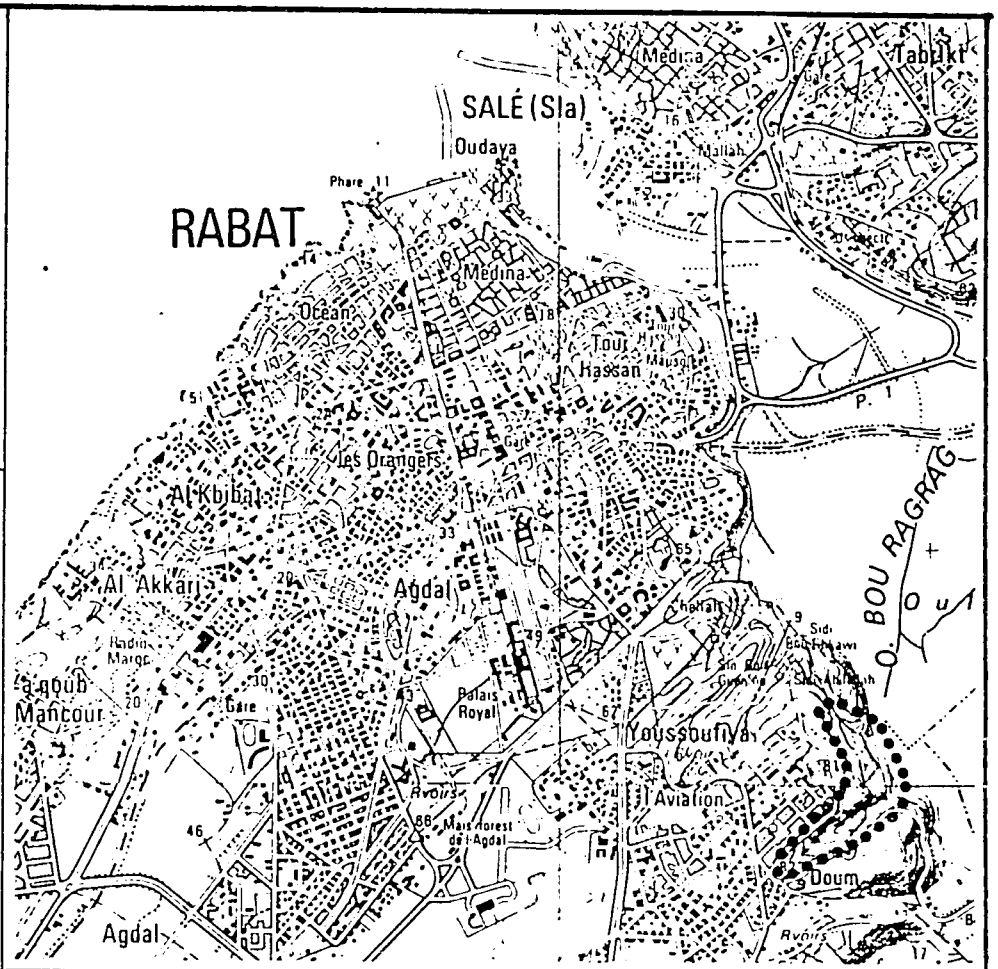
Hillside sloping to river valley slopes as great as 50%. Change of elevation as much as 50 meters

II. PROJECT POPULATION

NUMBER OF RESIDENTS	17,500
DENSITY (persons/hectare)	729
NUMBER OF HOUSEHOLDS	3,600
AVERAGE HOUSEHOLDS SIZE	49
HOUSEHOLD INCOME (DH/month)	
Median income	374

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	adjacent
Number of standpipes	8
Plots/standpipe	401
Percent connections	0
STORM & SANITARY SEWER	
Distance to collector	adjacent
Percent connections	0
ELECTRICITY	
Distance to supply	adjacent
Percent connections	0



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Potable water supply	3,091	129	1.0
Storm/sanitary sewer	2,071	86	0.6
Electricity	5,241	218	1.6
Street improvement	6,800	283	2.1
Public facilities	6,776	282	2.1
Studies and engineering	889	37	0.3
Management	2,188	91	0.7
Totals	27,056	1,126	8.4

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation (special project team)	Overall coordination, planning, preliminary design, supervision of construction, housing T.A.
Ministry of Finance	Borrower and disposer of funds
Other Ministries	Public facilities
Banque Populaire	Small loans for purchase of plots and home improvements
Municipality	Continuing public services and maintenance

PROJECT: Dersa
CITY: TETOUAN
DELEGATION: TETOUAN

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	96
NUMBER OF PLOTS OR STRUCTURES	4,754
PLOTS OR STRUCTURES/HECTARE	50
DISTANCE FROM URBAN CENTERS	0
EXISTING CONSTRUCTION	%
Traditional	
Temporary	5
Permanent	95

ADJACENT LAND USES

North: Wooded zone

East: Cemetary

South: Urban center of Tetouan

West: Private vacant land

SOIL CONDITIONS

Almost solid rock

TOPOGRAPHY

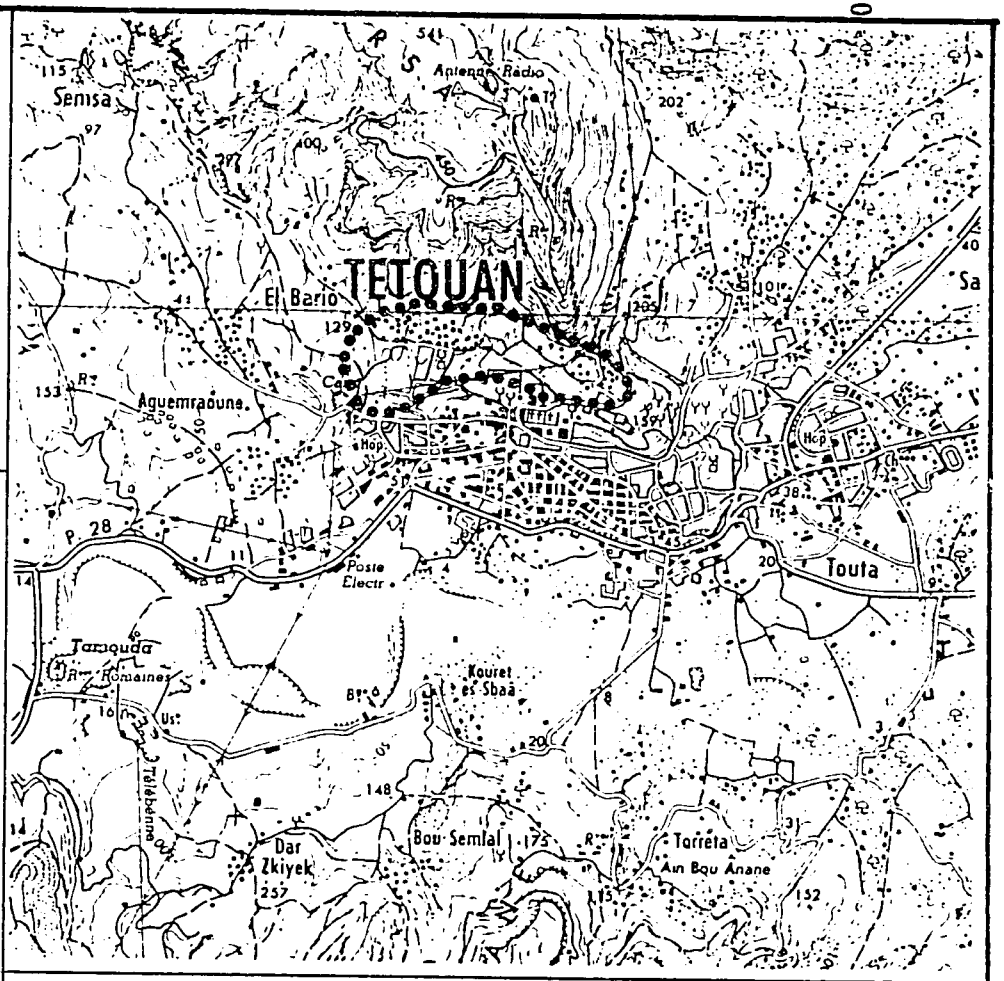
Mountain side with steep slopes

II. PROJECT POPULATION

NUMBER OF RESIDENTS	31,730
DENSITY (persons/hectare)	330
NUMBER OF HOUSEHOLDS	5,766
AVERAGE HOUSEHOLDS SIZE	56
HOUSEHOLD INCOME (DH/month)	%
0-199	3.4
200-499	35.7
500-999	40.4
1000+	20.5

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	on-site
Number of standpipes	6
Plots/standpipe	792
Percent connections	21.6
STORM & SANITARY SEWER	
Distance to collector	300
Percent connections	8.4
ELECTRICITY	
Distance to supply	on-site
Percent connections	42.5



IV. IMPROVEMENT ACTIVITIES (1000 DH)

	Cost	Cost/HA	Cost/Unit
Acquisition	12,105	126	2.4
Potable water supply	14,000	146	2.8
Storm/sanitary sewer	46,800	488	9.3
Electricity	10,826	113	2.2
Streets	48,886	509	9.8
Miscellaneous systems	23,100	241	4.6
Studies and control	6,000	63	1.2
Totals	161,717	1,686	32.2

V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation (apecial project team)	Preliminary and feasibility studies

PROJECT: Quartier Neuf - 1st Phase
CITY: LARACHE
DELEGATION: TETOUAN

I. PHYSICAL CHARACTERISTICS

AREA (hectares)	4.5
NUMBER OF PLOTS OR STRUCTURES	± 300
PLOTS OR STRUCTURES/HECTARE	67
DISTANCE FROM URBAN CENTERS	2.5
EXISTING CONSTRUCTION	%
Traditional	
Temporary	96
Permanent	4

ADJACENT LAND USES

North: Residential

East: Bidonville - 2nd Phase of Project

South: New government-sponsored subdivision

West: Agriculture

SOIL CONDITIONS

Sandy soil

TOPOGRAPHY

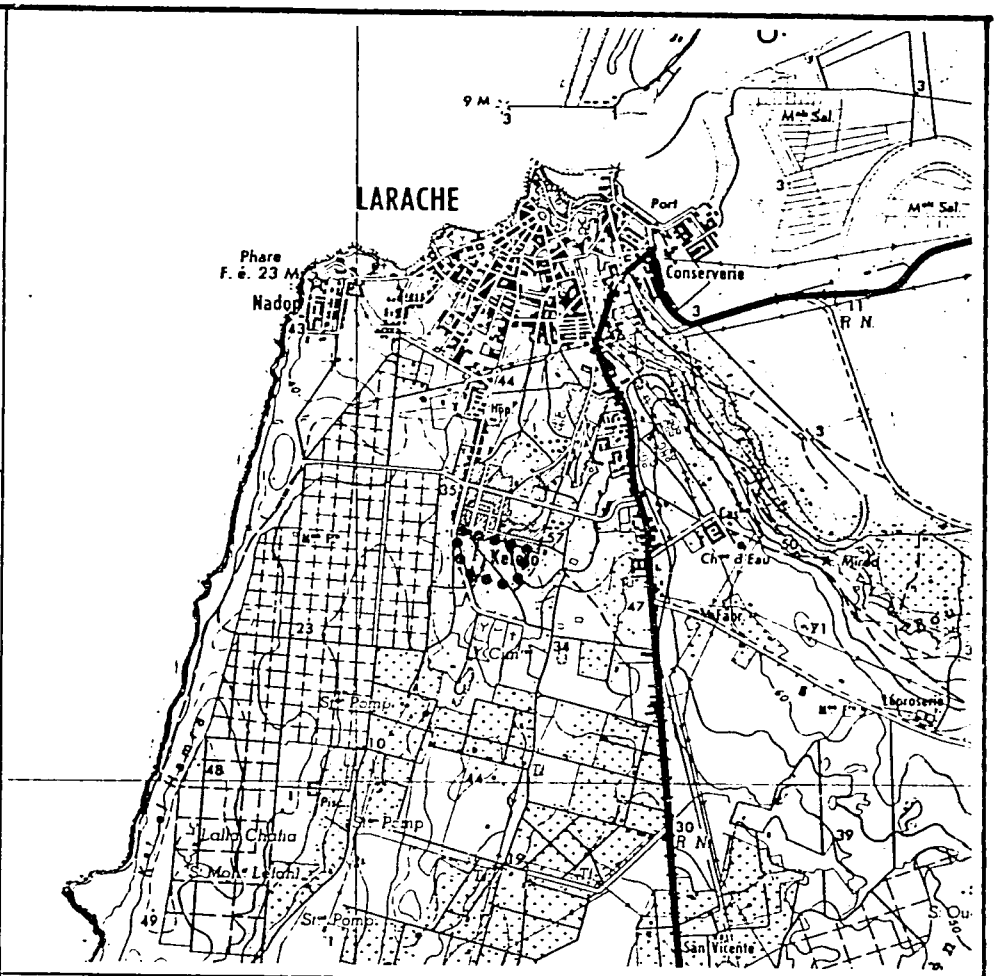
The site has a uniform slope of approximately 5 percent

II. PROJECT POPULATION

NUMBER OF RESIDENTS	± 2,000
DENSITY (persons/hectare)	444
NUMBER OF HOUSEHOLDS	350
AVERAGE HOUSEHOLDS SIZE	5.7
HOUSEHOLD INCOME (DH/month)	
Median income	± 300

III. EXISTING INFRASTRUCTURE

POTABLE WATER	
Distance to supply	500
Number of standpipes	2
Plots/standpipe	175
Percent connections	0
STORM & SANITARY SEWER	
Distance to collector	700
Percent connections	0
ELECTRICITY	
Distance to supply	50
Percent connections	8



IV. IMPROVEMENT ACTIVITIES (1000 DH)

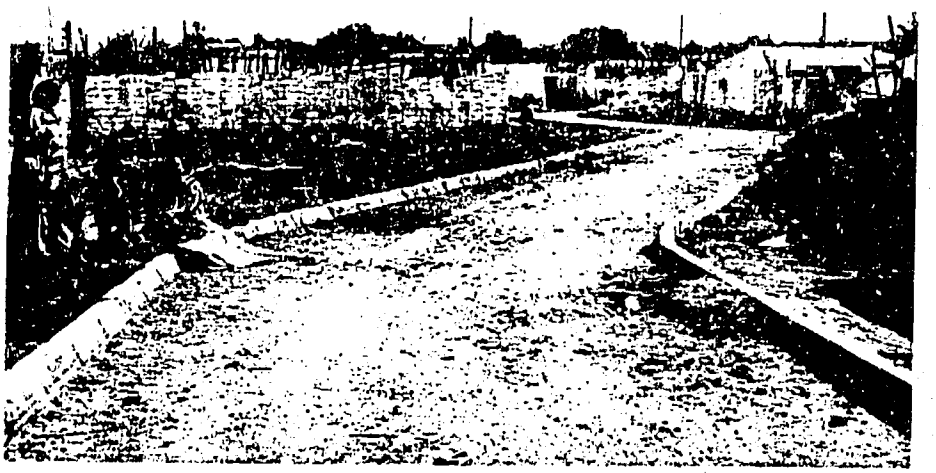
	Cost	Cost/HA	Cost/Unit
Land acquisition	90	20	0.3
Topo survey	30	7	0.1
Potable water supply	*900	200	3.0
Streets and storm/sanitary sewer	850	189	2.8
Electricity	*700	166	2.3
Totals	2,570	572	8.5

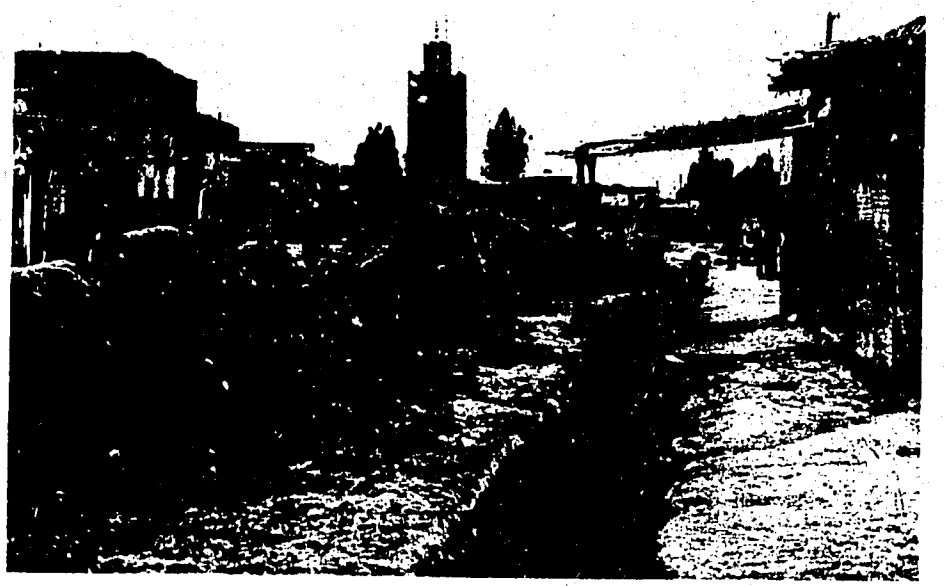
V. PARTICIPATING AGENCIES

	ACTIVITIES/RESPONSIBILITIES
Delegation	Site selection and design, technical review, financing of street and sewer improvements
Regional Office Public of Public Works	Technical studies for streets
Promotion National	Labor for installation of sewer
Municipality	Continuing public services and maintenance, control of construction

*Estimation

PART II: UPGRADING HANDBOOK





SECTION A: PROJECT ADMINISTRATION

CHAPTER I

INTRODUCTION

A. OBJECTIVES

The handbook was originally intended to focus on the review of upgrading projects within the Ministry of Housing's (MHAT) Small and Medium Sized Bidonville (PMB) Program and to establish a means of sharing the experiences obtained from these projects. PMB projects programmed during the Three Year Plan of 1978 - 1980 were of primary interest. During field visits, however, it quickly became clear that other worthwhile "upgrading" experiences were also in progress which deserved further study and evaluation. Consequently, the concept of upgrading as it is finally presented in this manual includes not only the physical and economic improvement of both large and small scale bidonvilles but also similar approaches for clandestine housing, village centers and larger scale urban planning. It is felt that greater knowledge of these improvement activities can significantly assist professionals working in the housing sector to improve living conditions for poorer families.

Examples of projects which are fully described in the case studies are:

- Urban Bidonville Upgrading
  Small: Sidi Mbarak and Larache
  Large: Meknes

- Urban Clandestine Subdivision Upgrading and Reglementation
  Montfleurie, Fes

- Rural Commercial Center Upgrading
  Tissa

Successful examples of rehousing bidonville inhabitants are also mentioned in the handbook to point out the sizeable private housing investment that individual families can make once they are assured of plot ownership and given technical assistance.

It is not the intention of the handbook to dictate what specific actions should be taken or to prescribe universal solutions. Rather the document is intended to help formulate a systematic approach to identify problems in upgrading programs and hence to formulate appropriate responses. Based primarily on Moroccan experiences, it will attempt to identify "what worked" and to underline the positive aspects of MHAT's programs. Thus, wherever possible, experiences in Morocco will be used to illustrate concepts and ideas along with appropriate examples from projects in other countries. By combining both Moroccan and international experiences, a concise and practical guide for upgrading should help stimulate better planning and administration for future upgrading projects in Morocco.

B. USES

The document is primarily intended to serve MHAT, its Regional Delegations and local authorities involved with upgrading projects in order to:

- improve project execution and reduce unnecessary delays by highlighting typical problems and indicating means which can be used to overcome them
- obtain maximum benefit from material and human resources through better project planning and preparation
- achieve replicable projects by improving their design and cost effectiveness

C. FORMAT

The handbook is intended to be used to assist the actual implementation of future upgrading projects. Its chapters have, therefore, been arranged into four major sections which relate to the phases of project development:

- administrative framework and management
- project programming and planning
- contract documents, bidding and actual construction
- necessary activities after the completion of infrastructure improvements

Each chapter is also divided into sections entitled "Objectives" and "Procedures" with examples and experiences from actual upgrading projects in Morocco cited where appropriate.

CHAPTER II

ADMINISTRATIVE FRAMEWORK AND PROJECT MANAGEMENT

A. OBJECTIVES

The main objectives of the administration of upgrading programs are to:

- increase the ease and efficiency of project administration
- accelerate project execution
- maximize the use of available manpower resources
- increase the coordination between government services and departments
- improve channels of communication between national and local levels
- optimize the allocation of funds in order to serve a greater number of families

B. ADMINISTRATIVE FRAMEWORK

A concise breakdown of major responsibilities for agencies involved in upgrading projects and programs is shown in Table II-1. A brief description of the functions of the major participating agencies and their responsibilities follows:

1. National Level

a. **Ministry of Housing** is responsible for the formulation and execution of government housing policies.

b. **The Direction of Housing** is charged with the conception, programming, application and evaluation of the Ministry's housing strategies and programs.

c. **The Central Unit for Upgrading Marginal Housing** is primarily responsible for the programming, coordination and evaluation of the upgrading of small and medium sized bidonvilles throughout the country.

d. **Other Ministries** which interact very closely with the Ministry of Housing on upgrading projects include the Ministry of Interior (for overall support of policies and programs), the Ministry of Finance (for the budget and financing of projects) and the Ministry of Administrative Affairs (for the recruitment of staff).

2. **Regional Level**

   a. **The Regional Delegations for Housing and Regional Development** are responsible for undertaking, controlling and coordinating the actual preparation of projects and their implementation in their region.

   b. **The Provincial Governors** who are directly responsible to the Ministry of Interior, give tacit approval to the projects of the MHAT Delegation.

   c. **The Regional Controller of Budget Provisions and Expenses (CRED)** is responsible for the approval of all regional contracts and their payment.

