608 0131

DRYLAND FARMING

MOROCCO

PROJECT 608-11-120-131

TABLE OF CONTENTS

TABLES

INTRODUCTION

USAID STRATEGY FOR THE DRYLAND AREAS

Morocco's Development Assistance Program (DAP), is aimed at the long-term goal of improving the quality of life of Morocco's poor and deprived with a central focus on those who reside in the rural areas -- the landless and small farmers living close to the subsistence level. These are the individuals who predominantly inhabit the drylands, the semi-arid regions of the country. The ability of the land within this area to support its agricultural population at present yields and using current agricultural practices is limited. Unemployment is already widespread and has led to considerable migration internally and externally. While accurate statistics are still lacking, it is believed that approximately half of the external migration from Morocco comes from this area. In addition, a similar percentage of internal migration to urban areas and seasonal male migration for harvesting is also from this region. These factors indicate that current agricultural production patterns cannot sustain the present population nor can they begin to cope with the increases expected with such a youthful population. Without improvement in these areas, vastly increased pressure on urban areas may be expected.

Morocco's planning in the agricultural sector is presently centered on the completion of all major planned irrigation perimeters by 1985. Further work in irrigation after that time will be of a marginal nature. At the same time, with an annual population growth of approximately 3.2% per year, and with 15 to 30% of cereal needs being imported, the importance of dryland farming is clearly apparent. Irrigated areas may provide major increases in agricultural yields over the next few years, but the longer range development and indeed the viability of Morocco, is dependent on her dryland potential. This fact has been recognized by the Moroccan Government, which has begun to address the problem. In this connection, the government has divided the country into seven economic regions and has instituted small scale regional development planning. The success of this program may well lead to a decentralization of government operations which has been alluded to and may be implemented during the next plan period (1978-82). Also, studies are planned for the more impoverished regions in order to develop a more realistic basis for undertaking activities to alleviate the meager economic and social conditions of the inhabitants of these areas.

While the initial A.I.D. effort will concentrate on the improvement of agricultural practices in the drylands, the longer term objective will be to more closely integrate other elements of the program with this sub-sector. In fact, on-going projects in the areas of agricultural research and training, family planning, nutrition, and

Title II assistance promoting maternal/child health and food-for-work, all have varying degrees of impact on the target area. As we evaluate and restructure on-going activities, the target group will receive increasing and more concentrated attention.

Accordingly, we plan to more closely relate the next phase of the Higher Agricultural Education project to those types of academic specialties that would increase the number of Moroccan experts working on the problems of the drylands, such as range, soils and water-shed management, and plant breeding and pathology.

Likewise, new project starts will be more closely related toward the established goal with the view that over time the A.I.D. program in Morocco will achieve an integrated approach. However, by nature some of the programs will continue to address problems of national concern to a particular sector or the overall well-being of the Moroccan population. For example, while malnutrition has a high incidence among the rural poor, it is also prevalent in the urban areas. Thus, any plan for nutrition as envisaged in the GOM request for the establishment of a nutrition study unit must be nationwide. Nevertheless, the major thrust of the dryland strategy is to assist those who subsist at the margin. This is the reason why the GOM has requested that the U.S. intervene in the semi-arid areas (8-16 inches rainfall) where the target group is predominantly located and where it feels the U.S. experience in dryland farming can be beneficial.

This strategy will consist of a series of phased interventions, beginning in FY 1976, with (i) planning an applied research program to improve cultivation, (ii) an evaluation of extension services, (iii) a study resulting in recommendations for forage and seed production.

The first activity addresses directly the problem of crop production in the drylands; the three studies are inter-related and will be key factors in implementing a successful dryland strategy.

These activities should provide the basis for further assistance on an integrated rural development approach that would encompass capital and technical assistance. The World Bank has indicated an interest in participating in such an effort.

PART I - SUMMARY AND RECOMMENDATIONS

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE (X) APPROPRIATE BOX) — [X] ORIGINAL [ ] CHANGE [ ] ADD [ ] DELETE — PP DOCUMENT CODE 3

2. COUNTRY/REGIONAL ENTITY/GRANTEE: Morocco/Near East

3. DOCUMENT REVISION NUMBER:

4. PROJECT NUMBER: 608-11-120-131

5. BUREAU — A. SYMBOL: NE; B. CODE: 4

6. ESTIMATED FY OF PROJECT COMPLETION: FY 77

7. PROJECT TITLE - SHORT (STAY WITHIN BRACKETS): [Dryland Farming]

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION — A. INITIAL MO. 6 YR. 76; B. FINAL FY TQ

