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**MOROCCO
SHELTER
SECTOR
ASSESSMENT
UPDATE**

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**AGENCY
FOR
INTERNATIONAL
DEVELOPMENT**



OFFICE OF HOUSING

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
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PREFACE

This study was conducted by Louis Berger International, Inc under the auspices of the Office of Housing of the Agency for International Development and was financed by this Office. The purpose of the study was to provide an updated shelter analysis for Morocco, and to make recommendations based on the findings of such analysis.

The study team consisted of Axel Jerome and Peter Bluemmel. Field work was completed in July 1978.

While the findings and recommendations of the report have been discussed with representatives of the Government of Morocco, the report is not to be interpreted as an official position of either that Government or the Agency for International Development.

We hope, however, that the Government of Morocco will find the report and its recommendations useful in formulating and implementing its future shelter programs.



Peter M. Kimm
Director
Office of Housing

MOROCCO SHELTER SECTOR ASSESSMENT UPDATE

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FOREWORD

The "MOROCCO SHELTER SECTOR ASSESSMENT UPDATE" is based upon the "MOROCCO PRELIMINARY STUDY SHELTER SECTOR" of April 1977, which was prepared by Planning and Development Collaborative of Washington, D.C.

Both studies were conducted under the auspices of the Office of Housing of the U.S. Agency for International Development and through financing provided by this office. The consultant, in preparing the update, made use of the preliminary study material to the extent possible and insofar as the contents retained their validity, or warranted only minor changes to reflect newly available data.

The additional study material was prepared using newly obtained publications and data gathered by the consultant in the United States and on location in Rabat and Casablanca, Morocco. Reference is made at the end of the study text to the publications and research material used in the updated study. The format of the study follows the guidelines in document DS/H MO 44-1, entitled "Shelter Sector Assessment" (SSA), dated September 20, 1977.

The consultant expresses his appreciation for the assistance provided by the staff of the USAID Office of Housing, Washington, D.C; the USAID Mission in Rabat, Morocco; the USAID Regional Housing Office, Tunis, Tunisia, and the Royal Government of Morocco, particularly the Ministry of Housing and Regional Planning (MHAT) in Rabat and Casablanca, Morocco.

I. COUNTRY SITUATION

A. Overview of Government Structure^{1/}

Morocco has a constitutional monarchy government. Its present constitution dates from 1972, and was approved by popular referendum. It has a unicameral parliament, and its highest court is the supreme court.

The administrative structure of Morocco consists of a highly centralized government, a provincial, and a local administration. Morocco is divided into 28 provinces and two prefectures, each headed by a governor. The provinces are further subdivided into communes which are either autonomous centers or rural communes, depending on the respective population. The communes, or municipalities, are headed by a pasha. The *centres autonomes* are headed by a *caid*.

The governors are appointed by the king. The pashas are appointed by the governor and the Ministry of Interior. The Ministry is responsible for overall coordination in the provinces through the governor. Each pasha appoints *khalifas* (deputy directors) of the city districts, depending on the size of the city.

In the 1960's, elected councils of representatives were set up within the communes to serve as a provincial assembly. Their primary purpose is to advise the governor. The size of the council depends on the relative population of its district.

The broadly defined urban zones of Casablanca and Rabat (known as prefectures) are also headed by governors. They have the power of a pasha and thus, differ from the norm. The primary directives of municipal governments include: maintenance and extension of municipal services; elaboration of physical plans; the implementation and finance through collection of taxes, preparation of the budget, and general administration. The central administration, on the other hand, is responsible for all social services, with minor support by the local government.

The various national ministries also have regional offices in the provinces including: housing, education, health, labor, social affairs, finance and to a lesser extent public works. Normally, the governor has the power of jurisdiction over all activities in his province or prefecture.

^{1/}

MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977-modified.

Semi-autonomous and autonomous public corporations are active in many cities and provinces. They are responsible to municipal governments, but have separate budgets and function independently. The responsibilities of these agencies include, water supply, electricity, and public transportation. Furthermore, in Casablanca, an authority was established to handle garbage collection and treatment. National public corporations that also have municipal functions include: the National Office of Electricity (ONE) and the National Authority for the Distribution of Water and Electricity (RAD). These corporations are responsible for distribution of electricity and water.

The principal responsibilities for urban development and housing are carried by the Ministry of Housing and Regional Planning, "(MHAT - Ministere de l'Habitat et d'Amenagement du Territoire)", which was established in September of 1977, replacing the "Ministry of Urban Development, Housing, Tourism and Environment". The Ministry's functions and responsibilities are carried out by regional offices, of which there are several, representing all major regions of the country.

B. Geography and Climate^{1/}

1. Geography

The country of Morocco lies on the northwest corner of Africa. The Atlantic Ocean is to its west, and the Mediterranean Sea to its north. It is the closest of all African countries to Europe and shares the gateway of the Mediterranean with Spain. Morocco's closest eastern and southern neighbors are Algeria and Mauritania.

Morocco has a lengthy coastline of nearly 1,200 miles. It enjoys easy access via its ports and international airway connections to Europe and the rest of the world.

Topographically, Morocco is sharply divided into two areas: the agriculturally rich coastal plains area in the northwest, and an economically poor mountain and plateau area in the east and south. The coastal plains and plateaus, fronting for some 350 miles on the Atlantic Ocean, are cut off from the interior by the encircling mountains. Peaks of the High Atlas and Middle Atlas Ranges rise to 13,600 feet above sea level, while peaks of the Rif Massif rise sharply from the

^{1/} MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977-modified.

coast to heights of 7,000 feet above sea level. The coastal plains are the most densely populated, and economically active. Nearly all of Morocco's major urban centers are in this area.

Beyond the mountains, eastern Morocco is a series of arid, rolling plateaus. These form a continuation of the Algerian high plateaus in the northeast, gradually dropping into the Sahara Desert in the south and southeast.

2. Climate

On the Atlantic side of the Atlas Mountains, the climate is semi-tropical; on the other side, dry steppes merge into the Sahara Desert. The Mediterranean coast has a mild, sunny climate. The months of April through October are usually dry months. The rainiest and coldest months are November and December. During winter, Morocco may be beset by sharp drops in temperature at night, and freezing temperatures are not uncommon. Generally, however, the Moroccan climate is temperate, but damp.

C. Human Settlement Patterns

There are currently eleven (11) major, or primary, urban centers with a population of more than 100,000. All are located to the west of the Atlas Mountains, except one, the city of Oujda, Morocco's easternmost city, which is close to the Algerian border. Seven of the eleven cities are coastal towns, with Agadir, Safi, Casablanca, Rabat-Sale, Kenitra and Tangier being located along the Atlantic coast, and Tetouan on the Mediterranean Sea. The ancient cities of Marrakech, Meknes and Fez, are located inland and close to the foot of the Atlas Mountains.

Other cities are rapidly growing in size. Eight additional towns will attain the status of "primary urban centers" by the year 1982. Two more coastal cities will be added, with El-Jadida on the Atlantic, and Nador on the Mediterranean. The plains towns of El-Kelaa, Settat, Khouribga, Khemisset, and Beni Mellal will make the west-central region the most concentrated urban area of the country. The city of Taza, together with Nador and Oujda, will form the northeastern settlement triangle.

In terms of political and economic importance, both Rabat-Sale and Casablanca lead the hierarchical order. Rabat-Sale, the nation's political capital, with a combined population of 3/4 of a million people, is surpassed only by Casablanca, the economic capital, with a population of 2.1 million. Both cities are in close proximity to each other and currently harbor 38 percent of the total urban population.

The traditional cities of Marrakech, Meknes and Fez, are centers of commerce and trade, as well as tourism. Their combined population in 1978 accounts for 19 percent of the total urban population. The city of Agadir is another center of tourism. Its continuing growth is mainly the result of recent, accelerated tourism development. It also has the potential for agri-based and fishing industries. It should be noted that Agadir's projected annual growth rate between 1978 and 1982 will be 7.7 percent, emphasizing its potential. The city of Safi has gained greatly in importance as an export outlet for phosphate rock, and the immediate region has attained status as a center of heavy, phosphate-related industrial activity.

Kenitra, a major port city to the north of Rabat-Sale, gained importance as a garrison town; first as a French military base, and after their departure, as one occupied by U.S. military personnel. In past years, Kenitra has gained notoriety as one of Morocco's fastest growing cities. Projections indicate that this trend will continue up to 1982, at an annually compounded growth rate of 7.1 percent. Kenitra ranks as an important port city and is the location for medium to heavy industrial development, primarily in the field of petro-chemistry.

Tangier, on the northern tip of Morocco, is an old, established tourist center, with an additional agri-based economy. The city is in the process of developing light to medium manufacturing industries, mostly on the sectors of building and construction. Tetouan, a city with historical ties to Andalusian Spain, is a town with potential for tourism development. Plans are being evaluate that would elevate Tetouan to a major tourism center. Fair prospects are reflected in its relatively high urban growth rate for 1978-82 of 4.1 percent annually. Oujda, the easternmost urban center, used to be a Spanish colonial base, now being transformed into an important mining town. Construction of a large cement factory is in progress and other, major industrial development programs are under consideration.

Nador, a Mediterranean town, is rapidly developing into a major port city. One of the major Moroccan development projects is located at Nador, comprising an immense steel producing complex with an eventual investment value of DH 6,000 million. Oujda and Nador will be forming an important axis with considerable economic links in the northeast region of Morocco. As a result, Nador is projected to surpass every major urban area in growth during the coming 5 years, averaging a yearly growth rate of 14 percent.

The regionalization and decentralization policy, proclaimed by King Hassan and initiated by the G.O.M. in 1974, is aiming towards alleviating the inherent economic disparities which exist in, and prevail among the provinces. The policy will manifest itself in the growth and development of the remaining seven provincial capitals of Beni-Mellal, El-Kelaa, Khouribga, Settat, El-Jadida, Khemisset and Taza. All, except Taza, are surrounded by the older, established urban centers in the west-central part of the country. Their economic base is linked to those of the older order, and together they are thought to form a cohesive economic entity.

Through the determining force of regional economic activity, a population shift is in progress favoring the coastal plains west of the Atlas Range. The heavy accent on the industrial development along major sections of the Atlantic seacoast, from Agadir in the south, to Tangier in the north, and along the Mediterranean Sea, especially in the northeast, induced a heavy migratory flow precipitated by expectations for better employment opportunities.

Undoubtedly, the continuing migratory surge into the major urban centers is bound to influence greatly Morocco's settlement patterns. The inherent socio-economic disparities between the established, older, urban population and the vast number of new migrants, mostly uneducated and unskilled, will exacerbate the already staggering problems the urban communities are experiencing.

A brief analysis of Morocco's population trends suggests that this rural to urban shift is to continue well into the future, and will not abate appreciably before the end of this century.

II. ECONOMIC SITUATION

A. Performance of the Economy

1. Economic Characteristics

Morocco's economy is primarily agricultural, with almost seventy percent of the population deriving their living from the soil. The agri-sector commands the highest percentage of capital expenditure underscoring its vital importance to the country's wellbeing. It, too, occupies close to seventy percent of the labor force, though in terms of GDP, produces only about 35 percent. This points out the inherent problems of agricultural production, which is manifested in the lack of water, most prevalent in the southeastern part of the country. It is further exacerbated by the still prevailing primitive methods of cultivation, fragmentation of land ownership, and difficult terrain lacking accessibility. It is estimated that to date, 85 to 90 percent of the farming is by the traditional sector, supporting families who consume nearly all they produce; the modern sector, in turn, yields 85 percent of the commercialized production.^{1/}

No less important are the country's mineral resources, especially phosphate rock, but also including others such as, cobalt, manganese, iron, lead, zinc, and some petroleum. The primary mineral resource of phosphate rock has largely contributed to the economic growth and broadening of the economic base. It provided the impetus for the development of the modern sector of the economy and therewith a substantial growth of the country's industrial capacity. This growth is visible in the expansion of the phosphate and chemical processing industry, steel and cement production, and the development of light industry including textiles, paints, building products, food processing, fishery, and the expanding tourism industries. It is significant that in terms of GDP, the modern sector's share is 65 percent of the total, though it employs only about 30 percent of the labor force.

The allocation of resources is geared to exporting a significant share of the production. Commercialized agricultural production and the bulk of the production of phosphate rock are for export. In 1976 agricultural products and phosphate accounted for a combined 70 percent of total exports, with an aggregate of DH 880 million, out of a total of 1.23 billion export value.

^{1/} MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977-modified.

It is anticipated that with the continuing growth of the modern, industrial sector, emphasis will be placed upon the allocation of resources to the internal market. This is to encourage production of finished products for eventual export, but also local consumption, therewith reducing imports of consumer commodities which currently absorb a considerable share of the foreign exchange earnings.

Aside from the domestic markets, especially internal consumption of unprocessed agricultural products and, to a degree, the internal processing of phosphate rock, the main markets for these two important sectors of the economy are abroad. The major recipients of export products from Morocco are the eastern and central European countries. For future phosphate exports, the U.S.S.R. will become the most important, receiving up to 1990, one third of the total export volume. Other potential markets are being explored in African, Middle-Eastern, and North-American countries.

Agriculture will remain predominant in the future. Considerable efforts are being made in bringing more land under cultivation. Government investment in the agri-sector amounted to DH. 1.2 billion during 1973-77. Most of it was used for irrigation projects that would guarantee to increase irrigated land to 2.4 million acres in the 1980's, and hence a considerable increase in output, with the aim toward self-sufficiency in food supplies. At present, food imports are still in the range of 25 percent of total import costs.

The industrial sector is dominated by the exploitation of phosphate rock as the primary export commodity. This is expected to remain so for a long time to come. Phosphate is currently the largest foreign exchange earner, accounting for 55 percent of the total export earnings. With Morocco holding more than 60 percent of the world's known phosphate reserves, constituting a considerable productive capacity, the commodity will remain the most important export item on the market. By 1990, production is predicted to reach 55.5 million tonnes, from a current 15 million tonnes, or a compounded increase of 11.5 percent annually over the next twelve years.

Industrial diversification, within the concept of regionalization is gradually being achieved. A cursory assessment revealed a strong trend toward a viable agri-based economy for the respective regions. The strong emphasis on major irrigation, as well as rain-fed and dry-farming, suggests a back-to-the-farm policy, although population projection indicated that by 1992, only half of the population will live in rural areas, falling even further to 42% by the year 2002. This seems to suggest that in the future, the agri-industry will be less labor intensive and instead rely more heavily on mechanization.

By considering regionalization, it appears obvious that the availability of national resources was of importance in choosing the appropriate mode of development. In the coastal regions, the far south is considered to have good potential for the development of the fishing industry, while the region around Agadir is suited to the development of a viable tourism industry. Farther to the north and around Safi, the nation's major export commodity, phosphate, dominates the heavy industrial development sector. Casablanca, the nation's economic hub will not diminish in importance and remain the center of trade and industry, spreading northward to Rabat/Sale, the capital, which will eventually share some of the industrial growth.

The urban centers of Kenitra, and Tangier at the northernmost point of Morocco will develop light to heavy industry. In the northeast, the cities of Nador and Oujda are slated to receive major steel and cement plants, utilizing the abundance of raw materials in the areas. The interior regions are designated to serve the need for light, agri-based industries and the flourishing cotton industry. In all, the diversity of planned development in the various economic regions is well intentioned and should, in theory, have the desired impact in creating the economic equilibrium sought by regionalization and decentralization.

2. Gross Domestic Product (GDP)

The structure of Morocco's GDP has demonstrated a change in recent years. 1976 statistics show that the primary sector, agriculture, accounted for 25.1 percent of the GDP, versus 27.3 percent in 1973. In contrast, the secondary sector, which includes, energy, mining, industry, handicrafts and buildings and public works, rose to 33 percent, from a 30.5 percent share in 1973. The tertiary sector, with a 1976 GDP share of 41.9 percent, the largest of the three, dropped slightly since 1973, when it stood at 42.2 percent of GDP.

On a basis of overall performance, a slow start eventually turned to steady progress. During the decade after independence (1956 to 1966) the economy advanced slowly (2.0 percent per annum). However, during the first five-year plan, 1968-72, an upsurge occurred, with an actual growth of 5.6 percent. This was primarily due to the good performance records in the primary sector. During the 1973-77 plan, growth remained steady, though an increase to 7.5 percent was predicted. The growth stagnation was mainly due to poor harvests, and also because of the decline in output and sales of phosphate rock. Since then, the picture has been erratic, registering a sharp rise in 1976, with 8.5 percent, dropping sharply to 1.3 percent in 1977. For 1978, a 6-7 percent growth is predicted, with little change to be expected for the subsequent years of 1979-82.

The per-capita annual income of 1976, was estimated to be US\$ 471 -(DH2,070). For 1977, it is projected to be US\$520.- (DH2,290). Forecasts for 1978, put the per-capita annual income at a level of US\$ 600.- (DH2,640) amounting to a 26 percent increase over a two year period.

3. Employment

As is the case in many of the other areas within the economic structure, reliable data on employment is very scarce. Employment estimates only exist for the two population census years of 1960 and 1971, upon which certain assumptions on the course of future developments have been made concerning employment generation and growth of the labor force.

Morocco's total labor force stood at 3.3 million in 1960. Current reports put it at about 5 million. Estimated, overall growth, compounded, can thus be projected at 2.35 percent annually for the period of 1960-1978. The increased economic activities precipitated by the implementation of the 1973-77 plan, accelerated employment creation in the sector of industry to 12 percent per annum. In the tertiary, or service sector, employment growth was forecast to be about 5.9 percent for the plan period of 1973-77.

An assessment by the International Labor Organization (ILO) predicts, that the growth of the labor force between 1975 and 1980 will be about 3 percent per annum, and increase to 3.3 percent for the period of 1980-85, at which time the total labor force is expected to reach 6.5 million. Whether or not employment generation will keep up with the growth of the labor force remains to be seen, especially in view of the predicted, moderate growth of the economy as a whole in the late seventies and early eighties.

There is uncertainty, too, as to the possibilities of improving the means of acquiring skills within the ranks of the swelling labor force, a factor that will have a profound influence upon employment as a whole.

At the present time, there is little, if any, concrete information available showing an apportionment between the rural and urban labor force. Neither is there any indication given as to the prevailing labor participation rate, either in rural or urban areas.

Unemployment, or underemployment, is obviously widespread, though official unemployment is given at only 9 percent of the labor force. Unofficial estimates, however, place the unemployment rate between 25 and 30 percent. There are diverse problems facing the labor force in gaining access to the job market.

The primary problems are illiteracy and lack of technical skills. It is a condition which prevails throughout the country, seriously constraining effective employment in areas where opportunities may exist.

Skilled and even semi-skilled manpower is scarce in Morocco. It is a fact that is exacerbated by the outflow of skilled manpower to higher paying jobs in the Western-European labor market. It drains the local supply, and the training of manpower is far behind the needs that the country's industrialization program seems to demand. It is assumed that to a degree, returning emigrants may eventually fill existing voids. Others, fortunate enough to have the educational background necessary for on-the-job training, may be given the opportunity to acquire the needed skills.

There is considerable emphasis on the part of the G.O.M. for accelerated employment creation through the industrialization process. But there is little evidence of a concerted effort to match it with a viable educational program, especially in the field of vocational training. The situation creates a paradox insofar as there are now, and will be in the future, definite employment opportunities which cannot be satisfied by the available labor force because it is essentially lacking the required education and skills. A basic, and subsequent vocational education is a prerequisite for a program that would greatly reduce the already quite serious unemployment problems.

4. Cost of Living

Like other nations, Morocco was shaken by inflationary pressures beginning with the year 1973, and continuing on until the present time. The impact of inflation varied from year-to-year, but the overall effect had a profound influence upon policy decisions by the G.O.M.

Morocco's economy, open to and dependent on the outside world, experienced the effects of inflation that took place in the industrialized countries. Rates of inflation for the past three years varied considerably, standing at 8.6 percent in 1976, rising sharply to 12.6 percent in 1977, and are estimated to be at a rate of 9.8 percent in 1978.

