

UNCLASSIFIED

**AGENCY FOR
INTERNATIONAL
DEVELOPMENT**



DEVELOPMENT ASSISTANCE PROGRAM

FY 1975 - 1979

MOROCCO

**DEPARTMENT
OF
STATE**

JANUARY 1975



UNCLASSIFIED

DEVELOPMENT
ASSISTANCE
PROGRAM
for
MOROCCO
FY 1975 - 1979

USAID/MOROCCO
January 24, 1975

AMBASSADOR'S FOREWORD

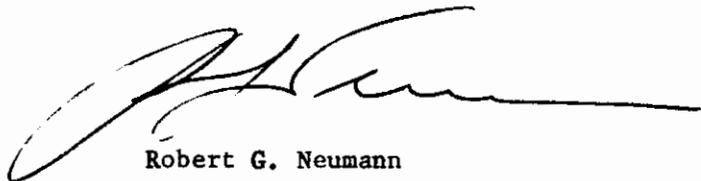
Morocco is a firm friend and increasingly important trading and investment partner of the United States. Past U.S. aid programs have played an important role in this country's impressive development record and in helping to create conditions of social and political stability which are notable in the present Mediterranean world.

Evaluating the economic and social performance and outlook for an entire nation is never an easy task. This is especially so at such a critical juncture in the world's economic evolution and when the study involved is a long-term projection designed to effect in a major way the economic assistance to be extended to a friendly government which has been valiantly striving--with considerable success--to better the conditions of its people.

During the last Five Year Plan the Moroccan economy grew at an annual rate of 5.6%. However, the traditional sector accounting for 65% of the population has remained stagnant. The present DAP takes into account these factors as well as the increased demands on U.S. aid by less-

avored nations. The report is hard-headed in its assessments and lucid in its recommendations. This is as it should be. I endorse the study's selection of Option Three as appropriate in present conditions.

But in the light of the problematic world trade outlook and uncertain commodity prices, I believe it right to point out how fragile these gains may be. Morocco has experienced two consecutive adverse crop years. With rains once more seriously delayed and weather forecasts unfavorable, the outlook for Moroccan agriculture--which supports 75 per cent of the nation's population--also remains doubtful. I therefore wish to highlight the concluding thought of this Development Assistance study which emphasizes the need for flexibility to return to a somewhat more activist aid program in Morocco should the assumptions on which current recommendations are based prove incorrect.



Robert G. Neumann
U.S. Ambassador to Morocco

D A P

T A B L E O F C O N T E N T S

Ambassador's Foreword

	<u>Page</u>
I. <u>SUMMARY</u>	
A. Setting	1
B. U.S. Development Strategy	4
C. Proposed U.S. Development Assistance Program	4
II. <u>NATURE OF U.S./MOROCCAN RELATIONS</u>	
A. U.S. Interests.	6
B. Moroccan Interests	7
C. The U.S. Style in Morocco	7
III. <u>OVERVIEW OF MOROCCO'S DEVELOPMENT PROBLEMS</u>	
A. Description of Trends in the Economy	9
B. Development Challenges.	11
IV. <u>MOROCCO'S DEVELOPMENT STRATEGY</u>	
A. The Third Five Year Plan (1973-77)	13
B. Other Donor Assistance.	16
V. <u>SECTORIAL OVERVIEWS</u>	
A. <u>Agriculture</u>	21
1 - Problems	21
2 - Programs Directed at these Problems	26
3 - Program Deficiencies and Problems	
4 - Pivotal Points for Intervention	36
5 - Donor Assistance	39

TABLE OF CONTENTS (Cont'd)

	<u>Page</u>
6 - Scope for U.S. Assistance	42
B. <u>Overview of Health Sector</u>	
1 - Major Problems	44
2 - Programs Directed at these Problems	47
3 - Program Deficiencies and Problems	51
4 - Pivotal Points for Intervention	52
5 - Donor Assistance	52
6 - Scope for U.S. Assistance	53
C. <u>Overview of Education Sector</u>	
1 - Major Problems	54
2 - Programs Directed at these Problems	56
3 - Problems and Deficiencies	61
4 - Pivotal Points of Intervention	63
5 - Donor Assistance	63
6 - Scope for U.S. Assistance	64
VI. <u>U.S. STRATEGY OPTIONS</u>	
A. Past U.S. Role in Morocco's Development	65
B. Current Setting	66
C. Options	66
D. Pros-Cons	69
VII. <u>PROPOSED DEVELOPMENT ASSISTANCE PROGRAM</u>	
A. Program Objectives	72

T A B L E O F C O N T E N T S (Cont'd)

	<u>Page</u>
B. Rationale	72
C. Means of Implementation	73
D. Criteria for Success	78

I. SUMMARY

A. Setting

The Country - Morocco, situated at the north-western most corner of the African continent, covers an area approximately the size of the state of California. It is a country of quite extreme contrasts, geographically, climatically, socially and economically. A 350 mile long Atlantic coastline forms its western limit and it is bounded on the north by the Mediterranean. The country is open and flat in the northwest where the richest agricultural lands are found (e.g. the Casablanca-Kenitra-Meknes triangle), where the bulk of the large French farms under the colonial period were located and where today, under Moroccan private or government management, most of the cereal crop is grown. The northeast and south of the country are spectacular in mountain scenery, excellent for tourism and rich in mineral wealth and potential, but poor from an agricultural point of view. Beyond the southern Atlas mountains, the desolation is quite striking and typically Saharan owing to the absence of rainfall. The mountains reach a height of 13,500 feet, effectively cutting off moisture-laden air from the Atlantic.

Rainfall is generally concentrated in the period from November to March and ranges from 30 to 40 inches in the Rif mountains in the north to under 4 inches south of the Atlas. This uneven distribution of rainfall is a fundamental problem for agricultural development. Even where rainfall is adequate it is often concentrated at wrong times during the growing season. Periodically an absolute shortage of rain has had serious impact on the important cereals crop, the main source of food for the majority of the population forcing Morocco to import large quantities of grain, mostly from the U.S. This fact is partly responsible for the rather erratic levels of U.S. assistance to Morocco in past years, where PL 480 Title I assistance has widely fluctuated since 1957.

The People - Any visitor to Casablanca might conclude that Morocco is a developed industrial state, or so it would appear from the industrial plants. The deception is complete, however, because Morocco is predominantly an agricultural country with 65% of its people living in rural areas. Despite impressive potential, agriculture offers a meager livelihood as revealed by the fact that the majority of farmers earn less than \$200 per year and the malnutrition problem is severe. This is not to say that there are no prosperous farmers but the majority of Morocco's 17 million people can be categorized as rural poor.

Most of the population is concentrated north and west of the Atlas mountains. Unlike other countries of the Maghreb whose population tends to be located almost exclusively along the coasts, the Moroccan people are more dispersed owing to greater rainfall distribution. Population density ranges from 1,000 per square mile in the coastal region

around Casablanca to small concentrations in the oases of the south. The ethnic line between indigenous Berber stock and Arab immigrants dating from the seventh century tends to be blurred. Generally, about 60 percent of the population speaks Arabic and 40 percent Berber. Half of the Berber speakers also speak some Arabic. French is widely used in government and commercial circles. The Berbers, concentrated for the most part in the Atlas and Rif mountains, are among the most underprivileged people in Morocco.

Morocco's population is growing at 3.2% per year, one of the world's highest growth rates. This growth severely taxes health services, educational facilities, job opportunities, and in a general sense limits the benefits of any economic gains the country is able to make. The magnitude of the social problems aggravated by a rapid population increase is revealed by the following facts. The illiteracy rate is 76%. Infant mortality in rural areas is 170 per thousand live births. There are more than 2.5 million children, or 16.3% of the population, between the ages of 0 to 4. 46% of the population is under 15 years of age. 80% of the population is malnourished. Unemployment is roughly calculated at 20% of the labor force. Underemployment is endemic.

The Rulers - The monarch, King Hassan II is descended from a dynasty dating back to the seventeenth century. Forty-four years of French colonial rule (1912-1956) did not appreciably alter the characteristics of the monarchy, heavily marked by tradition. There is no elected legislative body in Morocco and the King remains the supreme authority in every domain. By contrast, Morocco has a highly structured, if at times cumbersome, civil administration largely patterned after the French model. As in most LDCs a shortage of well trained Moroccan civil servants, plus the fear of responsible officials to take any initiative without consent of the highest authorities, impedes effective government.

The civil service, however, is characterized by a small elite corps of highly trained young Moroccan technocrats. These individuals often occupy positions of great responsibility but supervise middle level bureaucrats of less than modest stature.

The Economy - Economically Morocco presents another series of contrasts. Besides an extensive transport system, the French left behind a fairly impressive industrial base concentrated for the most part around Casablanca. Industry accounts for about 40% of gross domestic product, of which mining comprises 23%, energy 5%, and manufacturing about 12%. Manufactures are concentrated in textiles, chemicals, foodstuffs, beverages, construction materials, and metal transformation. The mining sector is dominated by phosphates, which this year should account for over 50% of the total value of exports given 1974 price increases.

Morocco, holding half of the world's reserves, is the world's largest exporter of this commodity. Tightly controlling the market

as reserve supplier, Morocco was able to more than quadruple the price of phosphates in 1974 with no adverse effect on demand. Formerly \$14 a ton, phosphate prices have increased to \$68 per ton over the past 12 months. This bonanza came about at the same time as the drastic increase in world oil prices and related increases in the prices of other imported goods. On balance, Morocco has thus suffered less than other LDCs as a result of the oil crisis. But the increase in oil prices and extraordinary imports of inflation priced grain, vegetable oil, and sugar necessitated by a partial crop failure have pretty well cancelled out the gain from the dramatic increase in phosphate prices. The doubling of exchange reserves anticipated shortly after the increase in phosphate prices in June of 1974 has, therefore, not materialized.

Despite the phosphate boom, fundamental economic problems thus remain, foremost of which is Morocco's inability to feed itself, a paradox in a country possessing excellent agricultural lands and a potential even to export food. In 1974 Morocco was obliged to import 1,000,000 tons of cereals. Yields per acre are extremely low taken in the aggregate, and the picture of the sub-marginal farmer using archaic methods of cultivation is all too much in evidence throughout the land. The rural poor have been little touched by Government agricultural policies enunciated in previous Five Year Plans. What progress there has been in increasing food production has generally been confined to the more prosperous farmer who has more access to farm inputs (seed, fertilizer, credit, etc.) provided these are available on a timely basis, which is all too frequently not the case.

The Development Plans - Morocco has had five investment or development plans since independence: 1957-59, 1960-64, 1965-67, 1968-72, and the current Five Year Plan 1973-77. The first three Plans fell wide of the mark chiefly due to over ambitious planning and a cycle of poor crop years. The 1968-72 Plan on the contrary, benefitted from good crop years and was more realistic in its targets. Anticipating a growth rate of 4.3% over the Plan period, real GDP growth actually reached 5.6%. The emphasis in this preceding plan was on industry, tourism, and agriculture, with particular stress placed on development of large irrigation schemes and dams.

There are indications that the Moroccan authorities are now giving more weight to the problems of income distribution and the rural poor, problems which tended to be ignored in previous plans as the government focused principally on absolute growth. The new Five Year Plan (1973-77) seeks to cope with growing inequalities of income, although as the IBRD observes, the measures envisaged are modest. A beginning was made in 1973 with a vigorous program to complete distribution of foreign owned land to groupings of small farmers where possible; however, this measure only affected a small proportion of the rural poor. Though moderate land distribution has continued in 1974, substantial quantities of "recovered land" remain to be distributed. To raise agricultural production of the most disadvantaged, more stress needs to be placed on rainfed areas,

improved pastures and dryland grazing, small-scale irrigation systems, price policies to encourage crop and livestock production, and accessibility of farm inputs and services. Yet efforts to improve the agricultural sector invariably point to the serious deficiency of trained manpower capable of translating government policies into action programs.

B. U.S. Development Strategy

Continuation of U.S. assistance over the next few years as proposed in this DAP is based on several important premises. The first is that even though Morocco comes out as a "borderline" country among those affected by the oil crisis, the majority of its people is still very poor. If one looks beyond the purely macro-economic statistics one finds the bulk of Moroccans still living a marginal rural existence, lacking adequate health care, educational opportunities, and access to the modern technology required to increase farm production. The second premise is that Morocco is interested in doing something about its rural poor, an attitude which was not too evident in the past but which is reflected in the current Plan and is apparent in the conversations USAID officials have had recently with high Moroccan government representatives. The third premise is that U.S. assistance can make a difference, despite the modest resources envisaged.

In developing an aid strategy for the next five years, we have examined a series of options which range from early phase-out to rather massive inputs of resources. We recommend a course of action that lies somewhere in between and concentrates on an annual program of \$2 million in technical assistance and of \$10 million in PL 480 Title II assistance. We would reserve the option of combining this program with some capital assistance in areas where loan funds could directly benefit the solving of a key problem, in the event the GOM's financial position should justify concessional lending.

If this crop year's late rains presage a cycle of drought as has been the pattern in the past, the U.S. should be prepared to respond to a request for additional PL 480 Title I and/or Title II assistance.

C. Proposed U.S. Development Assistance Program

We believe certain problems related to technology, farm inputs, practical training, nutrition, maternal child health, and family planning, could be alleviated with limited U.S. assistance, directly benefiting the rural poor and improving the quality of life. Towards this end, we propose to develop and implement projects directed at:

- expanding irrigation in the Triffa and Doukkala perimeters for the benefit of small farmers in these areas;

- increasing the quantity and quality of basic food and feed seed in recognition that improved seed is a major farm input that is unavailable in sufficient quantities;
- resolving bottlenecks as they arise in applied agricultural research, particularly those that will help find appropriate technology for rainfed agriculture or employment generating crop cultures;
- increasing qualified agricultural manpower required to staff the Ministry of Agriculture's programs;
- testing the feasibility of a dryland development approach on a limited regional basis so that maximum productive use of the land can be made;
- increasing meat production in recognition of Morocco's potential in this area and the dependence of large numbers of poor Moroccans on this activity;
- boosting the effectiveness of the Ministry of Agriculture's project analysis and evaluation;
- developing a national nutrition strategy aimed at reducing the incidence of malnutrition;
- expanding maternal child health education in nutrition throughout the country;
- further extending family planning services to rural areas;
- creating a demographic data analysis capability in support of the GOM's development planning;
- undertaking studies to determine the feasibility of direct U.S. involvement in rural development on an integrated basis;
- strengthening the GOM's regional planning with a view to creating job and education opportunities, as well as health services in designated rural growth centers.

II. NATURE OF U.S.-MOROCCAN RELATIONS

U.S. relations with Morocco, traditionally close, are currently exceptionally good and prospects appear very promising for the future. This is due in large measure to the positive effect of the Secretary's visit here in November 1973 and to our efforts in achieving a Middle East settlement. The Secretary's second visit in October 1974 helped to cement the relationship further.

A. U.S. Interests

We have significant interests in Morocco in all domains. Strategically, the country has always been, and remains, important to us because of its location and because of the access it has permitted our forces since the Second World War. An unfriendly regime here could compromise our vital interest in maintaining unimpeded passage through and over the Strait of Gibraltar and could deny to us certain facilities which are of importance to our military position in the Mediterranean Sea and the eastern Atlantic.

At present, and in the near future, our political interest is of very major importance. The major thrust of U.S. diplomacy at present is to maintain progress towards peace in the Middle East, and Morocco is a country which has been, and will continue to be, useful to us in this endeavor. King Hassan is an Arab leader whose attitude towards us is friendly, whose view of the Middle East situation is moderate, and whose influence in Arab councils, in the wake of his contribution to the October 1973 war effort and his successful chairmanship of the Seventh Arab Summit Conference, is growing. In terms of the totality of our Middle East strategy, Morocco's support for our peace initiative is very much worth having and should be cultivated.

On the economic/commercial side, Morocco provides a modest market for U.S. exports, though these have tended to be concentrated in a narrow group of product lines. We are presently a distant second to France as the country's largest foreign supplier. In 1973, U.S. exports to Morocco totaled approximately \$110 million. The prospects for moderate expansion and diversification of our exports in the coming years are good. Morocco is the world's largest exporter of phosphates, a vital raw material, now in short supply, important to agricultural production throughout the world. It appears possible that the United States may eventually become a net importer of phosphates. In this case, we will have to turn more and more to foreign sources, particularly Morocco, for phosphatic materials. Many of our friends and allies already depend on Morocco for their phosphates. In the context of a bilateral aviation agreement, Pan American utilizes overflight, landing and repair facilities in Morocco. In addition, several U.S. shipping lines find it convenient to use Moroccan ports on their Mediterranean and African schedules. There are approximately 60 American firms with

subsidiaries or representatives in Morocco. Only 15-20 of them, however, are engaged in manufacturing operations. A very rough estimate of the book value of American private investment in Morocco is \$70 million; important, but not a large stake in comparison with that in many developing nations.

B. Moroccan Interests

The Moroccans' interest in maintaining good relations with us is also high. They see their strategic and political interests as served by maintaining and developing their historical relation with the U.S. as a "big power" friend. Since the U.S. assumed a more active role in seeking peace in the Middle East, the King has also come to regard good relations with the United States as a means of enhancing his influence in Arab councils.

Good economic relations with the U.S. are, in a relative sense, of considerably greater importance to Morocco than to the U.S. Beyond our formal aid program, U.S. companies have also contributed both capital and know-how to Moroccan development. In a recent major speech on the effects of the deteriorating world economy, the King stressed the necessity of relying on major international firms to assist in the development process. Within recent weeks, shipments of Moroccan tangerines to the U.S. have commenced. Once residual problems associated with the "Moroccanization" of certain sectors of the economy are resolved, prospects for a solidly based and increasingly profitable commercial relationship appear sound.

Should the U.S., as noted above, become dependant on major phosphate imports as a source for fertilizer and chemicals, the symmetry of the relationship could quickly be redressed -- or even reversed.

C. The U.S. Style in Morocco

Our style of conducting a U.S. assistance program in Morocco must reflect the fact that the U.S. is no longer the major donor and that the GOM is reluctant to accept any role on the part of foreign donors in policy formulation. The GOM considers that its development strategy constitutes an extremely delicate balance between economic, social, and political factors that only it can and will determine. Once such a determination is made, the GOM rejects the idea of discussing the rationales, options, and trade offs, involved in their decision making process. Assistance requests are specific requirements for resources -- financial, technical, and human -- to address needs and solve problems identified by the GOM.

Within the framework of these requests it is, nevertheless, possible for the U.S. to provide assistance in keeping with AID

priorities and the congressional mandate. It is also important, in keeping with our Middle East peace initiative and the Moroccan role in this regard, to appear as responsive to Moroccan requests for assistance as possible within our resource limitations.