9. SECONDARY TECHNICAL CODES (MAXIMUN SIX CODES OF THREE POSITIONS EACH)

011	079	078	-	-	-

10. ESTIMATED TOTAL COST ($000 OR EQUIVALENT, $1= 4 D.H.

A. PROGRAM FINANCING	FIRST YEAR B. FX	C. L/C	D. TOTAL	ALL YEARS E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL						
(GRANT)	(193)	( )	(193)	(383)	( )	(383)
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER 1.						
U.S. 2.						
HOST GOVERNMENT		74	74		185	185
OTHER DONOR(S)						
TOTALS	193	74	267	383	185	568

11. ESTIMATED COSTS/AID APPROPRIATED FUNDS ($000)

A. APPROPRIATION (ALPHA CODE)	B. SECONDARY PURPOSE CODE	C. PRIMARY TECH. CODE	FY 76 D. GRANT	E. LOAN	FY T.Q. F. GRANT	G. LOAN	FY 77 H. GRANT	I. LOAN	ALL YEARS J. GRANT	K. LOAN
FN	101	073	193		190				383	
TOTALS			193		190				383	
12. ESTIMATED EXPENDITURES					40		343			

13. PROJECT PURPOSE(S) (STAY WITHIN BRACKETS) [ ] CHECK IF DIFFERENT FROM PID/PRP

[To provide information, analysis and design for specific dryland agricultural projects and to train staff for project execution.]

14. WERE CHANGES MADE IN THE PID/PRP FACESHEET DATA NOT INCLUDED ABOVE? IF YES, ATTACH CHANGED PID AND/OR PRP FACESHEET. [ ] YES [X] NO

15. ORIGINATING OFFICE CLEARANCE

SIGNATURE: Albert Disdier — David Steinberg

TITLE: Mission Director, Morocco — Director Office of Technical Support

DATE SIGNED: MO. 06 DAY 04 YR. 76

16. DATE RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MO. 06 DAY 04 YR. 76

AID 1330-4 (5-75)

B. RECOMMENDATIONS

-- Grant - $383,000

C. DESCRIPTION OF THE PROJECT

This project is designed to provide studies which will form the basis of a dryland program for Morocco. A need for dryland research has already been identified but definitive project development is still necessary. Hence, the project will consist of distinct but interrelated phases. The first phase is to conduct a series of studies which will form the basis of one or more dryland agricultural projects.

1. Planning An Applied Dryland Research Program

- Production practices economically adapted to Morocco's drylands will be developed.

- Moroccans will be trained in dryland production research and extension.

2. Other Supporting Studies

a. Agricultural Extension Evaluation

- Current extension methodology and operations will be evaluated in two provinces.

- Recommendations for improving the extension service will be made which the GOM will implement in a pilot project in the same provinces, with the possibility of further U.S. assistance.

b. Forage Seed Nursery Feasibility Study

- Current demand for and availability of forage seed will be examined.

- Future requirements in terms of planned projects and programs will be determined.

- The economic and technical feasibility of establishing seed nurseries in Morocco will be ascertained and specific recommendations made to the GOM.

The second phase of executing the dryland development strategy will be the carrying out of the assistance projects formulated during the life of this project.

Hence the purpose is to formulate a set of dryland development activities, the specific outputs will be an applied research project design, a feasibility study on forage seed production and an evaluation of provincial extension operations. The inputs are study and design teams, counterparts and participants training.

HOW INPUTS WILL PRODUCE EXPECTED OUTPUTS

a. Applied Dryland Research

Within a period of one year researchable problems and the research schedule on production practices that are socially and economically applicable to increasing yields of food crops in dryland areas will have been developed. Moroccan research and extension technicians will have begun training both on-the-job and in the U.S. in dryland food crop production practices.

b. Supporting Studies

The agricultural potential of Morocco's dryland areas will have been partially assessed and recommendations made for their development. The feasibility of establishing seed nurseries for range forage crops adapted to the dryland areas will have been investigated. The effectiveness of the Agricultural Extension Service will have been evaluated and a set of recommendations presented for its possible improvement.

D. SUMMARY FINDINGS - Major Conclusions

1. As reflected in its Five-Year Plan for the period 1973-1977, the Government is increasingly shifting its priorities in favor of dryland area development.

2. The project's target group is the small traditional farmer in the dryland areas of Morocco with 8 - 16 inches of rainfall. The agronomic situation of this farmer is stagnant due largely to inadequate production technology.

3. The GOM possesses limited expertise to improve agricultural production significantly in Morocco's dryland areas. No adaptive research into this problem is presently being done. The GOM frankly recognizes and acknowledges this situation.

4. The GOM, recognizing that the U.S. has considerable expertise and knowledge in dryland farming production, has requested assistance in this area. The Mission supports strongly this request.

5. The GOM is prepared to make the necessary financial contributions to the project and the GOM's administrative arrangements for implementing the project are adequate.