As is to be expected, price increases affect more severely the economically deprived section of the population, or the target population. In order to preserve some semblance of order in the purchasing power of the poorest segment of the population, price stabilization was accomplished by government subsidy of essential foodstuffs. This amounted to about 10 percent of household food consumption during the 1974-76 period. Years of

heavy subsidies led to serious discrepancies in the allocation of resources, which mandated some corrective action by the G.O.M. Prior to the release of the 1977 budget, prices rose sharply affecting tobacco and petroleum products in the wake of subsidy elimination, or reductions. There is definitely a trend to streamline economic efficiency and precipitate a return to the market, even at the risk of endangering the relative social tranquility.

Rising prices in the private sector are practically unavoidable, despite promises of tight controls and official vigilance. However, the decree, setting in motion increases in civil service salaries-70 percent between 1970 and 1976-resulted in similar demands in the private sector.

Other G.O.M. measures were initiated for the purpose of increasing badly needed revenues. Higher taxes, improved tax administration, raising of import surtaxes, and duties on luxury and non-essential items, influenced the noted variations in the consumer price structure.

Although nation-wide figures are hard to obtain, indices on cost-of-living in selected cities provide an indication as to the severity of increase in the cost-of-living.

Table II-1 shows cost-of-living trends in the selected cities for the year between May of 1977 and 78. Overall rates of increase vary between 8 and 11 percent. Marked increases occurred in the category of clothing. But in other areas as well, the seriousness of the rise in the cost-of-living is apparent. Since 1976, an annual percent-change in the cost-of-living index of 9.5% has been registered, and the change forecast for 1978 remains about the same. No drastic downward trend should be expected for the immediate years following.

Table II-1

MOROCCO
SELECTED CITIES - COST OF LIVING INDICATORS - 1977-1978

	FOOD			CLOTHING			HOUSING			MAINT HYGIENE			TRANSP LEISURE, MISC			OVERALL		
	May 77	May 78	In-crease	May 77	May 78	Vari-ation	May 77	May 78	Vari-ation	May 77	May 78	Vari-ation	Ma, 77	May 78	Vari-ation	May 77	May 78	Vari-ation
			%			%			%			%			%			%
Casablanca	173.4	184.9	7%	157.9	198.7	26%	133	142.3	7%	129.7	133.8	3%	147	151.2	16%	159.3	175.5	10%
Rabat	171.6	186.1	8%	120.4	133.6	11%	157.1	170.1	8%	122.5	131.6	8%	147.9	158.9	7%	158.2	171.4	8%
Fes	173	190.4	10%	169.6	194.9	15%	147.5	157.8	7%	126.5	138	9%	164.5	188.5	15%	165.1	180.7	9%
Tetouan	168.8	185.8	10%	118.4	194.9	65%	144.5	157.8	9%	133.4	138	3%	154.6	188.5	22%	156.7	168.5	8%
Kenitra	159	175	10%	127.8	142.1	11%	133.3	138.6	4%	126.8	139.3	11%	146	164.4	13%	148.7	163.4	11%
Marakech	177.4	191.7	8%	124.3	158.5	28%	144.7	159.3	10%	128.3	134.1	5%	150.8	178.4	18%	160.8	178.9	11%
Oujda	166.5	179.7	8%	124	135.3	24%	144.5	161.6	12%	130.1	148.5	14%	151	168.4	12%	155.1	169.7	9%
Agadir	171.6	187.8	9%	144.1	156.8	9%	146.5	162.5	11%	122.8	134.3	9%	154.6	173.4	12%	160.1	176.2	10%

Note: Base 100: May 1972 - April 1973.

Source: Royaume du Maroc, Direction de la Statistique, Indices du Coût de la Vie, June 1977 et May 1978.

5. Economic Prospects 1978-82

The delay in publication of the 1978-82 development plan makes it difficult to assess the prospects of Morocco's future economic performance. It is, however, the consensus that the G.O.M.'s overall development objectives, as outlined in the previous plan of 1973-77, will be substantially maintained. It is anticipated that the major industrial development programs conceived in the previous plan will continue to receive priority support, despite the obvious constraints in the availability of financial resources. This, undoubtedly, will slow the general development efforts, moderating targets for investment and GDP growth.

While Morocco will be confronted with hard choices regarding the adjustment of investment and domestic demand to reflect consistency and prudence in financial management, its economy should be able to maintain a level of potential growth during the next few years.

Progressive investment decisions made by the G.O.M. in the recent past, developed an inherent capacity for relatively rapid GDP growth. In the agri-sector, and given the luck of favorable weather conditions, sectoral GDP should increase at a yearly rate in excess of 3 percent, especially in view of the substantial investments made in irrigation works, and given substantial development of rain-fed agriculture.

Prospects for the external demand of phosphate rock, give reason to believe that past levels of exports can again be attained. The major, large-scale industrial projects in progress will certainly boost general output, once completed and in full operation. In the general service sector, tourism has certainly shown great potential for growth. All sectors considered, it can be reasonably expected that the annual GDP growth will be around 6 percent for the years 1978-82.

B. Balance of Payments

During the last 4 year plan period, a substantial increase in import payments was registered. In 1972, payments stood at close to DH 4.5 billion, rising to DH 13.5 billion in 1975, and DH 15.8 billion in 1976, at current prices. A combination of factors was responsible for the sharp increase, led by the large investment expenditures and the therewith required need for imported capital goods and related services. In addition, the unusually high requirement for imported foodstuffs, as a result of the poor 1973-75 harvests, and higher consumer demand, accounted for the increase in import payments.

Conversely, exports decreased during the same period. Declines were registered mainly in 1975 and 1976, after a sharp drop in phosphate export and prices. The remaining export commodities also suffered from a decline because of adverse developments in Europe in 1975-76, affecting particularly agri-exports. Export receipts rose from DH 4.2 billion in 1972, to a high of DH 9.5 billion in 1974, declining to DH 7.7 billion in 1976, at current prices. The resulting resource gap widened from a low of DH 153 million in 1972, to DH 8.1 billion in 1976. At the same time, current account deficits increased absolutely and relatively, from DH 2.2 billion in 1975 (7 percent of GDP), to DH 6.3 billion (18 percent of GDP) in 1976. Net foreign assets (at year-end 1976) stood at DH 1.8 billion, 1976 medium and long-term loan commitments stood at DH 3.7 billion.

The G.O.M.'s decision to maintain the substantial investment commitments led to the acceptance of a considerable external debt, fed by the ever increasing need for external financing to cover these high capital investment costs and ensuing deficit spending. As recently as 1976, the debt service to export ratio was only 9.8 percent, but subsequently began to rise rapidly. The ratio is expected to reach 16 percent in 1978. In terms of debt volume, Morocco's external public debt has risen from DH 10.8 billion in 1976, to DH 14.9 billion in 1977. For 1978 it is expected to reach at least DH 18.5 billion. There is no question that the G.O.M. is fully aware of this trend, determined, however, to remain on top of the situation. Nevertheless, the G.O.M. is proceeding with its ambitious industrialization program. It may mean, however, that it will become necessary for the G.O.M. to accept debt service ratios of 20-22 percent in the immediate years ahead.

This relatively high ratio does not seem too alarming in view of the fact that, at this time, new, large-scale industrial projects are not contemplated for implementation. It is expected, however, that upon completion of the current, on-going project development, increased industrial production capacity will yield the additional revenue required to reduce deficit spending making it unnecessary to maintain heavy, external borrowing over a prolonged period of time.

C. Government Policies and Expenditures

The delay in the publication of the contemplated development plan for 1977-82, makes it difficult to assess the major economic policies projected for the years ahead. It can be said, however, and in view of the limited information that is available, that the economic targets for the future will be more modest in

comparison to recent years. GDP growth is expected to be moderate. Investments will reflect the constraints in the availability of financial resources, slowing the development effort, though without jeopardizing the development objectives and strategies conceived during the re-adjustment process of the previous development plan of 1972-76. There is also the will for maintaining the objectives set for the sectoral growth of the economy, especially in the secondary sector, favoring the continuation of industrial growth. For this purpose, substantial allocations are being carried over from the previous plan. New allocations for the future, however, will be considerably less.

The Moroccan economy has considerable potential for growth providing that phosphate rock, the major export commodity, performs well on the market, and favorable weather conditions and greater production output promote added export of agricultural products. Improved production of basic food staples should also reduce dependency on imports and thus improve the balance of trade. Under such more favorable circumstances, Morocco should be able to increase efforts to favor social programs designed to raise the productivity and income of the disfavored population.

The G.O.M.'s determination to proceed, though more cautiously, with its industrialization policy seems logical and it is argued that the continuing development in the sector of industry might be necessary, so self-sustained economic growth and higher employment generation can be achieved on a long-term basis.

The initiated reform programs of the past two years most likely will be continued. Additional changes will have to be made during the reform process to improve the income responsiveness, and greater equity, of the tax system. Progress needs to be made in reducing price and other subsidies which are no longer economically justified. There is also the need for stabilizing prices of public goods and services in consideration of greater equity vis-a-vis the economically deprived.

An important aspect of reform is the question of interest subsidies particularly in long-term financing of housing. Decisions on this question, if made in favor of removal of such subsidies, will have an initial effect on the shelter delivery program for the affected target population. But it will open up possibilities for innovative alternatives which may, when evaluated, considered, and eventually implemented, broaden the market and hence include a considerably larger segment of the population than the current programs.

The following tables, reflecting the Moroccan government's budgets for 1975-1977, will give an indication of the variations in the budget allocations for the last three years. It is

pointed out that investment expenditures for housing and urban development (including tourism) have decreased from 3 percent of the total investment budget in 1975, to 2.8 percent in 1976, to .6 percent in 1977, when investment allocations were DH 70.1 million (refer to Table II-5). Since 1975, the overall investment budget has risen by 87 percent from DH 6.3 billion to DH 11.75 billion. The budget deficit, in turn, has more than doubled during the same period, from DH 5.5 billion in 1975, to DH 11.4 billion in 1977. External deficit financing, too, has more than doubled, accounting in 1977 for 59 percent of deficit financing requirements. Internal deficit financing is 41 percent of the total, with 3 percent having been borrowed from banks, and 38 percent from various other sources (refer to Table II-7). In total, it can be observed that practically the entire investment allotments within the 1977 budget are covered by deficit financing; the total projected investment being DH 11.744 billion, versus DH 11.375 billion projected deficit.

From this, it appears obvious that future planning policies will have to take due cognizance of the fact that efforts will have to be made to increase disburseable revenues. Results of these efforts would reduce the requirements for borrowing excessively to cover deficits caused by large investment outlays. It should also be noted that in the 1977 budget expenditures, 10.5 percent have been allocated to cover the interest on public debt and debt repayments, amounting to DH 1.05 billion, up 71 percent since 1975.

Table II-2

SUMMARY TABLE
THE EXECUTION OF THE MOROCCAN CENTRAL GOVERNMENT BUDGET 1975 AND 1976
 (Millions of Dirhams)

	<u>Budget 1975</u>	<u>Actual Execution</u>	<u>Budget 1976</u>	<u>Actual Execution (Estimate)</u>	<u>Budget¹⁾ 1977</u>
<u>Consolidated Revenue</u>	10,281	8,548.6	9,743.1	9,518	10,304.6
Income and Profit Taxes	3,245	2,617	2,855		2,309
Taxes on International Trade Turnover and Consumption Taxes	1,320	1,515.5	1,500		2,001
Other Taxes	2,389	2,515.8	2,647.5		3,153
Non-Tax Revenue	527	514.9	604.8		840
	2,800	1,385.4	2,135.8		2,001.6
<u>Current Expenditures</u>	9,463	7,968	9,081.5	9,081	9,935.5
Operating Expenditures	8,848	7,410	8,213.5		8,885.5
Debt Service	615	558	868	650	1,050
<u>Current Surplus or Deficit</u>	+ 818	+ 580.6	+ 661.6	+ 227	+ 369.1
<u>Investment Expenditures</u>	6,288	5,085.2	9,864	8,500	11,744.4
<u>Overall Budget Deficit</u>	- 5,470	- 4,504.6	- 9,202.4	- 8,250	- 11,375

Source: Official Moroccan Government Statistics and Budget Documents.

1) Estimate

Table II-3

CONSOLIDATED REVENUE OF THE MOROCCAN CENTRAL GOVERNMENT
1975-1977

	1975 <u>Budget</u>		1976 <u>Budget</u>		1977 ¹⁾ <u>Budget</u>	
<u>Income and Profit Taxes</u>	3,245	(31.5%)	2,855	(29.3%)	2,309	(22.4%)
Tax on Business Profits	2,850	(28%)	2,400	(24.6%)	1,639	(15.9%)
Tax on Wages and Salaries	260	(2.5%)	300	(3%)	500	(4.8%)
Other	135	(1%)	155	(1.7%)	170	(1.7%)
<u>Property Tax</u>	208	(2%)	256.5	(2.5%)	328.2	(3.2%)
<u>Turnover Tax</u>	1,560	(15%)	1,700	(17.5%)	2,000	(19.4%)
<u>Consumption Taxes</u>	829	(8%)	947.5	(9.5%)	1,153	(11.2%)
Petroleum Products	380	(4%)	420	(4%)	465	(4.5%)
Tobacco	278	(3%)	343	(3.5%)	472	(4.6%)
Other	171	(1%)	184.5	(2%)	216	(2.1%)
<u>Taxes on International Trade</u>	1,320	(13%)	1,500	(15.5%)	2,001	(19.4%)
Import Taxes and Duties	1,020	(10%)	1,286	(13%)	1,880	(18.2%)
Mineral Export Tax	270	(3%)	185	(2%)	90	(0.9%)
Other Export Taxes	30	(0.5%)	29	(0.5%)	31	(0.3%)
<u>Other Taxes</u>	319	(3%)	348.3	(3.5%)	511.8	(5.0%)
<u>Non-Tax Revenue</u>	2,750	(27%)	1,726.8	(18%)	1,911.6	(18.5%)
Profits of State Enterprise	2,438	(24%)	1,342.2	(14%)	1,562.15	(15.1%)
Other	312	(3%)	384.6	(4%)	349.42	(3.4%)
<u>Net Contribution of Extrabudgetary Accounts</u>	50	(0.5%)	409	(4.2%)	90	(0.9%)
<u>Total Consolidated Revenue</u>	10,281	(100%)	9,743	(100%)	10,304.6	(100%)

Source: Moroccan Government Budget Documents.

1) Estimate

Table II-4

CENTRAL GOVERNMENT CURRENT EXPENDITURES BY ECONOMIC FUNCTION
1975-1977
(Millions of Dirhams)

	1975 Budget		1976 Budget			1977 Budget ¹⁾		
	MDH	Percent Total	MDH	Percent Total	Percent Change	MDH	Percent Total	Percent Change
Personnel	3,073	32.5%	3,802.5	41.9%	+ 23.74%	4,749.6	47.8%	+ 24.9%
Materials and Supplies	1,269	13 %	1,682	18.5%	+ 32.55%	1,745.7	17.6%	+ 3.8%
Maintenance	68	1 %	73	0.8%	+ 7.35%	72.9	0.7%	---
Transfers and Miscellaneous	703	7 %	784.5	8.6%	+ 11.6%	1,986.8	14.0%	+ 76.8%
Subsidies	3,735	39.5%	1,871.5	20.6%	- 49.9%	930.5	9.4%	- 50.2%
Interest on Public Debt and Debt Repayments	615	7 %	868	9.6%	+ 43 %	1,050.0	10.5%	+ 21 %
TOTAL	9,463	100%	9,081.5	100%	(- 4%)	9,935.5	100%	+ 9.4%

II-14

Source: Moroccan Budget Documents

1) Estimates

Table II-5

ALLOCATION OF OPERATING AND INVESTMENT EXPENDITURES BY MINISTRY IN BUDGET PRESENTATION.
1975-1977
(Millions of Dirhams)

Ministry	Operating Expenditures						Investment Expenditures					
	1975 Budget		1976 Budget		1977 Budget		1975 Budget		1976 Budget		1977 ⁵ Budget	
Education	1,319	(15%)	1,796	(22%)	2,201.8	(24.8%)	366	(6%)	524	(5.3%)	535.0	(4.6%)
Finance ¹	3,891	(44%)	2,037	(25%)	1,274.3	(14.3%)	2,067	(33%)	3,287	(33.3%)	4,211.5	(35.9%)
Defense	841	(10%)	1,129	(14%)	1,559.7	(17.5%)	529	(8%)	1,211	(12.3%)	1,950.0	(16.6%)
Public Works & Communications	194	(2%)	213	(2.5%)	216.6	(2.4%)	1,408	(22%)	2,259	(22.9%)	2,544.2	(21.6%)
Interior	659	(7%)	813	(10%)	871.2	(9.8%)	204	(3%)	313	(3.2%)	146.5	(1.3%)
Agriculture	299	(3%)	374	(4.5%)	409.3	(4.6%)	776	(12%)	1,060	(10.8%)	1,315.8	(11.2%)
Health	331	(4%)	363	(4%)	406.9	(4.6%)	105	(2%)	207	(2.1%)	193.5	(1.6%)
Commerce & Industry	31	(0.5%)	37	(0.4%)	42.1	(0.5%)	175	(3%)	226	(2.3%)	273.3	(2.4%)
Justice	150	(2%)	172	(2%)	168.6	(1.9%)	39	(1%)	40	(0.4%)	28.0	(0.2%)
Housing & Urban Development ²	41	(0.5%)	47	(0.6%)	48.5	(0.6%)	217	(3%)	280	(2.8%)	70.1	(0.6%)
Other	1,092	(12%)	1,233	(15%) ³	1,686.5	(19%) ⁴	408	(7%)	457	(4.6%)	475.0	(4.0%)
TOTAL	8,848	(100%)	8,214	(100%)	8,885.5	(100%)	6,288	(100%)	9,864	(100%)	11,744.4	(100%)

¹ Including Subsidies

³ Includes 755.5 MDH for unforeseen and undecided expenses.

⁵ Estimates

² Including Tourism

⁴ Includes 1,155 MDH for unforeseen and undecided expenses.

Source: Moroccan Budget Documents.

Table II-6

MOROCCAN BUDGET PRESENTATION
(Millions of Dirhams)

	<u>1975 Budget</u>		<u>1976 Budget</u>		<u>1977 Budget¹⁾</u>	
	<u>Revenue</u>	<u>Expenditures</u>	<u>Revenue</u>	<u>Expenditures</u>	<u>Revenue</u>	<u>Expenditures</u>
Receipts	13,533		16,133		17,404.6	
Operating Expenditures		8,848		8,213.5		8,885.5
Investment Expenditures		6,288		9,864		11,744.4
Debt Repayments		615		868		1,050
	<u>13,533</u>	<u>15,715</u>	<u>16,133</u>	<u>18,945.5</u>	<u>17,404.6</u>	<u>21,679.9</u>
Specialized Agencies Budgets	706	706	1,069	1,069	1,058.8	1,058.8
Special Accounts of the Treasury	<u>1,720</u>	<u>2,108</u>	<u>2,896</u>	<u>3,543.5</u>	<u>3,115</u>	<u>3,365</u>
TOTAL	15,959	18,565	20,098	23,558	21,578.4	26,103.7
Overall Deficit	<u>2,606</u>		<u>3,460</u>		<u>4,525.3</u>	
	18,565	18,565	23,558	23,558	26,103.7	26,103.7

Source: Moroccan Budget Documents.