3. **Local Level**

   a. **Municipalities and Communes** are responsible for the operation and maintenance of local public services as well as social and economic programs once an upgrading project is completed.

   b. **Autonomous Municipal Enterprises.** There are 10 autonomous municipal enterprises under the National Organization for Potable Water (ONEP) which serve 22 urban agglomerations with potable water. Similar enterprises exist for electricity.

C. ADMINISTRATIVE PROCEDURES

1. Role of the Central Upgrading Unit

In order that all types of upgrading programs can be successfully implemented on a national scale, effective coordination of operations between different agencies and institutions is required. While essential coordination at the local level is done by the Regional Delegations, a parallel working relationship must take place between the Delegations and the Central Ministry at the national level. The most suitable agency to assure this coordination is the Central Upgrading Unit whose overall responsibilities should be:

- To monitor the growth and development of bidonvilles and clandestine housing neighborhoods throughout the country.
- To establish a comparative data base for marginal settlements and uncontrolled urban growth using techniques that include the interpretation of aerial photographs, neighborhood typologies, simple, standardized socio-economic surveys and the analysis of already available data.
- To monitor the progress of ongoing projects in order to evaluate budget and financial needs, assess bottlenecks in project implementation and propose means of overcoming them.
- To propose projects and policies to be included in future Five Year Plans.
- To evaluate economic, social, physical and environmental impacts of ongoing projects.

TABLE II-1

MAJOR FUNCTIONAL RESPONSIBILITIES OF GOVERNMENT FOR UPGRADING PROJECTS

	Agencies	Planning Budgeting and Land Acquisition	Physical development and infrastructure	Public facilities, services and technical assistance
NATIONAL LEVEL	Ministry of Housing Direction of Housing	Sets policies for upgrading, selects and programs upgrading activities, presents budget requests to the Ministry of Finance	Approves project design, execution and contracts	Coordinates standards, norms and procedures with other ministries; reviews legislation for maintenance
	Central PMB Upgrading Unit	Provides policy and program advice to Ministry based on available data	Monitors project implementation and progress; recommends procedures to expedite process	Evaluates application of norms and provision of services to actual projects; provides guidelines for improvement
	Ministry of Finance Service de Domaines	Establishes and approves overall program budget based on estimates for proposed projects; acquires land	Makes credit available to Delegations for upgrading through CRED.	Provides financing to various ministries for the provision of public facilities and services
	Other Ministries	Programs necessary facilities based on estimated population need; initiates acquisition of land	Acquires land reserves for facilities; constructs facilities	Min. interior gives guidelines and budget to local communities; ministries provide staff for facilities
REGIONAL LEVEL	Regional Delegations of MHAT	Analyzes local housing situation; prepares inventory of substandard housing; makes recommendations for improvements	Prepares and/or controls technical aspects of project; supervises construction; provides project management	Assures coordination of the provision of public facilities, services and technical assistance with upgrading activities
	Province and Governor	Approves upgrading approach and policies as applied to local situations	Oversees and facilitates inter-agency coordination of project implementation	Assures provision of public facilities and services
	Ministry of Finance (CRED)	Obtains credit from central Ministry for local upgrading projects	Makes payments to contractors for services and construction	Makes payment for construction of public facilities
LOCAL LEVEL	Municipalities and Communes	Develops means of financing provision of maintenance and public services, programs service requirements	Controls construction quality and "receives" finished works	Provides public services and maintenance for upgrading projects

- To publish and disseminate relevant data and information on marginal housing and upgrading.

- To determine appropriate training programs for professionals and workers involved in the upgrading of marginal neighborhoods.

2. Development Process of Upgrading Projects

Figure II-1 lists the activities included in the project development process and illustrates the involvement of Delegations for selected projects. Unlike projects dealing with the construction of new housing or serviced plots, upgrading projects already have their major elements and beneficiaries in place. Consequently, several well conceived and executed studies are essential:

- accurate socio-economic profiles of the inhabitants

- details of physical conditions and constraints

- specialized technical and financial studies

Project planning and preparation for upgrading will be slower and more meticulous than for new projects. Constant verification between what is produced on paper and what exists in reality will be necessary. The closer that project planning documents reflect the actual physical situation, the smoother actual project implementation will be.

Upgrading projects also require time and follow-through once improved infrastructure and services are installed. This will usually include:

- technical assistance to families rebuilding their homes

- assisting in the planning and organization of community facilities and services

- helping to establish information and cost recovery mechanisms of the project

3. Management at the Delegation Level

a. **The organizational structure** for Regional Delegations is shown in Figure II-2. Four services are indicated which include: Administration, Town Planning, Regional Development, and Housing and Project Implementation. Except for Meknes and Rabat, none of the Delegations visited had professionals who worked exclusively on upgrading projects. Because of the special nature and complexity of upgrading projects, many technicians cited the need to establish a special upgrading unit within the Delegation which would concentrate on these types of programs.

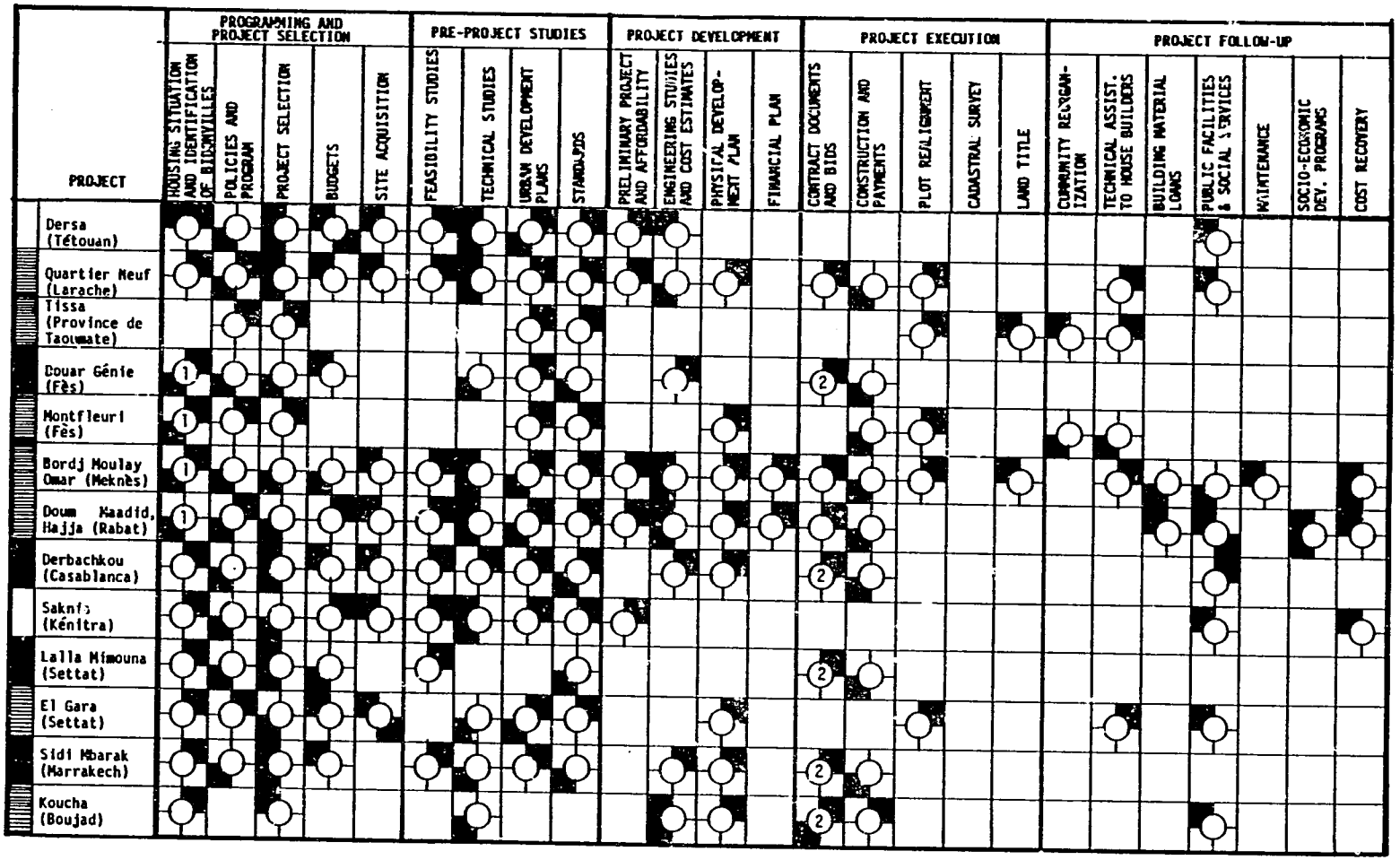
   The lack of sufficient time for adequate research, reflection and discussion of major urban and housing issues facing Delegations has also been cited as a serious concern.

FIGURE II-1

ROLE AND ACTIVITIES OF THE DELEGATION IN UPGRADING MARGINAL NEIGHBORHOODS
(Based on experience from case studies)

LEGEND

- Under study
- Under construction
- Planned intervention completed
- Activity undertaken
- Role of Delegation
  - Initiate
  - Execute
  - Follow up
  - Support/Control

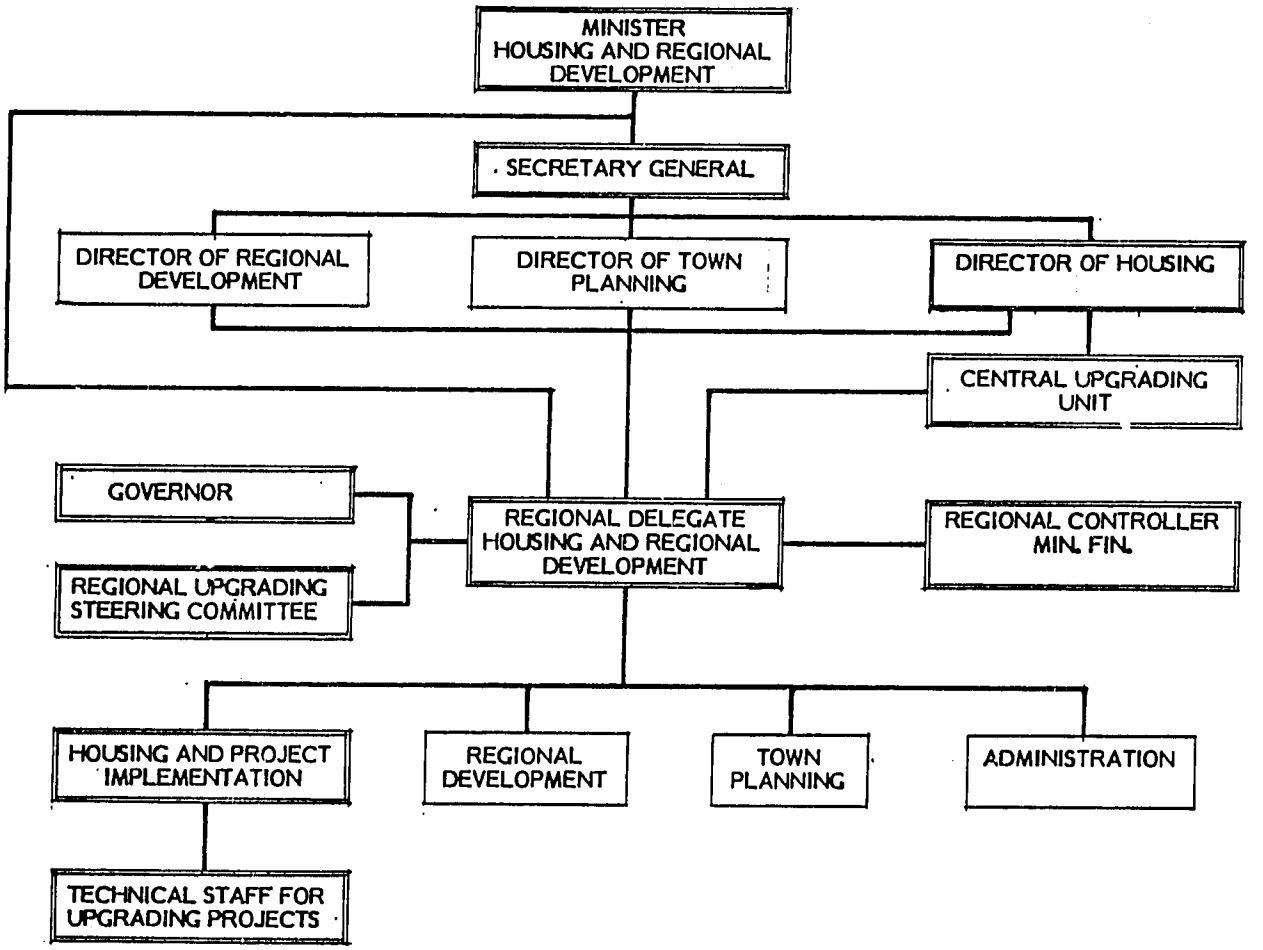


1. In collaboration with preparation of Master Plan with consultants

2. Implementation with Promotion Nationale. Bids include only materials

FIGURE II-2

ORGANIZATION OF REGIONAL DELEGATIONS



b. **Steering Committee.** Since upgrading can involve many agencies, it is recommended that an Upgrading Steering Committee be established in each Delegation to coordinate activities. Possible membership could include:

- The Governor - Chairman
- The Regional Delegate of MHAT - Vice Chairman
- Presidents of Municipalities or Communes
- Representatives of the Ministries involved in upgrading
- Representatives from selected upgrading projects

In addition to coordinating activities Steering Committees could also assist Delegations in:

- setting policy and priorities for upgrading projects
- establishing a long-range programs
- identifying project activities
- monitoring project implementation

c. **Management procedures.** Because there is also a high turnover of professionals within Delegations, it is important to begin to use actual projects to foster better organizational and instititutional development. Potentially useful management procedures to achieve these goals are:

- Determine the responsibilities, level of effort, and personnel skills required for different project tasks.
- Determine external and internal constraints. Some potential project bottlenecks and measures to overcome them are listed in Figure II-3. While development constraints will vary for each project, several problems seem to be common to the management of upgrading projects. These can be divided into external and internal project constraints:

  - External Project Constraints

    - changes or delays in project selection
    - difficulties in acquiring title to the land
    - lack of nearby primary infrastructure
    - lack of cooperation or coordination between institutions responsible for the installation of public facilities and services
    - serious physical or urban planning constraints
    - inadequate experience and capacities of contractors (e.g. Promotion Nationale)

  Internal Project Constraints

    - lack of sufficient project direction
    - inadequate research and reflection on the problem

- poor project conception and follow through
- lack of qualified professionals and staff
- lack of supporting materials and/or adequate transportation to the project site
- poor organizational control
- lack of operational control

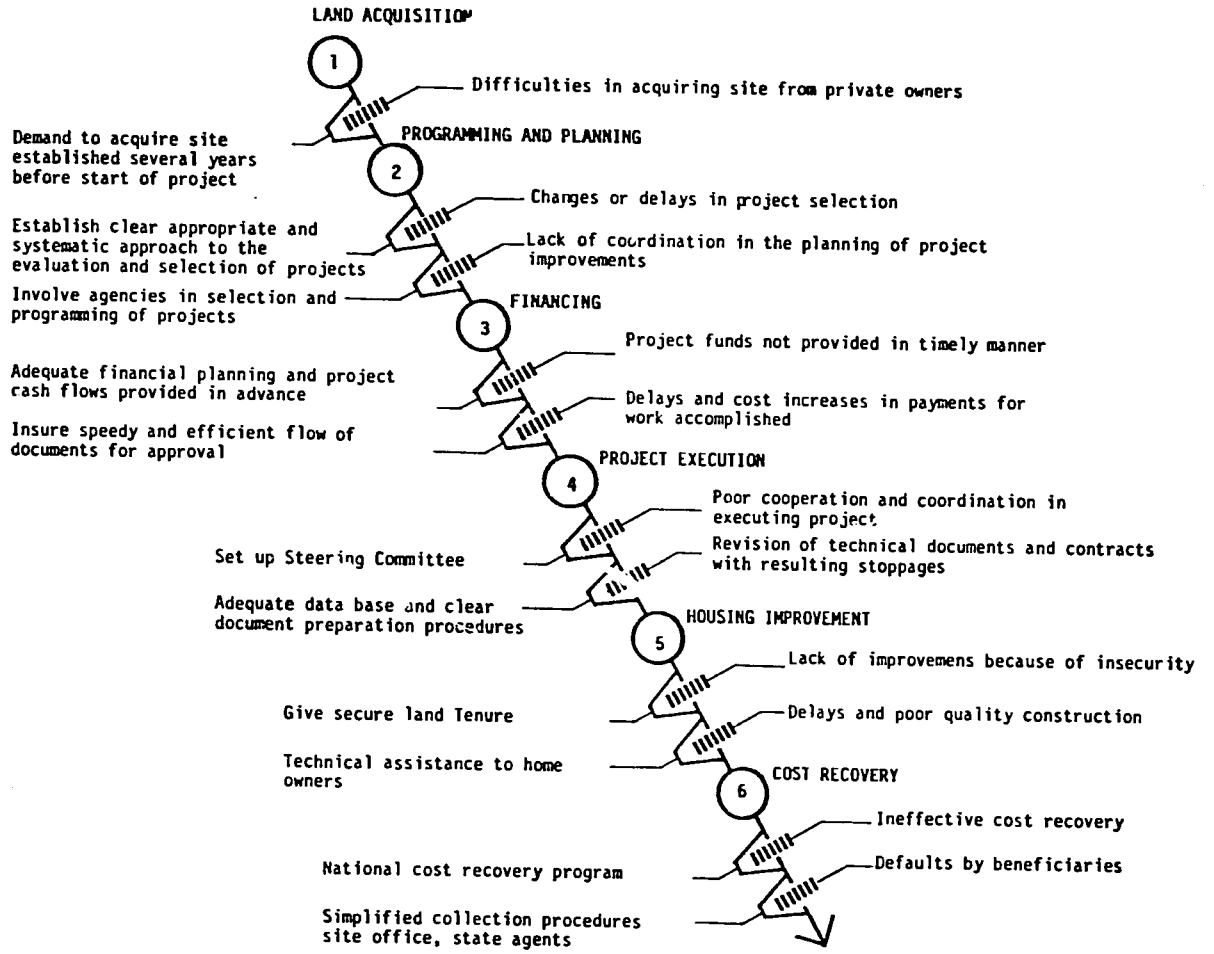
To overcome these constraints a **realistic** project work plan and schedule must be established. From this plan several alternative approaches can be evaluated:

- **Work flow chart.** This will show the interrelationships between various subtasks and indicate which of these can be done independently, which require prior performance of others, and which can most efficiently be done as a group.

- **Project schedule.** A schedule that will identify major project tasks, the estimated manpower requirements for each task, the period in which the performance of the task should be completed, and key project milestones or due dates. It should also indicate a plan and dates for project review and evaluation.

FIGURE II-3

POTENTIAL PROJECT BOTTLENECKS AND MEASURES TO EXPEDITE PROJECT IMPLEMENTATION



RESPONSIBLE AGENCIES AND MINISTRIES

1. Ministry of Finance; Service De Domaine
2. Ministry of Housing and Regional Development
3. Ministry of Finance; Cred
4. Regional Delegations of MHAT; Local Anthourities
5. Ministry of Housing; Financial Institutions
6. Financial Institution; Ministry of Finance

SECTION B: PROJECT PREPARATION

CHAPTER III: PROJECT SELECTION AND PROGRAMMING

CHAPTER IV: PLANNING AND DESIGN

CHAPTER V: COMMUNITY PARTICIPATION

CHAPTER III

PROJECT SELECTION AND PROGRAMMING

A. OBJECTIVES

The main objectives of actual project preparation should be to:

- Improve procedures for long-range programming of upgrading activities at both the national and local levels. A systematic approach to programming will assist the Ministry and Delegations in the selection, phasing and budgeting of residential improvement programs.
- Determine the appropriateness and potential of proposed sites for upgrading activities.
- Identify deficiencies of project neighborhoods to assure that programs are designed to meet the specific needs and requirements of project residents.
- Monitor and evaluate ongoing projects to assure that goals and objectives are achieved and to provide input for planning future activities.

B. PROCEDURES

Since upgrading is not always the appropriate solution to the problems of an area, the merits and needs of each situation should determine program design. A process has therefore been devised to assist Delegations in identifying upgrading projects. The approach should allow national and local priorities and programs to be established making the best use of available financial and human resources. The main elements of the process are:

1. Project Selection

a. **Development potential profile.** The selection of upgrading areas can often be determined by looking at the vulnerability of its residents. Vulnerable communities are less likely to be upgraded successfully. Three types of vulnerability can be considered:

- **Physical vulnerability.** Communities located in unsafe or inhealthy environments. For example, bidonvilles located in quarries can be physically vulnerable.
- **Economic vulnerability.** A bidonville in a central location on desired land could be considered economically vulnerable, because of pressures to clear the land for another use.
- **Political vulnerability.** For visual or security reasons even an upgraded neighborhood would not be acceptable to the government.