III. OVERVIEW OF MOROCCO'S DEVELOPMENT PROBLEMS

A. Description of Trends in the Economy

Morocco's economy, despite its dependence on somewhat erratic climatic conditions for its agricultural production and a continuing market for its phosphate exports, appears nonetheless to have moved onto a path of more rapid long term growth despite difficult political circumstances in 1971 and 1972. Aided by favorable weather conditions and resulting good crops in 1968, 1971, and 1972, real GDP growth accelerated from an average annual rate of about 3 per cent in 1960-67 (barely above the rate of population growth) to 5.6 per cent in 1968-72, thus exceeding the Second Plan (1968-72) target of 4.3 per cent, and permitting real gains in private consumption of about 3 per cent a year per capita.

Public investment provides much of the impetus for economic growth in Morocco. It averages about 40 per cent of total investment, and much of the other investment, both public and private, is made in response to it. Agriculture employs almost 70 per cent of the labor force, supplies some 40 per cent of exports, but contributes only 30 per cent of GDP. Since it provides raw materials for manufacturing industries and because farm income is an important determinant of consumer demand, agriculture strongly influences overall economic activity. Production in this sector increased at an average annual rate of more than 6 per cent during the Second Plan whereas only 2.1 per cent had been forecast. Production of manufactured goods and handicrafts increased by an average annual rate of 5.3 per cent, against an anticipated 4.3 per cent. Commerce and services expanded by just over 5.0 per cent, compared to targeted expansion of only 4.6 per cent. At the same time, the implementation of prudent fiscal and monetary policies contributed to a significant improvement in Morocco's domestic and external financial situation, despite shortfalls on planned capital inflows from official external sources. Government saving and investment slightly exceeded the modest Second Plan targets, while price stability was maintained. Following a decade of recurring deficits, the balance of payments registered sizeable surpluses in 1969-72, mainly because of sharply rising receipts from merchandise exports, tourism, and remittances from Moroccan workers in Europe. At the end of 1972, Morocco had accumulated net foreign assets worth \$280 million, equivalent to 3.5 months' imports of goods and non-factor services.

While the acceleration of GDP growth in 1968-72 was in part due to generally favorable weather conditions, it should be noted that agriculture, export industries, tourism, and sectors with derived demand (energy, transportation, communications, and modern services) seem to have acquired a capacity for sustained growth, in part because of past investment and training. In agriculture, expansion of irrigation,

increased use of key inputs in rainfed areas (improved seeds, fertilizers and timely ploughing) and a larger number of trained extension personnel have caused faster output growth. In the export sector, the phosphate company (OCP) regained leadership in the world market as a result of internal reorganization and investment carried out during the Second Plan. The export company (OCE), which has monopoly over Morocco's exports of fresh and processed foodstuffs, improved its management and marketing, while a broad range of industries, including companies subcontracting to foreign firms because of cheaper Moroccan labor built up a strong competitive position and sizeable sales abroad.

Implementation of the new 1973-77 Third Plan took place, after some delay, in the fall of 1973. Performance in 1973 was affected by poor weather conditions; agricultural output declines; and GDP increased by only some 1.3 per cent. The balance of payments position continued to strengthen, however, and by the end of 1973, net foreign assets amounted to \$453 million, the equivalent of more than 5 months of imports.

The balance of payment prospects for 1974 appeared at first very much enhanced by the fourfold increase in the price of phosphates to \$68 per ton. Since phosphates are Morocco's largest single export and since the sole producer and exporter, the Office Cherifien des Phosphates is state-owned, favorable developments in both Morocco's balance of payments and the national treasury were anticipated in early 1974. However, the import bill for foreign oil as well as subsidies paid by the GOM to cover the difference between rapidly rising world food prices and the relatively modest prices paid by Moroccan consumers for sugar, bread, and cooking oil have substantially eroded increased phosphate revenues. In addition, accelerated imports of capital goods necessary to meet the goals of the Third Plan both adversely affected the balance of payments and increased the GOM's requirement for funds for capital expenditures. The result was that at the end of 1974 instead of a doubling of the exchange reserves which phosphates were expected to bring about, reserves were only \$100,000 more than at the end of 1973. The estimated \$1 billion in phosphate revenues in 1974 went largely to cover substantially increased import costs of major raw materials and agricultural commodities.

The outlook for the future is by no means certain. While financial resources are not expected to be a constraint in the short run as long as the demand for phosphates holds as expected and increased inflows of official assistance materialize, they may become inadequate to sustain the pace of development beyond 1976 if 1975 proves to be a poor crop year, if the European recession adversely affects Moroccan laborers and their remittances, and if import requirements continue to grow in the face of stabilizing or declining phosphate prices and lagging demand for other Moroccan exports in Western markets.

For the moment, insufficient data is available to forecast what the full impact of phosphates and world economic trends is likely to be on Morocco's balance of payments in 1975 and beyond. The IBRD has scheduled a mission for February-March 1975 to study this question.

B. Development Challenges

Notwithstanding the respectable gains made recently in economic growth and the comfortable financial position it is enjoying for the moment, Morocco faces serious challenges for continued growth and development.

The rapid population expansion (3.2% per annum) erodes growth gains and imposes increasingly heavier demands on the system's already limited capacity to satisfy the current demand for food, jobs, schools, health services, and in general for a more equitable society. A vicious circle exists between high incidences of communicable disease and malnutrition and high rates of infant mortality and birth, which must be broken if Morocco is to achieve genuine development.

Moroccan agriculture is increasingly unable to feed and provide employment for the majority of rural Moroccans. Erratic rainfall, complex and uneven land tenure patterns, poor cultural practices, overgrazing ... pose difficult problems for the GOM's agricultural establishment. Having opted for irrigation development, available financial, administrative, and manpower resources are insufficient to the task of developing the irrigated perimeters and simultaneously undertaking a serious drive to bring the rainfed areas and the traditional farmer into the modern economy. Yet the latter will be required if the GOM hopes to raise agricultural productivity to the level required to feed its population in the future.

Widespread underemployment, income disparities and the lack of opportunity in rural areas are fueling the stepped up migration to urban centers. Some cities are growing as much as 7% a year. Yet the industrial sector is not growing fast enough to absorb the expanding labor pool. The lack of skills, on the one hand, and excessively high job qualifications, on the other, exacerbate unemployment while jobs go unfilled. Swelling slums, rising expectations in the face of inflation, and growing income differences increase the pressure on the government to reverse the trend or risk social unrest.

The high degree of illiteracy, the shortage of qualified manpower to carry forward the Government's development program, and the imbalance in educational opportunities further complicate matters. The GOM must face up to the need to devise an educational system, both formal and non-formal, that will be responsive to the country's economic and social demands.

Thus far the GOM has been able to maintain a delicate balance between growing demands and the extension of government services. Such balance can become only more difficult in the current world economic climate. One vivid illustration is the subsidy situation. The GOM has been subsidizing the price of major staples, such as sugar, bread flour, edible oil, and tea in an effort to keep consumers satisfied. As long as world prices for these commodities were relatively low, this was an expedient policy. However, the GOM cannot continue to absorb the heavy price increases of these commodities, which are estimated to have climbed from some \$50 million to over \$200 million a year, without taking resources away from development programs. Having created the need politically for such subsidies, in the absence of dramatic development gains, the GOM faces a real dilemma and its balancing act becomes more precarious.

IV. MOROCCO'S DEVELOPMENT STRATEGY

A. The Third Five Year Plan

Cognizant of the constraint to development posed by its social and economic problems, the Moroccan government began in 1971 to revise its policies, placing increasing emphasis on the achievement of social objectives. The Third Five Year Plan (1973-77), reflecting this changed orientation, has the following objectives:

- sustaining real GDP growth of 7.5 per cent a year from 1973 to 1977, mainly through a 10 per cent annual increase in exports and a doubling of investment over the Plan period; and
- improving the distribution of growth benefits, mainly through further land distribution to poor farmers and more emphasis on rainfed farming in agriculture, the association of Moroccan nationals with foreigners in services and several industrial subsectors, large increase in government spending on social services and low-cost housing, a more progressive tax system, and appropriate changes in wages and the prices of basic agricultural commodities.

In a departure from financial procedures followed in the past, the Third Plan calls for an expansionary fiscal policy and a liberal credit policy, accepting the risk of less price stability. It recognizes that, despite faster economic growth, an increased public works program and continued emigration, unemployment may rise in absolute, and perhaps also in relative, terms, because the growth of the working age population is accelerating from 2 per cent a year in the 1960s to 4+ per cent in the 1970s.

Consistent with its export-oriented strategy, the Third Plan gives priority to sectors contributing to exports (agriculture, fishing, mining, food processing, sub-contracting industries, transportation, and tourism). This priority is reflected in the allocation of government resources to investment in these sectors, as well as in the new measures taken in August 1973 to encourage industrial exports and private investment. Achievement of the Plan's export target will depend on further improvements in some export sectors (fresh and processed foods, tourism, and sub-contracting), and also on continued external demand. While external demand for phosphate is expected to remain strong in the short

term, demand for other Moroccan goods and services may weaken over the next few years as a result of an economic slowdown in developed countries following the increases in petroleum prices. On balance, real export growth, which exceeded Plan expectations in 1973, will probably be somewhat below Plan targets during most of 1974-77.

The Plan proposes significant changes in investment strategy to increase labor intensity and improve the situation of less favored social groups and less favored areas of the country. Education, health, and housing together receive a significantly higher share (23 per cent) of planned government investment than during the Second Plan (11 per cent). Among sectors, the main change concerns agriculture. The Plan places less emphasis on dam construction and favors equipment of existing irrigation areas, intensification of rainfed cropping, improvement of animal husbandry, and implementation of land reform. New incentives for private investment are less biased in favor of imported equipment than the previous system and encourage efficient operations and location in less developed areas.

In changing its investment strategy, Morocco is breaking new ground and significant shortfalls on planned investment could well be experienced in new priority sectors as a result of staffing and organizational constraints, which can only be relieved progressively. Shortfalls will probably affect rainfed cropping, livestock production, low-cost housing, and tourist infra-structure. In addition, practically no new investment took place in 1973 since the new incentives were introduced only in August. Finally, measures taken in 1973 to complete the recovery of foreign-owned farms and to "Moroccanize" business necessitate management changes which may temporarily restrain production and investment. For these reasons, investment may fall short of the Plan's target, and GDP growth may not exceed 7 per cent a year in 1974-77. The attainment of the Plan's income distribution objectives will to some extent be compromised by the investment shortfalls affecting programs designed to increase the productive capacity and situation of less favored groups in rural and urban areas.

As the King himself suggested in his December 1973 speech, the Moroccan government faces the problem of excessive investment resources with too few going or ready to go projects. Budget allocations for any sector may therefore reflect limited absorptive capacity rather than lack of financing.

Selected quantitative forecasts of the 1973-77 Plan are given below:

Average Growth of GDP, 7.5%

- Moderate growth in agriculture & primary sectors 3.6%
(growth in cereals, 1.9%)

- Rapid growth in industry, mining energy, construction and public works 11 %
- Average growth for trade and service sectors 6.9%

Consumption

4.8% average increase, twice the projection of the previous Plan

Reduction of Income Disparities

- 10% highest income 0 % growth
- 40% middle income 1 % growth
- 50% lower income 3.8% growth

Investments, by Investors

- Public sector \$ 2.8 billion
- Reinvestment of public enterprises8
- Private investment 1.4
- Bank credit 1.6

\$ 6.6 billion

Investments, by Sector

- Agriculture \$ 1,050 million
- Industry and Tourism 2,450
- Infrastructure 550
- Education and Training 400
- Social and Cultural 1,550
- General Administration 300
- Regional Development 275

\$ 6,575 million

Foreign Trade

- Annual rate of growth of exports 10 %
- Annual rate of growth of imports 8 %
- Most dynamic export sectors planned are textiles, weaving apparel, chemicals, and transportation equipment.

B. Other Donor Assistance

Of the total of \$6.6 billion in investments (private and public) targeted for the current Plan, Morocco is counting on some \$1 billion in foreign aid receipts to help reach that target. It is doubtful that foreign aid will reach anywhere near that figure over the five years, even though aid donors are very active here. In recent years aid receipts (disbursements) have progressively diminished, from about \$170 million in 1971 to \$137 million in 1972 and \$104 million in 1973. Receipts in the first half of 1974 were only \$64 million. Bilateral donor assistance, predominantly American, has diminished quite markedly while assistance from international organizations, chiefly the World Bank has increased. The Moroccan government attributes the general decline in aid over the past two and a half years to the slow start of the new Five Year Plan.

The limits on aid receipts appear to be not so much a function of the availability of funds from the donor community, but rather a lack of bankable projects. At each meeting of the IBRD Consultative Group, Morocco presents an exhaustive list of projects for which it desires the support of the assembled donors. Most of these projects have been retained in the Five Year Plan. The next step is lacking, however, and that is the preparation of project proposals in such fashion as to make them worthy of consideration by financing institutions. The Moroccans themselves have recognized this problem, as evinced in royal pronouncements earlier this year and in past remarks of the Ministry of Cooperation to USAID suggesting that American A&E firms establish themselves here.

Levels of assistance for other donors can be presented either as obligations (commitments) or as disbursements. The following discussion provides some indication of commitments by country, while the table at the end of this section gives a breakdown of external aid in terms of actual disbursements recorded by the Moroccan Office des Changes.

France provides loans for specific projects as well as balance of payments assistance, partly in public and partly in private credits. In 1973 France provided a \$7.5 million loan to assist the GOM to reimburse French nationals for land recuperated from them.

German Federal Republic capital loans are earmarked for such undertakings as dams, hydro-electric installations, tourism infrastructure, and mineral extraction. Among the credits it has accorded to Morocco in 1973-74 are \$9.5 million for help in phosphate extraction, \$6.5 million to help develop the fishing and commercial port of Agadir, \$11 million for potable water projects in Marrakech, Tangier and Tetouan and \$6 million for the Rabat Faculty of Medicine. Terms of these loans are 30 years with a 10 year grace period, carrying an interest rate of 2% annually.

The USSR is active in the financing of dams and studies for the mining sector. It has offered to help construct a major dam on the Loukos River, and is assisting the GOM in shale exploitation. Kuwait is also involved in dam construction and in irrigation. In November 1974, Kuwait signed a loan agreement with the Moroccan National Bank for Economic Development (BNDE) destined to help finance a new phosphoric acid plant near Safi. Terms of the \$8 million loan are 16 years at 4 percent.

The UK, Belgium, Italy and Denmark provide tied loans for the purchase of equipment. In 1973, Canada provided a \$5 million, 50 year no-interest commodity loan. As far as can be determined, none of the above commodity or equipment loans require programming of the counterpart which in all cases reverts to the GOM general budget without attribution.

The IBRD is the largest source of capital project loans for Morocco. The Bank is active in irrigation development and construction of the Arabat dam on the Sebou River. It financed the construction of the new dam on the Bou Regreg River outside of Rabat, designed to increase the potable water supply for both the capital and Casablanca. USAID financed the design of this dam. The IBRD provides financing for the National Development Bank (BNDE), the National Agricultural Credit Bank (CNCA), and for the national education program. During the past year it accorded \$29 million for highway construction, a \$32 million loan for financing flood control measures, a road network and a sugar factory in the Sebou plain, and a \$50 million loan to assist Maroc Phosphore with fertilizer production.

The African Development Bank has recently proposed a \$4 million loan to Morocco to finance the relining of the main irrigation canal in the Doukkala irrigation perimeter. This will be the fourth ADB loan to Morocco, the others were two loans for electric distribution (\$1.5 million) and a line of credit for the National Economic Development Bank (\$1 million).

Technical assistance to Morocco covers a large number of sectors, with agriculture receiving the most important share. Among the principal donors, France provides the widest range of technical assistance, funding a number of technical studies and providing expert staff in government administration and technical bureaus. Total French Technical Assistance in 1973 was \$13 million. There is a particularly large French involvement in public works; some 400 experts work in this area. All told, about 9,000 Frenchmen (including teachers) work in various branches of the Administration. GOM contributions to the support of these experts range from 0 to 100% under a multitude of formulas and statutes.

Belgium contributed \$2.5 million in technical assistance in 1972, largely in agriculture. Its 135 experts staff several of the irrigation offices, the Rif rural development program (DERRO)*, and higher agricultural schools where teaching aids, equipment, and participant training are also provided. Belgium has a few people in urbanism, health, planning, secondary school education, industry and commerce and tourism. It furnishes a number of scholarships in these fields. In December 1974, two agreements were concluded within the framework of a Moroccan-Belgian "Mixte Commission" which deliberated in the Fall of 1973. This Commission is the vehicle through which Belgium provides its assistance. It is chaired by the Moroccan Minister of Cooperation. The recent agreements provide for training in Belgium of Moroccan engineers from the Mohammedia engineering school, furnishes laboratory equipment and a computer to the school, and supports the training of staff for the National Buildings and Construction Center.

The Federal Republic of Germany assists Morocco in agriculture principally. Also involved in the DERRO project in the Rif, their experts are active in soil erosion control and development of forest resources. Elsewhere in Morocco, they contribute staff to a livestock experimental station, an agricultural machinery school, and a livestock artificial insemination center. They provide equipment, seeds and insecticides to agricultural cooperatives. In industry, Germany finances experts and studies in electro-mechanics, energy, mining and mineral prospecting and agro-industries. Germany is active in tourism planning for the Ministry of Tourism.

Canada has a four year \$1.2 million project to assist the Hassan II Agronomic Institute in cartography, geodetic surveying, photogrammetry and topographic surveying. Laval University, Quebec is the source of this assistance, which includes some \$116,000 of equipment. Over the 1973-77 Five Year Plan period, Canada, again through a contract with Laval University, will assist the Meknes agricultural school with four professors and \$400,000 worth of equipment. Total cost of this effort is estimated at \$1.6 million. Other Canadian activities in Morocco include training in animal husbandry at the Kenitra Livestock School (2 professors), and, along with Germany and Belgium, assistance to the DERRO project in northern Morocco (Rif). Canada has 10 full time technicians assigned to DERRO. It plans to augment this number by 5. The latest Technical Assistance agreement between the Canadian International Development Agency (CIDA) and Morocco, dated November 1974, provides teachers and equipment to the National Institute of Statistics and Applied Economics (INSEA) at a cost of \$1.7 million over the next five years.

*Developpement Economique Rural du Rif Occidental

Canada's largest technical assistance input terminated in 1971. This was a \$6 million cadastral survey, begun in 1969, which covered some 400,000 hectares of land mostly in existing or planned irrigation perimeters.