1) Estimates

Table II-7

CENTRAL GOVERNMENT FINANCING (1975 - 1977)
(Millions of Dirhams)

	<u>GOM Budget Projection for 1975</u>	<u>GOM Budget Projection for 1976</u>	<u>GOM Budget Projection for 1977</u>
<u>Consolidated Revenue</u>	10,281	9,743	10,304
Current Expenditure and Debt Payment	9,463	9,081	9,935
Government Savings	818	662	369
Investment Expenditures	6,288	9,864	11,744
Overall Deficit	5,470	9,202	11,375
<u>Financing</u>			
External Financing	3,000 (55%)	5,890 (64%)	6,700 (58.9%)
Domestic Borrowing:			
From Banking System	2,470 (45%)	3,312 (36%)	4,675 (41.1%)
From Other Sources	2,220 (41%)	500 (5.43%)	340 (3%)
	250 (4%)	2,812 (30.57%)	4,375 (38.1%)
Total Financing	5,470 (100%)	9,202 (100%)	11,375 (100%)

Source: Moroccan Budget Documents

Table II-8

MOROCCAN BUDGET PRESENTATION 1977 BUDGET
INVLSIMENT BUDGLT PER GOVERNMENT AGENCY
 (Millions of Dirhams)

	Allotments for 1977	Contracting Authorization 1977 and Following Years	Total
Royal Court	92	3	95
Planning Department	16	14	30
Fishing Department	6	-	6
Promotion Nationale	100	-	100
Entraide Nationale & Handicraft	30	7	37
Administrative Affairs	1	-	1
Information	52	46	98
Justice	28	121	149
Foreign Affairs	16	-	16
Interior	147	92	239
Housing and Tourism	70	63	133
Finance	4,212	5,034	9,246
Commerce and Industry	273	28	301
Agriculture	1,315	807	2,122
Public Works and Communications	2,544	6,275	8,819
Posts, Telegraph and Telephone	13	92	103
Education. Primary and Secondary	390	505	895
Education: Superior	145	91	236
Labor and Social Affairs	12	3	15
Youth and Sports	77	35	112
Health	196	139	335
Religious Affairs	19	9	28
Culture	-	2	2
Defense	1,950	4,078	6,028
Cooperation	40	-	40
Total	11,744	17,444	29,188

Source: Moroccan Budget Documents

III. POPULATION CHARACTERISTICS

A. Overall Population Characteristics

1. National

The population of Morocco has been steadily rising at the rate of about 2.9 percent annually since independence in 1956. The first official census, taken in 1960, revealed a total population of 11.6 million, followed by a census in 1971, at which time an official count of 15.4 million was made, indicating a compounded growth rate of the same 2.9 percent per annum over a period of one decade.

Table III-1 reflects official projections by the Government of Morocco (G.O.M.) for the period of 1978 to 2002. For reasons of comparison, the official census figures of 1971 were added to demonstrate the trend of Morocco's population growth since the latest census.

Population characteristics are shown for both the urban and rural population, together with an annually compounded growth rate for the periods indicated. The projections are significant insofar as they indicate a generally steady, overall national rate of growth of 2.9 percent up to the year 2002.

Of significance are the disparities between urban and rural growth. Ever since the latest census, urban growth, at 4.9 percent, has been almost three times as much as the 1.7 percent rural growth. It is a trend which is projected to continue over the next twenty-five years, with only marginal variations. The current population ratio is 40 percent urban to 60 percent rural. By 1992, the G.O.M. expects that the ratio will be equal, and by the year 2002, it will be 58 percent urban to 42 percent rural.

An analysis of the age and sex structure revealed a consistent pattern since the latest census of 1971. The male-female ratio was practically equal in 1971, and the latest G.O.M. projections, published in 1977, indicate a continuation of this trend up to the year 2002.

The same holds true for the age groups. In 1971, the census determined that about 45 percent of the population was under the age of 15 years, and about 57 percent less than 20 years of age. An analysis of the latest G.O.M. projections revealed a surprisingly consistent pattern with only moderate changes of one or two percentage points.

According to latest estimates, the life expectancy at birth has risen from 51 years in 1971, to 53 years in 1977. As health delivery systems are improved in the years ahead, this trend is expected to continue, though no official, statistical predictions are available at this time.

Currently, the crude birth rate is estimated to be 45-48 per 1,000; that of the crude death rate 15-18 per 1,000. The infant mortality rate is 130 per 1,000.

No new surveys have been conducted on a nationwide basis since 1971 that would determine the current average urban and rural household size. It can be reasonably assumed, however, that no significant changes have occurred since the 1971 census. The census determined an estimated average urban household size of 5.4 persons, while that of a rural household was 5.8 persons. The national average was 5.6 persons at the time of the 1971 census.

At the time of the 1971 census, Morocco was subdivided into 19 provinces and 2 prefectures. During the intervening years of 1971-1977, nine new provinces were created, now totaling 28. The two prefectures of Casablanca and Rabat-Sale remained as such without change. Plate III-1, shows a map of Morocco by provinces and prefectures as of 1976. It also indicates the projected number of primary urban centers for 1982.

For informational purposes, a brief analysis of the provincial population characteristics has been added as "Section Appendix III-1."

Table III - 1

POPULATION PROJECTIONS
 OVERALL MOROCCO PROJECTIONS
 1971 - 2002
 (Population in Millions)

Area	1971*	1978	1979	<u>Population</u>					<u>Annual Percent Growth Rate (compounded)</u>		
				1980	1981	1982	1992	2002	1971-78	1978-82	1982-2002
Urban	5.410	7.573	7.965	8.379	8.812	9.270	14.232	21.819	4.9	5.2	4.4
Rural	9.970	11.232	11.415	11.594	11.771	11.942	14.232	16.106	1.7	1.5	1.5
Total	15.380	18.805	19.380	19.973	20.583	21.212	28.464	37.925	2.9	3.1	2.9

Source: 1 *Morocco Synchrisis (Second Draft) Office of Int. Health/Julie Weissman/Feb 1977
 Based on G.O.M. 1971 Census

2. Projections de la Population Marocaine Totale. Par Milieu et par Povince/Hypothese I
 No. 19 bis, Mars 1977

Plate III-1

MOROCCO BY PROVINCE
1976



● Primary Urban Population Centers,
1982 Projections

2. Major Urban Areas

In 1978, eleven major urban areas maintain official status as centers of urban concentration and having a population over 100,000. Table III-2 lists these centers as being the capitals of their respective provinces. The table shows their current population, projects their yearly growth indicating a compounded growth rate for the time period of 1978-1982. Where possible, a growth rate for the period of 1971-1978 is shown, 1971 being the year of the latest census.

Taking the figures as shown, urban growth will be most predominant in the cities of Agadir and Kenitra, followed by Rabat-Sale and Casablanca. The least growth is projected to occur in Tangier.

Eight additional urban centers will have emerged by 1982, meeting the criteria of having more than 100,000 population. In some instances, these new, urban areas will experience considerably higher growth rates between 1978 and 1982, than those already established.

In dealing with urban growth, it must be recognized that the rural to urban migration is an important factor to be considered. Housing construction, especially for the subsistence and lower income groups, is currently not keeping up with the demand of natural growth. Migratory growth exacerbates the problem and imposes an even greater burden upon the cities. With the urban growth rates remaining at a level above 4 percent annually for the rest of this century, acceptance of this fact will require considerable financial resources to achieve an impact towards alleviating the chronic housing shortage.

In summary of this brief review of the Moroccan population trends in urban areas to the year 1982, it cannot be overemphasized that the magnitude of accelerated urban growth will impose a tremendous burden upon the cities in providing adequate shelter for the rapidly growing urban population.

Table III - 2

POPULATION PROJECTIONS-MOROCCO
 MAJOR URBAN AREAS
 1971 - 1982
 (Population in Thousands)

Rank	Urban Area	1971*	Population					Annual Growth Rate % Compounded	
			1978	1979	1980	1981	1982	1971 1978	1978 1982
1	Casablanca	1,582	2,102	2,199	2,301	2,406	2,518	4.1	4.6
2	Rabat Sale	526	740	778	819	861	904	5.0	5.1
3	Marrakech	--	470	490	510	530	551	--	4.1
4	FEZ	--	516	540	562	586	611	--	4.3
5	Meknes	--	428	446	463	482	501	--	4.0
6	Oujda	--	393	407	424	440	457	--	3.8
7	Kenitra	--	389	417	446	478	511	--	7.1
8	Tetouan	--	325	338	352	366	381	--	4.1
9	Safi	--	217	227	237	247	258	--	4.4
10	Tanger	188	251	259	268	277	287	4.2	3.4
11	Agadir	--	199	213	229	245	263	--	7.2
	Total	--	6,030	6,314	6,611	6,918	7,242	--	4.7

Note. Where figures are omitted, this is due to subsequent readjustment of provincial boundaries.

Source. 1. *Morocco Synthesis (second draft) Office of Int. Health/Julie Weissman) Feb. 1977 from G.O.M. 1971 Census
 2. Projections de la Population Marocaine Totale, Periode 1977-2002 (Centre De Recherches et D'Etudes Demographique No. 18 bis, Mars 1977).

B. Demographic Characteristics of the Target Population

At this time, a definition of "target population" is difficult to ascertain, since reliable income data, essential for meaningful projections, are currently not available. Analysis of previous estimates^{1/} revealed, however, that the current, mid 1978, monthly median urban income is at a level of US\$ 157.- (DH 690.-), based upon an estimated escalation of 8 percent per annum. In comparison, the monthly overall national median income stands at US\$ 147.- (DH 646.-). The estimates are based on "one" wage-earner per household.

IBRD surveys conducted in early 1977, in the Rabat bidonvilles of Douar Doum, Douar Maadid, and Douar Hajja, determined that the average household income for all three bidonvilles was US\$ 94.- per month.

The general definition of target population is understood to include that segment of the urban population which falls below the median urban income level. To translate this into comprehensible figures is only vaguely possible by exercising subjective judgements as to the percentage of population, or households, in urban areas considered to be below the median urban income.

Going on the assumption that most of the population, having a level of income below the urban median, lives in the medinas and squatter settlements (bidonvilles) within the major urban centers, a rough target population could be estimated on a basis of limited data that has been developed by the IBRD for the urban centers of Rabat-Sale' and Casablanca. It has been stated, that about 40 to 45 percent of the two cities population lives in these areas.

Assuming, that similar percentage ratios apply to the other major urban centers in the country, with degrees of fluctuation, an average could be applied, generally, 42.5 percent of total urban population.

Applying this rationale, it may be stated, that out of the 6,030 million urban dwellers in the eleven major urban centers, about 2.6 million urban dwellers, or 475,000 households, at the urban average of 5.4 persons per household, would fall under the category "target population" for the year 1978.

^{1/}

MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

In Table III-3, an attempt is being made to demonstrate the magnitude of the number of urban dwellers and households falling under the category of target population. The high percentage of urban growth in the eleven major urban areas, 4.7 percent between 1978 and 1982, makes any effort to alleviate, or even substantially ease, the chronic shelter problem difficult. According to the hypothetical forecast, the target households, 475,000 in 1978, would number 570,000 in 1982.

Making the assumption that in 1978, 10 percent of the target households could obtain new shelter, rising to 20 percent in 1982, a total of 353,000 households, or at an average 70,000 households annually, could be housed at the end of the period. In view of past trends, this would constitute a vast improvement and require a concerted effort in realizing this goal. However, the magnitude of the problem will not make the conditions less severe in 1982, than what they were in 1978. In terms of residual target households remaining, the reduction would be by only 35,000 households, from 427,000 in 1978, to 392,000 in 1982, or a mere 8 percent drop over a period of 5 years.

Additionally, it must be realized that by 1982, eight (8) new, major urban centers will have been added to the current eleven (11), increasing the target population by a substantial margin over what has been shown for the current eleven cities. It can be safely stated that in these new urban areas, the problems will be substantially greater because of a lower existing housing stock, and lack of infrastructure and other social services. Another factor is the excessively high growth rate some of the newer urban centers will experience during the period of 1978-1982.

The target population's socio-economic conditions make it necessary to double-up and it is, therefore, not uncommon that in the medinas and bidonvilles units of two or more households are living in one shelter unit. This is particularly prevalent in the respective areas of the city of Casablanca, where extended households may have 10+ persons, rendering densities very high, reading over one thousand persons per hectare in many areas.

The high densities are a direct result of the space the medinas and bidonvilles occupy, with little or no possibility to expand. It follows that the available housing stock is limited. Housing stock deficiency, however, is not the sole cause of overcrowding. It is added to the limitations, imposed upon a large segment of the target population, which make it difficult for most to attain the economic level necessary for affordability of shelter outside these areas.

Table - III - 3

ESTIMATED TARGET POPULATION AND HOUSEHOLDS-MOROCCO
 MAJOR URBAN AREAS 1978-82
ESTIMATED NO. OF HOUSEHOLDS SERVED AND RESIDUAL REMAINING
 (Figures in Thousands)

	1978	1979	1980	1981	1982	
1. Total Population	6,030	6,314	6,611	6,918	7,242	
2. Target Population ¹	2,560	2,680	2,810	2,940	3,080	
3. Target Households	475	497	520	545	570	
4. Target Households served previous year	--	47.5	56	69.5	83	
5. Target Households current year	475	449.5	464	475.5	487	
6. Target Households served current Year ²	47.5	56	69.5	83	97.5	(Total 353.5)
7. Residual Target Households	427.5	392.5	394.5	392.5	392	

1 For the period 1978-82, the target population is calculated at a constant 42.5 percent of total urban population.

2 It is assumed that it is possible to serve the target households progressively at 10 percent in 1978, with yearly increases of 2.5 percent, to 20 percent in 1982.

Note: Calculations should be considered hypothetical and taken as being exemplary only.

C. Economic Characteristics of the Target Population

The target population's weaknesses are rooted in the problem of lack of a basic education and marketable skills. It characterizes this segment of the population as a body of limited economic viability and therefore, prevents them from entering the mainstream of economic activity. This applies particularly to the apparent opportunities the industrialization process seems to provide. In the urban centers, the problem of gainful employment is critical because of the prevailing requirements for skilled labor in modern industry and its allied services. Even though a number of jobs may be available, this lack of education and skills prevents many from being considered for employment.

Cursory surveys indicate that the unemployment rate among the target population is very high. Full employment befalls only a lucky few who do have the background prerequisites. Part-time, or seasonal employment, though more common, is highly unreliable and not in areas that require special skills or particular aptitude. Little opportunity is available that otherwise could provide the necessary training. As a consequence, most of them are happy to accept, if offered, the low paying, menial jobs, or make due with petty-trading or part-time employment in the service sector. Where possible, they too may be able to contribute toward the output of the traditional handicraft sector which, thanks to the thriving tourism industry, enjoys a favorable economic status, especially in the more traditional urban centers such as Fez, Meknes, Marrakech and Tangier.

There are efforts being made, though few and localized, which are designed to initiate employment generation and associated training programs in conjunction with programs for the rehabilitation of squatter settlements. Admittedly, the cost of such programs are high, and add to the already overburdened social services requirements in the urban centers. But they are necessary and helpful and do provide at least a beginning and the hope for an eventually better economic status for the target population.

D. Social and Cultural Characteristics of the Target Population^{1/}

Moroccans are a part of an old and historically significant society and descendents of indigenous Arabs and Berbers, who occupied the area of modern Morocco in the eighth and eleventh

^{1/} MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977-modified.

centuries. They implanted a rich cultural heritage which remained a dominant force until the recent emergence of a modern society. In essence, Morocco's history has been shaped largely by its strategic location. Beginning with the Phoenicians, a long series of invaders have swept the land. From the first century BC, until the fifth century AD, Morocco was a Roman province. Then the Vandals, Visigoths, and Byzantine Greeks successively ruled. Finally, in the eighth century AD, Islamic Arab forces from the east occupied Morocco. The present Alaouite Dynasty, which has ruled Morocco since 1649, claims descent from the Prophet Mohammed. In early 1900, Spain and France jointly established secure protectorates over parts of Morocco. These lasted until public demands for independence, headed by Sultan Mohammed, were expressed in 1944.

The Kingdom of Morocco recovered its political independence from France on March 2, 1956. Subsequent agreement with Spain (1956 and 1958) restored control over the Spanish zones of influence to Morocco. On October 29, 1956, the signing of the Tangier Protocol politically reintegrated the former international zone. Spain, however, retained control over the small enclaves of Ceuta and Melilla in the north. King Hassan II, acceded to the throne on March 3, 1961, following the death of his father, Mohammed V.

Morocco's principal language is Arabic, although Berber dialects are spoken widely, primarily in rural areas. French, and to a degree Spanish, are also used, particularly in Government. The literacy rate as a whole is low, and stands at about 25 percent for men, and 7 percent for women. Only about half of the country's children between the ages of 7-14 years attend school, a significant statistic considering that about 45 percent of the total population is under the age of 15 years.

Rapid urbanization made it difficult to monitor the constant movement of migrants and hence obtain vital information of socio-cultural characteristics short of the statistics obtained at the time of the 1971 census.

The target population, previously defined, is comprised of a segment of the urban population marked by widespread regional diversity. Although, Moroccans are a basically homogeneous people with a uniform religious persuasion - 99 percent Muslim - and an ethnic makeup of either Arab or Berber, their regional origin has certainly influenced their socio-cultural chemistry, giving an indication of the mixture prevailing within the target population.

Historically, migration within the strata of rural life has always been an important factor. For centuries, and until recent times, when rural to urban migration became predominant, inter-rural migration was, and to a degree still is, a necessity. These old, migratory patterns are prevailing mostly in the middle Atlas regions where seasonal migration still does occur, from the mountains of the Atlas to the plains of Fez and Meknes in the winter, and back to the mountains in the summer. Similar shifts take place in the Tadla Plains of the upper Oum Al Rhia River, the semi-arid steppes of the southeast, and the steppes of the Moulaya River.

Consideration must be given to the fact that until the turn of the century only 10 percent of the population lived in so-called urban areas, or the traditional centers of commerce and trade.

With the beginning of the French colonial era in 1912, the impact of change upon the ancient kingdom of Morocco, with its rich cultural heritage, was profound. It precipitated enormous socio-cultural changes during the period of strong French influence until 1956, when Morocco again became an independent kingdom.

The colonial powers introduced their own systems of public and private institutional management, and exerted their own cultural and social influence upon the Moroccan community, imposing the French and, to a lesser degree, the Spanish language upon the population. This had a divisive effect upon the inherent social and cultural cohesiveness.

Economically, the divisiveness was even more pronounced, with the elite group benefiting greatly from the economic expansion, while the rest, as a whole, benefited very little. Nevertheless, economic expansion introduced rapid urban growth. The superficially apparent, economic opportunities introduced the rural to urban shift with little chance for a viable economic base, but a certain change in their socio-cultural status. The transformation from a traditionally agri-oriented society to a modern industrial nation was bound to induce changes in the social and cultural characteristics of a population previously accustomed to a traditional rural life-style.

While it may be true that in the traditional urban centers, such as Fez, Meknes and Marrakech, the old social and cultural traditions may linger on, and to a certain extent may even be fostered for the benefit of the foreign tourist, the more modern urban areas certainly are not conducive to maintaining the old heritage. By necessity, and as new, urban-born generations emerge, totally different and western oriented social and cultural values will eventually predominate. This social and

cultural transformation from a cohesive rural, tribal heritage to an urban oriented, basically self-centered and independently structured existence, imposes great strain upon the human fabric of the affected population.

The basic value changes inherent in urban living, combined with a socially and culturally fractured life-style within the urban environment requires not only individual re-adjustment within the family unit and community framework, but also re-structuring of the socio-cultural system as a whole.

APPENDIX III-1

RURAL AND URBAN POPULATION

(Provinces and Prefectures)

In Tables III-1-1 to 1-4, yearly projections are presented showing population growth in actual numbers and percentage rates of growth of the rural and urban population. In analyzing the tables, it can be observed that the disparities between the rural growth and that of the urban areas is considerable.

It is significant that none of the 30 provinces and prefectures has an urban growth rate less than the overall national rate of growth, except for Tarfaya, which only in 1979-80 is expected to experience an excessive rural to urban movement, but in the remaining years will maintain somewhat of a balance between urban and rural growth. This is attributed to a possible economic upsurge, since it is seriously contemplated to exploit bituminous shale deposits in the area for the purpose of extracting oil.

In general, rural growth will be about half that of the national rate of 2.9 percent, making it obvious, that rural to urban migration is a factor in the growth of the urban areas. A case in point is the growth of the provinces of Beni-Mellal, Khouribga, and Nador. Although, they are currently not considered provinces with large population centers, the future indicates a strong rural to urban, as well as a migratory shift from outside provinces. Their growth between 1978 and 1982, Nador leading the way with 14 percent per annum, Beni-Mellal 8.6 percent, and Khouribga 5.8 percent, will exceed that of some of the established urban centers. It is assumed that the G.O.M. in projecting population growth, took ongoing and contemplated economic development programs into consideration, particularly for these three areas.

In the absence of indications to the contrary, it was assumed that the respective provincial capitals attract the majority of the rural migrants and hence become the respective urban centers even though there may be other, less significant towns which absorb some of the shifting population. For the purpose of this appraisal, only the respective provincial capitals are considered urban centers, while all other towns remain in the rural category.