In ascertaining community vulnerability, a Development Potential Profile can be worked out. The main steps of which are:

- identification of unsafe or unhealthy environmental conditions which make residents physically vulnerable:
  - flood plains or low lying areas
  - steep sites with unstable soil or former quarries with unstable side walls
- identification of planning or cost considerations which create economic vulnerability.
  - uneconomically high development costs because of existing conditions such as high water table or steep slope of site
  - sites having high commercial or economic value as another use
- Identification of considerations which create political vulnerability:
  - residential use not compatible with the city master plan
  - the site having been programmed for a needed public facility
- Identification of the existing physical and human elements of a community which indicate potential for successful development. Three groups of indicators have been identified:
  - human assets such as education, employment and community participation
  - capital assets such as land tenure, type of housing construction and availability of credit
  - permanence such as the age of the community, household composition and length of time in the community

Table III-1 is an example of a form which can help to identify possible neighborhood vulnerability and evaluate and score development potential. A high score indicates a better chance for successful upgrading.

b. Needs profile. An inventory of public services can provide a measure of community needs. The following services can be used to establish a needs profile:

- **Infrastructure services**
  - Water supply. Access to safe, potable water at reasonable prices is essential. The standard is the number of families served by a source and the distance to that source.

TABLE III-1

DEVELOPMENT POTENTIAL PROFILE

A. COMMUNITY VULNERABILITY

1. Physical Vulnerability	Yes	No
a. Are there any existing conditions at the site which create a risk to the health or safety of residents or extensive damage to personal property?		
b. Is the area subject to flooding on a regular basis?		
c. Is the community located on a steep slope which is subject to land slides during the rainy season?		
d. Is the community located next to an unstable embankment or cliff?		
e. Will the project create environmental or pollution problems to natural resources important to the larger community.		
f. Are there other conditions which could present a risk to resident? If yes, what? _____ _____		

2. Economic Vulnerability	Yes	No
a. Are there existing conditions which will create an uneconomically high development costs? If yes, what are they?		
b. Does the site have high commercial or economic value as another use?		
c. Are the other economic considerations which would make upgrading undesirable? If yes, what? _____ _____		

3. **Political Vulnerability**	Yes	No
a. Is a residential use compatable with the Urban Master Plan for the city. b. Is the site programmed for a needed public facility? c. Are there other political considerations which would make upgrading undesirable? If yes, what? _____ _____		
4. Can any of the above conditions be corrected at a reasonable cost?		

B. COMMUNITY PROFILE

1. **Human Assets**	% or #	Value	Score
a. Education (years complete by head of household) None 1-5 5+			
b. Employment status (head of household) Unemployed Employed in temporary or seasonal jobs (vendors, laborers, migrant workers) Employed in secure jobs (civil servants, craftsmen, professionals, industrial workers)			
c. Community involvement (number of active community organizations) None 1-3 4+			
SUBTOTAL			

2. **Capital Assets**	% of #	Value	Score
a. Land tenure No secure tenure (squatters on private land -- no documentation) Potentially secure tenure (squatters on public land -- or on private land with contract of sale) Secure tenure			
b. Housing conditions temporary structure (nonpermanent or used building materials) Traditional structure Improved structure (masonry or partial masonry)			
c. Access to credit Number of credit and savings mechanisms available to the community None 1-2 3+			
SUBTOTAL			

3. **Permanence**	% or #	Value	Score
a. Length of time in community (for households) Less than 1 year			
b. Household composition Single member or single parent households 2 parent households			
c. Age of community 0-5 years 6-10 years 11+ years			
SUBTOTAL			
TOTAL			

- Sanitation. Human waste disposal has long been recognized as a central requirement for healthy living conditions. The percent of total of plots served by a system is the standard used to determine need.

- Drainage. Storm drainage and sanitary waste disposal are frequently combined in Morocco. The percentage of total length of circulation system served is used as the measure of need.

- Solid waste disposal. The collection of solid wastes directly affects the health of a neighborhood and the efficiency of the drainage system. The percentage of plots served by a system is used as a measure of need.

- **Social services**

  - Education. Educational attainment is an important public service which directly affects present and future economic potential of the individual. The percentage of school age children attending school is the standard.

  - Health. The quality of health within the community should be of great concern as it directly relates to human productivity. Standard need is one dispensary for each 15,000 persons.

Table III-2 provides a form for establishing a needs profile and score for each community.

Most of the data for the Profiles can be obtained from a combination of maps, aerial photos and field surveys. Urban Master Plans, utility companies, and government ministries are additional sources of information. Estimates can also be made based on other areas with similar physical characteristics for which data is available or from discussion with community leaders.

2. Basic Policy Questions

Since there likely will not be sufficient funding or manpower to implement all proposed projects at the same time, setting priorities for activities will be required by the steering committees. Among the policy decisions to be made are:

- Will first priority be given to areas with greatest need or to those with the highest development potential since there is likely to be little correlation between the greatest need and greatest potential. This will be a policy tradeoff in which there is no precise answer.

- Is it better to provide "limited services" which can be upgraded in the future to a large area or to provide a complete set of improvements at a high standard to a smaller area at one time? The argument for the installation of limited services is that it can have some beneficial effect on the widest number of people, but this approach runs the risk of not concentrating the improvements sufficiently to have a lasting effect. The

TABLE III-2

NEEDS PROFILE

1. INFRASTRUCTURE SERVICES			
	Standard	Scoring	Score
Water Suply	1 Standpipe (Source)/ 100 plots	1/100 or less = 100 for each additional 2 plots, reduce 1 point (Example 1/200 = 50)	
	Plot within 50m of source (including individual connections)	1 point for each % of plots within 50m	
Sanitation	Service to all plots	One point for each % of plots served	
Drainage	All streets and pedestrian ways served by drainage system	One point for each % of total length of circulation system served	
Solid Waste Disposal	Collection and disposal of all solid waste	One point for each % of plots served	
Access to Transport	Access to plot by foot path. Vehicular or emergency road within 50m of plot	One point for each % of plots with 50 meters	
2. SOCIAL SERVICES			
Education	All eligible children in school	One point for each % of children in school	
Health	1 clinic for each 15,000 residents	One point for each % of residents served	
		NEEDS PROFILE SCORE	

argument for concentrating improvements is that it will have a significant impact on those areas selected even though it means postponing reaching other neighborhoods.

- What are the political realities to be considered? Is it necessary, for example, to select neighborhoods which represent geographic or political subdivisions of the city or special interest groups which require attention in a given year. While accepting those factors in project selection, it is still necessary to determine the content of the individual projects on the basis of technical considerations.

- What is the share of the development budget to be allocated to the upgrading programs in a given year?

- What is the actual implementation capacity of a Delegation and other agencies to undertake upgrading projects in the given year?

- What are the implications of other development projects outside of the upgrading program which may influence the selection process? For example, if a new water supply main is being installed adjacent to a possible project area, it may be more efficient and less costly to upgrade the neighborhood at the same time.

When these policy, budgeting, organizational, and planning questions are answered the criteria for project selection will be in place. The selection process can focus on those communities which have not been eliminated by the criteria on a purely technical basis.

3. Programming

a. **The programming process.** The programming responsibility is divided between the Central Upgrading Unit and the Regional Delegations.

- The basic programming steps which would be the responsibility of the Central Unit are:

  - A methodology would be established as to how the Needs and the Development Potential Profiles are to be prepared.

  - The minimum essential standards and the desirable maximum standards would be set for upgrading sites.

  - The overall policy guidelines would then be established in the form of Project Selection Criteria.

  - A tentative long-term program should be established based on:

    - current estimates of financial resources

    - planning capacity

  - implementing capacity
  - priorities set by Regional Delegations
- Establish a national budget for upgrading activities

- The Regional Delegations would be responsible to:
  - review the methodology and criteria established by the Central Unit
  - apply the Needs and Development Potential Profiels to all potential upgrading sites
  - establish an overall set of priorities for projects within the Delegation

Figure III-1 shows the various steps to be followed by the Delegations in the programming of upgrading activities.

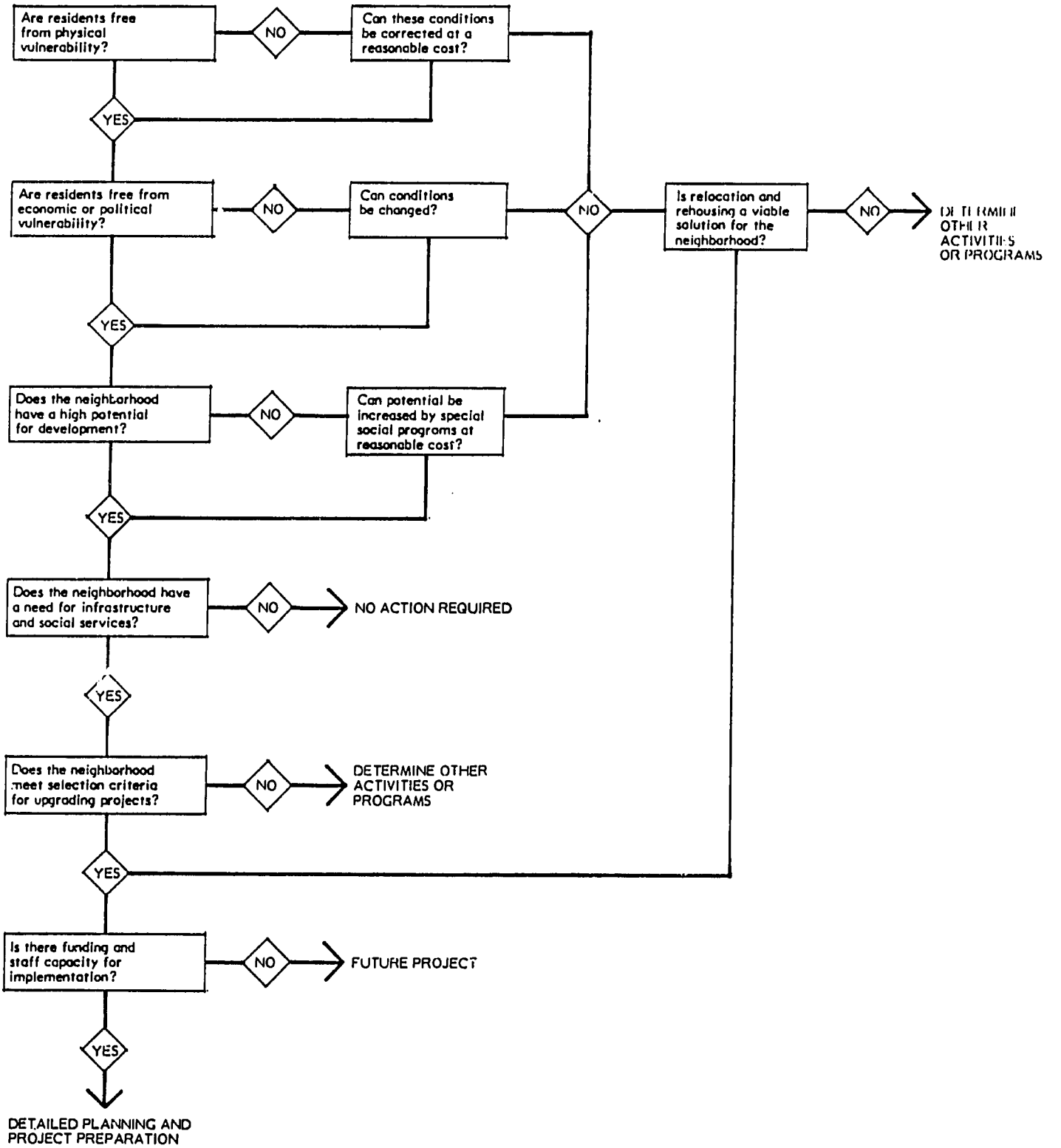
Since no detailed planning or budgeting has yet been done, the program at this point is only indicative of the scale of the effort which will have to be made. Detailed planning would then begin on priority projects.

b. **Annual review procedures.** As the primary policy body for the Delegation, the Steering Committee would meet to review progress, make policy decisions and revise the long-range program according to experience gained to date. The Delegation Steering Committees would perform the following tasks:

- monitor the experince of the improvement programs during implementation
- review the long-term program for the entire region annually and make modifications as required based on experience to date
- determine the available financial resources from MHAT for the coming year along with the planning, administrative, and technical capacity for implementation
- based on the conclusions of the three items above, they would determine the sites to be improved in the coming year
- identify those sites likely to be improved in the following year and start detailed planning and project preparation
- make specific agreements with each of the implementing departments and agencies as to their program of work within the sites selected for the coming year
- prepare reports for the review and approval of the Central Unit and MHAT

FIGURE III-1

SITE SELECTION PROCESS



4. Monitoring and Evaluation System

Programming activities should allow for feedback into the system from the experience gained through the implementation of projects. This activity could be handled by the Central Upgrading Unit since it can look objectively at a wider range of projects and disseminate findings to the Delegations. Inputs from the Delegation review procedures can assist the Central Unit to monitor on going activities.

The detail and scope of an evaluation will vary according to the size and complexity of upgrading activities, but the basic steps to be followed are:

- Establish goals and objectives for the project. This should be done when the activities program is established. (See Chapter 4.) The goals should be as specific as possible including physical social and economic activities to be achieved as well as the projected time frame in which they are to happen.

- Set a schedule for review of progress during the implementation of the project on at least a quarterly basis to identify problems in early stages and make adjustments where necessary.

- Conduct formal review at the completion of the project which can evaluate how well the overall objectives were achieved and make recommendations for the improvement of future programs. For selected projects, a more in-depth evaluation with the help of outside consultants such as university groups could be undertaken.

CHAPTER IV

PLANNING AND DESIGN

A. OBJECTIVES

The objectives of the project planning and design process should be to:

- Improve planning procedures to develop a package of improvements that will meet the physical, social and economic needs of residents
- Set standards so that improvements will be affordable by project residents
- Improve management and scheduling to permit efficient planning of project activities
- Improve quality of project documents to reduce problems and need for changes during implementation

There are major differences in the planning and preparations of upgrading projects around the country:

- larger projects financed by international organizations are based on extensive surveys, technical information and financial analysis to support detailed plans for improvements
- less extensive and sometimes inadequate project preparation has been done for smaller upgrading projects

Some problems observed in the planning of projects include:

- lack of an overall development program for upgrading
- design and installation of a sanitation system or street improvement with no definite conception of what other activities will follow
- little attention given to the social and economic problems associated with squatter settlements and coordination of activities with other agencies
- insufficient attention to detail and site conditions in the design of infrastructure systems

B. PROCEDURES

The problems of low income neighborhoods require the development of a broad based improvement program, capable of coordinating a variety of human and financial resources phased over time. The PMB program has dealt almost exclusively with the upgrading of the physical environment which provides relatively short term, highly visible improvements but does not provide a basis for large scale social and economic upgrading. The principle elements for project planning and design are:

- design of a settlement improvement package
- affordability analysis
- critical path analysis and phasing of implementation
- preparation of technical documentation

I. The Settlement Improvement Package

In order to formulate a comprehensive program of improvements, four major program areas must be considered:

- physical infrastructure
- social services
- economic programs
- home improvement

The improvement package should include a description of each program with preliminary cost estimates, source of funding and listing of agencies responsible.

a. **Physical components** of a settlement improvement package are:

- **Water supply.** Safe, adequate water supply is usually the highest priority improvement to be provided in a settlement. The technical solution selected, however, needs to reflect the consideration of the costs of providing services, maintenance, danger of pollution and consumption requirements. Options for water supply are:

  - Individual connections to a piped water supply. Because of the costs involved, it is questioned if this should be the immediate standard for bidonville upgrading or a future improvement to be initiated by the community.

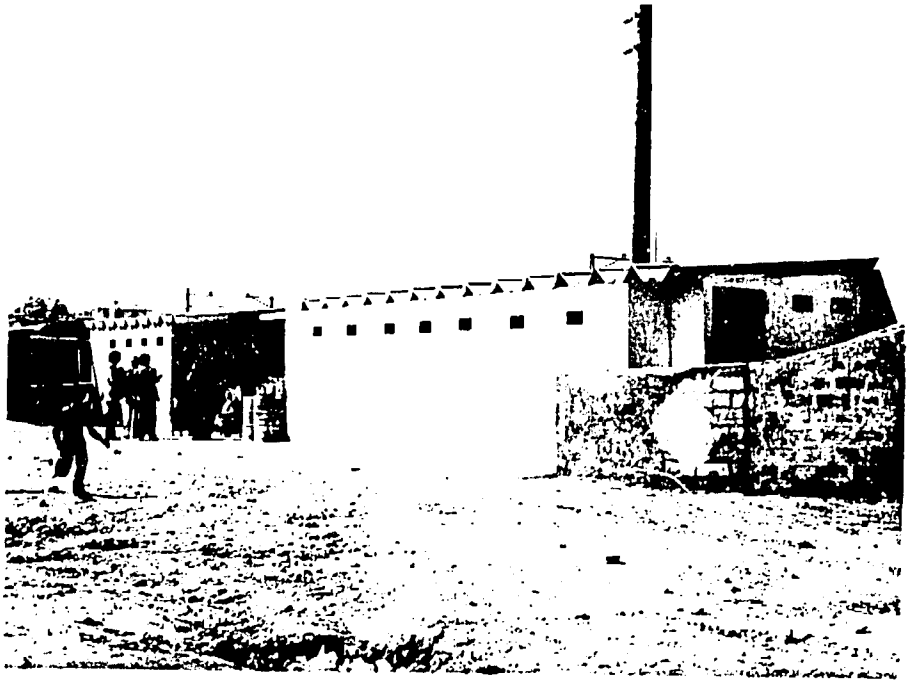
  - Public stand pipes. If a piped water supply is available for expansion into the neighborhood at reasonable cost, a standpipe system is usually the safest and best system. If designed correctly, it can be easily expanded in the future.

  - Underground water. Water from wells or springs may be the only option in more rural settings. Care needs to be taken so that sources do not become polluted.

- **Sanitation and drainage.** Human waste disposal is one of the most difficult problems facing cities everywhere and it is particularly difficult in squatter settlements because of high densities and difficult physical conditions. At present, the basic options are:

This is one of seven public standpipes serving the residents of Lalla Mimouna in Settat. While a system of standpipes is economical to install, operating costs may be high to the municipality due to waste and no means to collect user fees

In Meknes piped sanitary/storm sewer system is being installed. The water distribution system for individual connections will be installed in the trench



In Casablanca public toilets and showers along with standpipes and laundry facilities have been provided for residents of Derb Bachkou. The facility is connected to the city's sanitary sewer system.

- Piped sanitation/drainage system connected to the city system. While this is an expensive option, it is a good long-term solution presently available for most Moroccan cities. Because of high density of most marginal neighborhoods, on plot solutions such as septic systems are not technically feasible.

- Communcal sanitation units. Public toilets and showers are used in some projects. This is usually a temporary solution until households can install private sanitation facilities.

- **Vehicular roads.** Road construction standards and procedures are well established in Morocco. The problem is to select the minimum vehicular road system and standards necessary to meet the needs of individual neighborhoods. There are two types of vehicular roads which may be needed in upgrading projects:

  - Access roads which will link the settlement with the overall transportation system

  - Service roads which permit vehicular access to residential areas for deliveries, garbage collection, fire and police protections, emergency health services, etc.

- **Pedestrian ways** can provide the main circulation in upgrading projects and should be surfaced with drainage to permit all weather use. The paving of pedestrian ways also provides an opportunity for self-help work on the part of residents.

- **Solid waste disposal.** Every effort should be made to see that the upgrading area is well integrated into the city's overall collection system and that service is maintained at a high level. (See Chapter X)

- **Electricity** is often given low priority when establishing project activities since it is not vital for health reasons. It can, however, provide positive impacts of street lighting and improve living conditions and should be considered depending on the income level of project residents.

b. **Social program components.** The successful introduction and development of social services will take a long time (measured in years as opposed to the months it takes for construction of physical facilities). Therefore, strong links need to be established with those organizations and agencies which provide social services to assure their support and involvement with project activities. These include:

- **Educational services.** Providing primary education for all children in a community could be a principle goal for all projects. Facilities are needed for:

  - Preschool education - M'sids. These schools consist of one room with a recreation court and support facilities and handle two classes each day. The government standard is one M'sid for every 220 families.

- Elementary education. Sufficient classroom spaces should be provided in or adjacent to the project for at least the same percentage of project children as for the city as a whole. The usual norm is 40 students per class with the possibility of double sessions.

- **Health services.** The main source of health services will be from neighborhood dispensaries which are concerned with out-patient services, hygene, nutrition and family planning. Government standard recommend one dispensary for every 15,000 persons.

- **Other public and private services.** There are several other public and private services which are desirable for the community, including:

  - youth centers
  - women's centers
  - sport fields
  - recreation facilities
  - mosques
  - public baths
  - bakeries
  - commercial shops or markets

While the government may not become involved in providing these facilities, land should be made available wherever possible.

c. **Economic program components.** The economic components of an improvement program are intended to lead directly to an increase in community productive capacity and income which results in an increased effective demand for more and higher quality services. A successful economic development program should eventually allow neighborhoods to join the mainstream of the urban population. Thus, the economic program components provide a link which, along with public services and infrastructure, creates a development cycle. Graphically, this cycle is shown in Figure IV-1. The economic components can be divided into two groups:

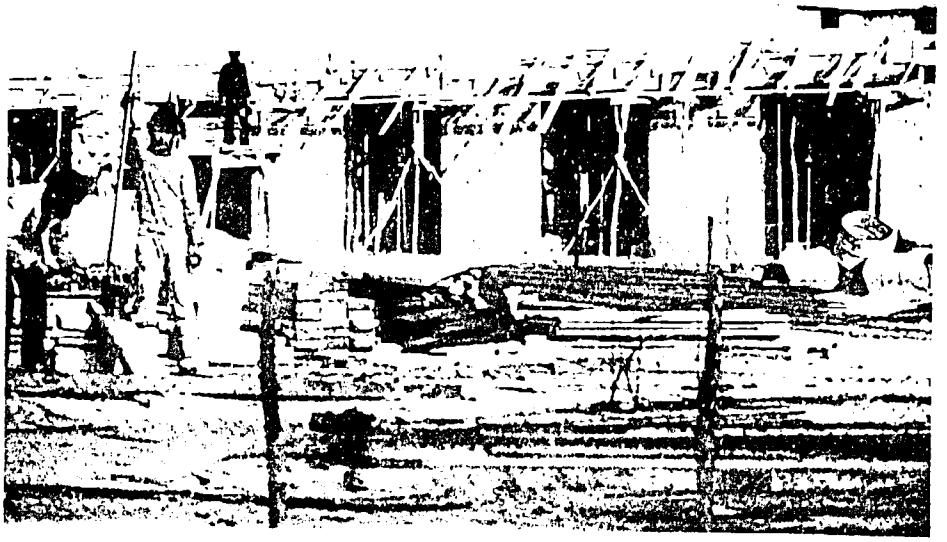
- **External Components** include general public and institutional policies and activities which apply to a larger area and are not controlled by the project staff.