After France, the UNDP with a technical assistance level of \$2.9 million in 1972 finances the widest range of projects, consultants and studies. The UNDP and UN specialized agencies have experts assigned to or planned over the next five years in agricultural marketing, olive production, dairy technology, cheese production, marine fisheries, forestry, rural development (DERRO), erosion control, planning of national parks, land and water use, meat production, educational planning, higher education in biology, forestry, science, statistics, physics, nutrition, etc.

Presently the UN organization has 108 experts in Morocco plus varying numbers of short-term consultants. The UNDP also advises in vocational training, packing and packaging for export industries, manpower utilization and planning, training of office employees and engineers. Included in the UNDP's \$20 million Five Year Program (1973-77) are plans to provide consultants for the National Social Security Fund, rehabilitation of the blind, telecommunications, the textile industry, the plastics industry, a tool center, and an agricultural machinery center. It is engaged in a mineral survey of the Anti-Atlas, studies on the launching of a mining cooperative for exploitation of copper, foreign trade, printing, arts, conservation of sites and monuments, libraries and documentation, sanitation and environmental hygiene, water supply, maritime transport, tourism, meteorology, taxation, economic planning, agricultural statistics and public administration.

This list reveals the extraordinary scope of UNDP activities in Morocco, either presently underway or planned under the UNDP's Indicative Planning Figure (\$20 million) over the next five years. To be sure, some of the projects are extremely small in scale, involving only one consultant for a limited period of time. Others, like the proposed assistance to the National Public Works Institute and to the Telecommunications Institute require a UNDP contribution of \$1 million each.

A question clearly poses itself regarding AID's proposed Technical Assistance program in Morocco in light of the range of assistance from other sources. American assistance is limiting itself to areas where the U.S. is particularly well qualified, e.g. agricultural research, and where our assistance can most clearly improve the lot of the rural poor. While other donors are willing to provide experts to serve in operational capacities in various ministries and institutions to make up for the shortage of trained Moroccans, USAID is chiefly

concerned with training Moroccans to assume these jobs as soon as possible. Where other donor assistance still stresses general economic development, US assistance is focusing more on helping the disadvantaged in the society.

External Loans and Grants, Disbursements
1966 - First Half 1974
(Millions \$US)

	1966	1967	1968	1969	1970	1971	1972	1973	1st Half 1974
United States	<u>49</u>	<u>41</u>	<u>55</u>	<u>54</u>	<u>61</u>	<u>64</u>	<u>34</u>	<u>31</u>	<u>8</u>
loans	28	27	33	36	51	58	29	23	3
grants	21	14	22	18	10	6	5	8	5
France	<u>54</u>	<u>42</u>	<u>21</u>	<u>23</u>	<u>28</u>	<u>30</u>	<u>42</u>	<u>19</u>	<u>10</u>
loans	45	33	12	16	20	22	32	6	3
grants	9	9	9	7	8	8	10	13	7
Germany (Fed. Rep.)	<u>2</u>	<u>21</u>	<u>35</u>	<u>7</u>	<u>17</u>	<u>28</u>	<u>13</u>	<u>9</u>	<u>2</u>
loans	2	21	33	5	17	27	12	9	2
grants	-	-	2	2	-	1	1	-	-
Other									
official aid	<u>3</u>	<u>-</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>6</u>	<u>8</u>	<u>5</u>
loans	3	-	3	2	1	2	3	1	1
grants	-	-	-	-	2	3	3	7	4
IBRD/IDA	<u>12</u>	<u>8</u>	<u>12</u>	<u>14</u>	<u>15</u>	<u>25</u>	<u>27</u>	<u>32</u>	<u>36</u>
loans	12	8	12	14	15	25	27	32	36
USSR	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>13</u>	<u>8</u>	<u>11</u>	<u>1</u>	<u>1</u>
loans	-	-	-	-	13	8	11	1	1
Kuwait	<u>11</u>	<u>-</u>	<u>5</u>	<u>6</u>	<u>5</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>-</u>
loans	11	-	5	6	5	3	3	2	-
Iran	<u>-</u>	<u>-</u>	<u>-</u>	<u>6</u>	<u>3</u>	<u>3</u>	<u>1</u>	<u>-</u>	<u>-</u>
loans	-	-	-	6	3	3	1	-	-
Italy	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>7</u>	<u>3</u>	<u>-</u>	<u>2</u>	<u>-</u>
loans	-	-	-	-	7	3	-	-	-
grants	-	-	-	-	-	-	-	2	-
TOTAL	<u>131</u>	<u>112</u>	<u>131</u>	<u>112</u>	<u>152</u>	<u>169</u>	<u>137</u>	<u>104</u>	<u>62</u>
loans	101	89	98	85	132	151	118	74	46
grants	30	23	33	27	20	18	19	30	16

Source:
Office des Changes

V. SECTORIAL OVERVIEWS

A. OVERVIEW OF AGRICULTURAL SECTOR

Agriculture is the mainstay of Morocco's economy. About 70% of the active population is directly engaged in farming, livestock and forestry, and 75% of the total population is dependent on agriculture. The sector contributes over 40% of all exports and about 30% of the gross domestic product.

Morocco's agricultural land area covers some 23 million hectares which comprise: 5 million ha. of forest land, 2 million ha. of Alfa or Esparto grass land, 8 million ha. of grazing land, and 8 million ha. of arable land. About three-fourths of the arable land is cultivated, the remainder lying fallow. An estimated 1 million ha. is irrigable, of which less than 500,000 ha. are currently under irrigation.

The main crops are: cereals and pulses which occupy over 80% of the cultivated area and constitute the staple diet; a variety of vegetables and fruits - citrus in particular - which are produced mostly for export; olives and sunflower which are the main sources of edible oil, and cotton and sugarbeets.

Sheep and goats are the main animals raised and the principal source of meat and milk. Cattle are raised more for their milk than for their meat. The livestock population includes an estimated 18 million sheep, 8 million goats, 3.7 million cattle, and 1.5 million donkeys, mules, horses and camels. Livestock production accounts for an estimated 30 to 40 percent of agricultural income and constitutes the only income source of some 100,000 nomadic and semi-nomadic families.

Exports of forest products - mainly cork and pulpwood - amounted to DH 85 million in 1971, and 91 million in 1973. The main forest species are cork, green oak, cedar, pine, acacia, and eucalyptus. The latter was introduced to combat erosion and now supplies cellulose for the textile industry.

1. Problems

Water Deficiency

Moroccan agriculture is confronted with a number of problems. Predominant among them is the increasingly generalized deficiency of water, as one moves from northwest to southeast. Rainfall ranges from over 1200 mm in the Rif mountains in the north to less than 200 mm in the southern regions. The problem is further aggravated by wide variations in both the amount and the distribution of rainfall during the growing season, causing often considerable reduction in yield through either physiological damage to crops or outbreaks of disease, especially

on cereals. In 1965-66, for example, due to limited rainfall, only some 3.4 million ha. were planted in cereals, producing about 1.9 million metric tons of grain, compared to 4.8 million ha. and 6.9 million metric tons in 1967-68, a record year. In 1973-74, untimely late rains brought about a severe outbreak of diseases which despite estimates for a record harvest forced the GOM to import about one million MT. Delayed fall rains are already dimming 1975 crop prospects.

Unequal Distribution of Growth Benefits

Two types of agriculture are practiced more or less side by side in Morocco: traditional or subsistence and modern or commercial. The traditional sector is characterized by small plots of poor, rainfed land, primitive agricultural implements and methods of cultivation, almost continuous monoculture, low yields, poor quality seed, a lack of understanding of the use of fertilizers and pesticides, and the absence of the means to acquire these inputs. Most traditional farmers raise some livestock - mainly goats and sheep - which often represents their primary if not sole source of cash income. Traditional farmers produce most of the cereals and pulses which constitute the staple diet of the country and consume the greater part of the crop harvests.

By contrast, modern agriculture, which was introduced by the colonial administration, is practiced on large or medium sized farms, utilizing machinery, improved seed and cultural practices, as well as fertilizers and pesticides. The modern sector occupies only about 15% of the country's arable land, but the more fertile land as it is located in the areas of more abundant rainfall or in irrigated perimeters. It produces mainly fruits and vegetables for export, cotton, sugarbeets, and rice, and it accounts for over 85% of commercialized production, including bread wheat. Since independence, the modern sector has been favored by government investment and policy as it was in the colonial period. This stemmed from the government's preoccupation to increase agricultural output and to keep food prices low, and from the necessity to increase hard currency earnings, thereby creating an effective hedge against food shortages resulting from population growth and recurrent drought. One illustration of the success of such emphasis are citrus exports which increased by 80,000 metric tons, from 552,000 MT in 1966 to 607,000 MT in 1972.

Unequal Land Distribution

Uneven distribution of land ownership and complex tenure patterns characterize Moroccan agriculture. Of the 8 million ha. of arable land, there are close to 6 million hectares of farmland in the traditional sector and around 1.5 million in the modern sector. The remaining 0.5 million ha. represent the margin of fallow. Approximately 1.1 million of the estimated total 2.1 million rural families own two hectares or less of land while another 441,000 families own

none at all. Side by side, about 7% of all farmers possess 50% of all privately held land - usually in the better farming areas. Stated another way, 21% are landless; 48% own less than 2 ha; 15% own between 2 and 4 ha; 12% own between 4 and 10 ha; 3% own between 10 and 20 ha; and 1% own more than 20 ha.

According to Ministry of Agriculture estimates, farming units outside the irrigated areas must range in size from 10 to 25 ha, depending on rainfall and soil type, in order to be economically viable. On that basis, and considering that most of the rural population does not live in irrigated areas, the overwhelming majority of Moroccan farmers are either non-viable or marginal producers.

Traditionally, four broad categories of landholdings are recognized in Morocco, namely: government land, religious land, collective land and private land. Prior to the colonial period, private or melk land, by definition and usage, had to be worked; otherwise it could not be considered private. Moreover, although some land registration procedure existed, it was not compulsory. Nor was it adequate to the needs of the colonial administration which introduced a new system that made registration compulsory in cases where ownership involved non-Moroccans. Through purchases and through various types of land grants by the colonial government, Europeans acquired clear, registered titles to some 900,000 ha. of the most fertile agricultural land. A few Moroccans also obtained duly registered titles to large tracts of land. At the same time, traditional Moslem inheritance laws continued to foster land fragmentation among heirs, who often failed to properly register their titles.

Since independence, the foreign-owned land either has reverted to Moroccans through purchases or it has been taken over by the government for redistribution to small farmers. Presently, about 62% of the total agricultural land is owned or controlled by the government and a small number of Moroccans. Croplands belonging to the State amount to about 1.6 million hectares of which 1.2 million hectares fall in the traditional sector. These traditional lands are generally leased by plot to individuals on an annual basis. Leases, however, may sometimes run as long as three, six or nine years. Some occupants have acquired title to the land through continued and appropriate use over a period of time. Collective croplands are assigned to individual families within a tribal commune. Rights to use of habous (religious) lands are auctioned off, parcel by parcel, by the Ministry of Economic Affairs.

Recovery of foreign held lands and distribution to small farmers' cooperatives have further complicated tenure patterns and have fueled more disputes over title or tribal rights. Furthermore, land recovery efforts and progressive Moroccanization measures over the years have prompted foreign land-holders to sell their property to private

Moroccans before government take-over. This has tended to concentrate further land in the hands of the few. Land tenure changes in the Rharb (Kenitra province) between 1965 and 1970 serve to illustrate this process: foreign held land in the modern sector during this period declined by 40,000 ha. benefitting only 150 households (an average of 300 ha. per household). Meanwhile, the number of farmers without land increased from 16% to 33% of all Rharb households during the same period.* With the nationalization by the GOM in 1973 of all remaining foreign-held land (some 200,000 ha.) this process presumably has been halted. The rapidly expanding rural population which adds 370,000 people a year to its ranks increases the pressure on the unevenly distributed land resources.

Finally, unequal land holdings contribute to widespread underemployment and subsistence production and encourage absentee ownership and inefficient land utilization, thus imposing severe constraints on expanded agricultural production and increased income for traditional farmers.

Insufficient Food Crop Production

Cereals, primarily barley, durum wheat, bread wheat and maize, in that order - and pulses - broad beans, chick peas, peas and lentils - constitute the staple diet of the Moroccan people. Until recently, the country in good rainfall years produced enough to satisfy needs and even export some barley and oats. In poor rainfall years, cereals had to be imported. Since 1966, following a succession of poor harvests, Morocco has become a net importer of bread wheat, barley, maize and various other cereal products. In 1973 imports of these commodities were valued as follows: Bread Wheat: DH 483 million, Barley: DH 21 million, Maize: DH 15 million, other cereal products: DH 3.5 million. Thus the total value of cereal imports (DH 522.5 million) exceeded by far the combined value of imports of sugar, dairy products, meat, and sea foods (DH 323 million). Grain imports in 1974 are sharply higher.

About 4.5 million hectares are planted to cereals every year. But yields are low - averaging between 0.9T to 1.3T per ha. - due to low soil fertility, poor seed and poor cultural practices, and generally poor varieties. Yet given Morocco's endowment it would not be unreasonable to expect yields of 2-3 tons per ha. During the 1969-72 period, total cereal production ranged from a low of 4.2 million MT in 1970 to 5.3 million MT in 1971 and 5.2 million MT in 1972. Bread wheat production during the same period ranged from 383,000 MT to 869,000 MT.

* Abstracted from: Revue de Geographie #20, 1971 - "Quelques donnees alimentaires sur l'evolution des structures agraires dans la plaine du Rharb." M. Bouderbala, pp. 114-124.

By contrast, production of pulses, although still inadequate, has been increasing steadily from 294,000 MT in 1969 to 414,000 MT in 1972. This increase does not reflect, however, improved production practices, but simply an increase in the area planted to pulses: from 364,000 ha. to 481,000 ha. Average yield for all pulses during the period was between 0.8 and 0.9T per ha.

Sunflower seed and cotton seed are the principal sources of edible oils. (Olive oil is also produced but largely for export - 34,500 MT exported in 1972 out of a production of 55,000 MT -). Although their production has increased from 7,000 MT to 26,000 MT, and from 19,000 MT to 25,000 MT respectively between 1968 and 1972, Morocco still had to import some 91,760 MT of crude edible oils in 1972. Imports of crude edible oils totaled 108,000 MT in 1973 and 82,000 for the first six months of 1974 as compared to 72,000 MT for the same period in 1973.

Inefficient Livestock Production

Livestock production in Morocco accounts for an estimated 34% of all agricultural income and constitutes a major source of income for all traditional farmers. Sheep and goats are the main animals raised and are the principal sources of meat and milk. Cattle are raised primarily for milk.

Per capita consumption of milk and milk products in 1969 was as follows:

Fresh Milk Whole	16.5 Xg.	Butter	2.2 Kg.
Canned Milk	3.3 Kg.	Cheese	0.4 Kg.
Skim Milk	13.9 Kg.		

Milk production, estimated at 525,000 MT, meets only 40% of needs. As a result, Morocco imports large quantities of dairy products which were valued at some DH 73 million in 1973, and represent, according to the Livestock Office, the equivalent of some 2 million liters of milk per day. In 1971, the last year for which statistics are available, per capita meat consumption in urban areas was about 19 Kg. for the year, distributed as follows:

Beef	8.64 Kg.	Camel & Goat	0.52 Kg.
Lamb	2.78 Kg.	Horse & Pork	0.72 Kg.
Poultry	3.00 Kg.	Other	3.00 Kg.

Meat production is estimated at 175,000 MT and was, until very recently, sufficient to meet demand. In 1974, however, Morocco had to import 120,000 sheep for slaughter, and the Ministry of Plan estimates that by 1977 fresh meat imports will rise to 30,000 MT of which 10,000 MT will be beef.

Most of the livestock in Morocco - dairy cattle excepted - is raised on uncontrolled ranges. The livestock population exceeds the existing grazing capacity and little feed is raised and stored. As a result, many animals starve during the dry season, and in years of low rainfall, the livestock population is subject to abrupt diminution. Research results recently published by the Livestock Service show that the carcass weight of animals slaughtered has been steadily decreasing. In the case of sheep in particular, carcass weight has dropped from a high of 14.5 Kg. in 1955 to 12 Kg. in 1965, and 10.5 Kg. in 1973. In the case of cattle, the results show an average carcass weight of 118 Kg. and milk production of only 532 liters per year.

2. Programs Directed at These Problems

The development of agriculture in Morocco has been and continues to be primarily the responsibility of the Government, which carries out or controls over 90% of investment and fixes to a large extent the prices of the main agricultural inputs and products.

Government intervention is direct, through the Ministry of Agriculture and Agrarian Reform (MARA), or indirect through large public corporations such as CNCA - the agricultural credit bank; OCE - the export trade office; OCIC - the cereals trade office; SODEA and SOGETA - the companies that manage the farms formerly owned by foreigners; SONACOS - the company recently created to handle the distribution and marketing of improved seed.

The Ministry of Agriculture is organized into seven departments called "Directions," namely: Training, Research, Economics and Industries, Water and Forestry, Livestock, Land, and Development.

Irrigation

The lack of water, in combination with the wide variations in rainfall from year to year, is still the predominant problem facing Morocco's agriculture.

Moroccan farmers have practiced irrigation for centuries using springs and artesian wells, diverting streams, and in the more arid areas, using horizontal tunnels connecting the irrigated land with water sources in the hills, in some cases many miles distant.

Since independence, the government has initiated a number of small and medium-sized irrigation projects. It has also embarked upon a very ambitious program of dam construction. During the period of the second Plan, 1968-72, construction was initiated or completed on six large dams with a command area of about 240,000 ha. This brought

to about 800,000 ha. the amount of land that is subject to irrigation, or 80% of the irrigable land. However, all of that area is not actually under irrigation, due to a serious lag in completion of dam-to-farm and on-farm works. Presently, some 620,000 ha. are receiving either perennial or temporary irrigation. In some cases, development of the irrigated land has been closely associated with agrarian reform. Between 1968 and 1972 about 116,000 ha. were consolidated and re-allotted.

The current Plan emphasizes the full utilization of existing irrigation potentials, through completion of dam-to-farm and on-farm irrigation works. Only two new dams are projected for construction which will bring an additional 100,000 ha. under irrigation.

Agrarian Reform

Since 1963 the government's agrarian reform program has concentrated on laying the necessary legislative framework through Royal Decrees concerning land recovery, land distribution, creation of cooperatives, the Agricultural Investment Code of 1969, and most recently on nationalization and appropriation of all remaining foreign-held land.