On the basis of available population data, it is projected that at the end of 1978, 16 out of the 30 provincial and prefectural capitals will attain a population of over 100,000, though only eleven are officially recognized at this time. By 1982, the number is expected to reach 19. Since this trend is not expected to abate in the years beyond 1982, it is very likely that most, if not all, of the provincial capitals will become major urban centers by the end of this century.

Table III-1-1

POPULATION PROJECTIONS - MOROCCO
PROVINCES AND PREFECTURES
URBAN AND RURAL POPULATION 1978-1979/80
(Population in Thousands)

Province	Population						Annual Percent Growth Rate					
	1 9 7 8			1 9 7 9			1 9 7 8 / 7 9			1 9 7 9 / 8 0(1)		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Agadir	199	726	925	213	742	955	7.0	2.2	3.2	7.5	1.9	3.1
Al Hoceima	44	251	295	49	256	305	11.4	2.0	3.4	12.2	1.2	2.9
Azilal	28	359	387	31	366	397	10.7	1.9	2.6	9.7	1.9	2.5
Beni-Mellal	188	380	568	205	385	590	9.0	1.3	3.9	8.8	1.3	3.9
Boulemane	13	124	137	14	127	141	7.7	2.4	2.9	7.14	1.6	2.1
Chaouen	34	259	293	36	264	300	5.9	1.9	2.4	5.6	2.3	2.7
El Jadida	133	559	692	140	568	708	5.3	1.6	2.3	4.3	1.9	2.4
El Kelaa	72	485	557	78	494	572	8.3	1.9	2.7	9.0	1.8	2.8
Essaouira	56	370	426	59	376	435	5.4	1.6	2.1	3.4	1.9	2.1
Fez	517	701	1.218	540	713	1.253	4.4	1.7	2.9	4.1	1.8	2.8
Figuig	27	76	103	28	76	104	3.7	-	.97	-	1.3	.96
Kenitra	389	764	1.153	416	775	1.191	6.9	1.4	3.3	7.2	1.3	3.4
Khemisset	81	336	417	87	342	429	7.4	1.8	2.9	7.0	1.7	2.8
Khenifra	79	214	293	83	218	301	5.1	1.9	2.7	3.6	2.3	2.7
Khouribga	203	206	409	215	208	423	5.9	.97	3.4	5.6	.96	3.3

Source: Projections de la Population Marocaine Totale par Milieu et par Province, Centre de Recherches et d'Etudes Demographique/No. 19 bis, Mars 1977

(1) Refer to Table III-1-3 for 1980 Population Figures

Table III-1-2

POPULATION PROJECTIONS - MOROCCO
 PROVINCES AND PREFECTURES
 URBAN AND RURAL POPULATION 1978-1979/80
 (Population in Thousands)

Province	Population						Annual Percent Growth Rate					
	1 9 7 8			1 9 7 9			1 9 7 8 / 7 9			1 9 7 9 / 8 0		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Er-Rachidia (Ksar-es-Souk)	56	340	396	61	345	406	8.9	1.5	2.5	9.8	1.4	2.7
Marrakech	470	718	1 188	490	730	1 220	4.7	1.7	2.7	4.1	1.8	2.7
Meknes	428	316	744	446	321	767	4.2	1.6	3.1	3.8	1.6	2.9
Nador	96	493	589	110	499	609	14.6	1.2	3.4	14.5	.8	3.3
Quarzazate	56	558	614	60	568	628	7.1	1.8	2.3	8.3	1.8	2.4
Oujda	393	329	722	407	333	740	3.5	1.2	2.5	4.2	.1	2.4
Safi	217	422	639	227	429	656	4.6	1.7	2.7	4.4	1.6	2.6
Settat	167	624	791	175	626	801	4.8	.32	1.3	5.1	3.3	3.7
Tanger	251	92	343	259	93	352	3.2	1.1	2.6	3.5	-	2.6
Tarfaya	35	49	84	36	50	86	2.9	2.0	2.4	5.6	2.0	3.5
Taza	120	518	638	131	526	657	9.2	1.5	3.0	7.6	1.5	2.7
Tetouan	325	330	655	338	334	672	4.0	1.2	2.6	4.1	1.2	2.7
Tiznit	51	361	412	53	369	422	3.9	2.2	2.4	5.7	1.9	2.4
Casablanca	2.102	154	2,256	2.199	152	2 351	4.6	-1.3	4.2	4.6	-0.7	4.3
Rabat-Sale	740	118	858	778	119	897	5.1	.85	4.5	5.2	.8	4.7
TOTAL	7,570	11,232	18 802	7 964	11 404	19 368	5.2	1.5	3.0	5.2	1.6	3.1

Source: Projections de la Population Marocaine Totale par Milieu et par Province, Centre de Recherches et d'Etudes Demographique, No 19 bis, Mars 1977

Table III-1-3
 POPULATION PROJECTIONS - MOROCCO
 PROVINCES AND PREFECTURES
 URBAN AND RURAL POPULATION 1980 - 1982
 (Population in Thousands)

Province	1980			Population 1981			1982			Annual Percent Growth Rate					
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	1980/81			1981/82		
										Urban	Rural	Total	Urban	Rural	Total
Agadir	229	756	985	245	771	1,016	263	785	1,048	7.0	2.9	3.1	7.3	1.8	3.1
Al Hoceïma	55	259	314	61	262	323	67	265	332	10.9	1.2	2.9	9.8	1.1	2.8
Azilal	34	373	407	38	380	418	41	387	428	11.8	1.9	2.7	7.9	1.8	2.4
Beni-Mellal	223	390	613	242	394	636	262	398	660	8.5	1.0	3.7	8.3	1.0	3.8
Roulemane	15	129	144	15	132	147	16	135	151	-	2.3	2.1	6.7	2.3	2.7
Chaouen	38	270	308	40	275	315	42	280	322	5.3	1.8	2.3	5.1	1.8	2.2
El Jadid	146	579	725	151	591	742	158	602	760	3.4	2.1	2.3	4.6	1.7	2.4
El Kelaa	85	503	588	92	512	604	100	521	621	8.2	1.8	2.7	8.7	1.8	2.8
Ellaouira	61	383	444	63	391	454	66	398	464	3.3	2.1	2.2	4.8	1.8	2.2
Fez	562	726	1,288	586	740	1,326	611	753	1,364	4.3	1.9	2.9	4.3	1.8	2.9
Figuig	28	77	105	29	77	106	30	77	107	3.6	-	1.0	3.4	-	0.9
Kenitra	446	785	1,231	477	795	1,272	511	803	1,314	6.9	1.3	3.3	7.1	1.0	3.3
Khemisset	93	348	441	99	354	453	106	360	466	6.4	1.7	2.7	7.1	1.7	2.9
Khenifra	86	223	309	90	227	317	94	231	325	4.6	1.8	2.6	4.4	1.8	2.5
Khouribga	227	210	437	241	211	452	254	213	467	6.7	0.5	3.4	5.4	1.0	3.3

Source: Projections de la Population Marocaine Totale par Milieu et par Province, Centre de Recherches et d'Etudes Demographique No. 19 bis, Mars 1977.

Table III-1-4

POPULATION PROJECTIONS - MOROCCO
 PROVINCES AND PREFECTURES
 URBAN AND RURAL POPULATION 1980 - 1982
 (Population in Thousands)

Province	1980			Population 1981			1982			Annual Percent Growth Rate					
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	1980/81			1981/82		
										Urban	Rural	Total	Urban	Rural	Total
Er-Rachidia	67	350	417	74	355	429	81	360	441	10.4	1.4	2.9	9.5	1.4	2.8
Ksar-Es-Souk															
Marrakech	510	743	1,253	530	755	1,285	551	768	1,319	3.9	1.6	2.5	4.0	1.7	2.6
Meknes	463	326	789	481	332	813	501	337	838	3.9	1.8	3.0	4.2	1.5	3.1
Nador	126	503	629	145	505	650	167	504	671	14.1	0.4	3.3	14.2	0.2	3.2
Quarzazate	65	578	643	69	588	657	75	598	673	6.1	1.7	2.2	8.7	1.7	2.4
Qujda	424	334	758	440	337	777	457	340	797	3.8	0.9	2.5	3.9	0.9	2.6
Safi	237	436	673	247	443	690	257	450	707	4.2	1.6	2.5	4.0	1.6	2.5
Settat	184	647	831	193	659	852	203	670	873	4.9	1.8	2.5	5.2	1.7	2.5
Tanger	268	93	361	277	94	371	286	95	381	3.4	1.1	2.8	3.2	1.1	2.7
Tarfaya	38	51	89	39	52	91	40	53	93	2.6	2.0	2.2	2.6	1.9	2.2
Taza	141	534	675	153	542	695	166	549	715	8.2	1.5	3.0	8.2	1.3	2.9
Tetouan	352	338	690	366	343	709	381	347	728	4.0	1.5	2.7	4.1	1.2	2.7
Tiznit	56	376	432	59	383	442	62	391	453	5.4	1.9	2.3	5.1	2.1	2.5
Casablanca	2,301	151	2,452	2,406	149	2,555	2,517	148	2,665	4.6	1.3	4.2	4.6	0.7	4.3
Rabat-Sale	819	120	939	861	121	982	904	122	1,026	5.1	0.8	4.6	5.0	0.8	4.5
TOTAL	8,379	11,591	19,970	8,809	11,770	20,579	9,269	11,940	21,209	5.1	1.5	3.0	5.2	1.4	3.1

Source. Projections de la Population Marocaine Totale par Milieu et par Province, Centre de Recherches et d'Etudes Demographique/No. 19 bis, Mars 1977.

IV. DIMENSIONS OF THE SHELTER PROBLEM

A. Human Settlement Patterns

1. General

Morocco has currently eleven major urban centers, and will experience an increase to nineteen by the year 1982. The two most important, of course, are the coastal cities of Casablanca and Rabat-Sale, closely followed by the interior cities of Meknes, Fez and Marrakech. These five major urban settlements are presently inhabited by 57 percent of the total urban population. In terms of previous urban growth, these five cities absorbed not only the natural increase, but also considerable migratory inflow. This inflow has been taxing excessively the absorptive capacity of the existing residential settlements, especially the old "Medinas", inevitably forcing migrants into the outlying areas, where they created the notorious "Bidonvilles" as long as 50 or more years ago. As normal development proceeded, in many instances these bidonvilles became an integral part of the urban city scape, which is especially apparent in Casablanca, where many of these sizable settlements are now central focal points.

Saturation, which often resulted in a density count of over 1,000 persons per hectare, did not curtail the continuing migratory inflow despite some measures taken by the government to entice the migrants to return to the rural areas of the country. Until very recently, not very much was done in support of the spontaneous settlements such as the bidonvilles.

In the medinas, the over-population precipitated accelerated deterioration of the once stately structures, resulting in the theoretical decrease of the previously viable housing stock. It further overburdened the infrastructural systems to a point where major and costly rehabilitation of these systems has become necessary. The combined questions of overcrowding, obsolescence of dwellings, and deterioration of the infrastructure is certainly contributing to the shelter problem.

The bidonvilles, in turn, could never be categorized as having an acceptable housing stock. The nature of construction of the primitive dwellings is such that no reasonable permanence could be attributed to them. Since these settlements never had "official" sanction, planned infrastructure has never been considered, and only bare essentials such as potable water outlets, for example, were eventually provided. Overcrowding became an overriding problem and health hazards were exacerbated

by the absence of essential social services. Bidonvilles have grown to the extent where population figures of 50- to 100,000 have become very common. There is no question that the bidonville settlements constitute the most serious problem in the shelter sector. The problems facing the authorities are enormous and reach across the entire spectrum of urban development, such as infrastructural development, social delivery systems, educational opportunities, employment generation, and last, but not least, provision of acceptable shelter.

While the obvious problems are critical in the most populated urban centers, they are no less urgent in other cities, which only recently have experienced growth acceleration surpassing many of the older settlements. Kenitra and Agadir, both having an urban growth rate of over 7 percent, and Nador, the rapidly growing port city on the Mediterranean Sea, with a growth rate of 14 percent, are cases in point. In those cities, as well as in many others, the problems are aggravated even more because, they are the least prepared to cope and deal with the complexities of rapid urbanization.

2. Specific

In the context of Morocco's urban explosion, the existing settlement patterns in the urban areas have all been affected. As far as the target population is concerned, they have been, and continue to be, absorbed by moving into the old medinas and existing bidonville settlements, or follow the old examples by creating their own. Some, of course, made the advance by breaking the cycle, moving out of the old established pattern and into the newer settlements that developed either through government or private initiative.

a. The Old Medinas

They are the traditional neighborhoods, once composed of many splendid homes for single families. Ever since the rural to urban population shift began, they have been the temporary homes for the migrants. Most, if not all, of the homes have been divided in order to house a number of families. Increasing density over the decades has produced a strain on living conditions. In fact, oversaturation of the medinas led, in part, to the development of bidonvilles on the fringes of the larger urban centers. Densities of up to 1,500 persons per hectare may be found in the medinas.

b. The New Medinas

Neighborhoods of this type are replacing the traditional medinas, and are largely occupied by low income families. They may be considered spontaneous settlements that were created for quick,

temporary relief for the over-populated older medinas. The new medinas have an inherent problem that is reflected in the poor sanitary and other essential infrastructural and social services. The developments have about 50-60 plots per hectare of sizes between 50 and 80 square meters.

c. Sites and Services Areas

For the past ten years, the sites and services concept has been used, though only with moderate success. This concept provided service-plots of 6 by 8 meters, with a water connection. As with other developments, the sanitary, infrastructure and social services provisions are highly inadequate.

d. The Bidonvilles

At the time of the last census in 1971, more than a million people lived in these spontaneous settlements. It may be reasonably assumed that, at present, a considerably larger number occupies these settlements in and around the urban centers. With the in-migration continuing unabated, bidonville habitation will continue to be an important element of the Moroccan shelter problem to be dealt with in the years ahead. In the absence of a general policy designed to eliminate the inherent and generally intolerable human conditions which prevail in these settlements, the elimination of the adverse existing conditions is difficult to attain.

These four settlement categories are essentially those which serve the target population. There are others, which serve the more advanced income groups, and those which house the elite, in neighborhoods resembling more the European life-style.

B. Housing Stock

Without conducting detailed surveys as a basis for an accurate assessment of the current housing stock, no detailed analysis can be made at this time. In 1977, an estimate made by the World Bank put the existing housing stock in urban areas at 1.37 million units. About 25 percent of the housing stock are located in the slum-like squatter settlements. An estimated 15 percent of the total housing units are obsolete and considered beyond repair. There are no actual figures on overcrowding, but it is believed that a very high percentage of the units are housing more than one family household. In addition, the annual growth demand for housing units is estimated to be about 85,000 units. World Bank estimates in mid-1977 put the Moroccan housing deficit in excess of 800,000 units. Taking the normal growth demand, additional overcrowding and obsolescence into consideration, it can be said that in mid-1978 the housing deficit stood at about 895,000

units. The figures speak for themselves and amply demonstrate the magnitude of the Moroccan shelter problem. It affects the target group especially, but even more so that segment of the target population living in the old medinas and bidonvilles within the urban centers.

Housing characteristics and types are described in the Section Appendices IV-1, IV-2 and IV-3. In discussing the affordability, though not necessarily availability of housing, it can be said, that units or portions of those units located in the old medinas are generally in the range of the below median-urban income groups. These are, however, units which are deficient and/or may not be occupied by their owners, but may be used as rental units. There are, of course, a great number of restored and maintained dwellings which are occupied by their owners, but may also house extended family for affordable cost. There is no current statistical data substantiating occupancy and income patterns in urban settlements, including the old medinas.

The new medinas were conceived to alleviate the overcrowding in the old medinas. They were designated for the "lower income" groups, and the assumption that below median income families with relatively steady income were included as owner, or rental occupants, can reasonably be made. The new medinas used the "core unit" concept on a generally ownership basis. Subsequent enlargement of the units provided rental space available to below median urban income families.

The earlier, "Ecochard Grid Development" was basically of the same principle and, too, was conceived to house the lower income group.

The current MHAT social housing program reaches the upper-lower to middle income groups. It does not presume to be designed for the target population. However, if the basic core concept could be carried to its ultimate three story configuration, rental space may reach that portion of the target group which has a relatively stable income and employment security.

The bidonvilles are the settlements which house that segment of the target group at the lowest income scale. But it can be observed that squatter unit construction varies suggesting the spread of relative financial means.

In concluding, it has been observed that particularly in Casablanca, considerable housing construction is in progress. It ranges from apartment complexes to villas and residential developments with obviously much higher and western influenced standards of design and construction. It is a type of housing out of the reach of the target group.

C. Public Utilities Services

There is little question about the seriousness of the problem concerning the provision of essential, and basic infrastructural

services of the settlements occupied by the target population. In the major urban areas, water distribution, essential drainage and waste-water collection systems are in existence and do, in many instances, extend into the less privileged settlement areas. However, these systems have become outmoded and to a degree have been rendered obsolete, mostly because of poor maintenance and over-burdened use. For the bidonvilles, such services were never provided. Only token efforts have been made for the provision of potable water supply and electrical services. Solid waste collection is highly inadequate; drainage is poor, and in areas where collection systems exist, waste-water collection systems are deteriorating because of lack of maintenance.

Educational facilities are available and do serve the target population. However, the high percentage of school-age children, especially in the medinas and bidonvilles, prevents many from attending, since facilities are not sufficient to absorb the high number of school-age children. Social delivery systems such as health care facilities, day-care centers, and other social amenities are available, but again the great need for services renders available facilities inadequate. Infra-structural and social services development is trailing far behind the actual needs and demands for such services in view of the rapid growth the urban centers have been experiencing in the past, and will continue to experience in the future. It has been observed, however, that the G.O.M., in its newer social housing programs, has recognized the need for adequate provision of infrastructural and social services, sometimes to a degree exceeding the norm, primarily in the overall infrastructure development. These instances are isolated, of course, but do overshadow the seriousness of the overall need for these services in the urban areas.

1. Water Supply

Morocco, as a whole, is unevenly endowed with water resources. The southern and eastern parts of the country are extremely dry. In the north and west, rainfall is usually in excess of 400 mm per year and is concentrated in the winter months, but also subject to yearly variations. Surface water is by far the major source of supply, though in urban areas heavily supplemented by groundwater sources. Current water delivery systems are adequate for the urban areas. Future requirements, however, are dependent upon sources remote from the major population centers and will require development of extensive infrastructural systems for the transportation of water and for its treatment.

Not only the rapid population growth, but also the expansion of industry, tourism and agriculture have intensified competition for the available water resources.

National, per-capita consumption of water is highly uneven, but available supplies for public consumption range from 70-200 litres per day in large- and medium-size cities. It has been estimated that about 30 percent of the population - mostly urban - consumes about 80 percent of the water.

Delivery of potable water within the cities is highly uneven. It is again the settlements which house the majority of the target population which benefit the least. Bidonvilles in the city of Casablanca, for instance, accounted for only 1 percent of the city's consumption of piped water. It has been estimated that water consumption out of public standpipes - normally accessible to bidonville residents - is only 10-20 litres per persons per day, though no official consumption figures are available for the bidonvilles. It may be reasonable to assume that conditions in other cities are not much different, or may even be less favorable than in Casablanca.

2. Waste Disposal

Sewerage systems are only present in the larger cities or provincial capitals, but are limited to areas other than the settlements housing the target population. Even though the medinas do have means of collection, the systems are in such a state of repair making major rehabilitation mandatory. Overburdened collectors overflow, contaminating the soil and often cause seepage into the water lines adding to the already precarious health conditions in the overcrowded medinas and other population centers. Bidonvilles are notorious for their lack of sanitary facilities in the total absence of collection and disposal systems. Bidonville shelter units do not contain W.C. facilities, and/or individual water taps. Disposal of waste is casual, using whatever means available under the circumstances. This may include occasional pit latrines, night-soil drums, or just any available vacant area, such as drainage ditches which are also used for the disposal of excess solid waste.

As for the cities as a whole, they have no modern waste treatment facilities and poorly, even untreated effluent flows either into the sea or into rivers.

Solid waste disposal is an equally serious problem which over the years has been attacked from different sides and by various methods with little success. To date open dumping sites are the only means. But this is not enough, especially since the

high waste generation caused by over-population is far above the capacity that available removal units and dumping grounds can handle. Drainage channels, vacant lots, and even coastal inlets are used for additional dumping sites.