  - Public investment policies should be reviewed on a project by project basis to assure that they do not unnecessarily harm the economic structure of settlements, but rather improve it.

    An example of how public policy can adversely affect neighborhood economic structure is the previous attitude to keep the situation "temporary" by not recognizing land tenure and by prohibiting construction in permanent materials. These restrictions kept residents from making personal investments to improve their situation.

Vehicular roads provide access for residents and for the delivery of services and materials

The pedestrians ways in Derb Bochkou were paved through the cooperative efforts of neighborhood residents

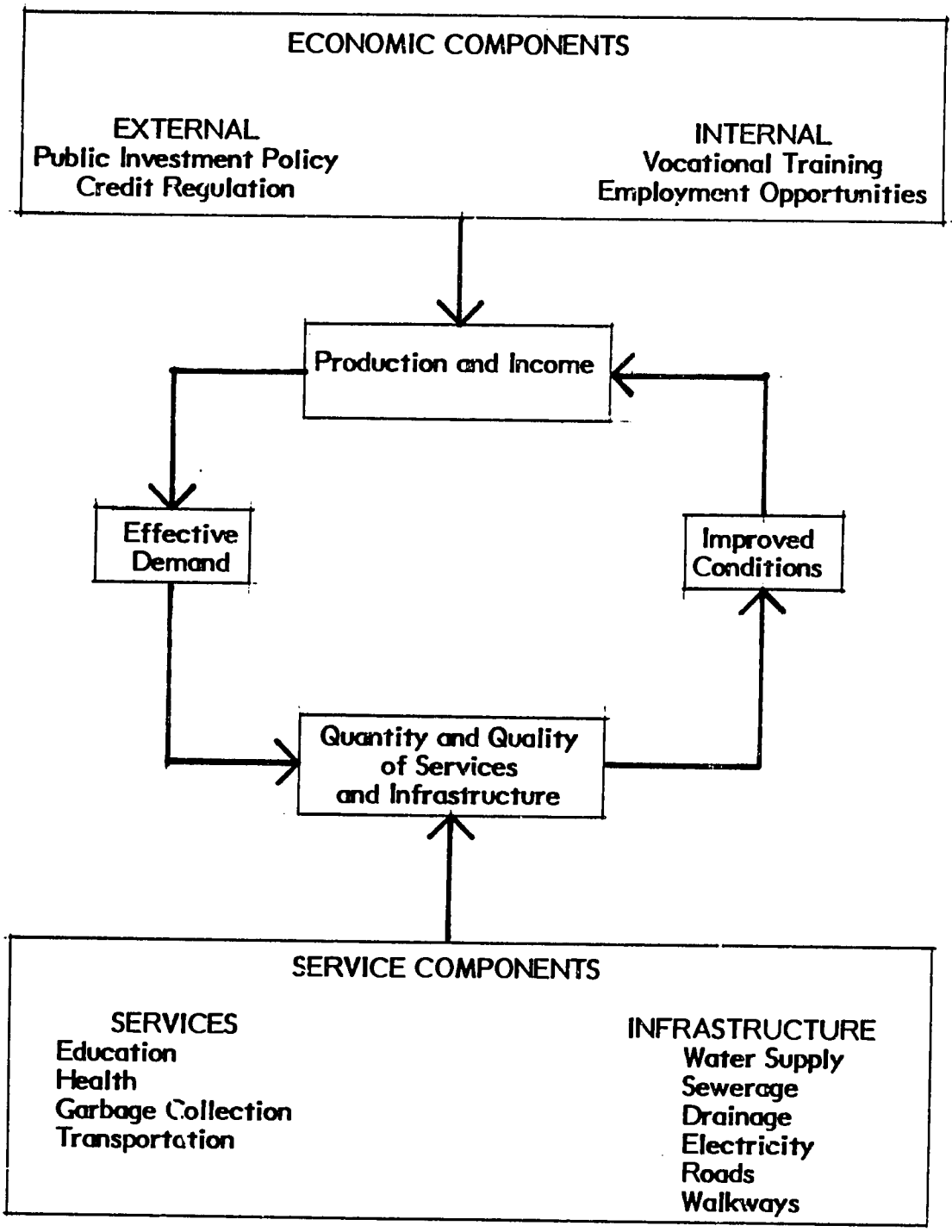


Commercial space is one of the amenities being provided as part of the Rabat upgrading project

A branch office of the Banque Populaire will serve the residents of the Doum Project and increase their access to formal credit

FIGURE IV-1

DEVELOPMENT CYCLE



- Credit institutions and policies have systematically excluded low income squatter residents since they normally have neither full ownership of land nor deposits in these institutions. Furthermore, the normal banking institutions do not seek to provide services through small branches or simplified and personalized services.

- **Internal components** include activities which can be initiated and monitored by project staff as part of an improvement package

  - Vocational training centers such as:

    - an education center for young women where they can learn basic craft skills such as sewing and embroidery

    - a professional training center which provide courses in general mechanics, electronic repair, construction and weaving etc.

  - Employment opportunities can be provided in upgrading areas by the creation and marketing of industrial parks for small scale industries as part of overall projects

d. **Home Improvement Programs** are a vital element in successful projects. There are two types of home improvement activities:

- technical assistance which includes the provision of house plans and assistance with permits and building activities

- financial assistance which can provide small loans to finance labor and materials for housing construction or improvement. These programs are discussed in more detail in Chapter VIII.

2. Affordability Analysis

Based on cost estimates of the various elements of the package, it will be possible to determine if the package is affordable by the target population.

a. **Standards.** It may be necessary to adjust standards or the scope of improvements to bring the package into line with the financial capacity of residents. Standards should not be so low that they will require high future maintenance costs, or so high as to be irrelevant to the real needs and desires of the population.

b. **Model for affordability analysis.** Several approaches to analyze project affordability are now being developed of which the PADCO/Bertaud Model is probably the most advanced. This simple mathematical model has been under development for some time and is based on the results of planning experience in several developing countries. The Model is useful to:

- determine the affordability of the project by the target population

- o obtain an immediate and thorough understanding of the implications of a wide range of project possibilities based on different values and combinations of project parameters

- o provide a rapid analysis of the relations between financial terms, design standards, costs and land use

While the model was originally developed to aid in the preparation of sites and services projects, it is now being adapted to upgrading projects as well. Figure IV-2 shows how modification of this approach can be manually applied to upgrading projects.

3. Critical Path Analysis and Phasing of Implementation

A detailed analysis of the implementation process for a project will identify the critical elements which must be completed in order to proceed with other phases. The basic steps of the procedure are:

- o identify the most critical steps of project performance and estimate the amount of time required to complete each activity

- o determine the longest sequence of time needed to accomplish these critical steps which becomes the critical path

- o schedule all non-critical activities to fit within this sequence

4. Preparation of Technical Documents

Work can usually proceed immediately with the first phase components in order to move them into the tendering and construction phase as rapidly as possible. The design of other elements can then be completed at the appropriate time in the schedule. The design and start-up of social and economic programs must also be coordinated with physical improvements. Table IV-1 shows the basic documents required for the preparation of technical documents and indicates the level of precision required for each type of document. Accurate engineering drawings can:

- o minimize field decisions and changes;

- o reduce cost increases; and

- o reduce construction delays.

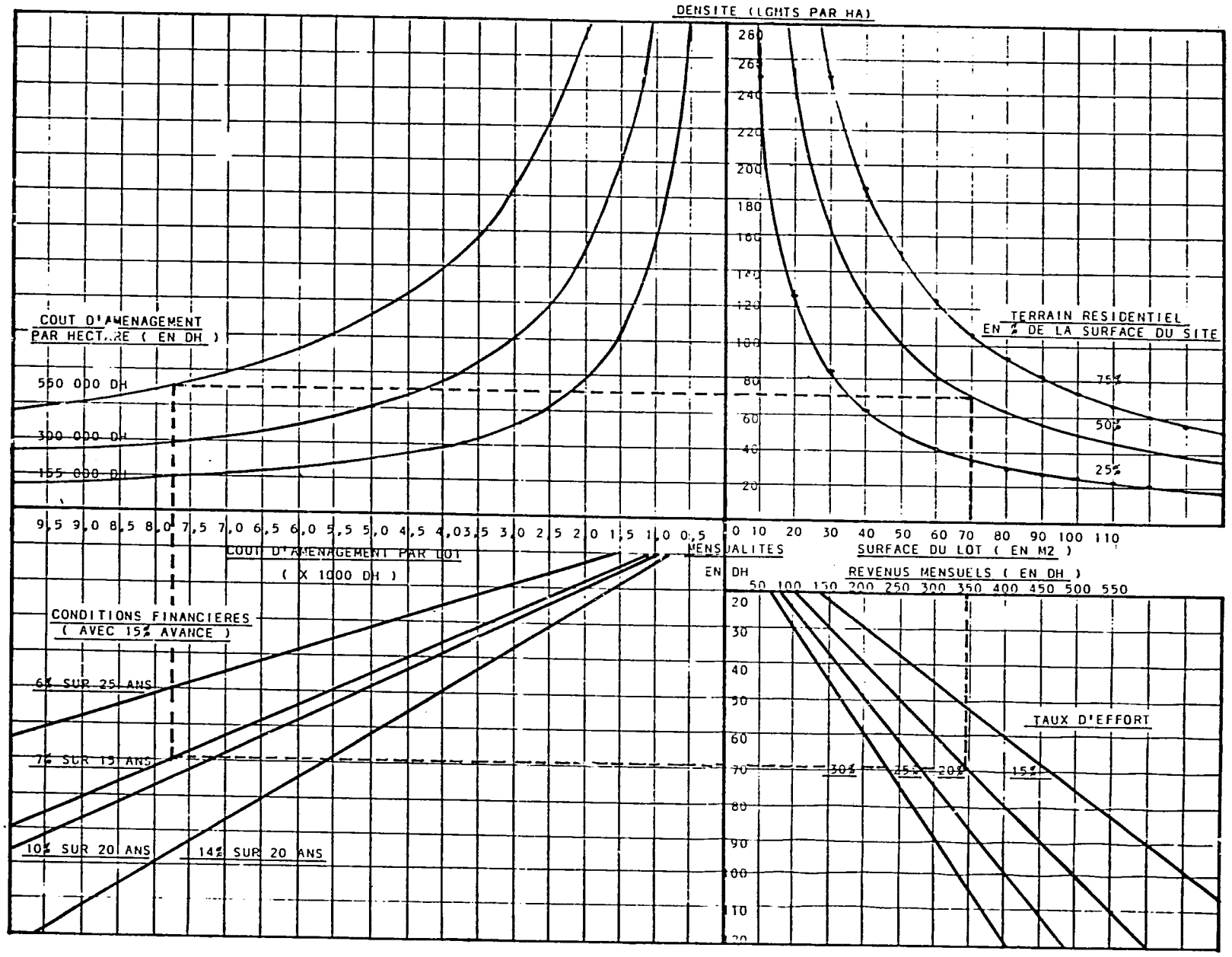
a. Areas where it is important to have accurate information are:

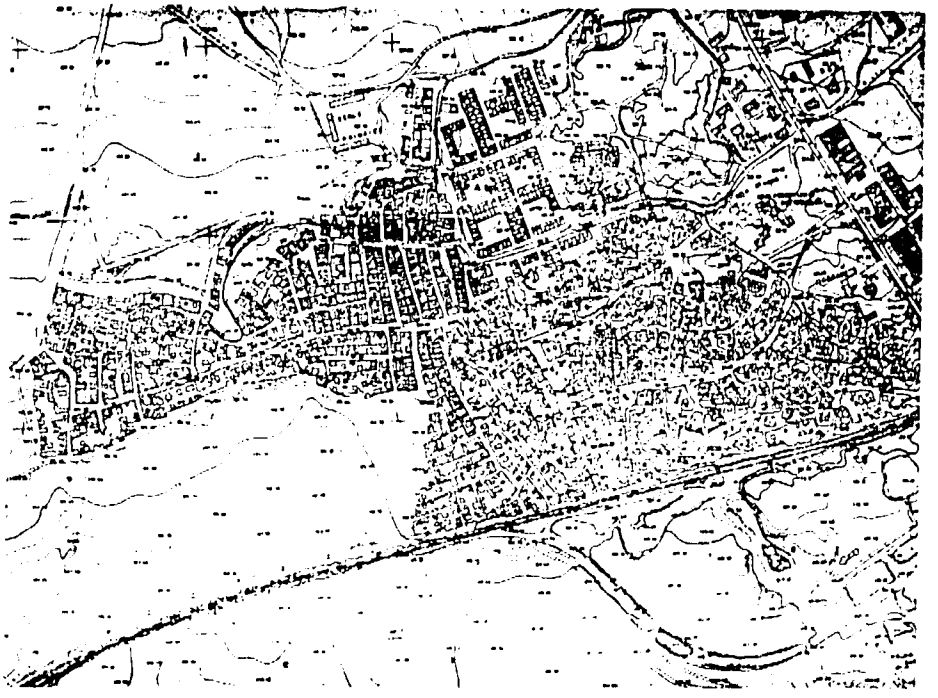
- o **Base plans** since these will be used for all the other more detailed studies to follow. Care should be taken to consult all possible sources of information and to field check or survey questionable data.

- o **Topographic data** is important particularly for steep sites where wrong information can result in the redesign of systems

FIGURE IV-2

AFFORDABILITY ANALYSIS FOR UPGRADING PROJECT





DETERMINE EXISTING CONDITIONS

An accurate base plan of the upgrading site is important for all the studies and decisions to be made during project design. The plan should indicate the physical features including topography, buildings, circulation and open space

It is important to determine soil conditions since installation of services is complicated by rocky sites

TABLE IV-1

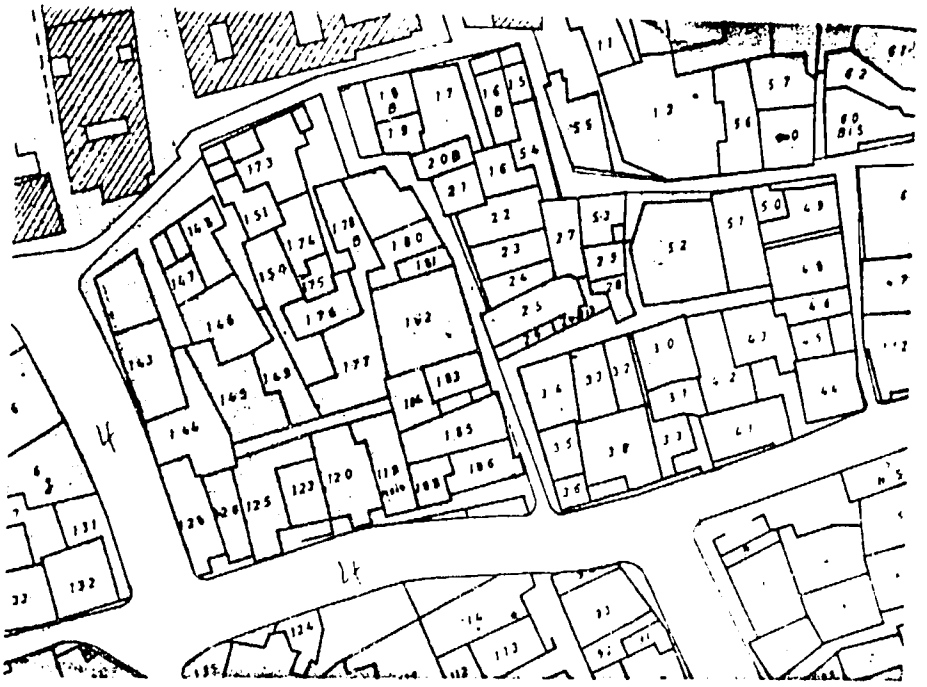
DESCRIPTION OF TECHNICAL DOCUMENTS FOR OF UPGRADING PROJECTS

DOCUMENT	DESCRIPTION AND USE	LEVEL OF PRECISION NEEDED	PRIOR PREFERENCE DOCUMENTS REQUIRED	REMARKS
Proposed land use map	- Used to establish zoning and cross subsidy possibilities	- High precision not required; can be based on field survey, aerial photographic interpretation	- Land use map of existing conditions - General area map - Plan d'amenagement	Propose land use should be consistent with the plan d'amenagement
Site plan map	- Used as base map for all physical improvement work - Should note clearly all housing units to be demolished - All utility extensions, modifications or installations - All public facilities to be installed and location for land preparation	- High precision needed since will serve as base for engineering studies	- General area map - Existing infrastructure and facilities map - Topographic surveys	The accuracy of information on this plan will influence the accuracy of full following plans and studies
Plot plan map	- Will show proposed plot lines in relation to existing housing - May include description of land tenure policy, sales, etc.	- High precision needed since it will serve as base for land tenure	- Aerial photographs - Cadastral surveys	A separate file and plan will be required for each plot to be registered
Detail maps	- Where appropriate if roads, footpaths, utilities, etc. require special treatment	- Need very high precision because drawings will be used as base maps for engineering studies	- Site plan map - Field Surveys	Should be done at appropriate scale to clearly convey information
Engineering drawings +CPS Cost Estimates	- For all construction and specifications - For feasibility studies - For all proposed contract work	- Drawings and specifications should be sufficiently precise to prevent major cost revisions and overruns - Medium precision for feasibility studies. High precision for final estimates.	- Site plan map - Plot plan map - Engineer drawings	- Should be done at appropriate scale - Usually done by consultants - Includes quantity - Takeoffs by item

The topography of the site must be considered in project design to avoid undesirable consequences

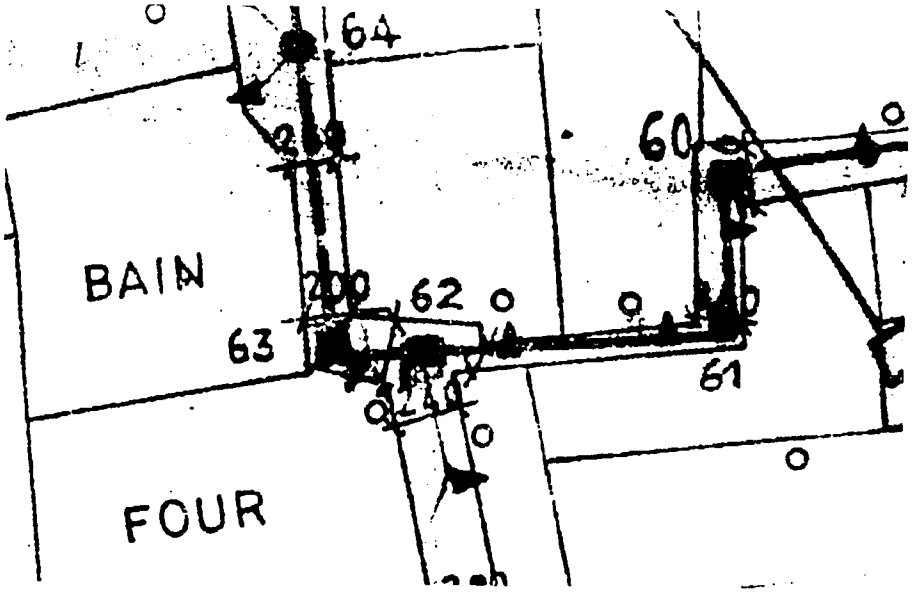
A steep site (grades over 15 percent) can have special problems such as erosion and providing access and services

Flat sites while easier to develop and service can have problems of drainage and flooding



Vehicular roads should be kept to a minimum since they cause disruption of the community and relocation of residents. It is important to locate roads so that houses are razed on only one side of the street

Pedestrian ways are easier to integrate into the fabric of the neighborhood since they are not as wide as streets and need not be straight



Planner should be careful not to leave pedestrian ways which are so narrow or crooked as to create problems with the installation of services and the access of equipment

- **Data on soil** conditions is needed since rocky or sandy conditions will require special equipment or techniques and perhaps more time to complete the work

- **Cadastral information** is needed for the granting of titles restructuring of plots and installation of services

A brief discussion of two important sources of information follows.

5. **Aerial Photographs**

a. **The use and interpretation of aerial photographs** is the fastest, easiest and most direct way to establish a sufficiently accurate data base for upgrading projects and to relate all useful physical data to map. Through photo-interpretation, it is possible to identify and quantify essential information such as:

- site access and adjacent development
- topography
- land use within the bidonville
- number of houses and their size
- prevalence of different building materials
- presence of certain municipal services

Recent photographs of bidonvilles to be upgraded will give a very good idea of the density and help determine the most appropriate approach to restructuring plot limits. For bidonvilles which will not immediately be upgraded, it is possible to make an estimate of the actual and saturated density which will be helpful in planning future public facilities.

b. **Tools which can be used with aerial photos.** The value and results of the photo interpretation approach can be enhanced in several ways.