Government attention during this period has focused primarily on retrieving national land resources from foreign hands with a minimum loss in production. Little has been done in a practical way to implement the Agricultural Investment Code of 1969 to redress the inequities and inefficiencies in the land tenure system with respect to holdings by Moroccans. Now that the foreign-held land recovery program has been completed, the GOM is ready to turn its energies to the more complex task of tempering existing land tenure patterns to fit the requirements of expanded food production and rural income. The Five-year Plan has set the following goals:

- To distribute 395,000 hectares at the same pace as in 1972;
- To take certain steps which favor further development of viable farms, including:
 - (a) limiting the size of agricultural holdings;
 - (b) allotment of additional land to farmers with only 1-2 hectares;
 - (c) exercising the right of eminent domain to expropriate land for the collective good in irrigated and in better dryland areas;

- (d) systematic application of the requirement to develop and use agricultural land rather than letting it lie unused;
 - (e) recuperation of the value added to land as a result of irrigation either in the form of money or land;
- To carry out studies on landownership, farm management, and cost of production;
 - To simplify land registration procedures.

A major difficulty confronting the GOM land reform program has been the absence of a national cadastral plan. During the period of the second Plan, a cadastral survey was initiated with Canadian assistance, which covered about 1 million ha. This effort is continuing during this Plan. As the land is surveyed and titles are registered, it is expected that some 225,000 ha. will be consolidated to create viable production units, i.e. units capable of producing a net income each of at least DH 4,000. In addition, about 400,000 ha. will be allotted and distributed to small or landless farmers including: 80,000 ha. of state land, 50,000 ha. of religious land, 30,000 ha. of collective land, and 240,000 ha. of land recuperated from the departed colons. About 1/3 of the total will be irrigated land.

Between 1968-72, a total of 158,000 ha. - twice the planned target of 75,000 ha. was actually distributed among 8,500 households, giving each an average of 18.5 ha. of arable land, primarily in rainfed areas where 15-20 ha. are considered necessary by the GOM for a viable income. On that basis, nearly 34,000 rural families will be added to the category of viable farming units by 1977. An integral part of the land distribution program is the organization of the beneficiaries into cooperatives, with considerable organizational assistance and supervision from the Ministry of Agriculture. To date, nearly 350 cooperatives have been established which in general have been successful. Members are able, not only to make due payments on loans received, but they earn a net income of more than DH 4,000 a year, sometimes considerably more than that. In one cooperative, near Fes, most of the 35 members had net incomes of between DH 6,000 and DH 11,000 in 1974, and none earned less than DH 4,500.

Agricultural Extension

Agricultural Extension is carried out by the 8 regional development offices (ORMVAs) and their development centers (CMVs) in irrigated areas and the 14 provincial services with their 100 work centers (CTs) in rainfed areas. The staff comprises about 130 technicians of which 25 are "ingenieurs," 480 "adjoints techniques," and 800 are "agents techniques." The staff also includes several expatriates,

mostly Yugoslavs. Activities range from advising farmers on production practices to creation of cooperatives. The present Plan calls for the continuation and expansion of the programs that have proved successful over the past few years, namely: Crop Demonstration, Fertilizer and Rotation, Training of Farmers and Rural Youth, and Establishment of Cooperatives. The Plan also proposes the creation of integrated production zones on some 300,000 ha., the renovation of small irrigation works serving about 20,000 ha., and the construction of new small systems to irrigate about 17,000 ha. Finally, various activities to supply potable water, equip rural markets, improve sanitation and rural roads, and to extend rural electrification, are projected.

The Crop Demonstration, Fertilizer, and Rotation programs are designed to introduce farmers to the use of modern production techniques and inputs, to promote their use and to encourage small farmers to cultivate their land on a group basis, thus facilitating the use of machinery. Farmers who are selected for participation in the Demonstration Program, generally the smaller viable farmers, receive subsidies ranging from 10 to 20% of the cost of land preparations, seed, fertilizers, and pesticides. Those who participate in the Fertilizer and the Rotation programs benefit from subsidized seed and fertilizer at the rate of 15 to 20% for individuals, and 15 to 30% for groups. About 400 demonstrations are established every year and are visited each by an average of thirty farmers. Target areas for the Fertilizer and the Rotation programs comprise about 300,000 ha. in cereals, 440,000 ha. in food legumes, and 350,000 ha. in forage crops. Total subsidies under these programs amount to DH 23.2 million for fertilizers and DH 15.4 million for seed. An additional 15 million DH will go toward subsidizing the use of certified seed and nearly 39 million for the production of certified seed.

Farmer training is accomplished through visits to demonstrations and selected farms, meetings, field trips, and various contests, in addition to the traditional bulletins, pamphlets, posters, and other audio-visual aids. Training of rural youth is conducted at special centers of which there are three presently. New ones will be established to reach a target of nearly 4,000 young farmers by 1977.

An Integrated Production Program will extend to 30,000 ha. by 1977 and will include the following activities:

- infrastructure improvement;
- restructuring of land holdings;
- soil conservation, sanitation;
- road construction and improvement;
- land clearing and development;
- crop and livestock production.

The various zones in which the program will be implemented will be selected by the Ministry of Agriculture. All program activities will be carried out with the aid and supervision of the Ministry and full and compulsory participation of the farmers.

Agricultural Research

Agricultural Research in Morocco is the responsibility of the Agronomic Research Direction in the Ministry of Agriculture. The DRA comprises four major divisions: (1) Seed Improvement, (2) Plant Protection, (3) Quality Control, and (4) Research and Experimentation. The current Five-Year Plan gives first priority to the production and control of improved seed which, in the language of the Plan, "is a production input comparable in importance to fertilizer and cultural practices, as well as a major extension tool." The Plan charges the Seed Improvement Division with two major responsibilities: (1) to produce and process sufficient quantities of foundation seed from which commercial certified seed can be produced to satisfy needs, especially for cereals, food legumes and forage crops; and (2) to prepare new comprehensive legislation on commercial production, processing, and distribution of improved seed.

The objective is to increase the areas planted with improved seed as follows:

	<u>From Present to 1977 Target</u>	
Cereals	11.7%	35%
Pulses	1.9%	5%
Oil Plants	53.0%	100%
Forage Crops	25.0%	80%

Livestock

Development of livestock is the responsibility of the Livestock Direction whose activities fall into four broad categories:

1. Sanitation - including veterinary services, disease control, and meat inspection;
2. Improvement of feeding resources;
3. Genetic Improvement; and
4. Subsidies for production and marketing of livestock products.

During the period of the current Five-Year Plan, it is projected that vaccine production will be raised to 20 million units per year, 80 new dispensaries will be constructed and 131 dip tanks will be renovated. Three new breeding centers for goats and sheep and

eight for cattle will be established, as well as 300 new artificial insemination centers with a capacity for 150,000 operations annually. To further increase livestock productivity, especially dairy cattle, about 5,000 purebred cows will be imported every year for a total of 25,000 by 1977.

In the most critical area of feeds and feeding, forage crop production will be extended to about 400,000 ha., three feedplants will be constructed, and feed storage facilities will be developed. In addition, 64 lamb feeding centers, each with a capacity for 6,000 lambs, will be created, and 4 pilot range improvement zones will be established on a total of about 70,000 ha. These pilot zones will put to use the findings of the GOM-USAID Livestock and Rangeland Improvement Project which, between 1969 and 1974, demonstrated that (1) seeded ranges produced 5 - 6 times as much forage as non-seeded, and (2) live weight of lambs grazing the seeded ranges was nearly double that of lambs on native range.

Poultry production, which has been developing rather successfully through private enterprise, will be encouraged by making credit available to the producers. A special program is envisaged to involve small farmers in poultry production. Over 4 million chicks will be distributed to the poor farmers. To encourage and promote livestock production, subsidies in the amount of DH 15.8 million will be granted as follows:

- 10.3 million for purchase of improved stock - 12,500 cattle and 3,000 sheep, and
- 5.5 million for equipment purchase and construction of stables.

In addition, 300 refrigerated milk collection centers will be constructed and some 3 million DH will finance various types of awards to producers.

Credit

Agricultural credit is the responsibility of the Caisse Nationale de Credit Agricole, which was created in 1962 as a government institution to serve commercial agriculture. CNCA operates 53 regional branches called Caisses Locales de Credit Agricole (CLCA). Until 1973 there also existed a network of local credit and welfare organizations called SOCAP, but they are being absorbed into the CNCA-CLCA organization.

During the past ten years CNCA, reflecting government policy, extended credit primarily to large and medium farmers, and to cooperatives grouping small farmers. In 1972, all loans made amounted to DH 72 million.

The current plan envisages the doubling of credit operations to reach a total of 350,000 farmers by 1977. Toward that end, lending procedures, which were lengthy and complex, have been simplified and the minimum income required to qualify for a loan has been lowered, thus making eligible all farmers with income of at least DH 1,000 per year.

Although official figures are not available for 1974, it is estimated that total loans for the year reached over DH 100 millions and the Plan estimates that by 1977 they will reach about DH 136 millions.

Economic Incentives

GOM policy is to support further development and expansion of the market economy. Agribusiness to process food products for the domestic and export markets is encouraged. Investment in irrigated land for the production of industrial, food, and export crops is to continue but at a more rational pace. Greater economic incentives to dry-land farmers have been established. Incentives to encourage greater use of production inputs include subsidies for improved seed, fertilizers, and small tools. A price subsidy for improved breeding stock (cattle and sheep) is also provided. In addition, GOM guaranteed floor prices for wheat, barley, corn and oilseeds have recently been increased substantially. Likewise the prices paid to farmers for sugar beets were set higher, the amounts of these subsidies and floor prices are shown below. For the first time price supports were announced at the beginning of the crop year rather than toward the end of the harvest period.

Subsidies: Farm Inputs

	<u>Percent of Cost</u>	
	<u>Individuals</u>	<u>Groupments</u>
Improved seed	20	20
Fertilizers	20	30
Small tools	60	60
Machinery	-	25

Floor prices for commodities

	<u>Former</u> DH/q	<u>New</u> <u>(1973-74 Crop)</u> DH/q
Wheat (bread)	45	60
Wheat (durum)	49	63
Barley	30	40
Corn (maize)	-	45
Sugar beets	66	76
Sunflower	73.50	90

Training

Agricultural education in Morocco is conducted in three types of schools, required to fill the three basic categories of civil service (fonction publique) positions. These schools correspond roughly to high school, junior college and senior college in the U.S. Their graduates are employed as "adjoints techniques," "ingenieurs d'application" and "ingenieurs d'etat," respectively. The first category makes up the bulk of the Extension Service. The second and third categories work in research and teaching or occupy supervisory positions in the central ministry and its provincial services or in the public corporations mentioned earlier.

The system of agricultural training is less than ten years old. It comprises:

- Hassan II Institute of Agronomy and Veterinary Science, which grants the degrees of "ingenieur d'etat" and Doctor in Veterinary Medicine upon completion of a six year curriculum.
- Four specialized five-year schools which grant the degree of "ingenieur d'application" in Topography, Forestry, Food Technology and General Agriculture, and
- Three 2-year schools of general agriculture and four specialized 2-year schools - Topography, Animal husbandry, Forestry and Horticulture, for training "adjoints techniques."
- In addition, there are seven one-year centers for the training of "agents techniques" in Agriculture, Animal husbandry, Forestry, Topography and Beekeeping, and three other centers for the training of rural youths.

The current Five-Year Plan estimates that the system will produce the following number of additional trained manpower by 1977 over that currently available:

	<u>Projected</u>	<u>Currently Available</u>
"Ingenieurs d'Etat" & Veterinarians	292	207
"Ingenieurs d'Application"	517	350
"Adjoints Techniques"	1,580	2,206
"Agents Techniques"	<u>2,667</u>	<u>2,284</u>
Total	5,056	5,047

These targets, if met, would result in the doubling of the number of scientific and technical personnel presently available in the sector as a whole. Planned financial support for the system amounts to about 208 million DH over the period of the Plan.

3. Program Deficiencies and Problems

As we have seen, Morocco's agricultural sector is experiencing many problems. The programs directed at them are encountering varying degrees of success. The major deficiencies affecting all programs alike concern manpower shortages and significant shortfalls in implementation against plans.

Manpower Shortage

Excluding managerial, administrative, and clerical personnel, the Ministry of Agriculture and the quasi-public corporations presently employ some 203 master's level technicians (ingenieurs d'etat and veterinarians), 376 bachelors level "ingenieurs d'application," 2,236 high school level "adjoit techniques," and 2,615 "agents techniques." Estimated needs are nearly double the number presently available. It is planned that between 1973 and 1977, the educational system will have trained 292 ingenieurs d'etat, 517 ingenieurs d'application, 1,580 adjoints, and 2,667 agents techniques. These targets are probably obtainable in the last two categories but almost impossible to meet in the first two. The five institutions of higher agricultural education, as they exist presently, cannot produce that many graduates in a five-year period. In addition to expanding their physical plant, they would have to increase considerably the size of their teaching faculties. But this is unlikely to happen, for these institutions are already largely staffed by expatriates (more than 70 are supported by various donors).

The shortage of manpower is often compounded by the less than efficient allocation of that which is available. Some highly qualified technical personnel fill administrative positions while others though employed in their technical fields are subordinate to less qualified supervisors. Better qualified people are often concentrated in one area or office, while others lack leadership and guidance. Another problem that aggravates the manpower shortage is the lack of proper incentives in the way of recognition of merit and remuneration. Promotions in the civil service are slow and more a question of endurance than performance. Salary levels are non-competitive with the private and quasi-public sectors.

Implementation Shortfalls Against Plans

The previous Five Year Plans have consistently fallen short of their established agricultural program targets. While this has been due in part to unrealistic planning establishing overambitious goals vis-a-vis existing capabilities in the first place, much of the explanation lies in the divorcing of the planning, project formulation and implementation functions. Plans tend to be established for the medium term, with no mechanism to identify and design projects or to compare plans against actual performance and to replan so as to enhance effective implementation. Broad, general plans do not get translated into operational work plans.

Implementation is further delayed by poor management and resource allocation, particularly in programs subject to highly centralized controls. For example, in rainfed areas delays in obtaining seed, fertilizers, and pesticides are common and often so lengthy as to make their use ineffective and uneconomical. Due to a lack of means of transportation and untimely release of operational funds by the central ministry, extension agents are often unable to visit farmers. In the provincial services and their work centers, poor management practices are openly and accurately identified as a serious constraint to their activities.

Beyond these general deficiencies, there are major problems affecting specific programs.

Overemphasis on Dam Construction

The GOM has been emphasizing dam construction and irrigation development on the premise that this approach can bring the fastest growth to the agricultural sector. Given available resources this policy orientation which took up 64% of the 1968-1972 agricultural investment program, has been at the expense of the traditional rainfed agriculture which received only 6% of the investment budget though it provided subsistence to some 300,000 landless families and nearly 700,000 households which own less than 4 hectares of land. This group, not considered to be economically viable by the GOM has suffered from benign neglect and has seen its real income decline over the past few years, while the agricultural sector has grown at an average of 5.9% a year. Despite its expressed concern for improving income distribution, the GOM continues to favor irrigation.

The efforts that are being made to bring irrigation to the smaller farmers (those with 5 ha. or less of irrigable land) are hampered by the significant lag in completion of dam-to-farm and on-farm irrigation works. Although a potential of 204,000 ha. for irrigation was created as a result of dam construction during the last Five Year Plan, only 73,000 ha. were equipped for large-scale irrigation and 10,000 ha. for small-scale irrigation in the ORMVA's command areas. On-farm irrigation works in turn lagged behind dam-to-farm works, but less significantly since 67,800 ha. were equipped.

This lag in irrigation development is in part explained by the inability of the Ministry of Agriculture, which is responsible for putting irrigated land into production, to keep up with the Ministry of Public Works, which handles the construction and infrastructure development.

Inability to Reach the Small Farmer

Leaving aside the GOM's primary preoccupation with the modern sector, those programs directed at the smaller farmer in the rainfed areas (any farmer with 25 ha. or less) have been singularly ineffective for the most part in reaching the vast majority of smaller farmers. In fact, the GOM has accepted that it can presently reach only the group of small farmers that have viable plots (i.e. 20-25 ha.) and some cash income.

The marginal farmer is left to continue to plant inferior seed on fragmented patches of poorly prepared, unfertilized land that has been depleted of its nutrients for generations by poor farming practices. The GOM has failed to take the bold initiatives and devise minimum package type programs that could help raise his productivity and integrate the marginal farmer into the country's development.

Lagging Research

Poor management and low output characterize the Division of Agronomic Research (DRA). Its staff of 135, of which the majority are expatriates, is scattered over some 25 stations. No research is done in agricultural economics. Little work is done on the important problems of dryland farming and range improvement. Few crop varieties are being developed that are adaptable to the various ecological zones of the country. As a result, wheat and barley production are narrowly based on too few improved varieties. A similar situation obtains with the pulses and the oil crops. In short, the research program is wholly inadequate to the needs - both medium and long-term - of Moroccan agriculture.

Ineffective Livestock Development

In spite of the importance of the livestock sector in Morocco and the priority it has received in the Five Year Plans, the implementation of livestock programs has been slow and deficient. Range development has been virtually neglected. Royal Decrees to establish Range Improvement Perimeters and limit grazing therein to those holding permits, essential to the proper management of rangeland resources, have yet to be issued, although some have been pending since 1970. It is estimated that less than 10 percent of the funds designated in the previous Plan for the development of collective grazing lands has been expended for that purpose. Large sums of GOM project funds for seeding, well construction, and the like have also gone unexpended. The Livestock Service has simply not been able to establish an organization with the manpower, administrative, and technical capabilities to carry forward the national programs directed at increasing livestock production.

The planned dairy program, which calls for the importing of some 25,000 pure bred Holstein cattle over the five year period, is already running into serious difficulties, owing to the lack of sufficient forward planning to receive and care for these animals. Already substantial losses have been reported among the cattle imported thus far as a result of inadequate sanitation and husbandry.

4. Pivotal Points of Intervention

Given the problems, programs, and deficiencies discussed above, a number of pivotal points of intervention can be identified, where if proper leverage is applied one can expect major improvement in the agricultural

sector, particularly in terms of bringing development benefits to the poor and deprived. Some of these pivotal points can only be addressed by the GOM itself, as they entail important political decisions.

Perhaps the most obvious area for an early payoff in increased production and income for the small and landless farmers is Agrarian Reform. Despite the modest progress made thus far and the more ambitious plans for distribution of former colon lands, the GOM needs to accelerate implementation of its Agrarian Reform program as it relates to traditionally held land and large absentee owner estates. A major effort to consolidate and redistribute into viable plots the greatly fragmented lands, especially in the rainfed areas, would go a long way toward offering the necessary incentive for the small and the marginal farmer to raise his productivity. The break-up of productive collective tribal lands would add significantly to the pool of land for redistribution into viable plots to small farmers. The position of leasers and squatters also needs to be regularized so as to assure viable plots and long term rights on equitable terms.