The situation has been aggravated even more by industrial growth. Industrial waste is generated in ever increasing amounts and for years has been dumped into the sea. This practice will undoubtedly continue, even though plans are being considered for the construction of treatment facilities in Casablanca and Rabat. But such construction will have to go hand-in-hand with the installation of new collection systems.

The problems are recognized by the responsible authorities. But the magnitude of technical, logistical, administrative and, of course, financial requirements is such that the authorities stand helpless in doing more than the limited available resources allow, (see Section Appendix IV-4).

3. Power

The availability of electric power is quite apparent, especially in urban areas. Relatively speaking, the power network is extensive and developed to a degree that it has become the infrastructural service most readily available. But, as with other services, the availability of electricity to the target population is limited. Services to the bidonvilles stop short of individual unit connections. There is evidence only of occasional street lighting along major lanes and in some retail shops. In general, however, the use of candles, kerosene and other burnable oils for light, and charcoal, wood, or bottled gas for cooking are still prevalent.

In 1976, electric energy production amounted to 3,078 million Kwh, of which 32 percent were generated by hydroelectric power generation and the rest by thermal power generation. Total consumption amounted to 2,734 million Kwh. Distribution into urban areas was in the amount of 947 million Kwh, and into rural areas 278 million Kwh. Per capita consumption per year stood at 154 Kwh in 1976, versus 87 Kwh in 1960, and 128 kwh in 1970, an increase of 77 percent over a period of 16 years.^{1/}

^{1/} ANNUAIRE STATISTIQUE DU MAROC, 1976/

D. Environmental and Health Conditions

The health environment in Morocco is generally poor. The rapid and uncontrolled urban growth has made conditions even more precarious. Economic disparities, inadequate housing, overcrowded conditions, unsafe water supply, and inadequate sanitary conditions in the urban centers, contribute to an environment conducive to the spread of disease. Unfortunately, it is again the target population which is most widely exposed to these conditions. There is an inevitable connection between environmental standards, or the lack of them, and the problems of acceptable shelter delivery. In the absence of the first, the second cannot be accomplished.

In the process of urban expansion there have been changes in the physical environment. This applies in particular to the cities, where the migratory inflow and the high rate of natural growth have created conditions for which no previous Moroccan example can be cited. The cities have literally exploded, leaving little chance to planned development. What developed instead - primarily for the target population - was an environment totally alien to the concept of acceptable environmental standards. The surge did not leave time for contemplation and evaluation of the eventual consequences. Development occurred without consideration for the environment per se, nor for the human condition evolving out of uncontrolled growth.

As far as general health conditions are concerned, it can be said that major health indicators suggest a steady improvement in the health status of the Moroccan population as a whole. Major diseases such as smallpox have been eradicated, while cholera and malaria have been brought under control. The death rate has dropped, life expectancy has increased, though the birth rate continues to be high.

To date, communicable diseases and gastrointestinal infections are the major causes of morbidity and mortality. Other, modern life-style related diseases, such as heart disease and cancer are of rising concern as well. The overall health picture may be slightly too optimistic, however, since the fact remains that only about 50 percent of the population are reflected in the available health statistics.

In addressing the existing health hazards in target population settlements, primarily the bidonvilles, it must be stated that conditions have not improved markedly over the years. In the absence of comprehensive and acceptable infrastructure services, it was not to be expected that the originally poor health conditions would improve as rapidly as may have been hoped.

Potential natural hazards besiege these settlements making them susceptible to severe damage by the elements. Poor drainage increases the chances of flooding. The nature of construction of the dwellings poses potential fire hazards, therewith continuously endangering large parts of the population.

Potential health hazards are endemic in the over-populated areas. Living conditions increase the risks of tuberculosis and other respiratory ailments caused by poor, or non-existent ventilation of the dwelling units. Stagnated, damp air promotes these conditions to excess. Contaminated water and poor sanitary conditions are conducive to the high rate of upper respiratory and gastrointestinal infections. Exposed waste materials, prevalent in and around the settlements, promote insect born diseases with a constant epidemic threat. Poor economic conditions, overpopulation and uncertainties of the future are the cause for higher incidence of social diseases and mental health problems.

There is currently very little information available regarding the general health status of the population especially in the overcrowded urban settlements. Much has been done to bring organized health care to the mostly rural population in an effort to make rural life more palatable and preferable over urban life. Administrative constraints and trained manpower shortage, however, are jeopardizing the effectiveness of the program. In the urban areas, and primarily in the target population settlements, basic health care, though available, is highly inadequate to serve the large population effectively.

Although, the investment budget for health care has grown from DH 16 million in 1956, to DH 105 million in 1975, and the operating budget from DH 73 to DH 331 during the same period, the funds are insufficient in view of the large requirements for such services.

It is without question that the prevailing, poor environmental conditions and the potential health hazards are an affliction upon the target population. The quarters occupied by the target population are well behind the advances experienced by other neighborhoods in which better economic standards prevail.

By using criteria and standards of France and Spain, planned, urban development was undertaken in consideration of a certain ecological balance. The city of Rabat is a good example of this. However, there is evidence that later development was less cognizant of these standards. As of recent, there has been increasing concern, especially in Casablanca where industrial growth was most predominant in the past, because of adverse environmental conditions. It is more and more realized by the authorities that past industrial development patterns are not compatible with current urban growth concepts. Even though this realization is apparent, controls over the environment are hard to enforce in the absence of a national environmental policy, effective legislation and enforcement apparatus.

APPENDIX IV-1

GENERAL HOUSING CHARACTERISTICS^{1/}

The most recent assessment of general housing characteristics, the 1971 census, indicated that the average dwelling unit in urban areas consisted of 2.2 rooms. The survey concluded that 70 percent of urban households lived in 1.0 or 2.0 rooms with about 3.1 persons per room.

Data on household sizes may vary over time, but recently the average urban household size was given to be 5.4 persons.

The 1961-1963 multipurpose survey also provides the most accurate information on occupancy in urban dwellings. It notes that bidonvilles made up 19.0 percent of all urban dwellings while the Medinas accounted for 76.0 percent and the modern district accounted for 5.0 percent. For the total in bidonvilles, there were an average of 4.7 persons per dwelling unit and 2.7 persons per room. In the medinas there were 5.2 persons per dwelling unit and 1.8 persons per room. In the modern district there were 5.8 persons per dwelling unit and 1.7 persons per room.

In terms of urban services for Casablanca and the nation, the 1971 census revealed the following percentage breakdown:

<u>Services</u>	<u>Casablanca</u> %	<u>Nation</u> %
For <u>dwelling units</u> :		
Kitchen	58.0	65.0
W.C.	88.0	82.0
Bathing facilities	24.0	19.0
For <u>households</u> :		
Running water	67.0	52.0
Electricity	78.0	68.0

It should be noted that, in the traditional housing framework, kitchens were not necessary because most cooking took place in the dwelling unit courtyard. Furthermore, the majority of urban residents use local turkish baths or hamaams for their bathing needs.

^{1/}
MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

The following listing provides an illustration of the types of construction for urban dwelling units in Casablanca for 1971 (in percentages):

Masonry	86.0
Dry Stone	1.7
Straw and Mud	0.4
Waste Materials	11.7
Others	0.2

According to a limited survey undertaken in 1975, the percentage breakdown of dwelling unit types for Casablanca were as follows:

Villas	11.3
Modern Apartments	13.0
Traditional Multi-Unit Dwellings	19.0
Lotissements	42.0
Medinas	8.0
Spontaneous	7.0

With respect to tenure in urban areas, the 1971 percentage breakdown of construction types in Morocco were as follows:

	<u>Masonry</u>	<u>Dry Stone</u>	<u>Straw and Mud</u>	<u>Waste Materials</u>	<u>Ensemble</u>
Owner	32.2	38.7	53.1	56.6	37.5
Renter	59.5	50.4	36.2	29.7	53.1
Other	8.3	10.9	10.7	13.7	9.9

In Casablanca 24.5 percent of the occupants of masonry dwelling units are owners, while those renting represent 69.0 percent and other types of tenure represent 6.5 percent.

It may be noted that in urban areas, the number of owners of masonry dwelling units is less, indicating that such units require a financial capacity that the majority of the population does not have.

The 1971 census also revealed that 29.0 percent of those households interviewed were owners or co-owners; that 64.0 percent were renters; and that others (squatters, etc.) represented 7.0 percent of those interviewed.

APPENDIX IV-2

DESCRIPTION OF THE TRADITIONAL URBAN DWELLING UNIT^{1/}

It is important to understand traditional cultural and construction norms in Morocco in order to compose future shelter developments or to analyze past shelter programs. For this reason, a summary description of traditional dwelling units by room and function has been provided. (See Figures IV-2-1 and 2-2).

1. The Courtyard or Multipurpose Space

The traditional courtyard or multipurpose space begins as part of the 25 percent or so of the plot that is left as open space during the initial stages of dwelling unit development. When the unit has evolved, the courtyard will be covered and left open slightly with a small area for lighting and ventilation. It is off of this common court area that the principal entry may often be found as well doors to other rooms in the unit. As a last stage of dwelling unit expansion, part of the courtyard may also be used for an additional room. These rooms are often poorly ventilated and lighted.

2. The Kitchen and Laundry

The kitchen or cooking area is often located in a corner of the courtyard in traditional dwellings while in modern units it is an independent room equipped with basic western-style appliances. Laundry is traditionally handled in the courtyard. In the modern units, a small room near the kitchen is usually set aside with a sink. The size of the kitchen and laundry ranges from 6.0 to 9.0 square meters combined.

3. Parlor and Bedrooms

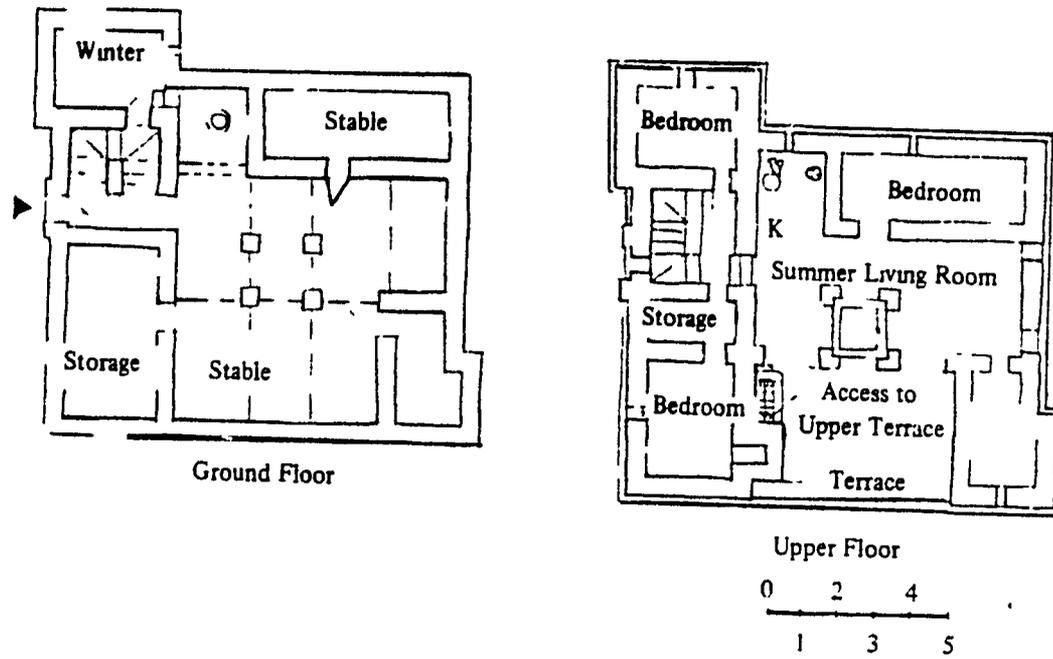
The family room and bedrooms are of the same size. In the traditional house, they are both rectangular and are approximately 2.5 by 3.0 meters wide and 4.0 to 6.0 meters long. In many cases, the layout of the rooms is identical, as they both feature benches along the wall. Only the types of fabrics employed will distinguish the reception room from the bedrooms. There are usually two or three bedrooms plus a parlor in each traditional house. Each room averages 12.0 to 18.0 square meters.

^{1/}

MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

Figure IV-2-1

TRADITIONAL HOUSE OF MORROCO

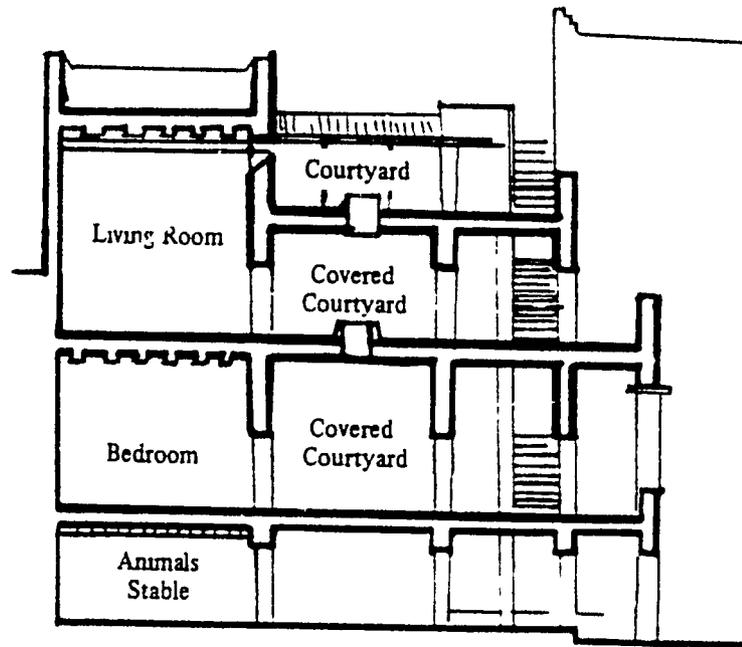


Typical Floor Plans

Source: *Projet d'Aménagement Urbain à Casablanca*, IBRD, 1976

Figure IV-2-2

TRADITIONAL HOUSE OF MORROCO



Typical Cross-Section

Source: *Projet d'Aménagement Urbain à Casablanca*, IBRD, 1976

Modern dwellings are equipped with beds and mattresses in the western style. In poorer dwellings, benches of traditional style will be located only in the parlor while mats are used in bedrooms for sleeping.

According to observation, in poorer areas the shape of the room (rectangular or square) makes little difference in determining the use of a room as a bedroom or parlor.

4. W.C. and Water Room

The Turkish bath is a popular institution even today. As a result, a bathroom per se often does not exist. In the past, it did not exist at all. In the traditional house, there was (if any) only one central source of water that functioned for all purposes.

In modern units the w.c. and bathroom have been placed in proximity to one another but in separate spaces. The shower room averages 2.0 to 4.0 square meters and the w.c. averages 1.0 to 1.5 square meters.

5. Terraces or Roofs

The tops of buildings have been used traditionally for drying out the laundry and doing the wash. In some cases, they provide space for clandestine rooms constructed of light weight building materials, hidden from view about the roof.

Extra rooms on the roof may provide sleeping areas for children, keeping animals, or for storage space. Access to the roof is gained by a covered stairway designed to keep out thieves. In many cases, roofs may be used by illegal renters. The space in time becomes a reflection of the floor space below.

6. Construction

In the urban areas, traditional building materials (wood reeds, trees, earth) are replaced by cement, stone, tar paper, corrugated roofing, asbestos roofing materials, etc. The units become more compact than in rural areas. Urban construction methods are similar throughout the country.

APPENDIX IV-3

DESCRIPTION OF PRESENT HOUSING TYPES^{1/}

Although there has been no consistent definition of housing types, some types of common dwelling units for the target groups are described here, in order to facilitate consideration of existing low income shelter options. (See Figures IV-3-1, 3-2 and 3-3).

1. In the Old Medinas

Most family dwelling units consist of two rooms with the master bedroom used to receive guests. In most cases, the original dwelling units consisted of three floors for one family which now may house as many as three separate families. (See Figure IV-3-1). Plot sizes within the old Medinas range from 70-100 square meters. Plot utilization evolved in such a manner that approximately 20 to 25 percent of a plot began as an open area. Over time, however, the open area was covered to about 5 percent of the plot. The amount of space taken up by general circulation in an entire medina amounts from 5 to 8 percent overall.

2. In the New Medina

Family unit configurations vary and correspond to core-house programs of various types. (See Figures IV-3-2 and 3-3). Plot sizes range from 50-80 square meters. As was the case in the old Medinas, the coverage of the plots start with about 75 percent, and may cover as much as 95 percent after the units are enlarged. Overall circulation requirements are more liberal in the new Medinas and range between 20 and 25 percent of total area.

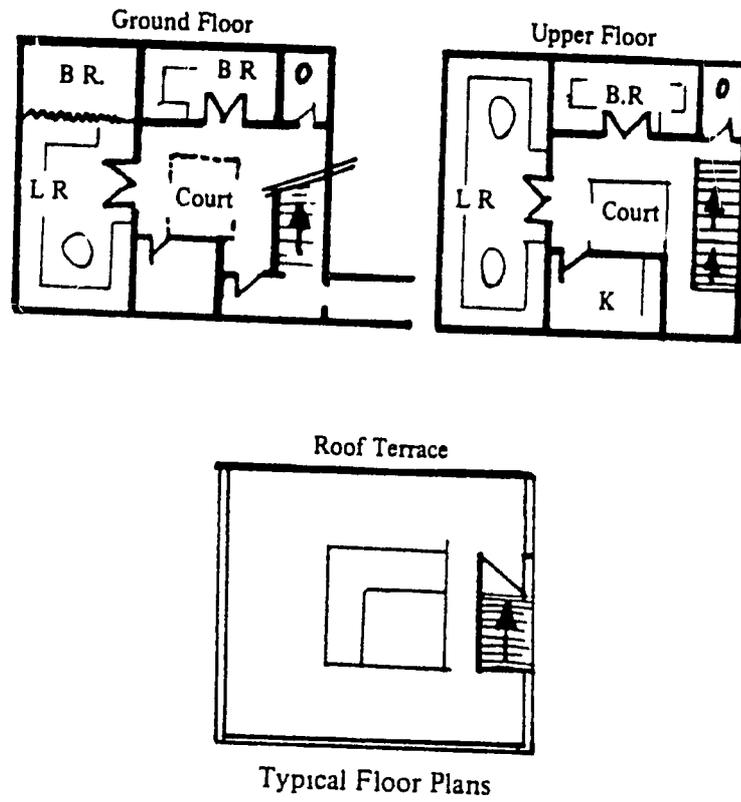
3. Current Social Housing Program

In substance, the family dwelling units used are not much different in configuration and design from those core-house units shown under 2. Plot sizes are generally more uniform and have the size of about 100 square meters. Ultimate plot coverage is in the range of 75-80 percent, and the number of stories, per unit, is 3. In many instances only the ground floor is constructed, often by piecemeal methods, with the upper stories construction indefinitely deferred.

^{1/}MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977-modified.

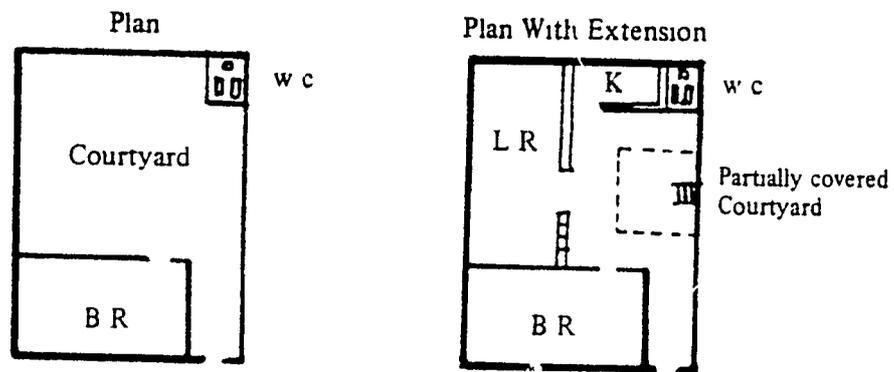
Figure IV-3-1

TWO FAMILY HOUSE IN THE OLD MEDINAS
(Area 56 square meters)



Source: Projet d'Aménagement Urbain a Casablanca, IBRD, 1976

Figure IV-3-2
PAST CORE HOUSE PROGRAM
(One Room)

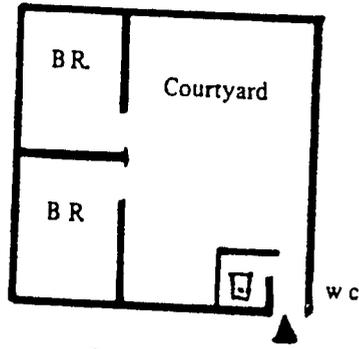


Typical Floor Plan

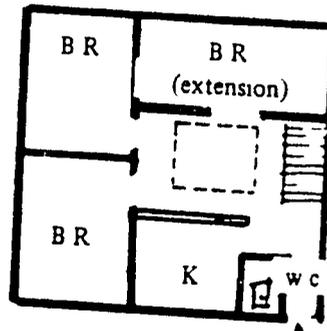
Source: *Projet d'Aménagement Urbain à Casablanca*, IBRD, 1976.