- **Use of stereoscopes.** Since professional aerial photographs are taken to be viewed stereoscopically, even the use of a simple pocket stereoscope will provide a quick and clear understanding of the topography of a difficult size and serve as an important tool for improving planning decisions for roads and sewer systems.

- **Photographs from airplanes.** Another way to increase the usefulness of older existing photographs when there is no possibility of obtaining new ones, is through the use of oblique photographs taken from a small plane or helicopter with hand held camera. This could be a relatively inexpensive way to record the present situation and to verify plans and maps.

- **Orthophotomaps.** When compared to normal topographic maps, orthophotomaps also present a relatively fast and inexpensive photographic base document for planning an upgrading project. These maps are made from photographs which are mechanically "flattened out and usually include contour lines and the precise location of major elements.

- **Enlargements** of aerial photographs are often useful in the early planning of a project. Even though the scale of an aerial photograph varies throughout, its average scale can be established and used.

Ultimately, the effectiveness of the photo-interpretation approach will depend on the skill and dedication of the interpretors. Since "local knowledge" and the possibilities of verifying results through ground control are very good, it should be possible to obtain excellent results.

6. **Socio-economic Surveys**

a. **Scale of the survey.** Often socio-economic surveys are too ambitious in scale and try to collect data which will not be needed or used in the planning and implementation of the upgrading project. A complex questionnaire will take longer to administer, often resulting in reduced accuracy, and will require even more time to process and tabulate. In some cases data is collected which is never tabulated.

The size of the sample can also influence the amount of time required to administer and process the survey. A 10 percent random sample of total plots will generally give adequate data for the planning of upgrading projects.

b. **Types of information** which can be useful to project planners and could be included in a survey are:

- Socio-economic profile of project residents including data on:
  - size and type of families
  - primary and secondary sources of income
  - employment
- The preceived needs and priorities of project residents
- The future intentions of residents such as their desire to stay in the neighborhood and what types of improvements they are willing to make to their houses

This information will be useful to project planners in selecting and scheduling project activities and in determining the feasibility of various proposals.

CHAPTER V

COMMUNITY PARTICIPATION

A. OBJECTIVES

Community involvement can contribute to the successful realization of upgrading projects. The main objectives of community participation are:

- Involve project residents in the planning process to assure that the project meets their needs, priorities and aspirations
- Provide training and assistance to help residents receive the maximum benefit from project activities
- Create pride in the community which will result in care and maintenance of project improvements
- Give input to technicians and officials for the design and evaluation of the project

The most successful and active projects are those with strong support from community residents. It does not appear, however, that formal efforts have been made in most cases to organize the community. Rather, individual architects or planners representing the Delegations have gained the trust and support of residents who were initially suspect about the intentions of the government.

Community involvement and good relations between officials and residents are needed from the beginning of the upgrading process through all stages of project realization and follow-up. People will be willing to make the commitments required to rebuild their houses and improve their neighborhoods only if they have confidence in the long range viability of the project. Listed below are some of the advantages of the active community participation.

- priorities, needs and desires of the community can be communicated and incorporated into project designs
- better and more accurate results can be obtained from socio-economic surveys
- residents can be more tolerant of inconveniences and helpful during implementation if they have helped to determine activities
- residents can organize and execute mutual self-help improvements
- during cadastral surveys residents can help resolve differences concerning plot lines and work out solutions among themselves
- residents can provide mutual assistance to facilitate the rebuilding of their houses
- better maintenance and upkeep of project improvements can result

B. PROCEDURES

There are no set procedures which will work in all cases, but following are some basic steps or activities which might be considered in building community participation.

1. Determine Previous Community Organization Activities

If other agencies are already active in an area, it may be possible to work with them or to build on what they have done. If there is no involvement project planners may want to:

- contact the Ministry of Social Affairs to ascertain what assistance may be available
- determine who are recognized community leaders
- determine what informal organizations exist

2. Initiate Contact with the Community to start the Planning Process

This first involvement is very important since it may set the tone of the continuing relationships. There are several approaches to the first contact:

- Have local authorities arrange a meeting with community leaders to introduce the Delegate and staff and explain possible upgrading activities and needs for community input.
- A more informal approach was used in Larache, where the survey team spent a week in the neighborhood before beginning the official census of residents. They were available to answer questions: explain the project, give advice, listen to suggetions, and allow residents to get to know them. When the team stated the survey, they had excellent cooperation from families and were able to complete their work with no problems.

3. Establish Neighborhood Committees to work with Project Team

Project committees should be selected by residents or designated by leaders of existing organizations. For a small project a single committee will likely be sufficient, but for larger projects it would be useful to have several committees to give support and guidance for the various components of the project such as:

- planning and design of the project package
- implementation of the infrastructure component
- implementation of the social and economic components
- land tenure process and problems
- housing improvement
- maintenance of project improvements

The benefits of cooperation among residents to facilitate house construction is illustrated in Laroche where a family has moved in with the next door neighbors while the basic structure of their house is completed. They in turn will open their house to the neighbor when he is ready to build

The pedestrians ways in Derb Bachkou were paved through the cooperative efforts of neighborhood residents

As described in Part I, an example of a successful and active community organization with several committees is the cmicale for the Montflueri neighborhood in Fes. There are several positive community based activities taking place that would be useful to other delegations.

4. Maintain close contact with the Project Committee

This can be done by working out of a project office on the site or by scheduling visits to the site on a regular basis.

5. Strengthen Community Organizations

Strong organizations can assist with the upkeep of physical improvements and with the continued development of social and economic activities. If people have been involved in the selection of upgrading components and in their realization, they are more inclined to be involved in the upkeep and protection of these improvements.

SECTION C: PROJECT EXECUTION

CHAPTER VI

BIDDING AND CONSTRUCTION

A. OBJECTIVES

The objectives of improving bidding and construction procedures are to:

- Minimize administrative time required for tendering procedures to move the project rapidly into the construction phase
- Assure that conditions of the contract are complied with and that the work is competently executed
- Assure that work on each phase is completed efficiently and according to schedule and that the various elements of the project are coordinated to provide maximum benefit
- Assure minimum disruption and inconvenience to residents during implementation
- Encourage hiring of project residents where possible to provide employment and training opportunities

A review of upgrading projects and discussions with Delegation staffs indicate that procedures for tendering and construction administration are well established and working reasonably well in most cases. There are some examples of delays in the approval of contractors and payment procedures but recent administrative changes have corrected some of the problems. Therefore, contract administration will be briefly outlined followed by a review of conditions unique to upgrading projects that require special attention.

B. PROCEDURES

1. Construction Administration

There are a number of things that can be done to expedite the construction process.

a. **Planning and coordination.** The most important elements are careful planning and good coordination of activities. It is vital that the construction sequence for each project be plotted to identify potential bottlenecks or delays thus permitting advanced planning and preparation so that these critical tasks are completed in a timely manner.

b. **Site office.** It may be desirable to have an office on or near to the project site to permit close contact between project staff and construction activities. In addition to construction administration, many activities can take place from the field office such as:

- distributing information and advice to residents
- conducting socio-economic and cadastral surveys
- collection of fees and/or deposits

c. **Site visits.** Regularly scheduled site visits by the technical staff of the Delegation are important for upgrading projects since there are often decisions and adjustments to be made in the field. The intention is to identify and correct problems before they can develop into major crises. The frequency of visits will be determined by the size and complexity of the project but should be made on a regular basis.

d. **Progress meetings.** Frequent and open communications can help to facilitate the successful resolution of problems. Weekly or biweekly meetings should be held with representatives of interested parties to:

- review progress
- resolve problems
- plan future activities

2. Special Considerations for Upgrading Projects

Upgrading of an area can present special or unique problems or conditions that need to be considered. For example:

a. **Use of Promotion Nationale.** As seen in Part I, the Promotion Nationale has worked very well in some cases, but has had difficulties in other situations. The most successful operations have been the installation of limited sanitation/drainage systems in normal soil conditions since this does not require power equipment or sophisticated techniques. However, assigning Promotion Nationale to install roads has been generally unsatisfactory because they do not have access to large mechanical equipment such as graders, bulldozers and trucks needed to handle the earth work.

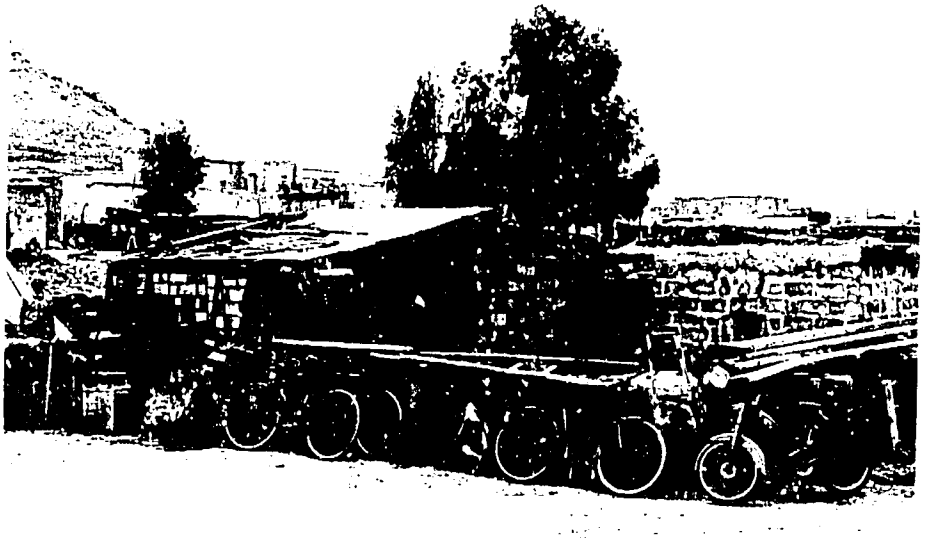
b. **Scheduling and coordination of activities**

- **Minimize inconvenience of residents.** Since it is necessary to schedule work around the life and activities of the community, all materials and equipment should be made available to complete work in one section of the site as expeditiously as possible before moving on the next section. Every effort should be made to minimize the inconvenience caused to residents and to protect their safety.

- **Coordination of connections.** If possible, provisions for connections to the system should be done at the time the system is put in. Since families have not completed improvements to their houses, they are usually not prepared to make a connection to sewer systems when the system is

A field office can serve as a symbol of the Governments commitment to upgrading of the neighborhood as well as the center for many activities. In Meknes the field office is centrally located on the edge of the upgrading area. The building provides space for field staff, survey teams and community workers as well as a place where residents can come for assistance. Ticket windows are provided to facilitate making of payments.

In Settat a tent was used as a site office for a rehousing project which served not only as a construction office but representatives of several agencies such as the Ministry of Health and the Gendarme are available to answer questions and work with project residents

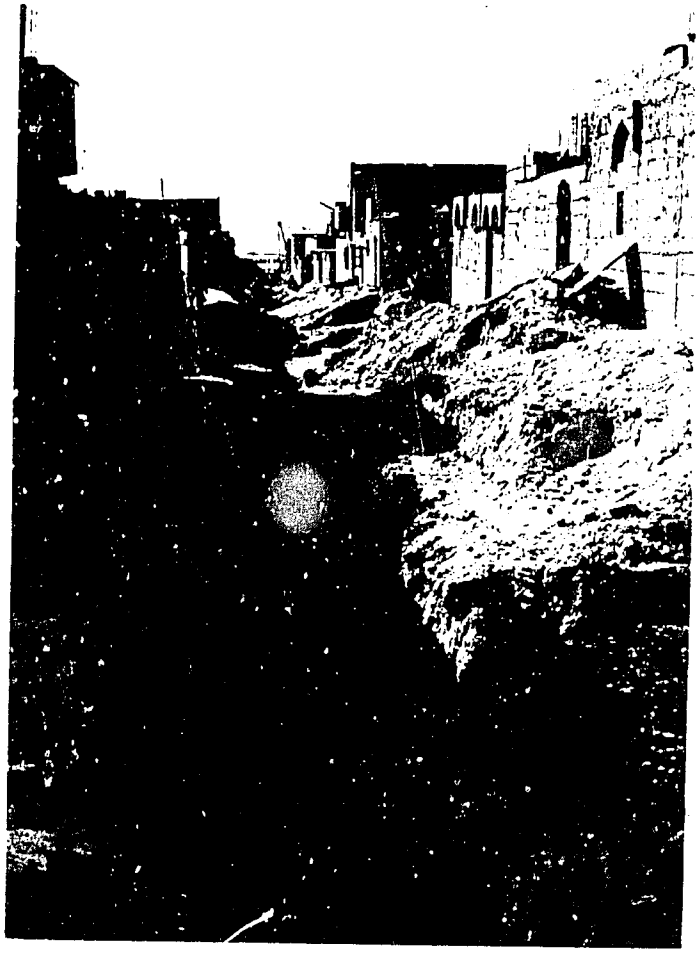


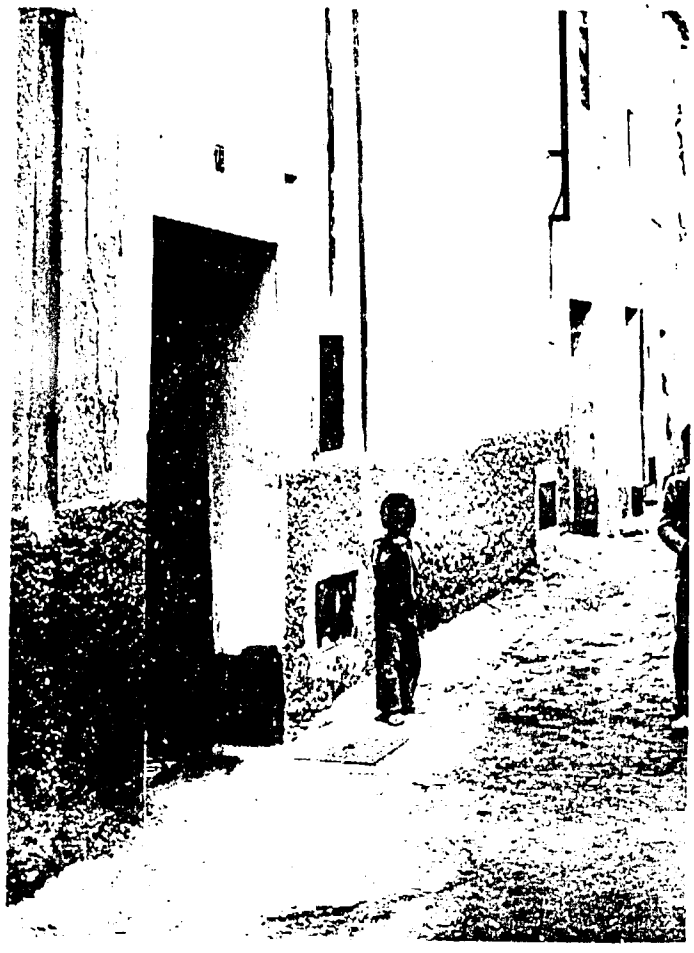
The construction field office for the Akiond/Kondia project in Marrakech has office space, tool storage room, covered work area and a storage yard for construction materials

MINIMIZE INCONVENIENCE OF RESIDENTS

The installation of sewer lines in narrow pedestrian ways can create problems such as finding room to pile earth from the trench and keeping access for residents. In Meknes the trench is located to one side of the right-of-way to leave space for a path. Metal bridges are provided at appropriate locations.

Once work has started it should be completed in an efficient manner so as to limit the inconvenience to project residents



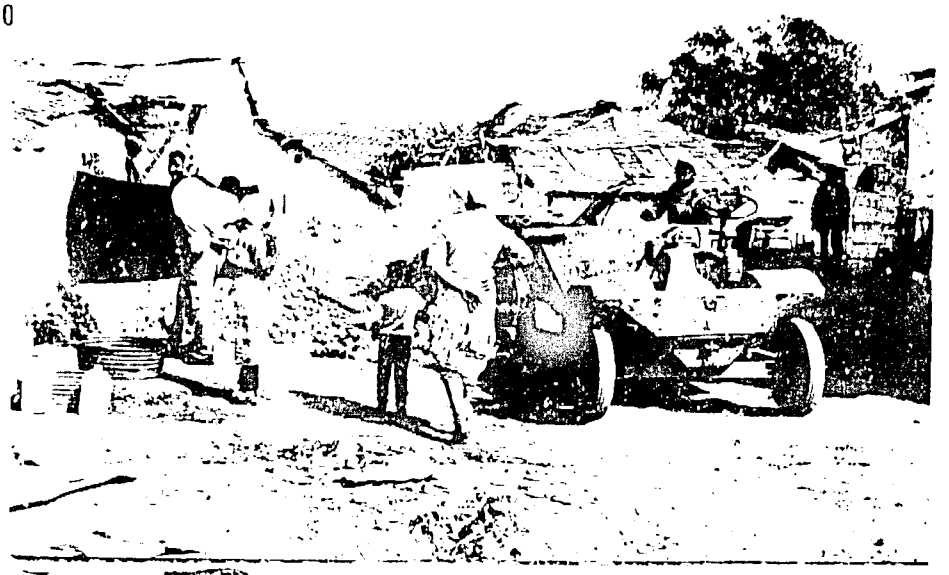


COORDINATION OF CONNECTIONS

Different approaches for connecting households to sewer lines are illustrated by three projects. In Settat some connections were made at the same time as the installation of the main line

Individual connection boxes were provided for one or two houses when the system was installed in Sidi Mbarak. Residents could then complete the connection when they are ready.

In Meknes manholes were provided at appropriate locations to permit future access by residents



Access of equipment into the neighborhood can be difficult and at times impossible unless some families are relocated as was done in Meknes

A new road is being built in Doum to permit access of equipment and materials for upgrading activities

The streets in Quartier Neuf have not been paved because of potential damage by house construction activities. Also the storm drains have not yet been connected since the system would fill with sand from the unpaved streets.

installed. Connection boxes for every two or three houses or appropriately located manholes could be provided which will permit convenient access to the system without breaking into the pipe.

- **Access to the site.** Because of narrow pedestrian ways and at times steep sites, access into upgrading areas can be difficult. It may be necessary to relocate families and race their houses in order to install services and gain access for equipment. Digging trenches in rocky sites is complicated by the fact that explosives cannot he used because of the close proximity of houses.

- **Protecting finished work.** Work should be sequenced so that work already accomplished will not be disrupted or destroyed by later activities. The subsurface installations should be done first with street grading and final paving as the last activity. Streets cannot be left unfinished for a number of years, but as long as residents are continuing to build and improve their properties, the likelihood of damage exists.

- **Relocation of families whose plots are needed for project activities.** There must be sufficient lead time for the new plots to be serviced and any construction such as core houses or enclosure walls completed. Delegations have established procedures where trucks and some assistance are furnished to dismantle the shanty and to move the family and their belongings to a new site all in one day. The shanty is then reassembled as temporary shelter.

c. **Employment and training opportunities.** One of the goals of an upgrading program is to improve the economic condition of project residents which can be done by giving people jobs and opportunities to improve their skills while improving the neighborhood in which they live. While it is not practical to require that all or most workers be neighborhood residents, contracters and the Promotion Nationale can be encouraged to hire local workers.

CHAPTER VII

LAND TENURE

A. OBJECTIVES

The main objectives for a land registration program are to:

- Establish who lives where and what belongs to whom
- Establish a plot identification system and numbering system which can be used not only for project implementation but also by individuals and agencies for deliveries, services collections and taxes
- Legalize tenure by giving documentation of proof of plot ownership
- Encourage private investment in housing construction and project improvement and maintenance as a result of secure tenure
- Make the project "permanent" by assuring people they will be allowed to stay and can legalize their housing situation

The importance of giving or at least assuring residents that they will receive title cannot be over-emphasized. There are many examples from the case studies where bidonville families have with their own resources built substantial one and two story structures out of permanent materials once they have assurance of secure tenure.

In bidonvilles which have been upgraded but where the question of land tenure has not yet been resolved, there is little private investment in housing.

B. PROCEDURES

1. Restructuring of Circulation Patterns and Plot Boundaries

Before looking at procedures for land registration and titles, it is important to determine the basic approach to be used in restructuring the project. There are two approaches which will have very different results.

a. Change the existing layout only when required for access or to permit the installation of needed services and utilities. Some adjustments of plot boundaries may be required along newly opened circulation paths or for particularly irregular plots but most plot layouts would not be changed.

b. Completely restructure the property lines in the settlement to create regular plots, usually the same size, before giving titles and allowing residents to build. The process is usually accomplished over several months or even years on a block by block basis, thus requiring a substantial commitment of staff and funds.

A combination of approaches is possible in a project depending on the existing conditions. Table VII-1 illustrates how restructuring has been handled in selected upgrading projects in Morocco. The restructuring of clandestine neighborhoods can be accomplished by a combination of the two procedures as illustrated by Montfeuri in Fes. Figure VII-1 illustrates procedures for the restructuring of plot limits in a neighborhood with irregular plots.

2. Land Registration

In Morocco, a clear division of responsibility has been established between MHAT and the Service de Domains relating to the acquisition and sale of land. The Ministry is responsible for:

- o initiating proposed transactions
- o all technical studies and documentation required

Service de Domains is responsible for:

- o the actual sale or purchase of the property
- o transfer of deed or title

A brief description of the procedures for sale of plots follows with special emphases on the role and responsibilities of the Regional Delegations. These steps are based on the assumption that the upgrading site is owned by MHAT.