Another area affording good prospects for immediate production and income gains is price policy. The GOM's current maze of price supports, controls, and subsidies tend to neutralize each other and act as disincentives to increased production of cereals, sugar, and oil crops. The practice of underpricing for the sake of consumer protection is in direct conflict with the farmer's interest. As recognized by the King in a recent speech, the whole price system for agricultural commodities needs to be overhauled with a view to balancing political requirements for keeping prices of staples in tow with the need to stimulate agricultural production and spread income benefits more equitably.

Yet another lever that offers a high potential for bettering the performance of agricultural programs is manpower planning. The GOM needs to devise a comprehensive manpower plan for the agricultural sector that would include an inventory of existing skills, guidelines for rational assignments, assessment of future requirements and manpower training needs (formal and job-related skills development), establishment of performance incentives and salary comparability between the public, quasi-public, and private sectors. Greater incentives must be built into the education system to channel students into the most critically needed areas as determined by such a manpower study. Likewise, specialized vocational training centers should be expanded in those areas prescribed where long term formal university-level training is not absolutely required. Finally, recognizing the continuing need for foreign technical assistance to fill manpower gaps, the GOM should maximize the opportunities afforded by these technicians to train Moroccan counterparts.

A domain clearly recognized by the GOM as offering a ready means to improve production and incomes and thus obtain a high return on the investments already made is to accelerate completion of dam-to-farm works and extension of the activities needed to bring the lands affected into early production. This will require a concerted effort on the part of the Regional Development Offices (ORMVA's).

A special effort must be made to make farm inputs - seed, fertilizer, pesticides and credit - available to all interested farmers and encourage all farmers in their use if the most profitable return on land and work is to be achieved. The first priority should be on improved seed since it offers the possibility of absolute production gains whether used in conjunction with fertilizer or not.

Research on problems affecting rainfed agriculture and the development of minimum package technology also stand to improve prospects for increasing the productivity of the majority of small farmers. A systematic effort to develop and exploit optimally the water resources in rainfed areas could contribute significantly to other efforts to raise small farmer productivity.

One important lever for affecting a change in the livestock subsector is passage of the Range Improvement Perimeter legislation as the first step to expanded carrying capacity of the land and controlled grazing. The legislation followed by a decisive program to increase meat production in the established perimeters could begin to make a real difference in the lives of many deprived shepherds and increase the availability of meat protein for Moroccan rural diets.

If dairy production is going to meet domestic requirements as planned, the industry needs to be organized along modern rational lines. Plans must be thoroughly worked out and provision made for adequate facilities and handling of improved breeds. A productive dairy industry stands to generate considerable employment opportunities. Care should be taken, therefore, to locate farms not only on suitable pasture lands but where employment needs are greatest.

The citrus growing industry, a prime export earner, and an important employer of agricultural labor, is experiencing stagnation and is threatened by disease. By negative implication, citrus is a critical point for intervention. The GOM needs to identify a solution to the disease problem and reorganize the citrus industry as each year brings stiffer competition from its Mediterranean neighbors in European markets. Otherwise, Moroccan agricultural exports and employment stand to suffer a severe setback.

Sugar, as a major staple and employer of agricultural labor, also represents an area offering good prospects for increased production and income. The GOM should carefully review its sugar development to

ensure the most rational location for its beet and cane cultures. Research should be expanded to develop the best variety for a given zone.

An area offering a high potential for improving the Ministry of Agriculture's performance in carrying out its programs is the area of project identification, selection, analysis, and evaluation. Development of this capability would certainly help bridge the gap between plans and implementation.

Regional planning is an important lever for bringing about balanced growth and development between rural communities and urban centers. Recognizing the scarcity of available land vis-a-vis the expanding population, opportunities for productive employment need to be created in rural areas to absorb the landless and mitigate the exodus to urban slums.

Considering that the conditions of poverty and deprivation among small and landless farmers are a function not only of inappropriate technology, inefficient cultural practices, and a lack of farm inputs, but also of ignorance, malnutrition, poor health, and population pressures, pilot efforts on an integrated rural basis could successfully point the way to a workable formula for raising the productivity and standard of living of the poor in and around selected intermediate rural market towns.

5. Donor Assistance

Foreign assistance to the agricultural sector has taken the form of capital transfers mostly in support of irrigation and has provided qualified technical manpower primarily to fill specific job requirements.

The following is a summary of capital assistance provided to Morocco in this sector over the past 12 years:

France

	<u>Commitments</u>
- Irrigation Development in the Gharb, Doukkala, Haouz, and Tadla (1962-65)	\$ 75.5 million
- Compensation for expropriated foreign land holders (1973)	\$ 7.5 million
Sub-total	\$ 83.0 million

<u>IBRD</u>	<u>Commitments</u>
- Sidi Slimane Irrigation (1965)	\$ 17.5 million
- Sebou River Basin Development I (1969) and II (1974)	\$ 78 million
- Agricultural Credit (1966 & 1972)	\$ 44* million
- Fertilizer production (1974)	\$ 50 million
	<hr/>
Sub-total	\$ 189.5 million
 <u>U.S. (AID)</u>	
- Moulouya Irrigation (1963, 1969)	\$ 28 million
- Agriculture Sector Support (1968-73)	\$ 45 million
	<hr/>
Sub-total	\$ 73 million
 <u>Kuwait</u>	
- Tessaout Agricultural Development	\$ 24.5 million
- Tadla Irrigation	\$ 9 million
- Sugar Production	\$ 3 million
	<hr/>
Sub-total	\$ 36.5 million
 <u>U.S.S.R.</u>	
- Zaouia N'Ourbaz Dam (1966)	\$ 36 million
 <u>Federal Republic of Germany</u>	
- Gharb Sugar Processing Plant (1966)	\$ 22 million
 <u>Iran</u>	
- Ait Aadel Irrigation (1967)	\$ 14 million

* Includes \$10 million IDA loan

<u>African Development Bank</u>	<u>Commitments</u>
- Doukkala Irrigation (1974)	\$ 4 million
Grand Total	\$ 458 million

Of this amount, roughly \$265 million had been disbursed as of December 31, 1974.

The following is a summary of technical assistance made available to Morocco in 1974 alone:

UNDP/FAO supports:

- 8 professors - 7 at the Forestry School, 1 at the Hassan II Institute of Agronomy and Veterinary Sciences, and
- 32 technicians distributed as follows:
 - Erosion Control 6, Fisheries 6, Irrigation 8, Rural Development 5, Cereals Marketing 1, Dairy Marketing 1, Dairy Technology 1, Oil Crops Production 1, Nutrition 1, Forestry 1, Radioisotopes 1.

France supplies:

- 52 professors - 20 are at Hassan II Institute, and 32 are distributed among the other institutions of higher agricultural education.
- 21 Research workers
- 13 Development specialists
- 4 Veterinarians
- 4 Reforestration experts, and
- 7 Experts in Land Surveying and administration.

Belgium supports the following 34 technicians:

- 7 in research
- 7 in rural development
- 7 in irrigation

7 in extension

6 in forestry

Canada supplies:

9 professors of whom 5 are at Hassan II Institute

11 specialists in Regional Development

Denmark supports:

4 Forestry specialists

Germany supports:

1 Sugar Beet Production specialist

1 Artificial Insemination specialist

U.S. (AID)

6 professors at Hassan II Institute

Yugoslavia supplies a number of technicians in agricultural production, research, and administration.

6. Scope for U.S. Assistance

From the discussion above it would appear that the GOM's priorities argue a somewhat different trade off between growth and social benefits than would A.I.D. priorities. This does not mean, however, that the GOM is not genuinely interested in more equal distribution of the growth benefits.

While many pivotal points identified in Section A.4 are more appropriate for GOM and/or other donor interventions, a number offer considerable scope for U.S. assistance in keeping with U.S. congressional mandates, expressed Moroccan interest for U.S. assistance, and U.S. competence. In the area of manpower development, U.S. assistance resources can continue to help increase the number of agriculture engineer graduates needed to narrow the manpower gap. The U.S. can also assist in the effort to complete dam-to-farm works in irrigation perimeters that stand to benefit the small farmer and/or agricultural laborer such as in the Doukkala and Triffa. Likewise, U.S. assistance to seed improvement, production, and distribution can help ensure the availability of this important input to all farmers.

The U.S. has a unique competence to aid Morocco in resolving key bottlenecks in applied research and improving management of its water resources, especially in the rainfed areas. If the GOM goes forward with the Range Improvement Perimeter legislation, U.S. assistance to increase meat production in these areas should be considered. Finally, project analysis and evaluation, regional planning, and integrated rural development offer other levers susceptible to U.S. assistance.

By a concerted effort in these key areas in agriculture, U.S. assistance over the next five years can make a significant contribution in improving GOM performance in the sector, raising the productivity of small and marginal farmers, and accelerating the distribution of income benefits to the rural poor.

B. OVERVIEW OF HEALTH SECTOR

Morocco's health sector is characterized by a vicious circle of high incidences of communicable disease and malnutrition and high rates of infant mortality and birth. This poses a significant challenge to the health system's already limited capacity to deliver adequate health services.

1. Major Problems

(a) Communicable Disease

The incidence of communicable disease is still high and constitutes a serious health threat particularly for children whose resistance is low owing to malnutrition.

Incidence of Reportable Communicable Diseases (No. of Cases)

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>
Typhoid & Paratyphoid	8,230	11,740	9,454	3,421	4,996	2,643
Measles	92,673	90,567	89,198	90,305	12,564	114,250
Purulent Conjunctivities of Newborn*	288,642	169,053	146,820	194,663	148,155	218,349
Trachoma	131,367	79,272	67,261	42,614	48,672	70,732
Malaria	3,919	8,122	5,327	10,314	6,559	1,685
Dysentery	49,935	39,397	40,286	37,531	34,998	51,323
Bilharzia (Schistosomiasis)	3,237	1,994	2,226	1,787	4,423	13,416
Meningitis	6,336	1,876	945	475	557	619

As is apparent from the above table, there has been a significant decline in the past six years in the incidence of typhoid/paratyphoid, conjunctivitis, trachoma, malaria and meningitis. However, bilharzia is becoming a serious problem due probably in large measure to the expansion of irrigation perimeters throughout the

* Partially due to gonorrhoea. The incidence of venereal diseases is not known, but syphilis and gonorrhoea are common.

rural areas of the country. Measles and trachoma are also on the upswing.

(b) Malnutrition

Protein/caloric malnutrition is widespread throughout Morocco among all age groups. The most severely affected are rural and the most vulnerable groups are pre-school aged children. In 1960 a FAO nutrition survey concluded that 80% of the population was deficient in protein. In 1970, a nationwide food consumption survey revealed a marked imbalance in the Moroccan diet, particularly in rural areas. In 1971, a nationwide survey of the nutrition status of children under 4 years of age found that 40% of the sample group of children surveyed were suffering from second degree protein-caloric malnutrition (i.e. between 20% to 40% under weight) and an additional 5% were suffering from third degree malnutrition (i.e. more than 40% underweight). This survey also revealed a significant Vitamin D deficiency among small children and found that 5% of all children in the 0-3 years age group had clinical signs of rickets.

Considering that approximately 3 million Moroccan children (i.e. 17.5% of the population) are between 0-4 years of age, the problem takes on alarming proportions in terms of Moroccan national development, sapping the country's human resource potential.

(c) Infant Mortality

The infant mortality rate in Morocco is 149 per 1,000 live births. The rate is much higher in rural areas where it is 170 per 1,000 as compared to urban areas where it is 100 per 1,000 live births. As examination of the statistics on causes of death in Morocco reveals the heavy toll exacted by diseases affecting small children.

Mortality and Causes of Death (1970)

1. Congenital malformation, diseases of early infancy	19%
2. Gastroenteritis diarrheas	13%
3. Pneumonias, broncho-pneumonia	10%
4. Other infectious diseases	8%
5. Tuberculosis, all forms	7%
6. Heart diseases	6%
7. Accidents	3%
8. Other respiratory diseases	3%
9. Other diseases of the digestive system	3%
10. All other diseases	28%
Total	100%

(d) Population Growth

The population of Morocco was 11.6 million in 1960; the last census of July 1971 reported 15.4 million inhabitants and its present population (at end of 1974) is estimated at 17 million. The crude birth rate was estimated at 49 per thousand population in 1972 and the crude mortality rate at 17 per thousand, accounting for a natural population growth rate of 32 per thousand population or 3.2% per annum. This is one of the highest population growth rates in the world, and if continued would mean a doubling of the population in 23 years.

Age distribution only serves to compound the problem. Forty-seven percent of the population is under 15 years of age. This very high ratio of young dependents to providers forebodes continuing high birth rates during the next decades even if fertility rates are lowered.

Although urbanization is growing rapidly (there are now 11 cities with more than 100,000 inhabitants), Morocco is still a rural country with 65% of the population living in rural areas. There are about three million women in the reproductive age group (15-44) and the average family size is 5.4 persons. Life expectancy is about 50 years.

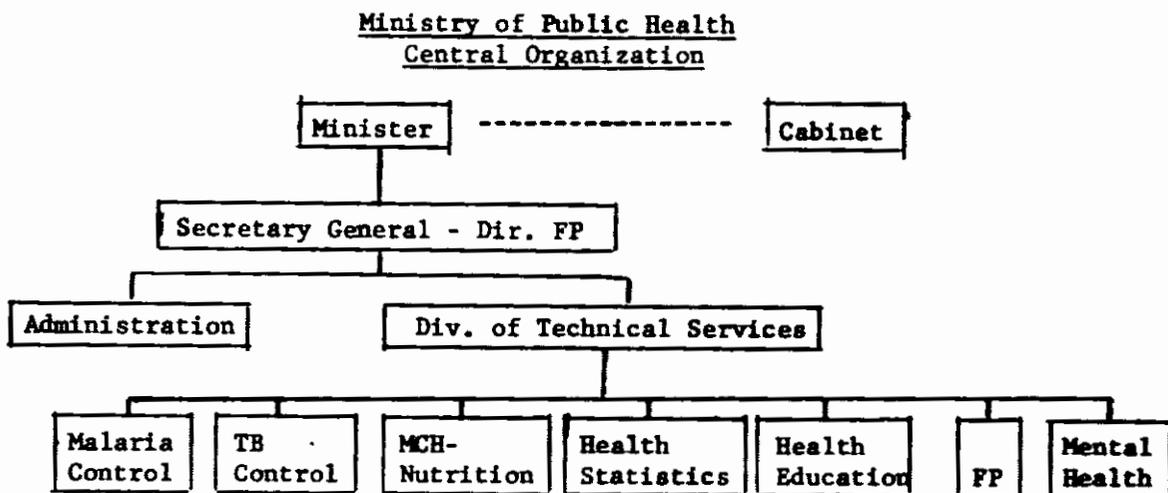
(e) The Vicious Circle

One of the most serious effects of the high fertility and birth rates is their negative influence on the nutrition status of the Moroccan infant and pre-school child. Nutritional surveys conducted by the WHO in Morocco have demonstrated a sharp decrease in infant growth rates starting about 6 months of age when most children are weaned. Nutritional protein deficiency during the weaning period and in pre-school age not only lowers the children's resistance to communicable diseases but has also been demonstrated to have a lasting effect on the child's development, especially of the brain, and may result in mental retardation. While nutritional deficiencies, especially protein deficiency, seriously contribute to the high infant and child mortality rates in Morocco, these deficiencies are also indirectly contributing to the high fertility and birth rates. It is generally accepted that fertility rates and the nutritional status of infants are related. With high child mortality rates, the parents are consciously or unconsciously motivated to produce more children "for the survival of the race."

2. Programs Directed at These Problems

The GOM in designing a health delivery system to deal effectively with Morocco's health problems is following a socialized medicine approach, seeking a rationale balance between preventive, early diagnostic and curative services. It is integrating family planning and to a limited extent nutrition into its health service network.

Morocco's public health system as shown below is highly centralized with a vertical chain of command headed by the Minister of Health. All policy decisions are made by the Minister on the advice of the cabinet. The Secretary General of the Ministry is responsible for policy implementation and supervises the two major divisions or "Directions" of the central organization: Administration and Technical Services.



Morocco is divided into 23 provinces and 2 "prefectures." The Chief Provincial Doctor is responsible for all public health services in his province and reports directly to the Ministry of Health. Each province is subdivided into a number of medical circumscriptions each with a health center, and each circumscription is in turn subdivided into about three health sectors, each served by a dispensary.

The health delivery system is composed of:

- A hospital network directed at patients who are confined

to bed and who require diagnosis and treatment that is difficult to provide on an extensive, country-wide basis.

- A health center and dispensary network designed to provide out-patient services country-wide; and

- A laboratory/diagnostic network which is intended to support the hospitals and the health centers and dispensaries.

The hospital network currently provides about 23,000 beds or roughly one hospital bed per 700 inhabitants. About 400,000 patients are admitted to the hospitals each year, including between 60,000 - 80,000 women for deliveries. With about 750,000 deliveries per year for the whole country, this means that only one out of fifteen deliveries takes place in hospital maternity wards.

Taking the existing hospital infrastructure inherited from the French as a base, the GOM is building up an interlocking network of modernized hospitals to serve a variety of needs at various levels. This network, the components of which have yet to be all put in place, is headed up by the University Hospital Center in Rabat (to be joined by one in Casablanca during this Plan period) which is a well equipped, modern national complex open to all Moroccans. It engages in medical training and research. Once these two hospital complexes are fully operative they will have a capacity of 2,130 beds.

There are five **Regional Hospital Centers** with an existing capacity of 7,955 beds. Plans call for 2,359 more beds by the end of the Five Year Plan. These hospitals provide the normal range of services: surgery, medicine, obstetrics, and pediatrics as well as specialized treatment of infrequent diseases and problems.

Following the Regional Hospitals are the Provincial Hospitals, 13 in all, whose existing capacity (9,303 beds) is to be augmented by 2,305 beds during this Plan period. These facilities are located in the provincial capital and are open to all provincial residents, especially for the services non-existent in the Zonal Hospitals. Finally, there are the three Zonal Hospitals. Plans call for one per 200,000 to 250,000 inhabitants with an optimum capacity of 200 beds each. The Five Year Plan targets will add a total of 6,794 beds to the hospital network, a 30% increase which will provide roughly one hospital bed per 600 inhabitants.

The hospital network is intended at each level to provide the maximum curative treatment with a minimum investment and is to

rely on upward referral to higher levels of individual cases that cannot be treated at the lower levels. This is very much in keeping with the Ministry of Health's philosophy of maximizing health services based on individualized as opposed to "mass" service.

The Health Center/Dispensary Network was created in recognition that available resources would not permit satisfaction of the growing demand for health services through a hospital network alone. The need to extend preventive medicine and minimum treatment to the rural areas was also a major motivation in creating a more economical, extensive network.