Figure IV-3-3

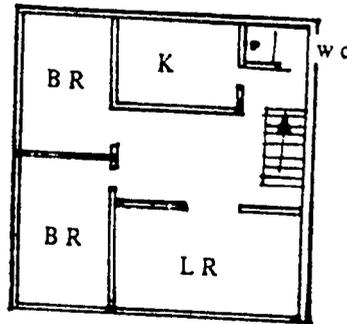
PAST CORE HOUSE PROGRAM
(Two Rooms)



Ground Floor



Ground Floor With Extension



Second Story Addition

Typical Floor Plans

Source: *Projet d'Aménagement Urbain à Casablanca*, IBRD, 1976

It has been observed that in these, more recent developments in the City of Casablanca total plot coverage is not more than 30 percent of the total area. Circulatory requirements exceed the norm considerably and may go as high as 45-50 percent of the total area.

4. Sites and Services Programs

For 10 years, service plots of 6 by 8 meters were set out on a single level with one room, a courtyard, W.C., and a water connection. The units were rarely expanded vertically, perhaps because of the quality of materials used. Only a wall around the terrace was erected. However, a supplementary room was usually added and the courtyard was partially covered.

5. Bidonvilles

The more densely populated Bidonvilles in the major urban centers have a plot configuration of about 40-50 square meters. Plot coverage is 100 percent. The primitive units, mostly constructed with waste materials of any kind, generally consist of a community room and two bedrooms, each of which may be occupied by one family. The daily household chores are performed in the communal area. Sanitary facilities such as W.C. and unit water taps are non-existent. The inner-unit circulatory requirements are very poor, making the units extremely unhealthy. Area circulation is minimal, normally 3 meters for major arteries and 2 meters for service lanes. Communal water taps are provided and in cases electric power is available, but not likely to be extended into the individual units under present conditions. Liquid and solid waste disposal is highly inadequate, drainage is poor causing flooding of units during heavy rainfall. Some social services are provided but as a whole inadequate.

6. Ecochard Grid Development

The Ecochard Grid Development settlement concept, named after the French planner who first introduced low-cost public housing as a viable option to uncontrolled development in Morocco, was another settlement option used in the past. The type of plots used were originally designed to serve single families. They have since evolved as multifamily dwellings. These are typically laid out with 80 to 90 dwelling units (30 to 60 plots) per hectare. The plots were designed on an 8 by 8 module of 64 square meters. The units were designed to accommodate enlargement — 25 percent of the plots were left originally in open space that became 5.0 percent after final development. About 45 percent of the designed settlement total area was allocated to circulation and thus to low densities. The units, however, were expanded vertically to achieve higher densities. After much use, the size of the parcel has been criticized as being too small.

The original renters of these units eventually became owners. They built second floors for themselves, rented out the ground floors, and limited use of the roof terraces for themselves. As a result, the units presumably became two-family units due to economic pressures. This procedure encouraged penetration of windows in the exterior walls along with the inclusion of western-style kitchens and bathrooms.

The courtyard of the dwelling unit is the heart of the house. It is almost always covered because of the wet and foggy climate of Casablanca and the coastal cities. This covering provides protection for the family belongings, privacy, or simply room for expansion.

APPENDIX IV-4

ENVIRONMENTAL IMPROVEMENTS^{1/}

1. Solid Wastes

Because solid wastes may pose health problems, they must be disposed of efficiently on a regular basis. The pollution of soil, air, and water has been the concern of government, particularly in urban areas. There is still much to do in rural and small urban centers where garbage is thrown in open drainage canals. Composting is being used in the large urban centers and opportunities for using these waste materials for agriculture is being considered.

Theoretically, solid wastes are collected on a daily basis and put in collection areas by neighborhood residents. However, in most urban and rural areas in 1972, the final stage of collection was frequently by dumping it in specified areas, or in the ocean. Public authorities recognize that this dumping results in the proliferation of diseases and pollution.

Since 1960, action has been taken to set up composting treatment stations in Rabat (1962), Marrakech (1967), and Tetouan (1970). By 1972, the systems had failed because of: a lack of personnel qualified to operate them; management problems (maintenance and sale of the treated waste); and poor selection of locations.

In 1972, other projects were undertaken in Meknes, Casablanca, Tangier, Safi, Fez, and Agadir.

Experience with existing stations (without proper feasibility studies) revealed the following:

1. Selection of the location is of utmost importance. A facility must be logically located with respect to the area it is to serve.
2. Identification of qualified personnel is critical to effective operation of the service.
3. Selection of the management of a station is important. It would best be coordinated by the private sector.

^{1/}

MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

4. Provision of agriculture extension services necessary. These must research the marketing potential of treated waste for agricultural use.

It was proposed for the 1973-1977 five-year development plan that a treatment service should provide composting for large urban areas to control dumping in small centers.

Table IV-4-1 gives an estimate from past experience for investments in solid waste treatment or collection over the five-year plan of US\$ 1.4 million (DH 6.4 million).

Financial participation was requested from local government, the Ministry of the Interior, the Ministry of Agriculture, Public Works, the Ministry of Health, and from international and bilateral organizations. In March 1972, a subcommission on urban and rural development recommended that policies on solid waste disposal be addressed, that options such as incineration be studied, that a pilot project be created, and that familiarization of local government be accomplished with techniques and methods of waste disposal.

2. Liquid Wastes

Sewage creates a major health hazard with which government is concerned. In urban areas, liquid wastes are collected from residential and industrial areas in the same system. As of 1972, these wastes were left untreated. In urban centers along the coast, they have been dumped into the Atlantic Ocean and the Mediterranean Sea. In and around interior centers, wastes have been dumped in rivers, and water basins have been used directly for irrigation purposes.

In fact, in most rural and urban areas, latrines are the means of disposal used. Also, open areas are used indiscriminately and no type of system is used in rural areas.

A task force of a subcommission on urban and rural development has recommended the following:

1. Small urban and rural centers should be equipped with disposal systems or an oxidizing stabilization pond.
2. For large urban centers in the interior, primary treatment should take place. Where risk of pollution is involved, secondary treatment is also recommended.
3. Studies of ways to treat waste before dumping into coastal waters is recommended.

4. Industries should ensure the treatment of their waste products on private systems.
5. Legislation concerning classification of streams and bodies of water should be enacted.
6. Specific restrictions should be established on the nature and degree of waste allowed after treatment.
7. A national body should be created to study the causes and effects of pollution.
8. Studies on different methods of treatment should be begun that are both economical and responsive to local conditions.
9. Sources of financing should be explored.

Municipal government bears the cost of liquid waste treatment. During the 1973-1977 five-year plan, it was projected that as much as \$30 million (DH 135 million) should be used for this purpose.

Table IV-4-1
 PROPOSED SOLID WASTE TREATMENT SERVICES,
 1973-1977
 FIVE-YEAR PLAN PERIOD

Population Center	Type	Population 1972	Investment (millions)	
			US\$	DH
Agadir	UTOM ¹	61,192	.09	.38
Al Hoceima	DC ²	18,686	---	---
Beni Mellal	DC	53,826	---	---
El Jadida	UTOM	55,501	.07	.33
Fez	UTOM	325,327	.43	1.95
Kenitra	UTOM	139,200	.12	.54
Khouribga	DC	73,667	---	---
Ksar Es Souk	DC	16,775	---	---
Nador	DC	32,490	---	---
Ouarzazate	DC	11,142	---	---
Oujda	UTOM	175,532	.23	.75
Safi	UTOM	129,113	.17	.77
Settat	UTOM	42,325	.06	.25
Tanger	UTOM	187,894	.26	1.13
Taza	DC	55,157	---	---
Total Investment			1.42	6.40

IV-25

¹ UTOM Composting service.

² DC Single, controlled dumping zone.

V. SHELTER DELIVERY SYSTEM

A. Land and Infrastructure

The organization formally charged with the responsibility of developing shelter accommodations for Morocco's low income families is the Ministry of Housing (MHAT). Through its regional offices (Delegations) in each of the major cities, the Ministry plans and executes low-cost shelter development projects which consist mainly in sites and services projects with or without shelter superstructure. In addition, the Ministry has recently been planning the upgrading of squatter settlements which have, over the years, occupied large areas within the fabric of the major cities.

Land ownership is indicated by title or deed and by inscription in the Public Registry Office of the Ministry of Finance. Large areas of land are owned by national and local governments as well as by tribal and religious groups. The rest is owned by commercial and industrial interests and private individuals. Large tracts of land suitable for housing are already owned by the government, especially in Casablanca and Pabat.

Privately owned land required for development of sites and services projects is acquired by MHAT's regional offices in cooperation with the Ministry of Finance's land department (Service des Domaines). The purchase price of such land varies according to location and proximity to urban infrastructure and services. The price of raw land is in the order of US\$ 2.27 (DH 10.-) to US\$ 6.82 (DH 30.-) per m². With some infrastructure, the price may reach US\$ 23.- (DH 100.-) per m². When normal negotiations fail to establish an agreeable price for a specific tract of land, the case is brought to court, but in the interim, MHAT proceeds to develop the land.

The costs indicated above are for land designated for public use. Private costs through banks and developers are higher. For example: in urban areas it is not uncommon to encounter costs up to US\$ 90.- (DH 400.-) per m² for construction of up to three levels and costs of US\$ 227.- (DH 1,000.-) per m² for the same construction if commerce is found on the ground floor.

In certain cases when a site which MHAT proposes to acquire for a particular project, includes a portion the owner wishes to develop himself, and in the same manner proposed for the project, he may be allowed to do so provided that he would pay his imputed share of infrastructure costs. (See Section Appendix V-1 for infrastructure unit costs).

After the land has been acquired, subdivided, and the infrastructure completed, the net area remaining amounts only to one-third of the original land area. This occurs because of current standards applied by MHAT planners. These standards, in most cases, are excessive and could be substantially reduced in future projects, particularly with respect to street right-of-ways. The net housing area is generally subdivided in plots of 100 m².

In most of these projects, the infrastructure was designed to serve a 3-story housing development. But, initially, only the ground floor unit is constructed with the expectation that the family taking possession of that unit would undertake to add, gradually, the second- and third-floor units. These additions have not been realized as yet, apparently because of financial limitations. There seems to be very little hope that they could be realized in the near future.

Consequently, the excess capacity of the infrastructure (which appears to have been designed with excessive standards even for a 3-story development) will continue to be a waste for an indefinite period.

Within the housing project areas, land is also set aside for the schools and various other community facilities required to serve the projected residential population. In the past, land for such facilities was allocated on the basis of MHAT's own estimates of needs, and in several instances overallocation occurred. Now, the Ministry of Education and the other public agencies responsible for the provision of such community facilities are requested by MHAT to provide their own estimates of land requirements. They are also requested to pay for the required land out of their own budget resources.

B. Construction Technology and Building Materials

A typical example of sites and services projects is the Sidi Moumen development in Casablanca. The following comments on the technical characteristics of the development were prepared, following a field inspection made by the consultants on the 3rd of July 1978, accompanied by MHAT representatives.

The site is in the southeast section of the City of Casablanca and in a primarily residential zone. The area is interspersed with small industrial complexes and commercial, mostly retail, establishments.

The site is moderately inclined on a slope of about a 30-40 meters difference. It is divided by a new 4-lane highway having a center median. The highway right-of-way includes an easement for two, high voltage, overland power transmission lines, one at either side of the highway. The paved portion of the highway currently terminates within the development. A ramped section to an already constructed overpass still needs to be completed. The total P.O.W. between structures is about 75 meters along the section of the highway.

The vehicular, circulatory road network within the development is extremely liberal, with primary collectors having a width of 18 meters. Secondary collectors are about 10-12 meters. Sidewalks, where provided, are 2 to 2.5 meters wide. The road surfaces are paved with, at most, a double bituminous surface treatment. The roadways are also provided with precast concrete curbs. The paved surfaces are of medium to poor quality and show signs of break-up. Considerably sized potholes are apparent in many areas. Between housing clusters are circulatory arteries, though no defined road widths are discernable.

Underground storm drainage collectors, sewerage collectors, and power distribution are provided. Street lighting will be provided, but no central fire protection system (hydrants). The site has been planned to contain 2000 lots of about 100 square meters each. A lot can accommodate one housing unit which is designed to be ultimately three stories high. Each story contains one dwelling unit. When completed, there will be 6,000 units in total housing a population of 36,000.

Siting of the units varies. There are single lot, detached units at present accommodating police, health offices, and others. Most of the units, however, are arranged in clusters and in rows along road blocks with intermediate circulatory passageways 8-10 meters wide. The units are generally uniform in design and vary in size between 44 and 63 m². The street floor dwelling has an open, side-enclosed patio.

The layout is simple, with one central entrance and staircase. The dwelling unit itself has a small foyer off which a kitchen, W.C., living room, and two small bedrooms are located. The street floor patio has a concrete sitting area over about half its length. The rest is used for planting.

The units are of solid masonry construction. The structural framing system consists of reinforced concrete columns and beams. The ground floor is concrete on grade. The intermediate floor construction is either a 10-cm, two-way concrete slab, or of pre-cast beam and concrete filler-block construction with a surface topping.

The roof slab is of essentially the same construction. The roofing material is bituminous, built-up, of a one-ply bituminous sheet hotly applied, curbed-up in flashing along the perimeter of the parapet wall. The roof has one interior drain and two scuppers in front and rear of the structure. The parapet wall is about 1 meter high and of a thickness of 15-20 cm. The exterior and interior filler walls are all of heavy weight, concrete block, hollow core. The interior partitions are 6 cm thick, while the exterior walls are about 15-20 cm. The stair is of cast-in-place concrete. Stairs are + 90 cm wide, with an intermediate platform between floors. The finish is a terrazzo-like topping. All wall surfaces are cement plastered and painted. The floors are covered with a 1½-2 cm concrete tile having a 5 mm wearing surface of colored aggregate. The same material is used as a baseboard. Doors and windows are made of wood. The kitchen is equipped with a ceramic sink. The W.C. with an oriental type toilet and a lavatory. No baths are provided and public bathhouses are utilized for bathing.

The electrical distribution system is rudimentary with one light source and outlet per room. The wiring is recessed in the wall and ceiling plaster. Panel boards are located in the stairhall, and are made of wood. Each unit is individually connected. No metering system was apparent in the units. Water supply is by individual house connection, with outlets in kitchen and W.C.

Waste water and sewage is collected centrally. Each dwelling has three connections: W.C., lavatory and kitchen sink. A clean-out is located in the patio of each unit.

The described development is typical and a blueprint for others in Casablanca and elsewhere.

There is nothing exceptional about the construction technology, or the materials used for the erection of dwelling units. The technology is conventional and the materials are basic. Prime components are concrete, brick and concrete blocks. The same can be said for the finishes. Craftsmanship and quality of work is acceptable, but not exceptional. It is obvious from what could be observed that contractors are short of skilled craftsmen. Quality control is lacking and should be of concern to clients. Execution of project work is often plagued by shortage of construction materials resulting in delays that can prove costly and be detrimental to that part of construction already in place. Advanced construction equipment and its use is not readily apparent except possibly on larger projects in the commercial, or in the private and institutional sectors.

There are projects that were observed in Rabat and Casablanca which showed considerably higher construction standards and innovation of design. But except for variations in the use of concrete in design, methods of construction were conventional. Materials varied only insofar as more imported building components are used. Higher budget allocations were obviously a factor on these projects being most, if not all, in the private sector.

The construction of squatter units is primitive and rudimentary. Materials used range from scrap and waste materials to wood and occasionally concrete block. The method of construction is basic. But credit must be given to the economy of use of materials. The nature of construction is, of course, such that walls in particular are shared. Interior layouts are often surprisingly efficient, though lack the convenience of sanitary facilities and suffer from the lack of outside exposure. Small bedroom cubicles are partitioned off, and the rest of the space is used as a common area containing also the cooking facilities. The average size of a squatter unit is about 40 square meters. More often than not the bedroom areas serve an entire family unit of 3 to 4 persons. A squatter unit may house quite often three generations.

C. Finance and Management

The funds required by MHAT for the execution of the housing projects, referred to by the planning authorities as "Programme Social", are supplied by FNAET (Fond National d'Achat et d'Equipement de Terrains), a central government finance agency. FNAET's funds are gradually replenished when the regional MHAT offices (Delegations) from all parts of the country return the moneys collected through the sale of serviced plots.

The preparation and execution of these projects, which last 3 to 4 years in average, is carried out for the most part by MHAT's personnel assigned to the various regional offices. The overall site plans are prepared by the in-house staff of architects and planners. Private engineering firms are retained for the design of infrastructure components, e.g. roads, drainage and sewerage. For the design and provision of electricity and water supply systems, MHAT turns to a public municipal organization named RAD (Regie Autonome de Distribution d'Eau et d'Electricite) which has a monopoly on water and power supply. MHAT has in several instances experienced difficulties with RAD's cost estimates which were originally 50% below actual implementation costs.

Private enterprises' bids for construction works are processed by a bureau named: Service de Gestion des Realisations, attached to MHAT's regional offices. This bureau is also responsible for processing project invoices. Project accounts are periodically checked or audited by a central administrative office named: Controle Regional des Depenses. MHAT maintains control over all housing units within the project areas until the municipal authorities issue a certificate of occupancy for each of the housing units. Afterward, the plots become subject to municipal property taxes although no decision has been reached yet on the level of such taxation.

In the sites and services projects, the plots are sold, in some instances, to individual buyers with sufficient financial resources to pay in full for the plot - approximately US\$ 2,273.- (DH 10,000.-) - before becoming eligible for a secured construction loan which the government-owned Banque Centrale Populaire grants through its regional and local branches at an annual rate of 4% for those with monthly earnings below US\$ 227 - (DH 1,000.-), and of 6% for those earning more. These loans have an amortization period of 15 years.

In the other instances, especially for families with very low income, MHAT has proceeded to add to each serviced plot a core housing unit (cellule evolutive) before the plot is sold to a family, which is expected to complete and expand the unit according to its needs and means. A down payment of US\$ 1,136.- (DH 5,000.-) is required from the family before the unit can be occupied. The modality of payment for the balance which has generally been in the order of US\$ 5,680.- (DH 25,000.-) has not yet been determined by the authorities.

But in general, housing finance in Morocco is undertaken mainly by the Credit Immobilier et Hotelier (CIH) and the Banque Centrale Populaire. The Caisse de Depot et de Gestion (CDG), under the Ministry of Finance, allocates financial resources to the CIH which is also within the Ministry of Finance. The CIH, in turn, finances middle- and high-income housing for households with incomes greater than US\$ 330.- (DH 1,500.-) per month directly, at the market interest rate of 11%. The CIH also supplies funds to the Banque Populaire to finance low-income housing for households with incomes lower than US\$ 330.- (DH 1,500.-) at an average interest rate of 4%. The Ministry of Finance subsidizes the difference between interest rates for these two income groups.

Credit Immobilier et Hotelier (CIH)^{1/}

The CIH is a semi-public financial institution whose function it is to provide credit for housing and hotel construction. About one-half of CIH's capital is owned by publicly-controlled institutions. The major ones of these are CDG (CIH's parent institution) and the Banque du Maroc, which is the central bank of Morocco. Effective control of the CIH is in the hands of the government.