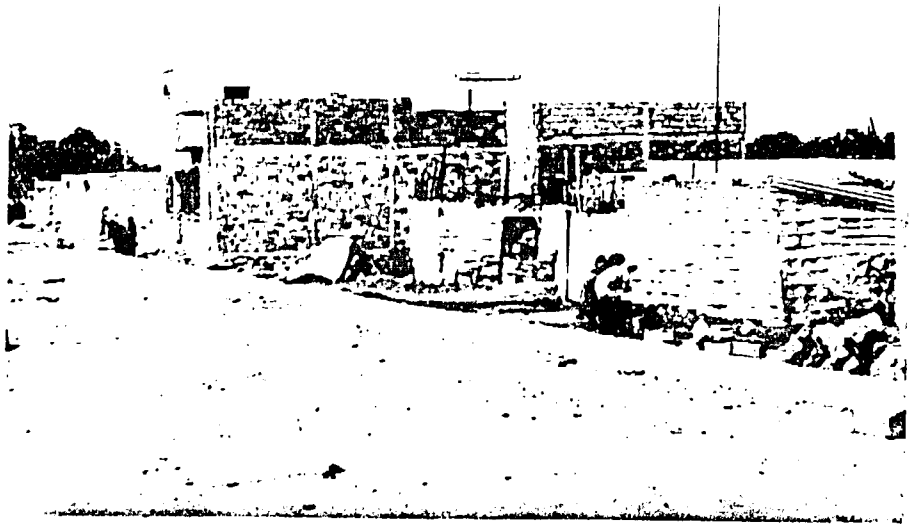
a. **Establish a registration unit** appropriate to the size of the settlement to be surveyed. A single team of two or three persons will be sufficient for a small site while several teams working together will be needed for a large site. Teams should be composed of members with complementary disciplines such as:

- o a planning technician for collecting technical data
- o a social interviewer for administering questionnaires
- o technicians to survey and stake the plot where required

Practical and project oriented training should be provided for team members before going into the field. This can be done by visiting other Delegations or by the Central Unit.

b. **Supervise field teams** to avoid errors and resolve problems before they become major.

c. **Complete field survey.** The first experiences in the field should be carefully checked to make sure the desired results are being achieved by the team and adjustments made to correct problems. The team should move through the area block by block making sure that one is completed before moving on to



There are many examples of the commitment of both time and money bidonville residents are willing to make when they are assured of secure tenure for their plot

TABLE VII-1

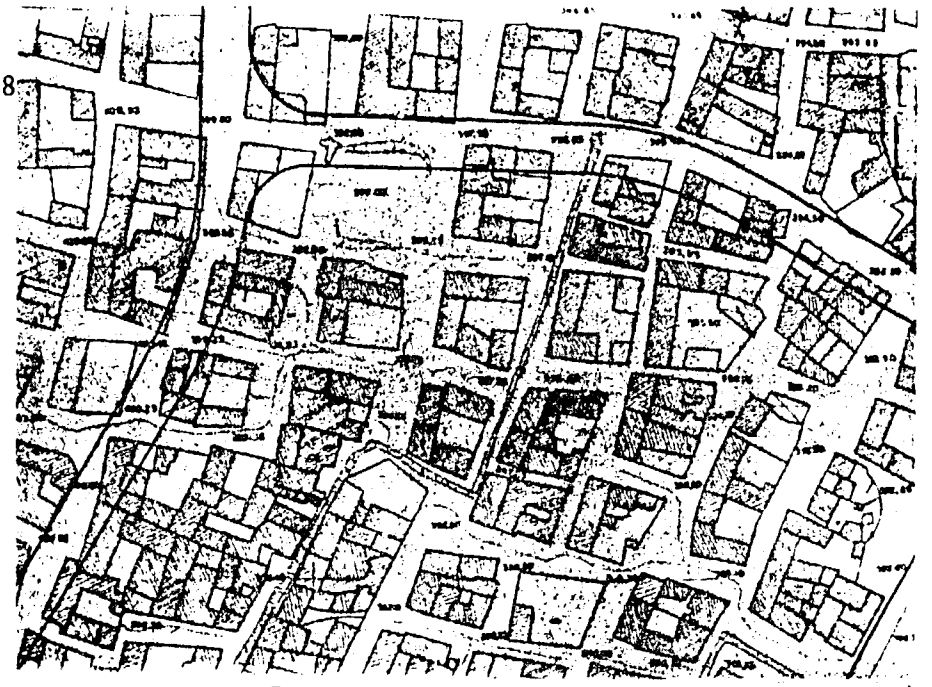
DESCRIPTION/ANALYSIS OF PLOT RESTRUCTURING IN MOROCCAN UPGRADING PROJECTS

BIDONVILLE/ NEIGHBORHOOD	SITE CONDITIONS	DENSITY OF CONSTRUCTION	CONSTRUCTION MATERIALS	RESTRUCTURING APPROACH APPLIED	REMARKS
Quartier Neuf Larache	Flat, no major site constraints.	Low density; loosely organized, spaces between houses.	Lightweight pole and corrugated tin construction easily moved, dismantled and rebuilt.	Regular 80m^2 plots set out on open land in Bidonville; individual families move to these new plots freeing old ones to be realigned for another family; restructuring on individual and progressive basis depending on capacity of family to build.	Because of small size of Bidonville and low density of construction approach works well in this situation.
Dersa Tetouan	Steep slope; rocky.	Medium to low density; loosely organized; spaces between houses.	Solid masonry construction of two or more stories; brick walls with concrete frame. Cannot be moved or easily modified.	Except for those houses in proposed road ROWs houses will not be modified; no restructuring has yet occurred.	New plot lines can be established in spaces between houses. Need to establish methodology to determine plot limits in a fair manner.
Tissa Taouanate Province	Basically flat; no major site constraints.	Low density; fairly large courtyards; continuous outer walls. Few spaces between houses.	Traditional mud block construction with thatch roofs; walls must be torn down and repaired to be modified. Cannot be moved.	Each family given same regular sized plot; one plot per family. Overall subdivision plan superimposed over existing situation; upper floors of new concrete houses built over existing mud houses which are then torn down.	Approach requires considerable cooperation between neighbors and care in laying out plan. Small first phase of project has already been successfully implemented.
Douar Genie Fes	Flat; no major site constraints.	Very dense housing construction; rather regular layout; virtually no spaces between buildings.	Traditional Wattle and Daub construction with tin roofs. Houses can be modified but not easily moved.	Restructuring of Bidonville has not yet occurred. Intention is to rehouse families living on plots considered too small to allow future improvements.	Because of rather regular plot shapes and block dimensions may be able to restructure plot lines on a block to block basis using several typical house plans.
Ben Souda Fes	Flat no major site constraints	Medium dense housing construction; irregular layout; little or no space between houses.	Traditional mud block or Wattle and Daub construction with tin roofs. Can be modified but not moved.	No restructuring has taken place. Some families will have to be displaced because of extremely small plot sizes.	Because of rural-irregular layout, plots will be realigned in place once infrastructure is in place. Wide main roads could allow development of commerce.
Montfleuri Fes	Very large site; basically flat or gently rolling; some streams; otherwise no major site constraints.	In built up areas, construction is rather dense. Many small subdivisions do not yet have construction on them. Majority of site undeveloped.	Most housing of reinforced concrete and cement block construction; some small rural style hamlets of traditional Wattle and Daub construction. Most houses not easily modified.	No restructuring done where houses already exist. Unauthorized subdivisions are studied and redrawn if necessary according to sound planning considerations. Established for different rights-of-way.	Because most of site is not yet built up, plots can be realigned before construction takes place.

TABLE VII-1 (Continued)

DESCRIPTION/ANALYSIS OF PLOT RESTRUCTURING IN MOROCCAN UPGRADING PROJECTS

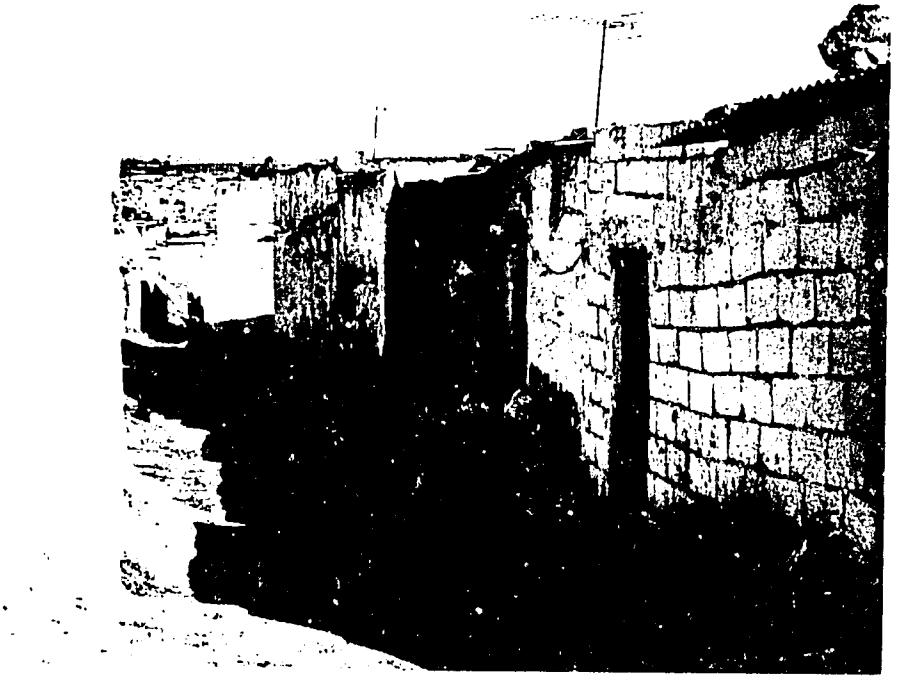
BIDONVILLE/ NEIGHBORHOOD	SITE CONDITIONS	DENSITY OF CONSTRUCTION	CONSTRUCTION MATERIALS	RESTRUCTURING APPROACH APPLIED	REMARKS
Bokdj Moulay Omar Meknes	Sloping site; rocky soil; and outcroppings.	Relatively dense housing construction with irregular pedestrian ways and plot shapes and sizes.	Mostly wattle and daub with tin roofs and some tin walls	Majority of existing plots will not be changed. Some families have been relocated to provide space for circulation and services. Families on plots smaller than $40m^2$ can relocate to larger plot. Small plots will be combined. Some infill plots in vacant land.	Individual house plans for the irregular site will be provided to each owner by the Delegation.
Doum Rabat	Steep slope with rather difficult site	Dense housing construction; virtually no spaces between houses.	Mixed use of materials; wattle and daub; tin; poor quality concrete block walls.	Sewer lines, pathways and stairs have been installed but no final idea of plot restructuring established. Plots less than $40m^2$ have been identified and families may either move to rehousing area or be rehoused in Bidonville.	Because of steep slopes and high density, restructuring would be difficult and costly. This is probably one of the most difficult sites in Morocco.
Hajja Rabat	Site is hill, slopes on all sides; difficult site conditions	Very dense housing construction; no spaces between houses.	Most units built in high quality modern materials to two and three stories.	Only minor changes in the site layout were done to accommodate the installation on needed service.	Because of the high quality of housing construction, major restructuring of the plot layout would be prohibitively expensive.
Derb Bachkou Casablanca	Basically flat no major site constraints	Medium density; irregular pedestrian ways. No space between houses.	Mixed use of materials; wattle and daub, tin, wood poles.	Sanitary sewer system installed and pedestrian ways paved. Will restructure plot lines within the blocks defined by the circulation. Restructuring has not occurred.	Because improvements have been made to the existing irregular circulation pattern, this will be retained.
Lalla Mimouna Settat	Moderate slope, some rock outcroppings	Medium density irregular pedestrian ways and plot shapes.	Rough laid stone walls; mostly flat roofs.	Some families were relocated to create a vehicular road system. Plots facing roads will be restructured but interior plots will not be changed.	This combination works well since plot line need to be adjusted because of the disruption caused by the roads.
Sidi Mbarak Marrakech	Flat, no major constraints	Medium density; fairly regular circulation pattern. No space between houses.	Mud block walls; mostly flat roofs. Few houses of concrete frame and cement block.	No real restructuring of plots since they are more or less regular and of adequate size.	Because the site layout functions quite well, there is no need for change.



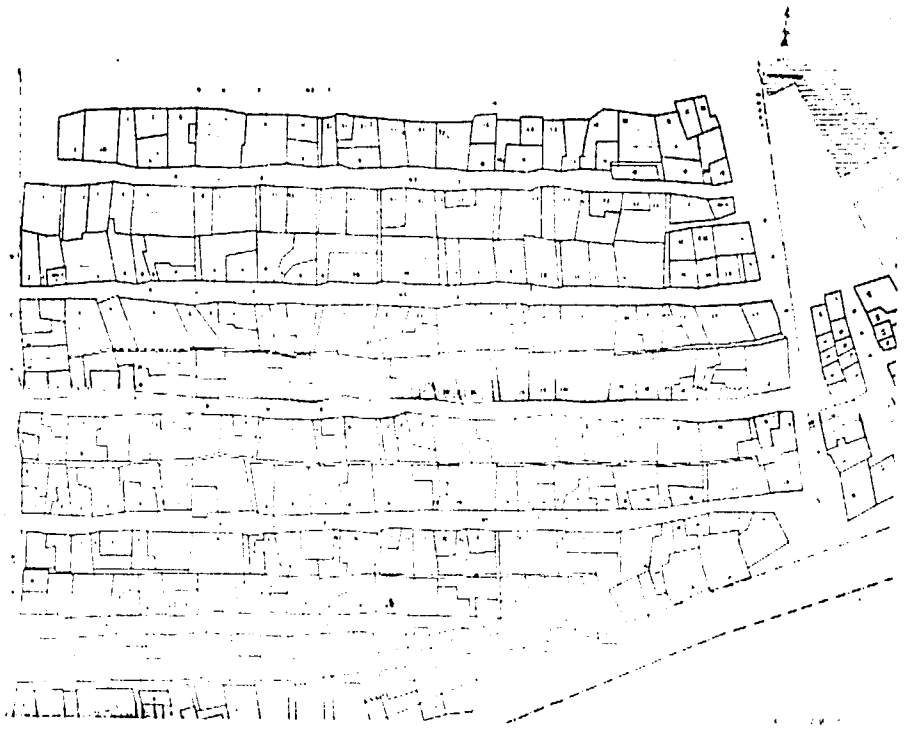
MINIMAL CHANGE TO EXISTING LAYOUT

In Lalla Mimouna (Settat) minimal change to the layout is proposed as part of the improvement activities

Some families were relocated to create a system of vehicular streets. Plot lines will be adjusted and regularized along these streets and residents encouraged to build new structures following a standard plan prepared by the Delegation.



Pedestrian rights-of-way and interior plot lines will not be appreciably changed from the existing patterns

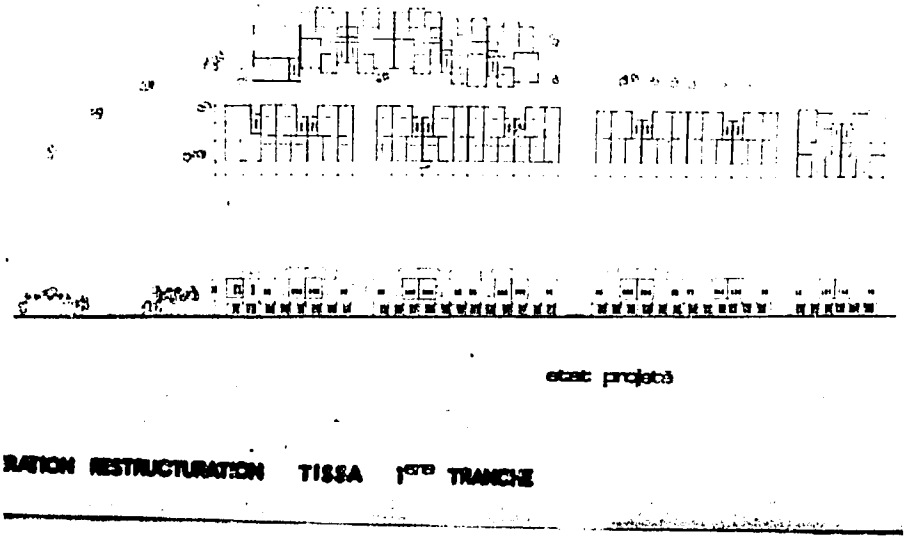


MINIMAL CHANGE TO EXISTING LAYOUT

Even though some plots are very irregular in shape, Douar Genie in Fes has a regular pattern of pedestrian ways which will not be changed by the upgrading project. Within the existing blocks some adjustments to plot lines will be made to correct the most irregular conditions before residents improve their houses.

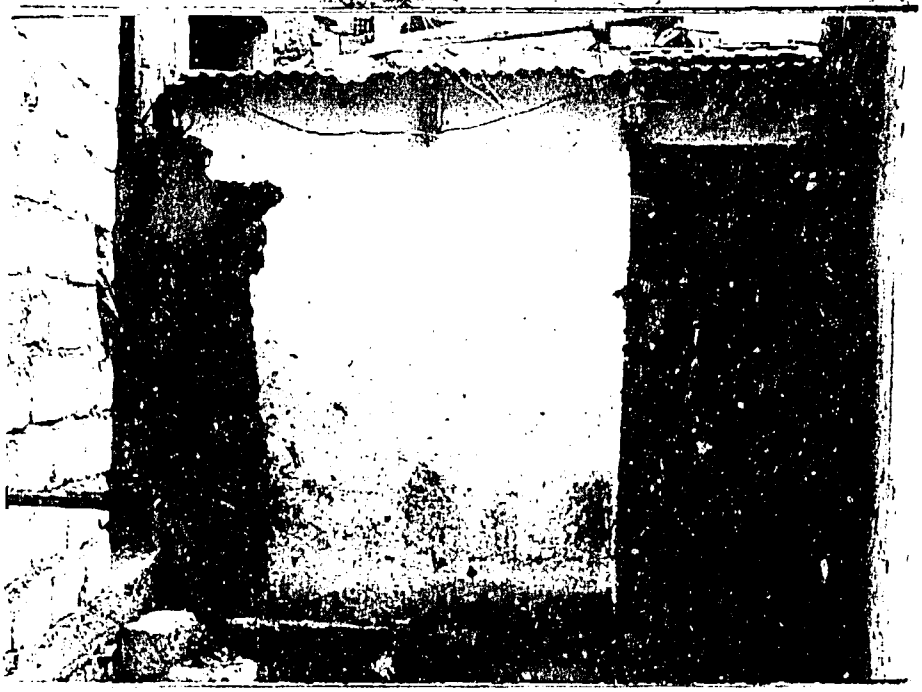
COMPLETE RESTRUCTURING

The program for Tissa proposes to change all existing plot lines and pedestrian circulation within the larger blocks created by the major vehicular streets



RATION RESTRUCTURATION TISSA 1ère TRANCHE

The first phase plan (for the area in the upper right hand corner of the above plan) illustrates the regular pattern of plots after restructuring. All families receive the same size plot even though their original plots were of different sizes.



Most existing construction in Tissa is traditional materials consisting of mud walls and thatch roofs. Pedestrian ways are unpaved and mudding following rain storms.

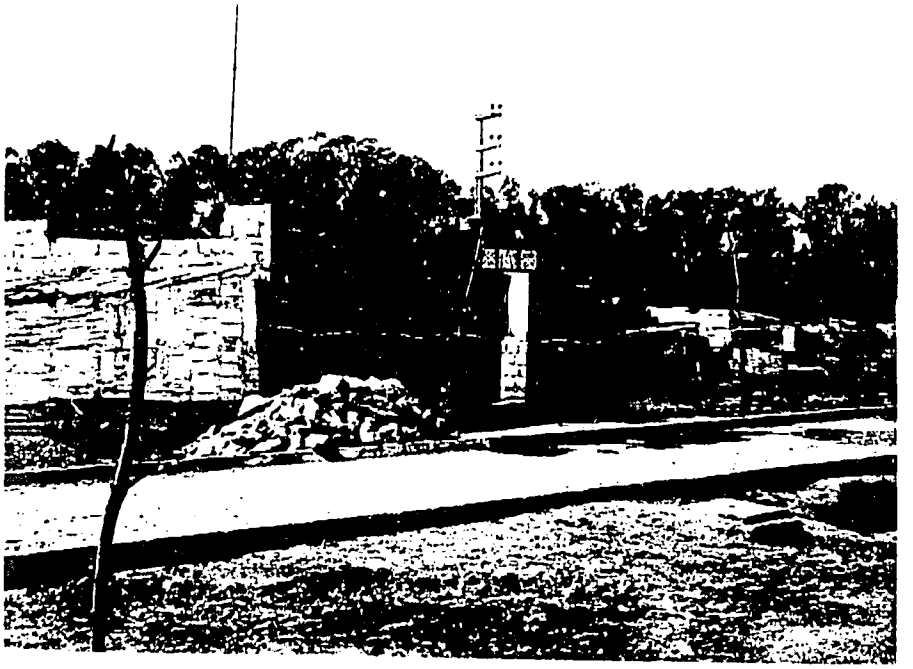
In most cases plot lines have been designed so the families can continue to live and work in a part of the original structure while the new structure is being built. In some cases temporary structures have been built in front of the plot so that shop owners can continue their commercial activities during construction of new facilities.