There are a total of 202 health centers, 68 in urban areas and 134 in rural areas. Each one serves an average of 76,000 persons. The current plan envisages one health center per 45,000 inhabitants. These health centers provide out-patient medical services, including family planning. In the rural areas most MCH activities are also conducted at the health center level and 56 of the rural center each have 15-20 hospital beds.

Each Health Center is supposed to rely on three dispensaries within its circumscription to reach out into the outlying areas. There are a total of 597 dispensaries throughout Morocco, 147 in urban areas and 450 in rural areas, each serving an average of 26,000 persons. The plans call for one dispensary per 15,000 inhabitants. The dispensaries are usually headed by a registered nurse with a staff of 2-4 para-medical personnel. The dispensaries provide basic preventive and curative health services, including FP motivation and education and serve as a screening device for patients who need to be referred to physicians in the health centers. In the more isolated rural areas, the sector served by a dispensary is to be further divided into three sub-sectors to be covered on a monthly basis by a traveling para-medical person. The current Five Year Plan calls for one of these para-medics per 5,000 inhabitants.

Both the Hospital and Health Center networks are to be reinforced by the developing network of Diagnostic Centers that will be capable of diagnosing the most prevalent communicable diseases, severe malnutrition, etc. So far there are only a few TB centers around the country.

Family Planning services are being fully integrated into the health delivery system. A network of provincial FP reference centers is being installed as part of the health service system. Nutritional services for pregnant women, lactating mothers, and infants from 0 to 24 months are also being phased into the system. Attached to health units throughout the country are MCH centers

that provide instruction in infant care, and dispense medicine and vitamins. Rehabilitation centers are maintained for children suffering from severe malnutrition.

A major challenge confronting the GOM is to develop the qualified personnel needed to staff this complex health delivery system.

There are currently 1,105 physicians in Morocco giving a physician/population ratio of about 1/14,000. However, among the 567 physicians in the private sector almost two thirds work in the big cities of Casablanca and Rabat which account for only 17% of the population. The Ministry of Public Health employs 538 physicians of which 135 are Moroccans, the remaining mostly French or East Europeans. There are 1,436 registered nurses ("diplômées d'Etat") - about 60% of the need - and 7,553 lay practical nurses ("infirmières brevetées") - some 80% of the need.

To meet its medical manpower requirements, the GOM is devoting substantial effort to medical training.

The Faculty of Medicine

The Faculty of Medicine at the Mohamed V University in Rabat has graduated 240 MDs since its first graduating class in 1969. For the coming years it is expected that 70-100 physicians will graduate annually from the Faculty of Medicine in Rabat. In order to increase the number of physicians, the Five Year Plan calls for the creation of a new Faculty of Medicine in Casablanca to commence training in 1975.

Para-medical Schools

There are three levels of para-medical schools in Morocco:

(a) Lay Practical Nurses.

There are 18 schools for lay practical nurses. The course lasts two years and includes elementary theoretical training in medicine and FP, as well as some practical training in diagnosis and treatment, FP motivation and education at health centers and dispensaries. The schools graduate 500-600 LPNs annually.

(b) Registered Nurses (Diplomees d'Etat)

There are four schools for RNs (Rabat-Casablanca-Marrakech-Meknes). The objectives of these schools are to train multi-disciplinary para-medical personnel and to give them the necessary theoretical and practical skills to carry out various nursing related activities - hospital care - preventive medicine - health education - training of auxiliary personnel, etc. The course lasts two years. LPNs with at least three years experience in the public health service who have followed a correspondence course, are admitted upon successful passing of an entrance examination. The schools graduate a total of about 120 RNs per year.

(c) "Ecole des Cadres" - Masters Degree

Located in Rabat, this is the highest level para-medical school in Morocco. Entry requirements are: "Diplome d'Etat" and successful passing of an entrance examination. After two years study the students graduate as "Adjoint de Sante Specialise" with a major in one of four specializations: preventive services, hospital services, nursing education and midwifery. All students study family planning during the second year of study. The school graduates about 18-20 "Adjoint de Sante Specialiste" per year.

For this plan period (1973-1977) a total budgetary investment of 303,025,000 DH (\$70.5 million) has been earmarked for the public health sector, a threefold increase over the previous plan.

3. Program Deficiencies and Problems

Morocco's plans for developing an effective health delivery system appear ambitious over the long run within the context of an inherited hospital infrastructure, the demands of the people, and budgetary constraints.

For the present, however, the existing system is inadequate for the task before it. The main problems have to do with: (1) insufficient number and inadequate quality of health installations; (2) the shortage of medical personnel; (3) a traditional clinical medical training program that is too costly and long to meet the country's most urgent and less sophisticated needs; (4) less than efficient management of available resources; (5) the paucity and caution manifested in developing a fully integrated low-cost health network in rural areas that can measurably reduce the high birth and infant mortality rates, and the incidence of malnutrition and disease; and (6) inadequate health statistical analysis to support health planning and evaluation of program effectiveness.

4. Pivotal Points for Intervention

The most obvious area requiring attention which offers good prospects for immediate and significant impact is maternal/child health in view of the high birth and infant mortality rates and the prevalence of protein/caloric malnutrition among children and given the system's present limited capacity to cope with these problems, especially in rural areas. Family planning efforts offer one clear way of reducing infant and maternal mortality rates. Recent Moroccan studies have shown a six-to-ten fold increase in maternal and infant death rates with the delivery of the sixth child over that of the first child. In addition, the relationship between the rate of population growth and better health, as well as socio-economic development is well established. Efforts to raise the nutrition status of Moroccan mothers and children are yet another means of bringing about significant improvement in the health sector.

A related area which is important has to do with improved analysis of data on the dynamics of Morocco's population and incorporation of the conclusions derived therefrom into overall development planning. This would provide the data needed to enable the GOM to (a) plan for the growing demand for health services, job opportunities, educational facilities, etc., and (b) evaluate the effectiveness of its family planning program.

A third area worthy of consideration, in view of its potential in accelerating the development of Morocco health delivery system, is the reform of local medical training. Doctors training which is patterned after the traditional French system is long, expensive, and unresponsive to Morocco's health problems and large immediate requirements for medical personnel. What is needed is the development of an abridged medical curriculum that can turn out doctors with the minimum as opposed to ideal qualifications necessary to deal with Morocco's most pressing health problems. Para-medical training could also be examined for opportunities to expand and improve it at minimum cost.

5. Donor Assistance

Most foreign assistance in the health sector has been in the form of medical manpower to help bridge the gap between requirements and availabilities. France, for example, was providing as of 1973 20 medical specialists, 40 general practitioners and surgeons, 83 nurses, 34 other para-medical personnel, along with some assistance in nursing training. Yugoslavia was providing as of 1973 a total of 36 doctors, pharmacists and nurses. These foreign experts are filling regular staff positions indefinitely.

The World Health Organization has been active for years in eradicating malaria from Morocco. It is also involved in programs of environmental hygiene, sanitation, and is conducting a study for the supply of potable water.

U.S. assistance in cooperation with the Ford Foundation/Population Council, the UN Family Planning Association (UNFPA) and the International Planned Parenthood Federation (IPPF) has been supporting the integration of family planning services into Morocco's health system since 1968. U.S. PL 480 Title II supports the maternal child health program sponsored by Entraide Nationale, a separate government welfare agency whose activities lie outside the Ministry of Health's Program.

With the exception of the French who have been instrumental in designing Morocco's health delivery system and USAID which has played an important role in bringing Family Planning into the health system, donor assistance has mainly served to control specific health problems and alleviate certain weaknesses in the health delivery system rather than to bring about any substantial improvement in the system's capabilities.

6. Scope for U.S. Assistance

Given U.S. competence, genuine Moroccan need and interest in U.S. assistance, the U.S. Congressional mandates and the guidelines contained in AIDTO CIRC A-230 (Planning and Evaluation of Integrated Health Delivery Programs) the areas most appropriate and worthy of scarce U.S. assistance resources are family planning and nutrition activities directed at the most vulnerable group: children of pre-school age and mothers, especially pregnant and lactating mothers and those of reproductive age. In order to break the vicious circle described above it is paramount that health, nutrition, and family planning services be fully integrated and available to the rural masses. While the GOM is cognizant of the need for this approach, it also understands its own limitations in terms of resources and technical/organization know-how in finding the ways to implement such an approach effectively: U.S. assistance can also play a useful role in helping to create a demographic data analysis capability in furtherance of the GOM's overall development planning and as a support to its family planning program.

C. OVERVIEW OF EDUCATION SECTOR

Education in Morocco, both formal and non-formal, suffers from a number of inherent factors which make the system unresponsive to the country's economic and social needs. Morocco retains outdated educational structures based on a system geared to a western society and producing poorly qualified individuals in relation to the country's manpower needs. There are shortages of qualified teachers and a dearth of proper school facilities and equipment. No central government body exists to effectively coordinate disparate educational efforts of the various GOM ministries. The sector is characterized by: (a) high degree of illiteracy; (b) duality of language; and (c) imbalances in educational opportunities.

1. Major Problems

(a) High Degree of Illiteracy

Despite continuous efforts undertaken by the Government since independence, the illiteracy rate remains very high - 76%. The overwhelming majority of Morocco's illiterates are found in rural areas given that the country is 65% rural as is evidenced from the following table:

<u>URBAN AND RURAL POPULATION BY AGE AND % OF LITERACY</u> 1974 (Estimated)			
<u>Literate Population (24%)</u>			
<u>Age Group:</u>			
5 - 19	1,537,000		
20 - 24	248,000		
25 -	<u>1,476,000</u>		
Sub-Total	3,261,000		
<u>Illiterate Population (76%)</u>			
<u>Age Group:</u>			
0 - 4	<u>3,137,000</u>	<u>2,039,000</u>	<u>1,098,000</u>
Sub-Total	3,137,000	2,039,000	1,098,000
5 - 19	4,867,000	3,164,000	1,703,000
20 - 24	1,106,000	719,000	387,000
25 -	<u>4,354,000</u>	<u>2,830,000</u>	<u>1,524,000</u>
Sub-Total	10,327,000	6,713,000	3,614,000
Total	16,725,000	8,752,000	4,712,000

The underlying causes for the Government's difficulty in reducing this high rate of illiteracy are due to the wide scatteration of rural communities and family units, poor living conditions, and the very attitudes and motivations of the rural population.

Starting with a base of 1,725,000 (56%) school age children unable to enter the educational stream, another 1,465,000 primary and secondary school drop-outs and an additional 2,785,000 illiterate individuals in the under 25 age group adds up to a reservoir of some 6 million illiterate and untrained youth. This presents a staggering problem for the Moroccan society since close to 4 million of these reside in the bled (rural areas) without recourse to further learning or training.

(b) Duality of Language

In actual practice language acts as a barrier in Morocco. The majority of the population in the bled speaks Berber as its mother tongue. Only those who early succeed in quickly absorbing Arabic either through personal contact or prior attendance at Koranic schools enter the primary system where the language of instruction is almost totally Arabic with the exception of courses in the French language and math which are taught in French. Between 1/4 and 1/2 of the primary school students repeat a given year and there is a 35% drop-out rate. While the drop-out and repetition rates are in part due to unsuitable curricula and insufficiently qualified teachers, the main problem is a poor grounding in Arabic.

Instruction at the secondary level is mostly in French with certain courses being taught in Arabic as part of the Arabization program undertaken by the Government. Here too, repetition rates are high and the drop-out rate is estimated at 40%. Difficulties at this level are almost wholly attributable to the duality of language problem.

While the plight of the Moroccan school child in general is difficult it is particularly dramatic for the student coming from the rural areas. By the time he finally succeeds in learning Arabic in primary schools, he is thrown into a secondary level system taught mostly in French where he is practically forced to start all over again. His acquisition of the required language skills is at the expense of the subject matter being taught.

(c) Imbalances in Educational Opportunities

Generally speaking, the Moroccan rural family does not encourage the education of its children since this is a relatively new concept with the notable exception being the informal Koranic school system. Education is considered as a long term undertaking by most families whose main interest lies in having their offspring enter the labor market whether they be trained or not. This attitude in combination with the language and population dispersion problems translates itself into great disparities in educational opportunities. Only 44% of school age children attend primary schools. Viewing this from an urban versus rural ratio, the inequality becomes striking since only 14% of rural school age children attend school. Stated differently, there are some 925,000 urban versus 425,000 rural students at the primary level.

Taking this a step further, only 26% of those who complete primary education enter the secondary schools. This represents a further imbalance for the rural poor in that only 8% of the children who enter rural primary schools are afforded entry into the secondary school system.

Of the 56% school age children who do not enter the formal education system about 65% (1.1 million) are from rural areas. This compares with some 620,000 urban school age children who do not enter the educational stream.

The participation rate of women in the educational process is low. The ratio of 3:1 at the primary and secondary levels drops to 6:1 at the university level. This compares with the following ratios in 1962: 3:1 at the primary; 5:1 at the secondary; and 15:1 at the university level.

2. Programs Directed at these Problems

(a) Policy and Programs

The policy for education and training as expressed in the 1973-77 FYP consists primarily of (1) an immediate program to improve and expand the present system, and (2) the initiation of a research and development program to prepare for a fundamental reform of the entire system which will commence during the next Plan period.

While the long range goal for Morocco is a totally literate population, the Government intends to touch some 2.5 million illiterates during the course of the present Plan. It plans

to create a National Literacy Bureau composed of different private organizations and public activities within the Ministry of Education. This bureau will be assisted by an interministerial commission whose job will be to coordinate various programs and activities. Programs involving the use of textbooks, newspapers, radio, TV, etc., will form an integral part of the national literacy campaigns to be conducted on provincial and commune levels by literate adults and youths during summer vacations. If the proposed target group is reached, the Government would have succeeded in lowering the illiteracy rate from the present 76% to approximately 58%.

The Government is committed to speeding up the Arabization program at the primary and first cycle secondary levels given that this is the cornerstone of its Moroccanization policy. In the primary education its efforts will be geared to improving the quality of education by sound groundings in Arabic and by making sure that the language of instruction is relevant to modern exigencies of Moroccan society. In the secondary system further efforts will be made to increase the number of courses to be taught in Arabic thus reducing to the extent possible problems caused by the duality of the French/Arabic language. To that end, the Government is currently introducing a scientific and technical lexicon and a new type of Arabic typography which would eliminate vowel errors previously leading to distorted meanings in written Arabic. While the Government is not sanguine of quick success, it is firmly embarked on this program leading to a unified approach throughout the system but particularly aimed at primary education efforts in rural areas.

The GOM has pledged to reduce the great disparities in educational opportunities. The 1968-72 Five Year Plan succeeded in further unification of educational structures in the primary education system through Arabization and Moroccanization and in marked increases in enrollment, some Arabization and the restructuring of technical curriculum in the secondary education system. The present FYP calls for increased enrollment, improved internal efficiency, and a more practical program of studies at the primary and secondary levels. Priority is given to pre- and in-service teacher training for the primary and first cycle secondary levels, but no specific measures are proposed for the second cycle. The expansion of primary education is the first phase of a long-term program to renovate the system and to achieve universal attendance by 1995. It is estimated that the percentage of school age children entering the primary system will increase from 44% to 52% during the current Plan period with the majority in rural areas. Other measures include the development of a detailed master plan to locate schools in rural areas of greatest need; the appointment of regional planners; and the initiation of studies leading to a strategy for

the most rational expansion of primary education in rural regions where constraints such as nomadism, population dispersion and lack of roads must be overcome.

The FYP proposals for long-term reform call for fundamental changes in education and training involving expanded planning and research under the direction of the Ministries of Education and Cooperation and Training. The completion of research and development activities, if they can be achieved during the course of the present Plan, will provide alternatives for fundamental reform during the next Plan period. The general objective of the reform is to adapt the entire system to the socio-economic realities of Morocco. In addition, the Government intends to significantly increase the output of specialized and trained manpower during the course of the present Plan. The establishment of a vocational training system for secondary school leavers is also envisaged. Finally, the GOM intends shortly to set up a central commission to coordinate the numerous vocational and technical programs operated by various technical ministries.

(b) Structures

Under the jurisdiction of the Ministry of Primary and Secondary Education, the formal education system provides for five years of primary education followed by seven years of secondary education divided into the first and second cycles of four and three years duration respectively. Higher education, under the jurisdiction of the Ministry of Higher Education, is restricted to teacher training and university studies in the liberal arts, law, medicine and engineering. University-level technical training in agriculture, forestry, mining, tourism, statistics, commerce and administration is under the aegis of the concerned GOM ministry. Vocational and non-formal education is a composite of varied efforts undertaken among others by the Ministries of Public Works, Interior, Agriculture, Youth and Sports, Artisanat, Entre'aide Nationale and Islamic Affairs.

The present primary school enrollment of 1,350,000 represents some 44% of school age children who are taught by some 36,000 teachers who are almost exclusively Moroccan. The 1973-77 Five Year Plan calls for an increase to some 1,500,000 primary school students and 40,000 teachers.

Secondary school enrollment currently stands at 360,000 students with some 18,000 teachers, 60% of them being Moroccan. The FYP calls for these totals to be increased to some 490,000 and 24,000 respectively.

Higher education enrollment, both university and university-level technical training, is in the neighborhood of some 24,000 students involving approximately 1,200 professors, 50% of whom are Moroccan. While no specific targets have been set within the FYP to increase the present enrollment, the Plan calls for expanded facilities.