Financing for CIH operations flows mainly from bonds, loans from the World Bank, and, in the case of low-cost housing projects (Regime Special) from central government funding. The central government itself borrows necessary funds from the CGD at an interest rate of 6.25%. The Ministry of Finance subsidizes the difference between the average interest rate of the Regime Special 4% and the 6.25% interest rate.

In the past three years, CIH has almost doubled the number of its approvals. In 1973 there were 794 operations totaling \$25 million (DH 113 million). In 1974 there were 1,686 operations for \$33 million (DH 149 million). In the first nine months of 1975, the number of approvals had reached 1,603, for a total of \$41 million (DH 187 million). This rapid growth has been accounted for mainly by housing loan activities. However, as shown below, loans under the "Regime General" grew faster than loans under the "Regime Special".

CIH Loans Disbursed

(in millions)

	1971		1972		1973		1974	
	\$	DH	\$	DH	\$	DH	\$	DH
Regime General	8.0	36.0	11.0	51.0	11.5	52.0	12.2	55.0
Regime Special	3.9	17.7	4.1	18.8	2.9	13.3	3.2	14.4

^{1/}

MOROCCO PRELIMINARY STUDY SHELTOR, April 1977.

Note: Difference is to be noted between loans approved and loans disbursed.

Banque Centrale Populaire (BCP)^{1/}

The BCP is a wholly government-owned bank. It was created to serve small firms, enterprises, and individuals. Loans are made through regional peoples' banks to people and groups who normally would not have recourse to commercial lending facilities. The BCP offers loans at subsidized interest rates of 3% to 6% for the low-income housing program (HBM).

Because branches of the peoples' banks are located throughout the country, and because these banks have had considerable experience in working with lower-income groups, the CIH has contracted with the BCP to administer the Government of Morocco's low-cost housing programs. The administrative role of the BCP includes: credit approval of applicants, approval of plans and specifications, disbursement of loans, control of construction, and collection of payments. Some 18,148 housing loans were granted by the BCP from January 1964 to August 1976 for a total of \$62 million (DH 279.7 million). The funds administered, are considered CIH jurisdictional funds.

Other Institutions with Housing Finance Elements^{1/}

Although the Caisse de Depot et de Gestion (CDG) and the Caisse National d'Epargne (CNE) are not primarily housing finance institutions, they have provided funds for housing finance. Therefore, a brief description of each is included below.

The CDG is a wholly, state-owned, financial institution, whose principal purpose is to mobilize the funds and reserves of various state agencies and their programs in order to facilitate capital flow to government's priority projects. To accomplish this end, the Caisse Nationale de Securite Sociale (Social Security Institute), the Caisse d'Epargne Nationale (National Savings Bank), the Fonds Pensions (National Pension Fund), and other groups must deposit their reserves with the CDG. In turn, the CDG pays a fair interest rate for use of this capital. It then makes loans available for such uses as housing construction, tourism, transportation, and urban infrastructure.

^{1/}
MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

The CDG began operations in 1960. At the end of 1975, it held US\$ 278 million (DH 1,251 million) in deposits which represented 91.2% of CDG's total liabilities. CDG resources at that time were 58% in long-term loans and about 24% in medium-term loans.

CNE is a national postal savings institution. The Ministry of Post, Telephone and Telegraph operates the system through a special branch. CNE is the only national savings system in Morocco.

Accounts are normally opened in CNE by private Moroccan citizens. These deposits are then loaned to the CDG at a 4% annual interest rate. They are one of the CDG's largest sources of funds. (The saver receives an interest rate of 3.1% with the balance reserved to cover administrative costs.)

There are 241 post offices in Morocco which are well distributed throughout the country. Each of these can accept savings deposits. In 1971, over 350,000 individual accounts were held by the CNE. Savings had risen from US\$ 17.5 million (DH 78.5 million) in 1966, to US\$ 48.75 million (DH 219.0 million) in 1971. Savings continued to rise to US\$56.25 million (DH 253.0 million) in 1972.

Administrative Structure^{1/}

Housing Finance in Morocco is organized under a 1968 decree which was subsequently modified in 1974. Three administrative structures apply: the Regime General, the Regime Special, and special provisions for the social emergency program.

Regime General

The Regime General applies to anyone with a monthly income above US\$ 330.- (DH 1,500.-). Definition of income includes regular income from salaries or fees as well as social benefits (such as family allowances). Loans obtained under this mechanism are limited to 75% of the Valeur Immobiliere Totale (VIT). This term includes the costs of construction and of the land. The loan amount, however, is limited by the repayment capacity of its borrowers, since monthly repayments cannot exceed 40% of the monthly incomes of borrowers and since the repayment period cannot exceed 15 years. The loans bear a 11% interest rate and offer a 2% discount if the VIT is not higher than approximately US\$ 44,000.- (DH 200,000.-).

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MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

Financing for these loans flows from CIH's own resources. The bulk of these is obtained from the CDG, the Central Bank, or from the BCP. The 2% discount for low VITs is borne by the government and has amounted to approximately US\$ 2 million (DH 9 million) so far. If such housing loans continue to grow at the same rate, the cost of this subsidy to government could reach US\$ 9.6 million (DH 42 million).

Regime Special

This mechanism is offered to applicants with incomes ranging from US\$ 44.- to US\$ 330.- (DH 200.- to DH 1,500.-) per month. Unmarried applicants who qualify, are entitled to a VIT not exceeding US\$ 11,100.- (DH 50,000.-). Qualified applicants who are married, are entitled to a VIT not exceeding US\$ 13,300.- (DH 60,000.-).

If the applicant qualifies for a loan, the amount can be equal to 80 to 90% of the VIT. However, since the loan repayment is limited to 15 years, and the monthly payment to 25% of the monthly income, the highest percentage of possible financing is seldom reached. For example, the BGP computed that the typical head of a large family with an income of US\$ 222.- (DH 1,000.-) per month could theoretically buy a dwelling unit worth US\$ 13,300.- (DH 60,000.-). In reality, however, he would be eligible for a maximum loan of only US\$ 7,560.- (DH 34,000.-) and would have to finance 43% of the unit himself.

Analysis indicates that the higher a borrower's income is, the lower the down payment he has to make. The average down payment on mortgage loans over the 1964 to 1973 period, for example, came to 37 percent of the construction cost. Because of these conditions, low-income groups virtually cannot benefit from HBM loans. Medium- or high-income groups, on the other hand, often prefer to finance their houses under the Regime General because, the down payment under it is lower even though the interest rate is slightly higher. For this reason, the HBM loan rate has not been terribly good. Only about 18,000 loans were granted within 11 years.

The interest rate borne by loans under HBM ranges between 6% and 3%, applied as follows:

	<u>Monthly Income</u> <u>Amount</u>		<u>Type of Houses</u>	
	<u>US \$</u>	<u>DH</u>	<u>Row Houses</u>	<u>Apartments</u>
From	44.- to 330.-	200.- to 1,500.-	6.0%	4.5%
Above	330.-	1,500.-	4.0%	3.0%

Financing for these loans comes from government, borrowed from the CDG at 6.25%. The CIH is then entrusted by the government to lend the funds. However, as mentioned, the BCP handles HBM loans on behalf of CIH. The amount of funds required is estimated each year and approved upon agreement by the Ministry of Finance. The government then borrows funds as needed within the fixed limits.

The interest subsidy mentioned earlier is created in the following way: CIH gets funds from government at a 6.25% interest rate and lends them through BCP at an average of 4%. The Treasury also reimburses CIH for operating expenses incurred from HBM management. One-eighth of these funds are kept by CIH and the rest are passed on to BCP. Interest subsidy and operating expense repayments are lumped together in a single subsidy to the CIH which is referred to as the operating allowance to the CIH.

This operating allowance cost the government US\$ 3 million (DH 13.3 million) over the 1971 to 1975 period. If, for example, the HBM loans actively increases from 2,000 loans in 1977 to 4,500 loans in 1982 (assuming as many loans as over the 1964 to 1976 period), the total cost to government over the latter period would be approximately US\$ 11 million (DH 48.5 million). If, on the other hand, the number of HBM loans increases from 3,000 in 1977, to 10,000 in 1982, the total subsidy cost to government would be slightly larger, US\$ 11.3 million (DH 51.9 million).

Special Provisions for the Social Emergency Program^{1/}

Special provisions apply to the social emergency program which provides for row houses built and financed by the government. Beneficiaries repay the government over a 20-year period at an interest rate of 3%. A down payment of US\$ 1,136.- (DH 5,000.-) is required. Although these financial terms are lenient, the program does not reach individuals with an income below the urban median. Moreover, the very low interest rate applied creates a substantial interest subsidy.

Actually, the real costs of these funds to government can be estimated at the opportunity cost of capital, i.e., 11 per cent (since they are budgetary funds). Thus, the total potential profit foregone by the government is about US\$ 17.4 million (DH 78.44 million) i.e., US\$ 1.7 million (DH 7.8 million) annually. This cost is not a financial cost to the government, but is an economic cost.

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MOPOCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977.

In reviewing the various programs for the financing of housing, it must be acknowledged that the impact they have upon the middle-class poor is limited, and that of the very poor marginal at best.

Referring to the MHAT financing arrangement currently in effect, as described on Page V-6, Paragraphs 2 and 3, an initial obstacle appears to be the requirement for cash payment on the land of US\$ 2,273.- (DH 10,000.-) in the first instance, and in the second instance, a down payment of US\$ 1,132.- (DH 5,000.-) as a prerequisite for occupancy of a core unit.

Taking the monthly, median urban income figure of US\$ 157.- (DH 690.-), it must be realized that these two initial payments amount to 14.5 and 7.25 months of total income respectively. Taking the average monthly income of US\$ 94.- (DH 413.-) estimated to prevail in the bidonvilles surveyed in Rabat (IBRD, Rabat Urban Development Project, February 1978). These payments would amount to two years and one year of total income.

In order to obtain these initial payments, provided no other sources are available such as savings previously accrued for example, and assuming that a family could save about 15 percent of their monthly income, it would take 8 and 4 years respectively to accrue these payments at a median income of exactly US\$ 157.- (DH 690.-) per month. At the average income of US\$ 94.- (DH 413.-), it would take 13 and 7 years respectively.

As a initial reaction to these facts and considering the circumstance of immediate need for housing, the problems appear insurmountable. However, considering also the age structure of the Moroccan population and therewith the relative youth of the prospective wage earner, the goals of owning a dwelling, simple as it may have to be, does not seem unattainable. It is the older, established family unit in need for shelter which may not have the time.

It is conceivable that existing financing programs can be modified so to provide a greater appeal to the target population. Such modifications would have to go hand in hand with new, more innovative programs in the shelter sector, less costly and less restrictive in applying standards too high and too sophisticated for the needs of the poorest segment of the population.

If the costs for the initial outlay, and those for the shelter units, are reduced, it might not be necessary for a family to wait up to 13 years to realize their goals.

There is a definite need for special savings and loan institutions geared primarily to the shelter sector. There is also the need for housing savings programs which would provide the

incentive for systematic saving plans designed for the target group. Programs which would give the assurance that within a reasonable time, between 5 and ten years perhaps, an individual, or family belonging to the target group would become eligible to participate in a viable housing program.

Housing Program Parameters

The national budget resources that have been allocated to housing development (including tourism) in the 1977-78 budget amount to US\$ 16 million (DH 70 million).

The GOM is currently completing the preparation of a 3-year (1978-1981) development plan which, according to MHAT officials, will include a substantial urban development program which provides for upgrading the dwellings of about 30,000 urban squatter families and for developing 25,000 "sites and services" plots with embryonic housing units for low-income urban households. This program, guided by the basic concept of preserving and better utilizing existing urban resources, reflects a significant reorientation in planning for housing and urban development. But the new strategy requires funds which are quite heavy for the national budget and the government will need substantial financial assistance during this period of readjustment.

The most important project already being carried out in the spirit of the new strategy is the US\$ 37.6 million (DH 165 million) Rabat Urban Development Project for which IBRD has loaned US\$ 18.0 million (48% of total project cost) bearing 7.45% interest on a 20-year amortization period. The project aims basically at improving housing conditions, community services and employment opportunities for the 60,000 residents of the three squatter settlements of Douar Doum, Douar Maadi and Douar Majja in Rabat. IBRD has already been asked to prepare projects for several secondary cities.

APPENDIX V-1
EXAMPLES OF COSTS^{1/}

Infrastructure unit costs are presented in the following Table V-1-1 for roads, parking, green spaces, drainage and sewerage, water supply, electricity and public lighting.

The magnitude of household garbage production is estimated at .7 kilograms per person per day in Casablanca. Collection is on a daily basis. Large streets are served by garbage trucks that are 12.0 cubic meters in size. Garbage trucks 3.0 to 5.0 cubic meters serve the medina roads. Standard trucks with bin capacities of 3.0 to 10.0 cubic meters serve the peripheral areas and bidonvilles.

Garbage treatment is handled either in a compost factory that processes 550 to 600 tons per day or is deposited in a city dump on Slimane Road.

An order of cost magnitude for providing green spaces is illustrated below.

	<u>Price Unit</u>	<u>Cost</u>	
		<u>\$</u>	<u>DH</u>
Planting trees (4.0 meters high) along avenues	1 tree	44-66	200-300
Planting hedges - 80.0 to 100.0 centimeters high	1 hedge	11-13	50-60
Planting grass (Soil 30 centimeters)	cubic meter	4	20
Seeds and planting	square meter	2	10
Public parks	square meter	6	30

^{1/} MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977, modified.

Table V-1-1
Infrastructure Unit Costs

Nature of Work	Item	Unit	Unit Price	
			US\$	DH
Roads, parking green spaces	Primary roads (16 meters)	Kilometer	136,650	615,000
	Secondary roads (12 meters)	Kilometer	94,450	425,000
	Secondary roads (8 meters)	Kilometer	68,450	310,000
	Pedestrian ways (8 meters)	Kilometer	55,550	250,000
	Pedestrian ways (6 meters)	Kilometer	48,850	20,000
	Pedestrian ways (4 meters)	Kilometer	48,850	130,000
	Semiprivate ways (3 meters)	Kilometer	16,650	75,000
	Developed places	Square meter	11	50
	Semideveloped places	Square meter	4	20
	Paved parking for cars	Square meter	10	45
	Developed gardens (parais)	Square meter		10
Semideveloped gardens and play areas	Square meter	3	15	
Drainage rain and wasted water	Circular Pipe:			
	150 millimeters in diameter (composed concrete)	Meter	4	20
	200 millimeters in diameter (composed concrete)	Meter	5	25
	250 millimeters in diameter (centrifuged concrete)	Meter	13	59
	300 millimeters in diameter (centrifuged concrete)	Meter	15	68
	400 millimeters in diameter (centrifuged concrete)	Meter	19	88
	500 millimeters in diameter (centrifuged concrete)	Meter	26	116
	600 millimeters in diameter (centrifuged concrete)	Meter	32	144
	800 millimeters in diameter (centrifuged concrete)	Meter	44	200
	1,000 millimeters in diameter (centrifuged concrete)	Meter	62	280
	1,200 millimeters in diameter (centrifuged concrete)	Meter	88	400
	Oval Pipe:			
	1.0 meters high	Meter	71	320
	1.3 meters high	Meter	98	440
	1.5 meters high	Meter	115	520
	1.8 meters high	Meter	142	640
	2.0 meters high	Meter	160	720
	Collection manhole	Per piece	78	350
	Connection manhole	Per piece	86	390
	Manhole with grid	Per piece	178	800
	Maintenance manhole 300 to 500 millimeters in diameter)	Per piece	222	1,000
	Maintenance manhole 700 to 900 millimeters in diameter)	Per piece	266	1,200
	Maintenance manhole (oval)	Per piece	355	1,600
Average cost of drainage connection per lot		111	500	
Water Supply	Polyethylene pipe (33/50)	Meter	8	37
	50% cast iron 50% asbestos pipe (6" in diameter in diameter)	Meter	10	47
	50% cast iron 50% asbestos pipe (80 millimeters in diameter)	Meter	13	57
	50% cast iron, 50% asbestos pipe (100 millimeters in diameter)	Meter	15	66
	ductile cast iron pipe (150 millimeters in diameter)	Meter	22	98
	ductile cast iron pipe (200 millimeters in diameter)	Meter	24	111
	ductile cast iron pipe (300 millimeters in diameter)	Meter	41	184
	fire hydrants	Per piece	622	2,800
	Public water fountains	Per piece	642	2,900
	Average cost of water connection per lot		122	550
	Electricity	Buried high-tension system	Meter	22
Aerial low-tension system		Meter	7	35
Buried low-tension system		Meter	15	70
Transformer (315 kilowatt hours)		Per piece	24,800	112,000
Average electricity connection cost per lot			67	300
Public Lighting	Primary street lighting (16 meters)	Kilometer	55,500	250,000
	Secondary street lighting (12 meters)	Kilometer	44,400	200,000
	Pedestrian way and secondary street lighting	Kilometer	33,300	150,000
	Pedestrian way lighting (4 meters)	Kilometer	24,600	120,000
	Pedestrian way lighting (6 meters)	Kilometer	17,700	80,000
	Semiprivate court lighting	Kilometer	220	1,000

SOURCE: Project d'Aménagement Urbain de Casablanca, pp. 57

The most commonly used materials, their respective costs, and related data are presented in Tables V-1-2 and V-1-3 for Casablanca.

Table V-1-2
Basic Housing Material Costs

<u>Material</u>	<u>Cost</u>		<u>Unit</u>
	<u>\$</u>	<u>DH</u>	
Reinforced Steel	.41	1.85	Kilograms
Cement	26.70	120.00	Metric ton
Sand	2.70	12.00	Cubic meter
Gravel	7.80	35.00	Cubic meter
Hollow Concrete Block			
15.0 centimeters	.09	.40	20 x 40 cm unit
10.0 centimeters	.08	.35	20 x 40 cm unit
7.5 centimeters	.07	.30	20 x 40 cm unit
Cement Floor Tiles	.04	.16	20 x 20 cm unit
Cement Design	.03	.35	20 x 20 cm unit

SOURCE: Project d'Amenagement Urbain a Casablanca, 1976.

Table V-1-3
Basic Costs for Labor and Materials

<u>Housing Elements</u>	<u>Labor and Construction Costs</u>		<u>Unit</u>
	<u>\$</u>	<u>DH</u>	
Columns	.94	4.25	Linear Meter
Bond Beams	.47	2.12	Linear Meter
Floor	.94	4.25	Square Meter
Partition	.33	1.50	Square Meter
Interior Plaster	.33	1.50	Square Meter
Exterior Plaster	.44	2.00	Square Meter
Stairway	22.20	100.00	Contract
Forms and Plinths	.33	1.50	Square Meter
Setting Doors and Openings	13.30	60.00	Contract
Terrazzo (white)	4.10	18.50	Square Meter
Terrazzo (ordinary)	2.65	12.00	Square Meter
Plinths	.44	2.00	Linear Meter
Dry Joints	.27	1.25	Linear Meter
Doors (wood and metal)	15.50	70.00	Square Meter
Windows	31.10	140.00	Square Meter
Entry Door	44.40	200.00	Contract

SOURCE: Project d'Amenagement Urbain a Casablanca, 1976.

VI. CONSTRAINTS IN THE DELIVERY SYSTEM

Morocco's shelter delivery system is constrained by several economic, financial, organizational and technological factors which must be addressed in any program that seeks to bring significant improvements in the country's housing conditions.

With the monthly, overall national median income currently standing at an estimated US\$ 147.- (DH 646.-) and the monthly urban median income at US\$ 157.- (DH 690.-) and the average cost of a small dwelling unit (44 m²), being presently US\$ 6,800.- (DH 30,000.-), it is difficult for most below-median income families to pay for such a dwelling, even if all these families were prepared to devote 25% of their gross income to basic housing expenses.

The national budget resources that can be allocated to housing development of any kind are far from being sufficient. In the 1977-1978 budget, the amount for housing and tourism projects combined was only US\$ 16 million (DH 70 million). Even if it could be assumed that the entire amount would be used for housing, at an average cost of US\$ 6,800.- (DH 30,000.-) per dwelling unit, inclusive of land, infrastructure and superstructure, the number of units that could be created would only be approximately 2,300 for the whole year. It has been estimated that the national housing deficit, or unsatisfied housing demand, increases every year by 85,000 units, taking into account that many existing dwellings are overcrowded by two or more households. In addition, a large number of dwellings are in need of major repair, or replacement. It is, therefore, evident that the impact of the national budget resources allocated to housing thus far can only be minimal.