COMPLETE RESTRUCTURING

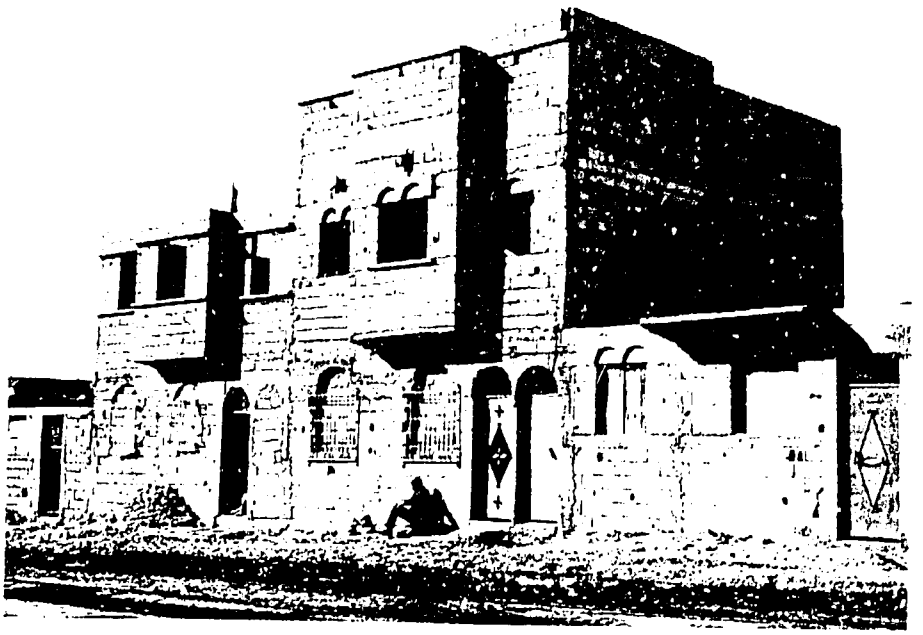
The project area in Laroche will be completely restructured progressively over a period of 18 to 24 months. New plots were laid out on vacant land at the edges of the project for families displaced by the roads or on request by families who are ready to build.

Restructuring will proceed on a block by block basis within the spaces defined by the new circulation system. This will work quite well in Laroche because of the low density of the development.

Markers are placed at the corners of new plots. Some families have reconstructed their shanty until they are prepared to build.

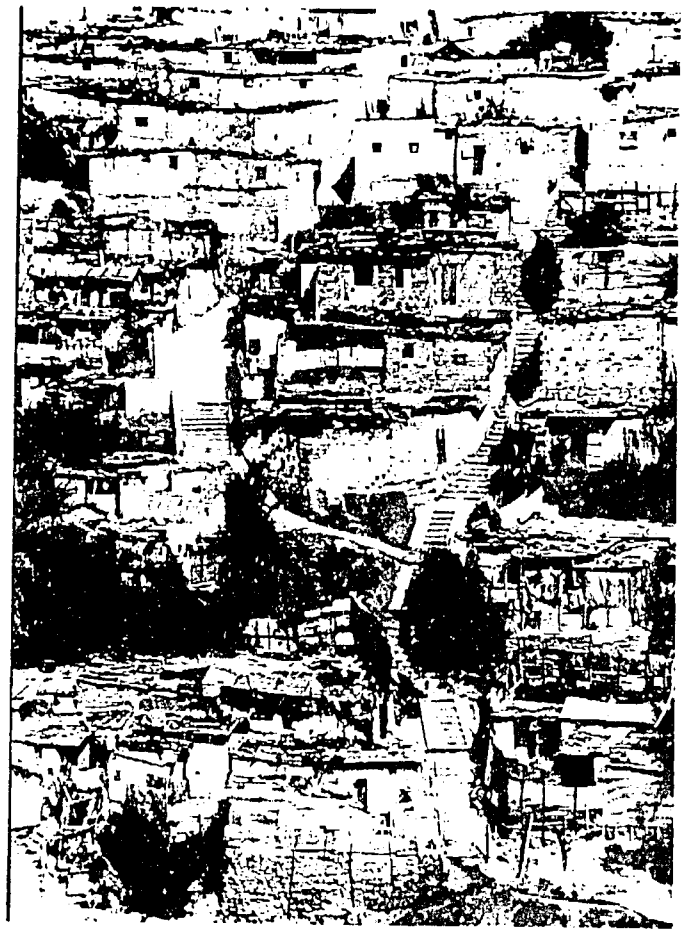


At present each family completely encloses their plot thus creating double was on two or three sides. Substantial savings could be realized by coordinating activities so that common walls could be used between plots.



The ultimate in restructuring is to relocate bidonville residents to a new site as was done in Settat. Residents were assigned a plot in the new area and given one year in which to start their house before being moved from the old neighborhood.

Restructuring of a site becomes in most cases prohibitively expensive once structures are built in permanent materials such as in Hajja. It is feasible to clear only limited numbers of structures to provide for the installation of essential services.



Restructuring becomes more difficult in densely developed neighborhoods. There is little or no available open space in which to relocate families to start a progressive process as is being done in Laroche.

On sloping sites plots have often been terraced by the occupants thus complicating the restructuring process

the next. Information should be recorded on a field plan. The following procedures are suggested in a recent World Bank publication:[1]

- identify individual structures on the ground and relate them to the aerial photograph and the field plan
- assign a number to each house/structure and mark that number on the plan as well as on the actual house; to start with the number can be written in chalk on the door before coming back to affix a proper tag or number plate later
- identify any alternations and additions carried out to individual houses since the aerial photos were taken or maps prepared
- measure and plot all additional structures and new physical features, e.g. new houses, roads and other features if no record of them exists in the office
- administer a questionnaire to the occupants of each house to determine the owner's name and address and other particulars needed

d. **Community involvement** in the survey process is vital to its success. Contact with local leaders or representatives should begin in the planning stages and continue on a regular basis during the survey. Cooperation of residents will help work to progress more satisfactorily and improve the quality of the results.

e. **Information** must be carefully organized and accurately recorded since it will become the base of legal documents. A file can be established on each property containing the information and documentation required by Service de Domaines for registration and title.

f. **Sale and registration of plots** can proceed once the technical preparation of the plot plan and accompanying technical data has been completed. It is given to the Service de Domaines to handle the legal proceedings for the sale and registration of the title. Two Commissions are established to:

- approve the selection of beneficiaries (Commission d'Attribution)
- to set the sale price of plots based on the cost of land, infrastructure and any other construction provided by the government. (Commission d'Evaluation)

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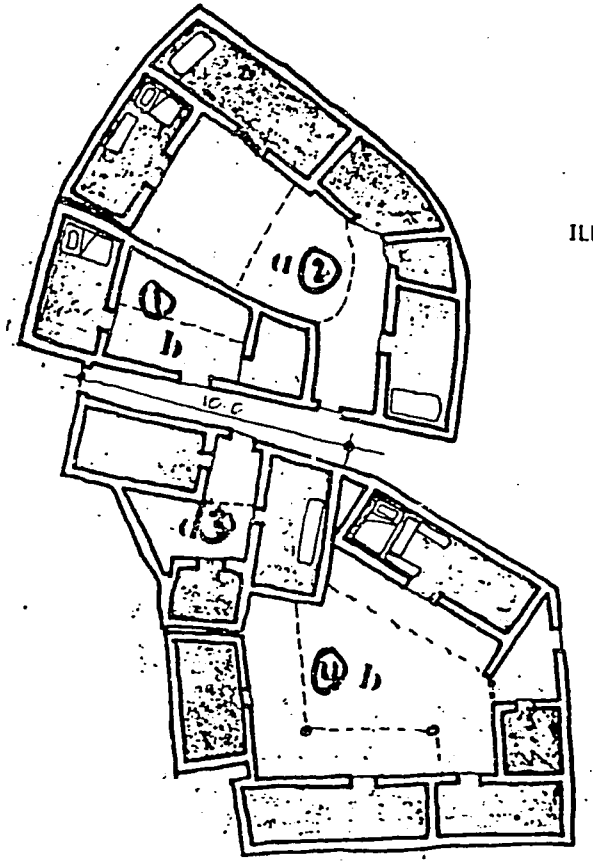
[1]House Registration Handbook, A Model for Registering Houses and Plots in Unplanned Settlements. Saad Yahaya, Urban Development Department. Technical Paper Number 4, World Bank , Washington, DC 1982.

FIGURE VII-1

POTENTIAL APPLICATION OF RESTRUCTURING PLOTS AND PROVIDING TECHNICAL ASSISTANCE FOR HOUSING IMPROVEMENT

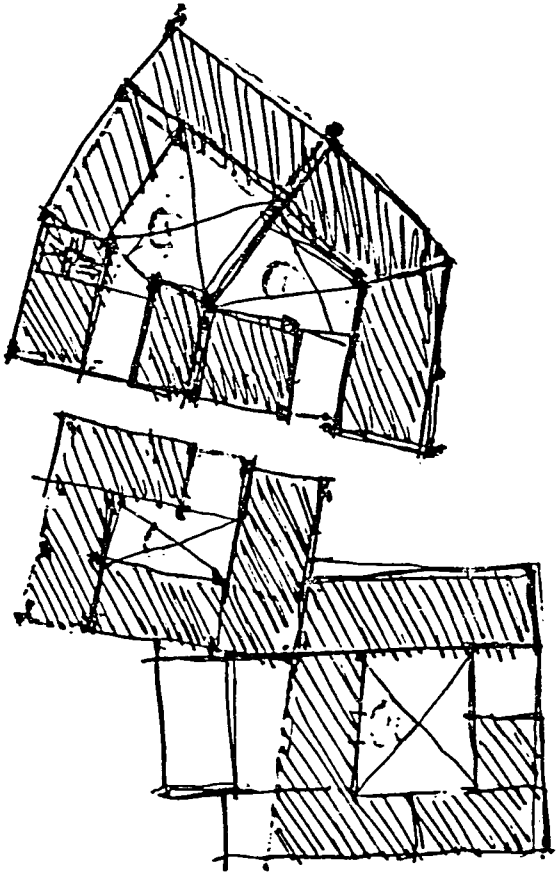
PROCEDURE:

1. Fix exact limit of overall block from on-site topographic surveys of roads.
2. From aerial photo restitutions and interpretation determine approximate house & plot limits.
3. Visually survey and releve each house; measure if necessary; indicate rooms & uses on sketch plan.
4. Determine rational plot realignments and obtain approval of residents.
5. Indicate placement of concrete columns for masonry construction, placement of sanitary facilities, and phasing of self-help housing construction so that families will be able to live in house during improvement phase.
6. Obtain temporary building permit.
7. Provide on-site construction details and advice to builders in order to ensure soundness of construction, adequate light and air in building, etc.
8. Provide administrative assistance in obtaining full building permit and cadastral survey



BEFORE

ILLUSTRATIVE EXAMPLE



AFTER

BEN SOUDA, FES

Scale 1/200

With the approval of the Commission, the Services de Domaines can continue with the actual sale of the plot and the registering of the title. The purchaser must pay the entire price at one time and he is given title.

In the past, it was possible to sell plots under a lease purchase arrangement with families making a small down payment and monthly payment over 5 to 10 years depending on their income level. It is recommended that this possibility be made available again.

CHAPTER VIII

HOUSING IMPROVEMENT PROGRAMS

A. OBJECTIVES

Objectives of providing housing improvement assistance are to:

- Encourage self-help housing construction and investment of private funds in the housing sector
- Provide technical assistance in the form of house plans and advice on construction details and procedures
- Provide a source of financing to families who would not otherwise have the means to improve their housing conditions
- Educate residents in the responsibilities and obligations of legal property ownership

There are two types of housing improvement assistance which are presently being provided to project recipients:

- Technical assistance which consists of providing typical house plans and consultation to owners on construction techniques and procedures by technical staff
- Financial assistance in the form of small loan programs to cover the purchase of materials and labor for housing construction

B. PROCEDURES

1. Technical Assistance

a. **House plans** are usually furnished free of charge to families. In some projects where plots are the same size, residents are required to use a standard plan. In bidonvilles with irregular layouts, it will be necessary to design and draw a separate plan for each property owner. The commitment of time and staff could be reduced through the design of standard plans for the various lot shapes which appear most often. A sepia of the plan which corresponds most closely to actual conditions with the necessary dimensions and notes added would be adequate for residential construction.

b. **Assistance with approvals and permits.** Residents can be encouraged to obtain permits by:

- the Delegation obtaining pre-approval of standard plans from municipal authorities so that issuing of a building permit is automatic once application is made

- providing families assistance in completing application forms
- streamlining of the approval process for building permits such as was done in Montfluери, Fes by giving provisional approvals of building plans

c. **Monitoring of construction and technical advice.** For many residents, this will be their first experience in building with permanent materials and using contracted labor. Thus, they may need supervision and assistance from the project architect or engineer. If construction of the first houses goes smoothly other families will be encouraged to start the process.

d. **Encouraging cooperation between families.** There are a number of ways families can share in the production of housing:

- The upper floors can be sold to another family to get the additional financing completion of construction. In clandestine developments plot owners often sell apartments on two or three upper floors.
- Families can move in with neighbors while their shanty is destroyed and the basic structure of a house completed.
- Mutual self-help programs where residents work together as a team to build a group of houses one of which will be assigned to each family in the group upon completion. This approach could be tried in upgrading projects where plot limits are to be adjusted so that construction of the entire block would occur at the same time.

2. Financial assistance: Home Improvement Loans

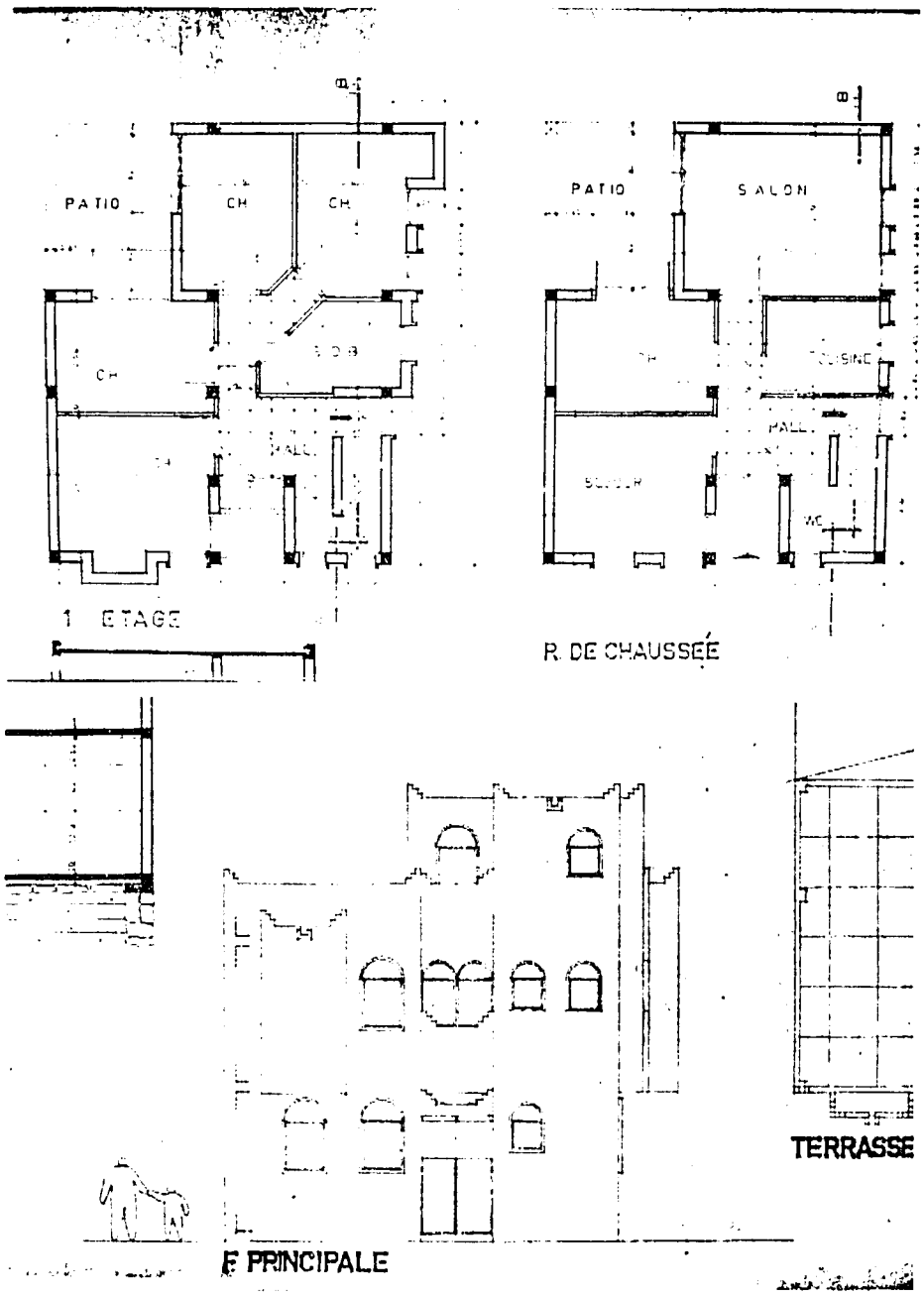
Loan programs have not been a part of upgrading schemes except in larger projects financed by international assistance organizations. While it is not simple to organize and administer a good home improvement loan program, there are many benefits to be gained including:

- permitting low income families who would not otherwise have sufficient capital to start construction
- giving families access to and experience with formal credit institutions and procedures
- helping credit institutions to strengthen their capacity to service lower income segments of the population

It is beyond the scope of the handbook to give full details of a small loan program but some of the basic procedures and questions to be resolved are:

a. **The size and structure of loan program.** It is important to varify that:

- the loans will be affordable to the target population
- that the loans will be sufficient to meet the basic needs of the family

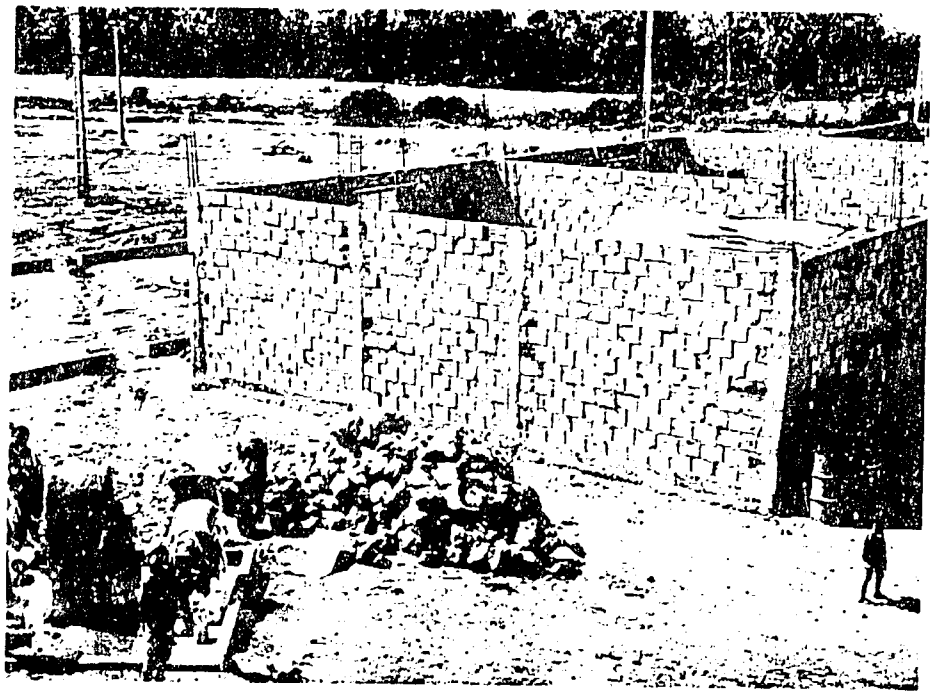


This is an example of a standard house plan prepared for an upgrading project. It is quite typical with two floors and court in one corner.

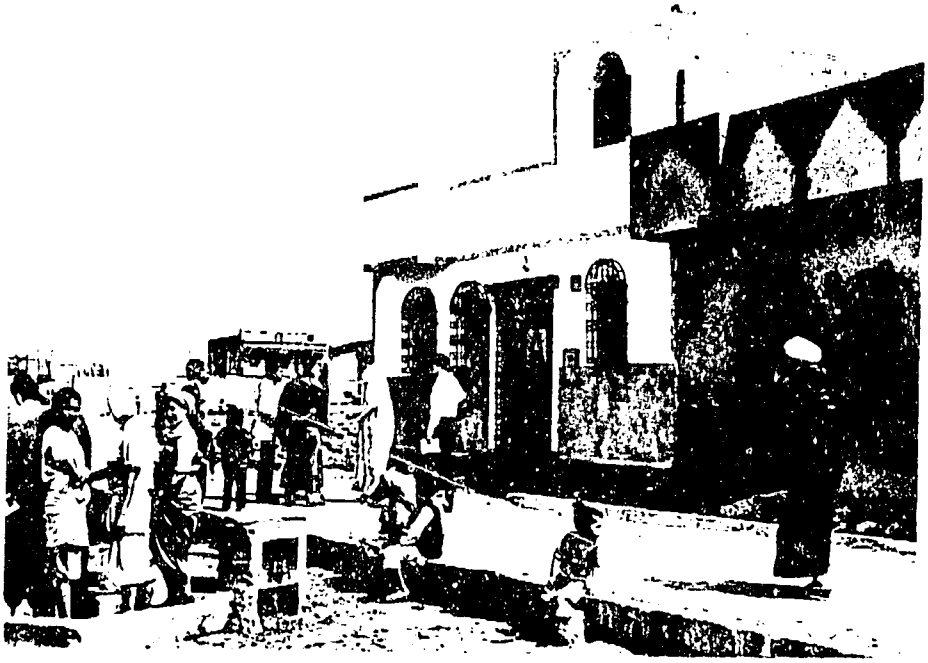
CONSTRUCTION PROCESS

This family moved in with a neighbor so that their shanty could be torn down and the foundations started

The first objective is to finish the walls to the height of the first floor



Once the plot is enclosed the family can reconstruct part of the temporary structure on the interior until they have funds to proceed to the next phase



The second phase is to finish the first floor of the house. The structure is designed to support a second floor which will likely be added in the future to complete the house.

b. **Arrange a source of financing and a financial institution** to administer the program. Possible sources of funds for a home improvement loan program are:

- international assistance organization such as USAID and the World Bank
- internal funding from the budget of MHAT or the Ministry of Finance
- special programs by local banks or savings institutions that would set aside a block of funds for loans to residents of a project area

The upgrading projects in Meknes and Kenitra have loan programs for the purchase of plots and core houses and for home improvement as follows:

Number of loans:	It is estimated that 85 percent of families will take loans for a total of approximately 5,400 loans
Amount of loans:	Varies from 2,646 DH to construct a 12m^2 room to 5,347 DH for two rooms plus sanitary core
Interest rate:	7 percent
Term of loan:	10 years
Administration:	Banque Populaire
Procedures:	In Meknes, monthly payments are made directly to the Banque Populaire. A list of all borrowers who have not made payments is sent each month to the project field office for assistance.

c. **Determine uses of loan funds.** In some projects, the use of loans is limited to the purchase of materials, and in some cases the materials must be purchased from a project store. Possible problems with this approach are:

- The cost of housing may be higher because residents may pay for higher quality materials than they need.
- Administrative cost of a project store can be high thus cutting into any savings gained from bulk purchase of materials.