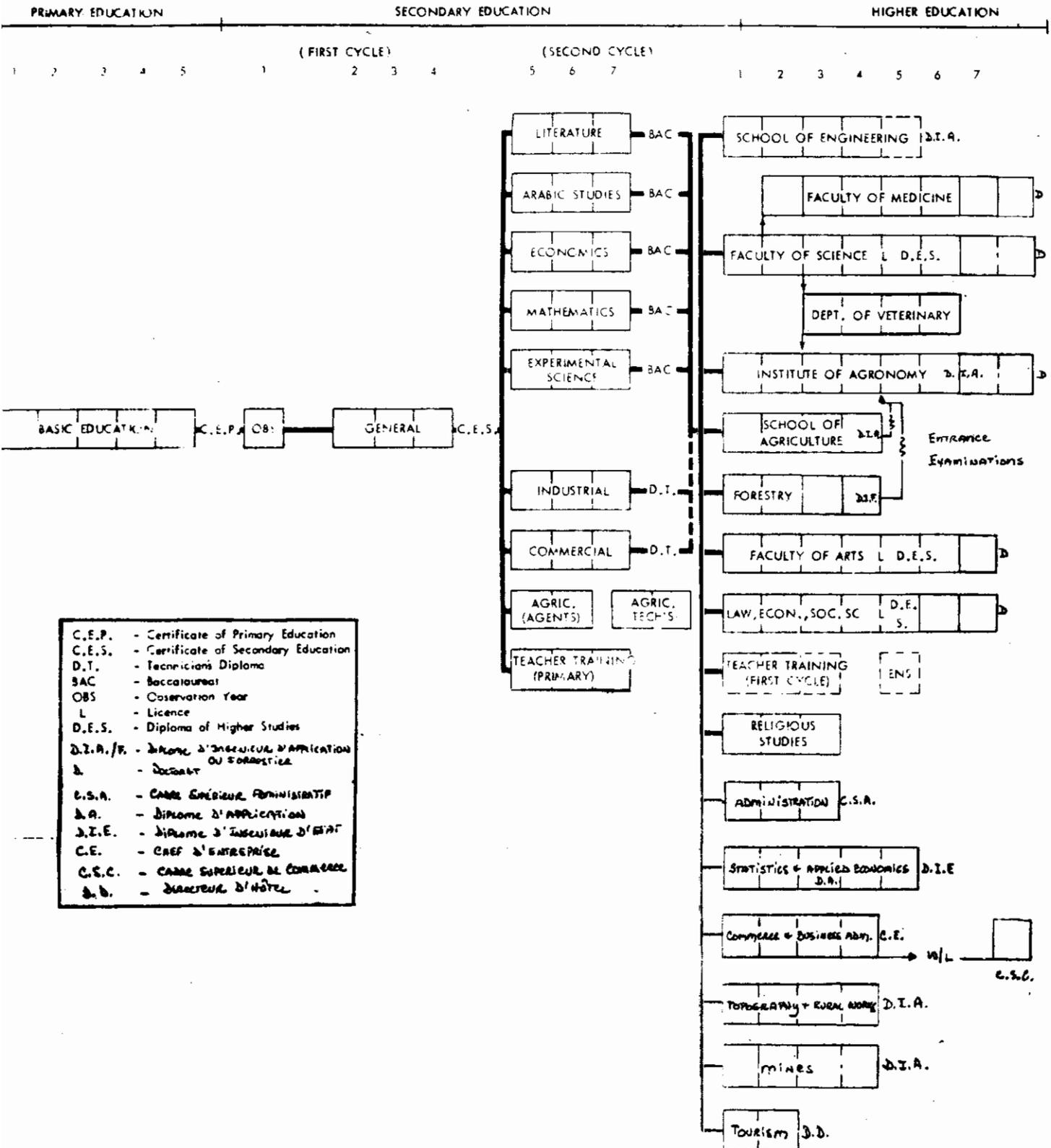
It is extremely difficult at present to arrive at meaningful figures within the vocational and non-formal area given the proliferation of efforts. The best estimates would indicate that an additional 600,000 individuals (300,000 of them being children in informal Koranic schools) will be trained during the Plan period.

The World Bank's review and analysis of the GOM's education budgets for the 1973-77 and 1968-72 FYP periods in its February 1974 Report on the Current Economical Position and Prospects for Morocco arrived at the following conclusions:

For the five-year period, 1973-77, capital expenditure for education and training will amount to DH 1,622 million (\$380 million) which represents an average 14.5 percent of the public capital expenditure. Priority is given to secondary, higher and vocational education, which have allocations respectively representing 34 percent, 16 percent and 20 percent of total. The allocation for primary education represents 18 percent of total, teacher training 9 percent, and remaining 3 percent are for research and administrative buildings.

The required recurrent expenditure will increase annually by 11.8 percent and will represent 28 percent of the total current budget by 1977, using from DH 1.0 billion (\$235 million) in 1973 to DH 1.6 billion (\$380 million) in 1977. The highest rates of increase of recurrent expenditure relate to vocational and secondary education, followed by those of higher and primary education. Altogether, capital and recurrent expenditure for education and training will represent an average of 6.4 percent of GDP. The increase of financial efforts in favor of education and training appears to be spectacular as compared to 1970 when recurrent expenditure amounted to 25.4 percent of the public current budget, capital investment to 4.6 percent of the public capital expenditure, and all educational expenditure not exceeding 19 percent of the general budget, or 4.2 percent of GDP. Substantial shortfalls will probably be unavoidable due mainly to staff and organizational constraints.

SYSTEM OF PUBLIC EDUCATION (1974)



3. Problems and Deficiencies

The present analysis singles out two major constraints which not only affect further expansion efforts within education but also cut across all sectors of the Moroccan economy. These constraints - illiteracy and poorly trained manpower - must be examined in light of certain problems, namely language, inadequate facilities, inequality of opportunity and inadequacy of the system itself.

The rate of illiteracy remains high in the absence of a uniform language. While Arabic is the official language, there are three main spoken Berber dialects utilized by a large number of the illiterate population who reside mostly in the bled. There is thus little incentive for these individuals to learn a highly stylized and difficult language as is Arabic knowing that only a few will be able to enter the primary and informal Koranic schools. Even though Muslims are required specifically to learn the Koran, this learning process is based on rote involving little understanding of the grammar and syntax of the Arabic language. The absence of adequate training facilities also fosters illiteracy. The Government has had great difficulties in the past in setting up successful literacy programs in rural areas due to population dispersion and nomadism.

While the present Plan calls for a national literacy campaign, no specific training vehicles have been identified and no programs have yet become operational after two years of the Plan period. The urban population on the whole has clearly benefited from educational opportunities vis-a-vis its rural counterparts. The GOM has found it more expeditious to favor urban dwellers in the past since it was necessary to satisfy those close to the power base and since additional educational programs were more easily implanted in an urban milieu. The Government is now ready to address an education strategy for rural regions but until this imbalance is redressed the illiteracy rate cannot be lowered.

Finally, the present education system itself is inadequate to fight the illiteracy battle. It is based on the elitist principle which disregards the needs of the majority. The Government has recognized this inadequacy and has called for a fundamental reform of the system during the next Plan period. This reform will pave the way to universal school attendance by 1995.

One of Morocco's abundant resources is labor. This resource, however, lies largely unexploited due to poor training. Rather than contributing to the country's development, the swelling number

of unemployed and underemployed burdens the economy and is creating an ever-growing problem. The GOM has estimated that some 20% of the working age population is unemployed. With a population expanding at about 3.2% per year countrywide and over 5% per year in urban areas due to added rural migration, the economy is unable to meet the demand for new jobs for those entering the labor force, let alone provide jobs for the already unemployed. What jobs are available often go unfilled because of overly high qualification requirements as much as for lack of qualified candidates. Due to poor grounding in languages, many individuals either fail to enter secondary schools where they could be taught technical skills or are secondary school drop-outs only partially trained. A system for vocational training of secondary school leavers is currently not available. Other existing facilities for informal and on-the-job training are inadequate to meet present technical manpower needs since the quality and quantity of the output are low. The education system itself is inadequate since it is basically unresponsive to the country's socio-economic needs and is not based on a rational manpower strategy resulting ultimately in individuals poorly trained to fill available jobs. Ways must be sought to create jobs at a faster rate and efforts made to develop the manpower skills among the young and the underemployed in order to fill skilled and semi-skilled jobs as they become available.

It is unlikely that the Government will complete within the next three years the planning research and development activities leading to a reform in the overall educational and training system to meet the needs of a modern developing society during the next FYP. The apparatus and other implementation means have not been fully defined or programmed in the present Plan although the necessary funds have been allocated.

Viewed in the present context, Morocco's budgetary allocations to education of some 14.5% of the public capital expenditures and 28% of the total current budget by 1977 would appear as very laudable efforts. However, after further analysis, one wonders whether sufficient attention has been paid to the relationship between these allocations and the effects of a 3.2% population growth rate. While it remains doubtful whether these allocations can further be increased in absolute terms to meet additional requirements, they will in all probability increase in real terms but still be insufficient to meet expanded needs arising from new necessary educational and training programs. These unmet needs will increase toward the end of the current Plan period as Morocco gears itself for the reform of the educational and training system.

4. Pivotal Points of Intervention

Given the magnitude of illiterate and unskilled youths and the great need for skilled manpower requirements, a system of non-formal education would give the most rapid results. Intervention must take place on all fronts. Specifically, alternative forms of the learning process must be devised to meet the needs of both the rural and urban poor. Knowledge required to properly function within the community using methods outside the formal educational system must be found, thereby ensuring alternatives for spreading more widely the opportunities for such learning. Pilot projects such as mobile trades training units, farmer training centers, a 4-H type movement, village cooperatives, etc. should be targeted to reach low-income groups with information and skills that would permit fuller human resource utilization, particularly in the context of rural development.

Another possibility for intervention and high impact lies in the area of educational technology. Morocco has opted for fundamental educational reform during the next Plan period. Programs using modern systems in educational technology are needed in order to make the learning process, both formal and non-formal, more effective and relevant to the socio-economic realities of Morocco. Systems of educational technology can then be designed to serve as important elements of industry, agricultural production and research, family planning and health.

A third area for possible intervention is pilot programs designed to increase the rate of participation of Moroccan women in the educational stream and the resultant benefits. Morocco needs to redress this current imbalance in educational opportunities. Programs which expand indigenous institutions mobilizing or benefiting women, e.g., small credit training societies, non-formal education systems, or paramedical health services must be considered. Building upon the existing network of socio-economic vocational centers, e.g. ouvroirs, centres feminins, maisons communales, etc., activities can be expanded for integrating increasing numbers of women into the national economy. Impact projects of this kind involving training in home economics, commerce, cottage industries and in the very basic improvements of women's lives in rural areas should concentrate on efforts to increase women's productivity, thereby contributing to national growth.

5. Donor Assistance

Foreign assistance in the education sector over the past few years has traditionally been restricted to providing teaching

personnel and equipment for the second cycle in secondary schools and university-level education.

France, the most important donor, provides some 7,000 secondary school teachers, some 15 education experts attached to the Ministry of Higher Education and the Mohammed V University, and limited scientific equipment. Canada is providing 80 secondary school and university-level professors for various lycees and institutes. Belgium currently contributes approximately 45 secondary and higher agricultural education experts, limited teaching aids and more than 50 scholarships per year. West Germany has assisted Morocco in an agricultural machinery school and in making available a large number of scholarships for technical training over the past few years. UNESCO and UNDP are providing some 20 experts in various higher education fields and in education administration. The IBRD provided a \$11 million loan in 1965 and another \$13.5 million loan in 1971 for the construction and equipping of secondary schools, teacher training colleges and a National Institute of Pedagogy. The Peace Corps has currently some 90 volunteers teaching English in secondary schools, training physical education teachers in primary schools, working with women and pre-school children at the Foyers/Garderies and providing limited vocational training. Through a \$100,000 equipment grant and Title II Food-for-Work commodities USAID has assisted Entraide Nationale workshops (ouvroirs) providing vocational trainingⁱⁿ for some 10,000 women in sewing, weaving, rug-making, literacy/Arabic and nutrition.

6. Scope for U.S. Assistance

Given the Congressional mandate, U.S. technological competence and current research into alternative forms of the learning process, and genuine Moroccan need it would appear that the area most appropriate and worthy of scarce U.S. assistance resources is non-formal education. We would envisage the possibility of including in an integrated rural development scheme non-formal training in agriculture (extension, credit concepts, food processing, farm tools and equipment, and village cooperatives), health (health delivery systems, family planning and nutrition), cottage industries, small scale construction and industry, etc. We would also propose continuing our assistance to the ouvroirs through a possible PVO grant. Additionally, selected assistance to other specific non-formal education programs may be considered appropriate.

VI. U.S. ASSISTANCE STRATEGY OPTIONS

A. Past U.S. Role in Morocco's development

In many ways this exercise provides us with the opportunity to look anew at AID's development commitments to Morocco not only in relation to the new concepts for U.S. aid but also in comparison with past assistance efforts and where Morocco stands today in its capabilities to move forward and bring into play all its resources for development.

As we understand the Congressional mandate, U.S. assistance strategy is to be based on the hypothesis that if U.S. bilateral foreign assistance is used directly to assist the poor and deprived to obtain adequate nutritious food, necessary health services and a practical education for all family members, by their own productive labor, these people will be drawn into active participation in the development of their own countries; thus broadening the distribution of wealth and resulting ultimately in an increased rate of economic growth, concurrent with greater social justice for the poor, and an improved quality of life for all.^{1/}

The past 17 years of AID presence in the country have been characterized by a program aimed at furthering U.S. foreign policy objectives through economic development in its broadest sense, largely emphasizing balance of payments support. Through fiscal 1974, aid disbursements totaled approximately \$783 million of which PL 480 accounted for 50%, supporting assistance and development loans 40% and technical assistance 10%. The program started out in 1957 heavily weighted on the supporting assistance side, shifted in the early sixties to PL 480 loans and grants and program loans. In 1965 the policy of the African Bureau was to reduce economic assistance to a modest TA component and PL 480 assistance as dictated by crop conditions. In 1967, with the advent of sector assistance, we began planning agricultural sector lending, a concept then very loosely defined, which eventually forced AID to revert to program lending because of the difficulty in negotiating meaningful self-help measures and policy directions with the GOM. The last attempt along these lines was the June 1973 agriculture support loan which for all intents and purposes was a commodity import loan requiring pre-agreed upon attribution to various agriculture line items in the Moroccan budget. It can be said that the agriculture sector loans in no way served to influence government policy or, least of all, satisfied sector lending criteria. Not only does the GOM not wish to share policy making decisions with external donors but the U.S. has not been the major donor for the past several years, being overtaken by both the IBRD and France in both terms of commitments and actual aid flows. This does not mean that the GOM does not appreciate the role that U.S. assistance has played in its development efforts, but,

^{1/} SOG Analysis of the Congressional Mandate, revised draft, 10/31/74.

like many of the developing countries, it believes that it alone can best determine the direction of its economic policy which is so closely interwoven with political and social considerations.

The several AID financed capital projects undertaken in Morocco have proven to be only moderately successful from the point of view of transferring American know-how, but still the GOM looks upon these as the type of activity for which it wants us "to show the U.S. flag." As a matter of fact, they are U.S. projects in terms of financing only since, with only one exception (i.e. the design of the Bou Regreg Dam for the supply of water to Kenitra, Rabat, and Casablanca), we have not provided any American technology in the end product nor passed on to the Moroccans American skills or know-how from which ~~they~~ could benefit.

Our technical assistance activities have been generally more successful in that in the majority of the cases some Moroccans have been trained, improved methods of production have been adopted, and a limited contribution has been made to social welfare services. Perhaps the greatest contribution, and that most appreciated and sought by the GOM, has been the PL 480 assistance which has helped the country meet its food deficits during periods of poor harvests due to adverse weather conditions, supplemented food for work and child feeding programs and has provided the large counterpart accumulations from Title I sales for important allocations to the development budget.

B. Current Setting

The U.S. is in a somewhat unique position because of its close political relations with Morocco and Morocco's desire to have the U.S. maintain a significant, though understandably reduced, role in the country's development effort. This gives the U.S. considerable latitude in choosing sectors of assistance as the current Five Year Plan's major objectives are consistent with our own emphasis on equity for the poorest elements of the population.

Morocco appreciates and recognizes that the U.S. has great experience and considerable expertise in many areas of economic and social development. For this reason we should concentrate on those activities in which we can produce results and make a significant contribution to assist in solving some of the country's most critical problems consistent with our own priorities and Morocco's own perception of these problems.

C. Options

Over the past several months both USAID and AID/W have been re-thinking AID's role in the Moroccan development scene, particularly

in light of the new AID concepts and the current economic situation and development prospects of the country. While development performance was better than had been expected during the second Five Year Plan, it was the concensus of the March 1974 Consultative Group meeting that Morocco still faces serious problems which will have to be tackled during the current Plan. These include the need to: (1) revive private investment and raise the level of private savings; (2) improve the government's capacity to design and implement development projects; and (3) reverse the trend in the widening income gap, particularly in the rural areas. While the third Five Year Plan does focus on the improvement of the quality of life of the poor, this goal may prove difficult for the GOM to achieve because of the need to increase the government's capacity to formulate and implement plans for the rainfed areas, small irrigation perimeters, food production, livestock production, health services, and low cost housing.

These problems provide the U.S. with a number of alternative areas for assistance consistent with our current AID emphases.

In determining the future direction and magnitude of our program in Morocco, we must take into account the country's somewhat improved financial position and the need for an objective assessment of the near and long term prospects for development. However, any hasty or exaggerated conclusion that increased phosphate earnings presage a steep growth in foreign exchange reserves should be avoided. Nor should the Moroccan situation be equated with that of the oil producing countries in light of sharply increasing import costs due to world inflation, a drastic increase in oil prices, the prospects of continued large food import requirements, and the accelerated growth in imports of capital goods.

In considering strategies for assistance, we must view our course of action, then, in terms of not only local conditions but also the world economic situation as it affects Morocco's ability to sustain a high level of imports and tap the world capital markets needed to maintain a momentum in economic growth. Given the current situation in Morocco and a clouded crystal ball view of the future, what should be the role of U.S. development assistance? Do we really know what the future holds for Morocco? It is clear, though, that the strategy of the past should change or at a minimum needs reorientation. What should a revised U.S. economic assistance program to Morocco encompass in terms of both emphasis and magnitude? A review of possibilities suggests several strategy options:

Option One - Phase out by the end of FY 1978 the present system of providing assistance to Morocco eliminating grant technical assistance, concessional loans and PL 480 grants and credits, both Title I and II. In its place we would substitute harder term Export-Import Bank loans and technical assistance on a reimbursable basis. This assumes a high

level of export earnings and a favorable new growth in foreign exchange reserves that would enable Morocco to finance food deficits from its own reserves. While concessional loans from the U.S. would no longer be available, it further assumes that Morocco would continue to have access to other traditional sources of financing including the OPEC countries.

Option Two - The U.S. limit itself to approximately three fairly important capital projects in addition to the proposed Triffa and Doukkala loans over the next five years either on a bilateral or multilateral basis with an average AID input of approximately \$10 million per year. This option would assume the phasing out by FY 1978 of our current and planned FY 1975 technical assistance activities. Certain influential government officials have voiced the opinion that given the problem of administering a large number of technical assistance activities, a few large capital projects would be more desirable from the Moroccan point of view. This would assume a further reduction in the size of the AID Mission.

Option Three - We limit our program to a technical assistance component averaging \$1.5 to \$2.0 million a year concentrating on the current sectors of emphasis of agriculture, health and population with a modest Title II program tied to nutrition and MCH. These resources could be combined into a selective integrated rural development approach with a view to having a direct impact on the poor by bringing into play improved methods of agricultural production and required inputs; an integration and expansion of the health delivery system, including family planning; better nutrition, non-formal education, and improved status for women. A growing awareness of the need to close the income gap and improve the lot of those in the most backward areas -- dry land farmers and herdsmen -- is more than just a platitude found in the current development plan, but a concern frequently voiced by Moroccans in positions of high authority. The reasoning behind this option rests on the belief that we are likely to have little leverage on broader policy considerations and, therefore, should concentrate only on those activities for which we have particular expertise and talent and that can benefit the poorer elements of Moroccan society. This option presupposes the desire to maintain a moderate but small aid presence in Morocco and that the current favorable economic situation of the country will continue.