In addition to the socio-economic and financial limitations discussed above, there are several other factors constraining housing development. The organization of adequate housing financing mechanisms, particularly in the form of savings and loan institutions, is a highly important aspect of the shelter delivery system. This aspect has not received sufficient emphasis in Morocco, particularly in comparison with what has been achieved in this context in several countries of Central and South America.

While the Ministry of Housing (MHAT) has endeavored to strengthen its administrative and technical capabilities, there is still need for improvement especially in the area of project management, planning and execution of large-scale developments. The Ministry is well aware of this constraint and is planning to establish an urban institute for the training of professionals required in the area of housing and urban development.

Field inspections of on-going, low-cost housing projects in the Casablanca area have revealed numerous inadequacies in construction craftsmanship. Lack of skilled workers and inadequate supervision undermine the quality of the new dwelling units, adversely affecting the viability of the projects. Also, the construction methods utilized, though perhaps adequate for small-scale developments, would not be the most efficient for large projects of 5,000 units or more, and where mass production methods could be advantageously introduced.

Constraints are also found in the number and managerial capabilities of private contractors in the housing construction field. The Ministry of Housing has had to retain the same few large contractors for its projects mainly because of the scarcity of smaller, reliable contractors able to bid independently, or jointly, for sizeable project components.

Finally, the adoption by the Moroccan housing authorities of too high planning standards for land use, infrastructure and superstructure elements of housing projects intended for low-income families, represents in itself a constraint. The use of such excessive European-inspired standards undermines the effectiveness of Morocco's shelter delivery system, particularly when it comes to meeting the needs of the lowest income groups.

It is quite evident that current funding in the housing sector is inadequate. It is also evident that existing programs do not reach the majority of the target population, but only those who have the required resource back-up to qualify for these programs. It seems, too, that the current interest subsidy policy benefits those, who can afford to participate in the programs, but practically eliminates the target population. This suggests a thorough review of the current financing procedures and the creation of a more equitable and economically viable shelter financing system. In order to attract more resource capital, either from internal or external sources, it appears mandatory that interest on housing loans will have to be set at a level assuring equitable access to housing funds to all, but the subsistence income groups. Subsidy funds thus could be freed and added to the general housing fund, or returned to the economy for more beneficial purposes.

What this would mean as well, is that development programs could be geared to a level of affordability; current programs are not and are setting standards for eligibility in financing

and construction far above the means of the target population. More emphasis must be placed on upgrading of existing dwelling units, and possibly more efficient use of the newer developments. It is the development of more prudent programs that would reduce the cost of construction and thus the need for higher loans, therewith offsetting the cost of equitably adjusted loan interest.

Careful planning and finance policy decisions most likely will enhance the attractiveness of the shelter sector to potential investment sources, which could mean a considerably higher participation by a potentially greater portion of the lower income population.

VII. PROSPECTS AND ANALYSIS

A. Household and Individual Income Trends of Target Population

1. Income^{1/}

Unfortunately, there is little recent data on the household income distribution for larger urban centers (such as Casablanca and Rabat-Sale), more traditional areas (such as Fez and Marrakech), or for other secondary urban and for rural areas. The latest data are from the 1971 census and from a consumption and expenditure survey undertaken in 1971 and 1972.

On the basis of the 1971 survey, the IBRD has prepared estimates of expenditures and incomes for 1975. It appears that the monthly overall, national median income in 1975 was approximately US\$117. The monthly urban median income was projected to be US 126. At the IBRD reported rate of increase of 8 percent per annum for income, the monthly overall national median income for 1978 was calculated at US\$ 147.- (DH 646 -), that of the monthly urban median income at US\$ 157.- (DH 690 -).

It should be noted that, although the 1975 income levels were significantly higher than the 1971 figures, the actual cost of living increase of 25 to 30 percent over 1973 and 1974 probably offset any real gain. Inflation rates encountered between 1975 and 1978, do not indicate a real gain in income and purchasing power over the past three years.

It has been stated in this appraisal repeatedly that the majority of the target group does not belong to a category with an appreciable income level. The income levels in this group are well below the urban median. The low employment level existing within the target group, coupled with the insufficient education and skills among this group is not representing the median urban income of US\$ 157.- (DH 690 -). As of 1977, it still stood only at US\$ 94 - average in three bidonvilles of Rabat.

Their income base is vague at best and trends are, therefore, impossible to determine. The same holds true in attempting to ascertain employment status and predict potential employment opportunities and trends. To date, only the bidonville rehabilitation project in Rabat, under the auspices of the World

^{1/} MOROCCO PRELIMINARY STUDY SHELTER SECTOR, April 1977-modified.

Bank, includes a suitable employment generation program, which is attempting to enhance the employment status of at least a certain segment of the affected target population. It is equally difficult to outline the expenditure patterns without first conducting the appropriate surveys in the settlement communities which are housing the target population. It is also believed that any effort made in determining the household budget patterns of the majority of the target population, without similar detailed surveys, would not represent accurately the prevailing conditions.

The affordability of shelter for the target group on the basis of current programs is limited and remains confined to the rental of squatter units and rooms in the medinas or other low cost developments. Ownership of dwelling units seems to be attainable only, if and when suitable programs will become available that would allow upgrading of squatter units at acceptable but limited standards and comparable to the current levels of income. New sites and services programs above the improved standards of existing squatter settlements, but considerably below the standards of the current MHAT "programme social", could conceivably foster ownership status for many, low income families.

B. National Economic Prospects

An assessment of Morocco's economic prospects has been made in Part III of this report.

May it suffice here to summarize briefly the most important aspects. Essentially, the development of the primary sector, agriculture, will be fostered by continuing the land irrigation programs designed to increase the availability of arable land in an effort to increase production. Further, efforts are planned to develop rain-fed agriculture. It is hoped that progress can be made in increasing output to favor higher export capacity and enhance the availability of agricultural commodities for internal consumption, therewith reducing excessive requirements for the import of essential foodstuffs

Investment allocations for the agri-sector are substantial in the current budget and are expected to remain high in the next few years. The effort is certainly geared to improving employment opportunities in this sector, though it will benefit little the urban target population unless return-migration can be induced.

In the secondary, mainly industrial sector, programs begun in the previous plan period of 1972-76 will continue, and new programs will be initiated. It is very likely, however, that industrial expansion will be modest, at least until the large scale projects have been completed and productively integrated into the economic system. The output of the country's major export commodity, phosphate rock, certainly commands priority, and in the hope of more favorable market prices is expected to contribute substantially toward the receipts of foreign exchange and hence a more acceptable balance of trade. Investment in the industrial sector, aside from the substantial carry-over of previous investment commitments, will be modest compared to the past high investment outlay. Public works and construction will continue at a modest rate. It is expected that the continuing growth in the secondary sector will stimulate and generate employment growth, but not enough to have an impact on unemployment or underemployment because of the high rate of urban growth and in the absence of greater educational and vocational training opportunities.

The modest investment allocations reflected in the 1977-78 budget for housing and urban planning, including tourism, make it unlikely that major strides can be made in providing enough shelter for the rapidly increasing population in desperate need for housing and social services.

The tertiary service sector is expected to grow moderately in line with the overall reduced growth which in terms of G.D.P. will advance at a projected 5 percent rate per annum.

How the economic prospects for the next five years will affect the target population in the urban centers is hard to predict, though it is not very likely that their socio-economic condition will improve substantially on a short term basis and in the absence of definite and impact-oriented programs.

C. Shelter and Urban Development Prospects

The developing countries, Morocco being no exception, are in a period of change with the focus of attention directed towards their ability to make the adjustments required to adapt and master the flow of events which are bringing about these changes.

Morocco, which is more persistent in its efforts to transform from an inherently rural and agri-oriented existence to an industrially oriented way of life, is experiencing the harsh realities of a changing nation. So much, in fact, that the

growth of its cities may literally be termed explosive. This growth is nothing new for the old established urban centers, or even those cities which came into prominence as growing centers of activity with the advent of foreign influence. There are other cities, however, which only recently have become the focal points for attention and which are attracting rural migrants in ever increasing numbers. And there are more towns with the growing potential to attract, but not absorb the flow of migrants, much less the natural rate of growth.

At the time of independence in 1956, there were only a few cities with the distinction of being urban centers with a population of more than 100,000 each. Twenty-five years later, in 1982, there will be nineteen, with a total urban population of 9.3 million, or 44 percent of Morocco's total population.

The myth of the good life in the cities never seems to vanish from the minds of the innocent, so the surge continues, as it always has, disregarding, almost totally, the inevitable consequences.

Cities hardly ever were prepared for spontaneous growth induced by accelerating shifts of population. Even those cities which had the fortune of having been planned and prepared for more than normal growth succumbed to the sudden and repeated surge of migratory inflow and the therewith connected greater natural growth. That this had, and will continue to have, a profound effect upon the established settlement patterns in the urban areas is not being questioned. The evidence is clearly visible and manifests itself in the harsh truths of overcrowding, deterioration of these settlements, overburdened infrastructural services, and inadequate social services. Lack of economic opportunity, increased health hazards and many other factors are affecting the socio-cultural and economic well being of the urban population.

Morocco's urban growth is a perfect example of this phenomenon. Even though, valiant attempts are being made to cope, the problems are too overwhelming and complex to invite easy solutions. Morocco is more fortunate than most other developing countries in possessing a viable economic base. But even with its considerable natural resources and basically favorable agricultural potential, the enormous financial resources required to keep up with orderly and planned urban development is beyond its current capability. As a consequence, development growth continues unabated, only partially controlled, inadequately planned and in an atmosphere of just making do with what is available in regard to infrastructural and social services.

The trend is obvious in view of the continuing high rate of urban growth. Housing production will lag far behind the residual demand for close to a million housing units, not to speak of the additional yearly demand for 85,000 new units. What it means in terms of infrastructure and socio-economic needs is staggering. What seems obvious under the circumstances is a continuation of prevailing conditions and even a prospect that newer settlements in the urban areas will be oversaturated by the wave of rapid population growth in continuation of the established cycle. What such unabated growth will inflict upon the environmental quality can well be imagined. Even with a conscious awareness, apparent among officials, the lack of a comprehensive national environmental policy, administrative body, and effective enforcement apparatus, little is, or can be done to curtail abuse of environmental principles.

D. Prospects for Improvement of Target Population's Housing Conditions

The Moroccan government's ability to assist in the production or improvement of housing for the target population remains extremely limited, as demonstrated in Part VI. There are no indications that would lead to anticipate significant changes in this area in the near future, as explained in Part VIII. The basic reason is the scarcity of public funds earmarked in past and proposed national plans and budgets for housing.

There are of course other obstacles to greater government participation toward improving shelter conditions for the poor. These obstacles are found mostly on organizational grounds and stem primarily from the lack of managerial and technical resources in the public agencies charged with the planning and execution of government-sponsored housing projects of various types. But the prospect of stronger government involvement in the housing field is mainly inhibited by economic and financial constraints.

In the private sector, the prospect of private industry making any significant contribution toward solving the housing predicament of the poor is virtually nil, except if one considers that such a contribution is made through the contractual relationships established between contractors and public agencies for the execution of government-sponsored housing projects. In general, the truth of the matter is that lower income families cannot afford to pay the housing costs in the private market.

Therefore, the chief prospect is that of low-income families working with their own limited resources, and whatever

assistance might come from the government, to create, or improve their own shelter. However, and as explained in Part VI, it is extremely difficult for families earning less than the urban median income, currently estimated at US\$ 157.- (DH 690.-) per month, to pay for the kind of housing provided in the government-sponsored projects. Thus far, the government had to subsidize heavily these projects, and therefore use the meager budget resources for only a small number of housing units of the official standards.

The target population, faced on one side by low wages, and on the other by the government's inability to provide sufficiently viable programs for housing purposes, has no other alternative than to continue to seek the same kind of accommodation they have succeeded in securing in the old and new squatter settlements. Unless the government would reconsider the national priorities and allocate more resources for low-income housing programs based on lower standards, the prospect of improving the housing conditions of a larger number of low-income families is quite slim indeed.

VIII. OPTIONS AND RECOMMENDATIONS

A. Options

Several options have already been tried out by the Moroccan authorities in their attempts over the last 15 years to cope with the increasingly difficult housing predicament of the majority. But in most instances, these attempts have been too feeble and have not succeeded in helping the families of the lower socioeconomic strata which are most in need of assistance. Yet, these options are the same commonly used in many other countries: low-cost housing projects and various forms of sites and services developments.

More recently, and after many unsuccessful attempts to relocate squatter settlements in several urban areas, the Moroccan authorities have decided to upgrade some of the older squatter settlements. With IBPD's assistance, they have planned and begun the execution of the Rabat Urban Upgrading Project for the three squatter settlements of Douar Doum, Douar Maadi and Douar Magga which, together, comprise 60,000 people in 11,900 households. This type of urban upgrading is referred to by the Moroccan planning authorities as "restructuration des bidonvilles" reflecting the notion that the squatter settlements' configuration should be adjusted to better fit in the overall fabric of the city. Although one of the principal objectives of the upgrading operation is to keep and improve as many of the existing households as possible, the introduction of the required infrastructure and community facilities must inevitably absorb a certain amount of land area presently occupied by the squatters. Therefore, the project includes also a sites and services scheme designed to accommodate those households which must be relocated.

The government of Morocco has a great deal of confidence that the Rabat upgrading project will be successful and replicable. The government has recently requested further IBPD's assistance for similar projects in three other urban centers, and has asked IBPD to provide technical and financial assistance to tackle the upgrading of the Ben M'sick squatter settlement in Casablanca.

While there seems to be a lot of merit in the slum upgrading program, there might be a risk involved in undertaking simultaneously several projects of this new type, and committing to them so much of the foreign exchange and local resources available for housing development before the experience of the Rabat project is fully understood in all its implications.

Another important consideration lies in the fact that the national budget resources likely to be available for government-sponsored shelter projects of the slum upgrading and sites and services types will only satisfy a small fraction of the total low-income housing needs. While the current housing deficit estimated at 895,000 units is projected to grow by 85,000 every year, the national 3-Year Plan (1978-1981)^{1/} provides only for the upgrading of 10,000 squatter units and about 8,000 sites and services plots with core housing units each year. Even if it could be possible to achieve a 5-fold increase in the magnitude of the national program, the present housing deficit would be left virtually unchanged. But it is not at all certain that even the stated objectives of the Plan can be realized since, in recent years, the Plan has fallen consistently and substantially short of achieving its targets, especially in the housing sector.

An option which has been given almost no priority in the Plan is that of rehabilitating the old medinas' residential buildings. Many of these buildings have for a long time been suffering from two kinds of obsolescence first, physical obsolescence caused by poor maintenance and which manifests itself initially by textural degradation and subsequently by structural damage very costly to repair; second, functional obsolescence which comes about when the original function for which a building was intended no longer prevails due mainly to changes in the socioeconomic pattern of urban life (two of several examples which could be cited are the legendary caravansarais and the oversized extended-family houses). While the Moroccan authorities have talked about restoring buildings classified as historical monuments in Fez, very little has been said concerning the rehabilitation of old medina quarters for residential purposes. On the other hand it can be argued that such rehabilitation would be well suited to private entrepreneurship well aware of the potential real estate value of restored dwellings in centrally located medinas. While that may be true especially in the case of individual buildings with obvious locational advantages, the fact remains that large-scale rehabilitation of the medinas will entail considerable infrastructure improvements which can only be realized by government initiative and financing.

B. Recommendations

In the light of the considerations brought forth above, it can be concluded that if the Moroccan government's housing programs are to be more effective than they have been thus far in assisting the target population of below-median

^{1/} MHAT Preliminary Estimate

income families in their efforts to achieve decent and healthy housing conditions, the planning authorities should seriously consider taking the following actions

First, to endeavor to reduce considerably the standards used in the planning and design of both the infrastructure and the superstructure of all government-sponsored housing projects, whether they are destined to well-employed white collar office workers or to squatters.

Second, to allocate a larger portion of the national housing budget to urban upgrading projects which maximizes the utilization of existing housing facilities of even the lowest standards, and a lesser portion than was customarily allocated in the past to new middle-class housing developments.

Third, to strengthen housing construction financing mechanisms in both the private and public sectors, and to encourage workers to deposit portion of their monthly earnings at housing savings and loan institutions with such incentives as better interest rates, tax rebates and higher eligibility rating for housing projects sponsored by the government

Fourth to apply available resources to more than one type of experimental project e.g. while large-scale squatter settlement upgrading in the particular manner adopted for Pabat seems to be an excellent alternative to try, it may also be worthwhile to use newly available funds for experimental Medina upgrading schemes or new sites and services projects with considerably lower standards than those already tried.

Fifth, for the already started sites and services projects where the infrastructure will be used at only one third of its capacity, because, while it has been designed to serve a 3-story development, only one story is actually built (as explained in Part 7) an experiment should be conducted to add the second- and third-floor units on a cooperative or rental basis. This option may prove to be highly economical since thousands of housing units could be added with no additional land or infrastructure.

ATTACHMENT A.

ENVIRONMENTAL CONTROL

Although the Moroccan cities - especially Casablanca and the other industrialized urban centers - are plagued with environmental problems related mainly to sanitation in general and to air pollution caused by heavy vehicular traffic and perhaps more importantly by industrial exhaust fumes blown on the residential areas from nearby industrial plants, the Moroccan authorities have done very little thus far to control environmental pollution.

The Ministry of Housing (MHAT) is theoretically interested in the subject and created a central administrative unit, Direction de l'Environnement, within the Ministry's headquarters in Rabat to address the issue. However, the unit comprises a miniscule staff of only 4 persons, including the director, Mr. Khadir, to take care of all environmental problems arising in the entire kingdom.

Mr. Khadir, in the course of an interview with the consulting team, spoke at length of solar energy which is a high-priority item in the environmental program which his office is drafting for incorporation in the National Development Plan. The two other major items of the program are directed at oasis development for residential use, and at urban park and open space planning.

The Director did not see air pollution as an important urban issue and attributed Casablanca's air pollution predicament to the historical fact that some of the industrial plants (e.g. the Lafarge cement factory) were built in the early years of this century before the urban development spread out in their vicinity.

Mr. Khadir recognized that the bidonvilles have enormous sanitation problems, and deplored the fact that very little has been done to alleviate them. Because of the small size of his staff, he has been relying on the architects of the Ministry's regional offices to address these problems. The staffing conditions may nevertheless improve in the near future when a proposed 2-year sanitary engineering program will be instituted at Mohammed V University for the training of required technical personnel. Another academic effort is under way to increase the number of Moroccan medical doctors and public health specialists to 10,000 by the end of the century, according to Mr. Khadir, in order to tackle more effectively the country's health and related environmental problems.

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TERMS AND ABBREVIATIONS

BCP	Banque Centrale Populaire (Peoples Central Bank)
CDG	Caisse de Dépôt et de Gestion (Savings and Management Fund)
CGI	Compagnie Générale Immobilière (The General Housing Development Agency)
CIFM	Compagnie Immobilière Foncière Marocaine (Moroccan Housing and Land Development Agency)
CIH	Crédit Immobilier et Hôtelier (Credit for Housing and Hotel Construction)
CNE	Caisse National d'Epargne (National Savings Bank)
DUH	Department of Urbanism and Housing (replaced by the MUHE)
FNAET	Fonds National D'Achat et d'Equipement de Terrain (National Fund for the Purchase and Development of Land)
GOM	Government of Morocco
HBM UNITS	Current low-cost housing unit program type
IBRD	International Bank of Reconstruction and Development
MHAT	Ministry of Housing and Regional Planning (Ministère de l'Habitat et de l'Aménagement du Territoire)
MUHE	Ministry of Urbanism, Housing and the Environment
ONE	Office National de l'Electricité (National Office of Electricity)
ONEP	Office National des Eaux Potables (National Office of Potable Water)
PN	Promotion Nationale (National Employment Generation Agency)
RAD	Régie Autonome de Distribution d'Eau et d'Electricité (National Authority for the Distribution of Water and Electricity)
Rate of Exchange:	Conversions to dollars are approximately at the rate of US\$ 1.00 = DH 4.40.