It is recommended that limited restrictions be placed on loans allowing families to use their loan to meet their particular needs.

d. **Provide technical assistance** to beneficiaries. An education program will be needed to inform residents of the availability of loans and of their responsibilities as a borrower. Assistance with the application and documentation procedures may also be needed.

SECTION D: PROJECT FOLLOW UP

CHAPTER IX: COST RECOVERY

CHAPTER X: RECURRING SERVICES AND MAINTENANCE

CHAPTER IX

COST RECOVERY

A. OBJECTIVES

Objectives of a cost recovery program are to:

- Assure the replicability of upgrading projects through the adequate recovery of project costs, the intention being to serve the maximum number of families
- Provide essential but affordable services to meet beneficiary needs within local financing possibilities and value context
- Establiash an administrative structure to recover costs in a simple and equitable manner without directly involving MHAT in the collection of payments

B. PROCEDURES

To encourage project replicability through effective cost recovery does not necessarily mean that all project costs must in fact be directly recovered from the beneficiaries since many governments choose to subsidize certain costs for social housing programs. In most cases, however, programs will not be viable unless they are designed to directly or indirectly return approximately the same amount of money as they require for expenditures.

1. Establish Project Affordability

For any cost recovery approach to succeed, projects must first be affordable to the target population group for whom they are intended. This requires a systematic analysis of:

- a large number of project trade-offs concerning physical standards and financial conditions
- the long-term operation of infrastructure and services

a. Any affordability analysis will be based upon basic assumptions concerning the capacity and willingness of project beneficiaries to pay for the improvements and services. These assumptions are often based on:

- the existing rates of expenditure on housing paid by beneficiaries
- the "potential" rents they would pay if they began renting comparable housing
- the results of actual demand or market studies

- simply asking the people what they are willing to pay for the proposed services.

Judging by the many examples of housing consolidation by house owners it is clear that current income alone is not a sufficient indictor of the capacity to pay among low income families. Account should also be taken of:

- the role of contributions from the extended family
- hoarded savings and prestige objectives
- savings in kind
- potential future rental incomes

There are also examples in housing projects in Rabat and Settat where families who benefit from a lot "sell" the right to build an upper floor to a family more financially capable, thus allowing both families to finish construction of the entire house.

To the extent that project beneficiaries perceive that they are receiving a "value" for their payment and that the government has the political will to enforce payments, low income families will in fact make payments.

2. Establish a Cost Recovery Framework

An initial socio-economic survey of project beneficiaries will help indicate their financial capacity and willingness to pay for the services offered.

The survey should also attempt to identify different types of households whose ability to pay for improvements may be quite different. At least three types of households can easily be identified.

a. **Disadvantaged or handicapped households** includes families such as the elderly, widows and the physically or mentally handicapped whose ability to improve their own situation is limited by severe economic constraints, physical conditions or even deeply rooted attitudes against social change.

b. **Potentially mobile households** include families who are socially and economically stationery, but who could improve their own condition if they were provided with additional support such as:

   - training and education
   - essential public facilities and services
   - better economic opportunities

c. **Mobile households,** although still poor, have already demonstrated an ability to improve their situation and have reasonable prospects for continued economic and social betterment. Families in this group include those with sustained employment potential, basic education and certain special skills.

In the case of disadvantaged households, it may be necessary to adapt cost recovery procedures to meet their needs. Procedures to assist these families include:

- cross subsidies from the sale of commercial or industrial plots at market prices
- a longer grace period to encourage housing construction or the creation of rental income
- special guidance and training to improve income earning possibilities
- direct government subsidies

Once an initial profile of the target group's financial capacities is established, it should be possible:

- to determine the real financial capacities of beneficiaries
- to propose an appropriate cost recovery approach
- to offer special assistance and cost recovery terms to disadvantaged families without causing dissention among other beneficiaries

The advantages of beneficiary awareness and participation in the determination of eventual cost recovery conditions are:

- it makes them fully aware and informed of the necessity to pay for the services
- it includes these families in the actual formulation of their own repayment schedules

3. Determine Potential Cost Recovery Mechanisms

Making it easy and convenient for beneficiaries to make their payments is essential to success of cost recovery schemes. Possible solutions are:

a. **Establish special on-site branch offices** to receive payments as has been done in large scale projects sponsored by the World Bank. In the case of Rabat, an office of the Banque Populaire will be a permanent installation in the neighborhood.

b. For smaller scale projects **one or more employees could be assigned to serve as "liaison agents"** between the bidonville population and the financial institution. These agents would provide a form of door to door service which would include:

- timely collection of monthly payments
- assistance to the population in preparing contracts and forms

- rescheduling loan repayments where desired or necessary
- providing general financial advice to inhabitants on financial concerns and family budgeting

c. Another approach to financing infrastructure improvements has been the **creation of an "amicale".** The procedures of a system which has been used for the upgrading of a clandestine housing neighborhood in Fes are:

- a fixed fee multiplied by the surface of the builded area is charged each time a houseowner seeks standard documents such as a building permit, water connections, etc. required to legitimize his housing situation
- funds are deposited in a special account in the Treasury to be used only by the amicale
- the amicale finances the installation of infrastructure

d. **The use of local branch offices of the Treasury** or "perceptions" is also a convenient mechanism for the recovery of project costs since:

- most low income families are already familiar with making payments to the Treasury
- costs can be recovered either through a system of taxes, registration fees or through monthly payments
- government authority can be applied even when payments are not met

4. Develop a Community Information and Education System

It is essential that an information and education program be established for project beneficiaries early in the project since making payments will be encouraged when they understand why, where, when and how they are to do so. Several different means have been used to transmit information to project inhabitants. These include:

- large and small sized meetings with inhabitants
- face to face meetings and interviews with "liaison agents"
- preparation of briefing sheets, newsletters and questionnaires
- creation of a specially designed "comic book" which points out rules and procedures for making payments within the happy-ending case study of a typical project beneficiary

5. Establish a Repayment Plan and Procedures

It is useful to make a written outline and description of the proposed collection system including essential details about the operations, management procedures and estimates of required staff needed.

a. A simple accounting and receipt system which can be kept up to date on a daily basis is often required. This system will need:

- accurate house numbering
- pre-printed receipts and field record sheets
- flexible collection hours which correspond to the most advantageous time periods for beneficiaries
- a simple means of identification. In projects in Tissa and Meknes, recent photographs, birth certificate and National Identify Cards have been used for personal identification

b. In determining repayment plans, it will also be necessary to resolve considerations such as:

- the use and length of "grace periods" before the start of initial payments in order to encourage housing construction
- the size of the required downpayment
- the advantages or disadvantages of requiring payments with the registration of official documents such as building permits, land titles, etc.
- the feasibility of offering long term transferable leases with the option to buy after a certain time as opposed to the outright sale of the plot

C. TOOLS

Three principal approaches can be used to recover the costs of upgrading projects:

1. Direct Payments

The most common solution to recover upgrading cost is to combine the costs of upgrading and the price of land and then sell or rent the improved plot. Other possibilities are ground rents, long-term plot leases and surcharges on lease payments.

2. Surcharges on Utilities

If direct payments are not politically or administratively feasible, a surcharge on user rates or utility connections can also be applied. The disadvantage of this approach is that it may discourage poorer families from the consumption of these services.

3. General Tax Revenues

In addition to property taxes, other sources of revenue could include commercial licenses (either located within the upgraded area or from the city as a whole), taxes on

rental properties, or betterment taxes. In general, property taxes have been most effective in financing upgrading projects. Several forms of property tax can be developed:

- an annual estimation of property value which is based on a hypothetical rental value according to the location of the property, construction materials, livable surface, etc.
- a separate value for land as well as the increase in its residential value
- the tax on the increase in land value when the property is sold or after a long period of time
- a tax on unoccupied urban land which is reduced once the land is developed
- a betterment tax which is based on the value of the land after it is improved and in particular when it is sold. Such a tax might encourage improvements, and at the same time discourage families from speculating on upgrading projects by selling their plots after a short period of time

CHAPTER X

MAINTENANCE AND RECURRING SERVICES

A. OBJECTIVES

- Obtain full benefits from upgrading projects through the timely and adequate provision of public facilities and services
- Ensure that both cities and project beneficiaries are financially and institutionally prepared to continue the maintenance of project facilities and services over time
- Encourage private housing improvements by guaranteeing the proper functioning of infrastructure and services
- Integrate the neighborhood into the political, social and fiscal systems of the city
- Improve the existing delivery system by a better allocation of community services

B. PROCEDURES

1. Establish links between the upgraded neighborhood and institutions responsible for urban services

During project planning and implementation, it is important to establish and develop solid lines of communication and coordination between the neighborhood and agencies responsible for maintenance and public services to assure the integration of the neighborhood into the city. Contact between inhabitants and authorities will concern two major aspects:

- the maintenance and improvement of infrastructure and municipal services
- the provision of social services

2. Maintenance of Infrastructure and Municipal Services

If physical infrastructure is not maintained the benefits of upgrading can soon be lost to the neighborhood and private investment and involvement more difficult to achieve. Maintenance is important for:

a. **Roads and footpaths.** Municipalities are responsible for the maintenance of vehicular roads within their limits, including streetsweeping and the regulation of traffic. Pedestrian paths in medinas are maintained by the Municipality and swept on a daily basis but similar services are not always extended to upgraded neighborhoods.

For example, paving of footpaths as part of the project, as in Douam or Douar Genie, or following the initiative of the inhabitants, as in Derb Bachkou encourages maintenance by families since the space became useful for household chores.

b. **Water and sanitation.** Improvements in water supply and sanitation are generally linked to substantial improvements in health and greater life expectancy. In order to adequately maintain the operation of these systems over a long period of time, however, several criteria must be met:

- The recovery of recurrent costs through fees, taxes or other means
- The proper education of project beneficiaries concerning the use of the system, potential problems and small scale maintenance procedures
- The choice of a system using suitable technology based on local criteria; including, for example, social and cultural factors; the existence of repair and maintenance support systems; and locally available supplies, parts and equipment

c. **Installation of unitary sewer lines** with the assistance of the Promotion Nationale was one of the main objectives of the PMB program during the Three Year Plan. Consequently, waterborne sewer systems were often installed even for difficult sites. Since few households make connections into the systems during construction, provisions should be made to facilitate connections at a later date. Approaches to this problem include:

- In Marrakech, underground connection boxes in the main lines have been provided to allow families an easy hook up and maintenance. Since the boxes are hidden and placed at irregular intervals based on existing plot arrangements, there may be difficulty locating them in the future.
- In the Sidi Mbarek project, a clean out and connection box was provided next to the wall of the house
- In some projects, no special provisions were made for connections, thus residents will be required to make connections at manholes or by breaking into the pipe

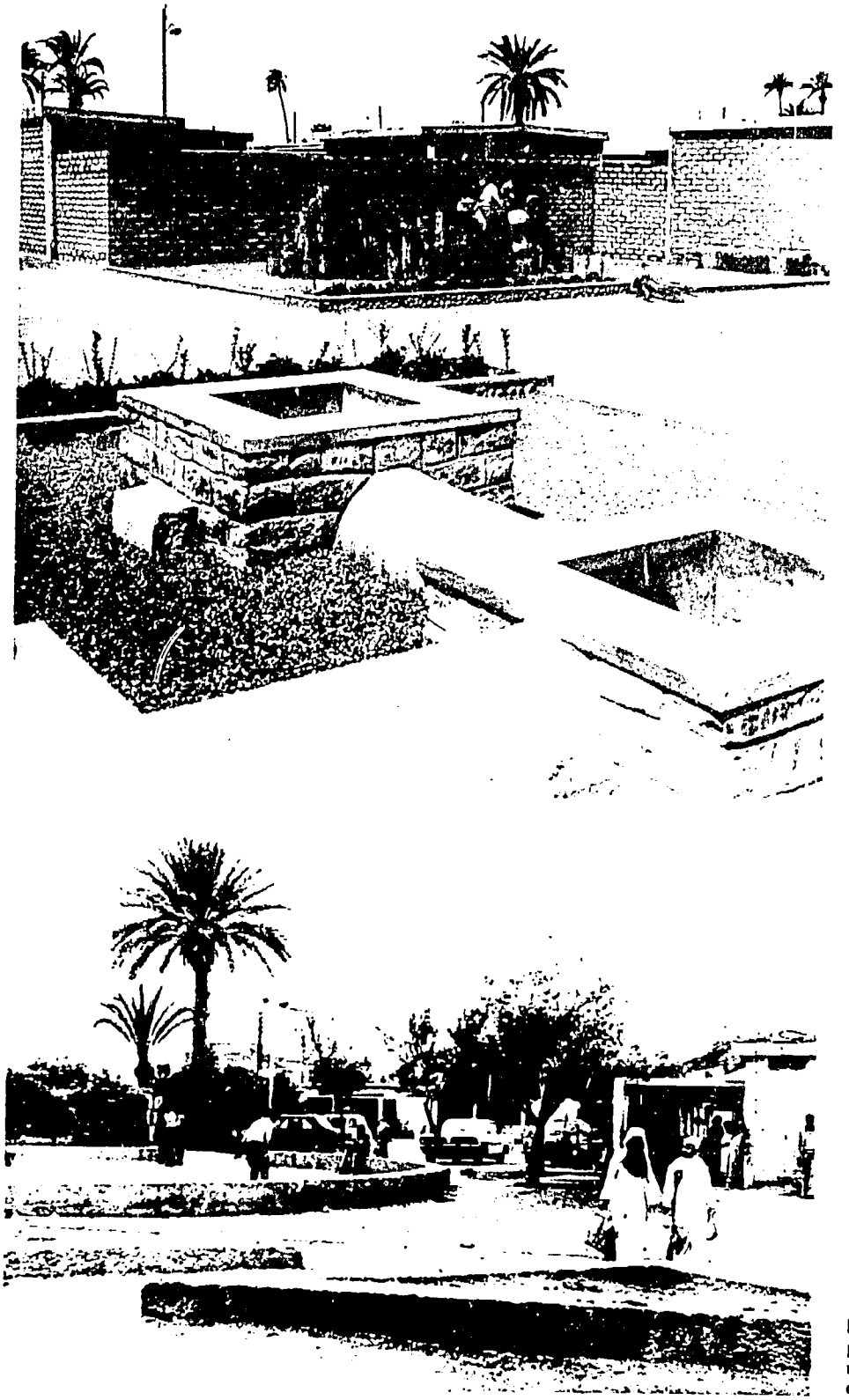
The review of bidonville upgrading projects has shown that in spite of considerable effort, and often high costs, the benefits to bidonville inhabitants from the extensive installation of sewer lines has not yet been completely realized

d. **Electricity and street lighting.** Because income is generated from user fees and because electrical installations are relatively simple, there have been few maintenance problems.

In Derb Bachkou where pedestrian ways were paved by residents, they are well maintained and become an extension of the living space being used for washing of clothes and other domestic activities.

Unpaved pedestrian ways are less usable and therefore receive less attention and upkeep from residents

Residents will adapt their environment to meet their needs as these before and after pictures in Doudyat in Marrakech illustrate. Second stories are being added even though the roof structure of the original house was sloping.



Planners of the Doudyat project provided play areas and landscaping little of which remains today due to lack of maintenance and heavy use

e. **Municipal services** such as police, fire and ambulance are generally provided by the Municipality on a city-wide basis according to need. The Municipality is also responsible for the location and maintenance of bus stations and markets which are important to low families in upgraded neighborhoods.

f. **Garbage collection.** More than any other element, the adequate collection of solid wastes and garbage can have a very positive impact on the neighborhood environment and the way it is perceived. The lack of adequate garbage collection has been found to be one of the main causes of dissatisfaction among project beneficiaries and an important reason for poor cost recovery.

3. **Facilitate the provision of formal and informal Social Services**

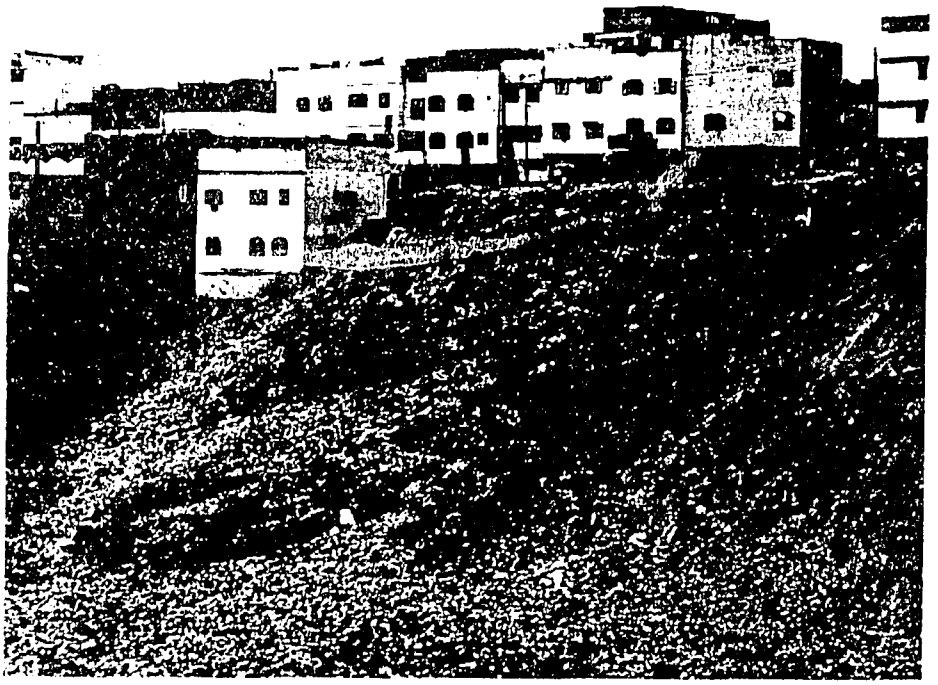
a. **Services provided by existing government programs and ministries.** The following social services are provided by the different ministries and their provincial Delegations:

- Schools - Ministry of National Education
- Education for Women - Ministry of Social Affairs and Artisanat
- Health - Ministry of Public Health
- Youth Centers - Ministry of Youth and Sports

Efforts should be made during the project to coordinate the present and future needs of the neighborhood with the planning and provision of these facilities by the various ministries.

b. **Neighborhood services**

- **Economic improvement and employment generation.** The surest way to encourage the overall maintenance of the upgraded neighborhood is to increase the economic opportunities of its inhabitants. When this does not occur, even projects which have been very well planned and executed will not live up to their full hopes and potential. Several means can be used to help improve the economic situation of the inhabitants of an upgrading project. Some of these might include:
  - Extending special credit to very small businesses or merchants
  - Creating a mechanism to provide advice on financial operations, marketing and business creation
  - Providing special community based vocational training and employment opportunities
- **Non-formal health programs** would be concerned with preventive medicine and nutritional counseling. Members of the community could be trained to provide these services through direct contacts with households and an information service.



Removal of solid waste is one of the major problems facing Delegations in upgrading areas as evidenced by this garbage dump adjacent to a project in Rabat

In several projects there are areas which become dumping grounds for garbage which only a regular solid waste collection service can resolve

In Derb Bachkou pails of garbage are brought to the main street for collection by a cart furnished by the municipality

- **Educate residents** in the proper use of municipal and social services. In order to make municipal and social services work and insure maintenance, it is important that families understand what is to be provided and what in turn is expected from them. Interested neighborhood individuals or groups can be designated to inform the population of specific issues and problems.

4. Encourage Maintenance through Community Involvement

The key to the establishment and success of community improvement programs is the creation of a neighborhood committee or "amicale". As mentioned above, this approach has already been applied in Montfleurie, Fes with considerable success. The amicale is presently aided by five special commissions whose concerns are:

- informing the population
- sanitation
- infrastructure
- health
- contact with public agencies and administration

Over time, as the neighborhood and the "amicale" mature together, additional activities and commissions can be included according to the concerns and interest of the population. These may include:

- community and environmental enhancement (planting, street and walkway improvement safety, etc.)
- home improvement assistance (legal aid for sources of credit, technical advice, building material cooperatives, etc.)