Option Four - We add selectively two or three discreet capital projects to enhance the impact of the approach suggested in Option Three. The level of capital assistance envisaged would be between \$10 and \$15 million over the next five years. This option recognizes the possibility that the improvement in the GOM's financial position may be a temporary or short term phenomenon, and that continued concessional lending may then be justified.

Option Five - The U.S. undertake major sector development and support for growth with a concerted effort on key problems. This option is premised on the belief that we would be able to exercise leverage on broader policy considerations in association with the other major donors. It assumes that the Moroccan economic picture would not show the large gains as some have visualized of an increasing rate of export earnings. The major efforts would be directed at tackling those problems which inhibit increased agriculture production that could make the difference between a grain deficit country and one with surpluses for export, the improvement of the lot of the rural poor and lowered population growth rates. This would require a large combination of grant and capital assistance programs with a continuation of a fairly moderate PL 480 Title II program. In order to exert some influence on policy directions as well as effect any significant impact on sector growth we would have to be prepared to provide a level of assistance ranging from \$30 to \$50 million per year.

A contingency which must be kept in mind with respect to any of the above five options is the uncertainty of Moroccan climatic conditions. In the event of a significant drop in production owing to a prolonged period of drought which resulted in acute food shortages our options should be flexible enough to react to Morocco's needs, particularly if the GOM were faced with a sharp decrease in foreign exchange reserves. Under these conditions it is assumed that the U.S. would provide PL 480 Title I and/or II assistance if such an emergency were to arise, no matter what option is followed.

D. Pros and Cons

In viewing these options we see a progression ranging from no AID presence in Option One to a major involvement under Option Five. Options Two, Three and Four represent those most worthy of our attention in terms of current country realities and Congressional concerns.

Option One postulates that Morocco is approaching the "AID Graduate Category" and that we should now plan for a new aid relationship. This presupposes the continuation of a highly favorable financial position. In the short run it appears to be a valid assumption but dependent entirely on the earnings of one commodity, phosphates for which world demand may soften over the next twelve to eighteen months. These export earnings, as mentioned above, may be substantially affected by sharply increasing import costs. Furthermore, the many real bottlenecks to development still exist and external assistance will be vital for at least the medium term. It is doubtful that the GOM would turn to the U.S. for assistance, except in rare cases, if our AID relationship were to be placed on a reimbursable basis, particularly when other donors are prepared to provide grants for similar activities. The only possibility would be in combination with Option Two where the U.S. would be prepared to provide concessional loans for capital projects. Option One by itself may create problems in meeting our foreign policy objectives in Morocco, since this disengagement comes at a time when the Moroccans are looking for greater U.S. visibility in exchange for their support in the Middle East negotiations.

Option Five. The present political scene in Morocco is not conducive to major sector development which presupposes a close involvement by AID in policy considerations. The eighteen years since independence have seen the development of capable Moroccan administrators and today one finds few expatriates in policy making positions. While the ranks of top level personnel are still somewhat thin the number is growing and those in high positions cherish their policy making roles and are not prepared to turn this responsibility over to outsiders who are less acquainted with the intricacies of the country's economic, political and social relationships. Detailed sector analyses would be difficult to undertake and perhaps not too meaningful in the Moroccan scene since clear lines of development policy have been established and have the imprint of the highest government authority. Finally, given the moderately favorable financial position of the country and the scarcity of AID resources, it is doubtful that a program of the magnitude suggested under this option could be justified.

Option Two would tend to overcome to a certain extent the difficult problem of providing technicians that have both a competence in their field and the French language. It also provides a significant visibility within the country of U.S. assistance and satisfies U.S. foreign policy considerations. On the other hand, large capital projects are not in keeping with the current AID directions. Furthermore, there are certain ministries in the GOM, i.e., health, agriculture, and social welfare services, which strongly support the continuation of our technical assistance activities. Finally, capital assistance alone may not reach down to the poorer elements of Moroccan society.

Options Three and Four are minimum - maximum sides of the same approach.

Option Three presents what appears to be the best strategy in the short run for U.S. aid in Morocco with particular emphasis on reaching down to the poor. Not only would the type of intervention proposed under this option provide a direct impact on increasing the rural poor's access to productive work, an adequate diet, better health and practical education, but could, over the longer term, make an important contribution in helping the country to overcome serious deficits in the domestic supply of certain basic food products. Furthermore, it provides a low profile and still permits a visible AID presence in the country. The types of projects selected would be those supported by the GOM, that meet the congressional mandate and, upon our careful assessment, will have some impact in the problem areas. Side by side with the financing of the two irrigation projects for which some degree of commitment has already been incurred for FY 75 and 76 the option two approach should permit enough of a transition period to fully institute the program suggested below. Over the next

two to three years this plan of action should satisfy the critics of too much proliferation in AID activities.

In urging Option Three we are specifically assuming an average crop year and no important break in phosphate prices. If either or both of these assumptions should prove incorrect, we would wish to revert to Option Four. Sixty five percent of the Moroccan population is constituted by the rural poor. Crop failure or a substantially reduced national budget arising from the phosphate revenues would impact this group both first and most intensively. Concessional lending could help bring more immediate development benefits to this group. Therefore, American assistance to Morocco should maintain the necessary flexibility to take into account these eventualities in order to lessen adverse effects on the successful implementation of the Five Year Plan.

VII. PROPOSED DEVELOPMENT ASSISTANCE PROGRAM

In selecting Option Three, we propose to structure our assistance program for the next five years around Congressional objectives in concert with Morocco's own development priorities.

A. PROGRAM OBJECTIVES

The U.S. Assistance Program will be aimed at the long range goal of improving the quality of life of Morocco's poor and deprived. We believe that we can achieve a modest, but nevertheless appreciable, impact towards this goal by directing our program specifically at increasing the rural poor's access to: (1) appropriate agricultural technology, farm inputs, and more productive land; (2) maternal/child health services, including nutrition and family planning services; and (3) practical education.

B. RATIONALE

These objectives, while accepting the Congress' development hypotheses, focus on the pivotal points of intervention for which there is scope for U.S. assistance, as identified in the overviews of the agriculture, health, and education sectors in Section V. We have seen that the factors most retarding sectorial development and impeding increasing participation of Morocco's poor and deprived in the benefits of development relate to: (1) the low productivity of small farmers; (2) the high incidence of malnutrition and the high birth rate which so seriously affect the health of mothers and children; and (3) the lack of skills among the landless poor and women that would enable them to find productive employment off the farm. If the small farmers' access, therefore, to improved technology, to farm inputs, and more productive land can be increased we can expect their productivity, and consequently income, to rise. If poor mothers and children can have greater access to health services, including family planning services and nutrition education, we can hope to see a decline in birth rates, the incidence of malnutrition, and infant mortality rates. Finally, if the landless poor and women's access to opportunities for practical education is enhanced, we can expect to see their opportunities for productive employment also expand.

While the GOM is placing emphasis on improving income distribution, it is not approaching the commitment of its resources in the concerted fashion we are proposing for our own assistance resources. This reflects the GOM's attempt to meet multiple priorities, including accelerated economic growth, by spreading its limited resources over the many pressing problem areas.

Given the parameters of Option Three, with the limited U.S. resources it implies, we believe that these modest objectives for our program can be achieved to a significant degree.

C. MEANS OF IMPLEMENTATION

In our efforts to expand the access of Morocco's rural poor to the benefits of improved agricultural productivity, maternal/child health, and practical education, we propose to earmark a total of \$10 million in technical assistance, \$50 million in PL 480 Title II assistance and \$25 million in Capital Assistance (i.e. two loans for which commitments are implied), over the five-year DAP period. These resources will be directed at developing and implementing the project activities discussed below. As this is a planning document, firmer project details remain to be worked out in many instances.

Projects related to Agricultural Productivity

Triffa Irrigation. Recognizing the obvious improvement in the productivity of land that can result from expanded irrigation, as well as the GOM's identification of the U.S. with the long term development of the Lower Moulouya Irrigation Perimeter, we are considering an \$8 million loan in FY 1975 to assist in the completion of the Triffa Pump Service. It is estimated that approximately 6,000 rural people, including many of the poorer families in the area, will benefit from the irrigation development of the 6,270 hectares in the Triffa. About 700 to 800 farms will be established in sizes ranging from 5 to 30 hectares each. About 1,500 hectares of former colon land is to be distributed in roughly 5 ha. plots to approximately 300 small or landless farmers. The Triffa area will also supply farm produce for canning factories located in Berkane, which is expected to contribute to increased employment on the farm, in industry, and in the service sector that is likely to grow around the new cash economy of the area.

Doukkala Irrigation. The Doukkala Irrigation Perimeter, with over 100 inhabitants per square kilometer, has one of the densest populations in Morocco. Its semi-arid climate makes the area poorly suited to rain-fed agriculture and is causing the inhabitants to migrate to the slums of nearby cities. In the Doukkala Perimeter 28,250 ha. of the planned 95,000 ha. are now under irrigation. The GOM has requested U.S. assistance in completing an additional 6,200 ha. in an area of 10,500 ha. under development for irrigation by sprinklers. Recognizing that AID assistance in this project would enable 10,500 poor farmers to earn a decent living from irrigated agriculture, we envisage loan financing of \$17 million to complete the irrigation system in the project area.

Seed Improvement, Production, and Distribution

Our contemplating a technical assistance project in this field for FY 1975 is predicated on the fact that the inadequate quantity and quality of improved seed is one major limiting component of the technology package offered to medium and smaller farmers through the GOM's programs in extension, cooperative development, irrigation development, and land reform. Intervention at this pivotal point stands to benefit small farmers, even those without access to fertilizer and pesticides, as it can raise their productivity for personal consumption as well as for sale. It also offers opportunities for encouraging the Moroccan private sector to broaden its distribution channels to reach the poorer farmers.

Agricultural Research and Development

This project visualizes a flexible technical assistance response beginning in FY 1975 to resolve key bottlenecks encountered by the GOM in applied research on food and feed production, processing or utilization, and livestock production and marketing. Since these are the major agricultural activities engaging the majority of farmers, increases in productivity resulting from project assisted applied research can be expected to benefit the small farmer.

Higher Agricultural Education

In recognition of the severe constraint imposed by the shortage of qualified agriculture manpower, we intend to continue our technical assistance to the Hassan II Agronomic and Veterinary Institute, subject to the outcome of an in-depth evaluation. Currently, the project stresses curriculum planning and development of advanced teaching and research capabilities in Soil and Plant Sciences, including Horticulture.

Dryland Farming

Over the long term, whether production of food and feed crops in Morocco can keep pace with increasing needs and provide equitable income to the poorer farmers will depend in large measure on how successful the GOM is in developing the rainfed areas. The GOM has asked us for help in testing the feasibility of a dryland development approach on a limited regional basis, that if successful could be replicated in other areas of the country. We, therefore, are considering a project for FY 1976 that might include the following components: (1) identification of a dryland area which lends itself to a demonstration activity and (2) selection of consultants who are experts in development of arid lands and who would recommend measures for optimum use of available water (run-off, wells, etc.) as well as types of crops or livestock practices which would make best use of the given land conditions.

Meat Production

In view of the vast potential of the extensive but inefficient livestock industry for improvement of human nutrition, particularly of the lower income groups, both urban and rural, and given the fact that an estimated 7 million Moroccans are engaged in, or dependent to some degree on livestock raising, meat production affords a key point for U.S. involvement.

In a new major effort to develop Morocco's meat production potential, the King has recently called for the establishment of 10 modern ranch-type complexes with extensive feed lot operations and the eventual creation of a vertically integrated meat industry starting with rangeland pasture and ending at the packing plant. The GOM is nearing a policy decision whether to approach these ranch projects on a cooperative basis by grouping small farmers or whether to enter into joint ventures with foreign investors (modelled on the Cooley-loan supported Ranch Adarouch joint venture between the GOM and the King Ranch Corp.). If the program is to be implemented through farmers' cooperatives, the Ministry of Agriculture intends to request U.S. technical assistance in both the design and the actualization stages given U.S. expertise in ranching technology and other phases of meat production.

Simultaneously, once the long pending decrees establishing grazing perimeters have been promulgated, there may be other opportunities where U.S. technical expertise can assist in the development and rational utilization of collective grazing lands.

Project Design, Analysis and Evaluation

The Ministry of Agriculture is coming around to the realization that it needs to increase its effectiveness in identifying and developing projects to implement the Five Year Plan. Likewise, the Ministry is concerned over its inability to assess the performance of its on-going projects and programs.

In view of the declining level of U.S. assistance to Morocco, the consultative group's longstanding recognition of this key weakness in all sectors, and the unique U.S. consultancy expertise in project design, analysis, and evaluation, we intend to explore further the possibility of assisting the GOM in this field beginning in FY 1976. We believe that in this way we can be particularly helpful to the GOM in developing "bankable" projects, including ones specifically directed at improving the lot of the rural poor.

Regional Planning

Recognizing the inter-dependence of rural and urban development owing to the exodus of the rural poor to urban slums and the need to plan for balanced growth among geographic areas in developing new industries and employment opportunities and extending government services, we are considering how best to respond to a GOM request for U.S. technical assistance in regional planning. Any project in this field would not begin until FY 1977.

Integrated Rural Development

In view of the opportunities afforded by integrated rural development schemes for generating participation of the rural poor in the benefits of development, we intend to examine with the GOM the feasibility of attempting a pilot effort in some intermediate rural growth center, beginning in FY 1977.

Activities Related to Maternal/Child Health

PL 480 Title II

We are endorsing the continuation of a PVO sponsored PL 480 Title II maternal/child health feeding program at an expanding level as the Food-for-Work and school feeding levels contract.

The MCH program is administered by Entraide Nationale. Some 200,000 pre-school age children and their mothers receive Title II bulk distributions at 200 socio-educational centers. Each center is managed by two monitrices who are supervised by the staffs of E.N. and Catholic Relief Services (CRS). Each center provides instruction and advice to the mothers in nutrition and hygiene. This is a low-cost program which reaches the poorest mothers in the provinces. The program is well received and new centers are opening regularly.

Nutrition Education

To upgrade the MCH centers and thus improve participating mothers' understanding of nutrition, an AID-sponsored PVO grant has been proposed for FY 1975 to fund four activities:

- (1) add two professional nutritionists to the CRS/Morocco international staff for a 24 month period;
- (2) create a cadre of supervisory provincial monitrices who will direct the monitrices at the MCH centers;
- (3) arrange for third-country training in nutrition education for the provincial monitrices;

(4) provide in-country training in nutrition education for 400 monitrices who are already managing the E.N. MCH centers.

National Nutrition Strategy

If Morocco is to reduce significantly the incidence of malnutrition and succeed in breaking its dependence on U.S. PL 480 Title II assistance in alleviating the situation, the GOM will have to develop and implement a national nutrition strategy.

The nutrition design team that visited Morocco in May 1974, in recommending to the GOM the development of a national nutrition strategy, stressed the need for such a strategy to: (1) identify and implement intervention schemes which will increase the nutritional intake of priority target groups such as infants, pre-school age children, and pregnant and nursing mothers; (2) increase the availability of nutritionally improved food for consumption by the lowest income segments of the Moroccan population, and (3) alleviate malnutrition among a substantial segment of the target population and thus develop to the utmost the physical and mental potential of its citizenry. The GOM is continuing its review of this proposal. We hope that a PP for this activity can be developed in late FY 1975.

Family Planning

We propose to continue through FY 1978 our on-going family planning project. This project seeks to establish the GOM's institutional capability to provide FP services to three million couples of reproductive age throughout the country. The FP program is directed at the total population. However, the Ministry of Health FP services, which are free of charge, are available to the poor, in particular women. Project efforts are now being directed at further extending family planning services into the rural areas. A PP revision to reflect this evolution was submitted to AID/W in October 1974.

Demographic Data Analysis

Recognizing the need for integrating demographic data analysis into the country's development planning so as to gauge accurately the implications of its population growth, we are exploring the possibility of a project to create a demographic data analysis capability within the Ministry of Plan. The aim of the project would be to enable the Ministry of Plan to analyze census data, make population growth projections, and undertake special studies relative to the growing demand for job opportunities, health services, educational facilities, etc. An important adjunct of the project would be to develop the necessary demographic data to permit the GOM to evaluate on a continuing basis the effectiveness of its family planning program.

Activities Related to Practical Education

This represents a new area for possible U.S. assistance and as such we have yet to bring our ideas into sharp focus. Having identified, however, the area of non-formal education as a pivotal point for intervention, we plan to enter discussions with appropriate GOM officials and begin exploring the possibility of assisting in the development of a workable vocational education approach in rural areas. Once these discussions have taken place, we should be prepared to field a pre-feasibility study team.

We believe that by implementing these project activities, U.S. assistance, within the parameters of Option Three, can bring measurable benefits to the rural poor, both men and women, by 1979.

D. CRITERIA FOR SUCCESS

In consideration of the PBAR Task Force recommendations and in recognition of the usefulness of attempting to design an evaluation component into our DAP, we plan to measure the impact of our proposed program on attaining the objectives we have set at mid-point in 1977 and at the end of our five year planning period in 1979.

As indicators of progress toward increasing the rural poor's access to the benefits we have outlined above, we envisage the following:

- increased number of small farmers and/or agricultural laborers working on irrigated lands in the Triffa and Doukkala perimeters;
- greater use of improved seed by farmers, especially the smaller ones;
- improved yields of farmers affected by project activities;
- increased number of mothers and children attending MCH programs;
- increased number of FP pill acceptors; and
- increased attendance in rural vocational training programs.

Indicators of the program's impact on improvement of the quality of life of Morocco's poor and deprived would be:

- increased food production;
- increased productive employment;
- increased income of rural poor;

- reduced malnutrition;
- reduced birth rate;
- reduced infant mortality rate;
- increased literacy;
- increased level of skills; and
- improved status of women.

The data required for the use of these indicators is largely available from GOM statistics, IBRD reports, and the various national surveys that have been conducted or are underway (e.g. 1971 Population Census, 1971 National Nutrition Survey of Children Under 4, 1974 Agricultural Census, etc.). Additional data needs can be developed expressly at the project level.

What will be needed will be to establish a baseline and specific targets for each of these indicators based on further analysis during the coming months. This will enable us to measure the progress and impact of the program we have proposed.