E. PROJECT ISSUES

1. ISSUE: Is the GOM really committed to the development of the rainfed areas of Morocco?

DISCUSSION: In the revised 1974-77 Five-Year Plan issued in June 1975, 24% of the projected agricultural sector expenditures during this period are earmarked for the development of the "Zones Bours " (rainfed areas). This is in contrast to 7% of the agricultural budget which was spent for this purpose during the 1968-72 Five-Year Plan. More than anything else, this increase illustrates the increasing importance that the GOM is giving to the development of the rainfed areas.

2. ISSUE: Project research may possibly conclude that it is desirable to keep fallow land bare of plants in order to preserve soil moisture. Will the farmer, who now uses weed and volunteer plant growth on his fallow land for livestock pasture, be willing to accept and abide by this recommendation?

DISCUSSION: Admittedly, this is an important problem. However, this problem is beyond the scope of this project. Nevertheless, it will be the job of the Extension Service to convince the farmer that it is in his best interest to do so.

3. ISSUE: Can the Extension Service be improved in order to transfer more effectively to the small dryland farmers new production practices developed under this project?

DISCUSSION: The GOM is aware that the Extension Service as presently operated, is inadequate to serve the needs of dryland producers. It requested assistance from the USAID in evaluating the service for this very reason. The GOM expects that from this evaluation exercise will flow a set of recommendations which will guide the Ministry of Agriculture in revising its outreach programs or activities so as to better serve the small farmers.

4. ISSUE: As a general issue in AID projects, it should be determined if the project serves equity goals and if the poorer sections of the society are to benefit. Does this proposed project meet "new directional" goals of AID?

DISCUSSION: This project clearly is directed at the poor, small scale farmer. Its central purpose is to develop dryland farming technology so small farmers will not have to try to adapt technology which was originally designed for larger operators or for different ecological zones. The government estimates are that it takes about 10-25 ha. of land to constitute a viable family farm, yet only four percent of farmers own units of this size. While a larger percentage may operate viable farms by renting in land it is clear that the vast majority of target farmers are both small and lack technology to increase production. Since it is expected that the techniques developed will be simple, cost effective and productive, it is very likely that large farms can also use them to advantage. But small farmer's production and income is nevertheless expected to rise and thus improve the small holder's ability to retain his land and employment opportunities.

The project addresses equity issues in two major ways, (a) through focusing on the poorer rainfed areas of the country and (b) by developing farming technology appropriate for small scale operators.

5. ISSUE: In the absence of Decrees officially establishing rangeland perimeters and regulating grazing practices, can the creation of forage seed nurseries contribute significantly to the improvement of livestock production in Morocco?

DISCUSSION: The first range improvement perimeter in Morocco was established by Decree signed by the Prime Minister on December 12, 1975. This perimeter of 25,000 hectares is in the Midelt area where a former USAID/GOM project clearly demonstrated the feasibility of increasing meat production through re-seeding and management of rangelands. Therefore, if Morocco can create nurseries for the production of improved forage seed, this activity can be expected to contribute to increased livestock production, not only in the first designated range improvement perimeter but also in others that will be subsequently established.

PART II. - PROJECT BACKGROUND AND DETAILED DESCRIPTION

II. PROJECT BACKGROUND AND DETAILED DESCRIPTION

A. PROJECT BACKGROUND

1. Setting: Technical Analysis

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 1,200 mm (47 inches) in the Rif mountains in the north to less than 200 mm (8 inches) in the southern regions. The problem is further aggravated by wide variations in both the amount and distribution of rainfall during the growing season. These variations often cause considerable reduction in yield through either physiological damage to crops or outbreaks of diseases, especially on cereals. Until recently, the country produced enough grain in good rainfall years to satisfy domestic needs, and even to export some barley and oats. In poor rainfall years, cereals had to be imported. However, since 1966, following a succession of poor harvests, Morocco has become a net importer of cereals in order to meet the needs of its population, which is growing rapidly and migrating in increasing numbers to the urban centers.

Morocco's agricultural land area is estimated at 23 million hectares, of which 8 million ha. are arable. About 3/4 of the arable land is cultivated annually, the rest lying fallow. One million ha. is reported as irrigable, of which less than one-half is actually being irrigated. It is expected that by the mid-1980's, all of the irrigable land will have been brought under irrigation. Although the development of irrigation has resulted in increasing total agricultural output, it has not contributed significantly to the reduction of the basic food deficit of the country. Generally, the irrigated areas are devoted to the production of high value crops such as: citrus fruits, vegetables, sugar beets, sugar cane, and forage legumes.

Of the 6 million ha. of annually cultivated land, about 4.5 million are planted annually to cereals, namely: barley, durum wheat, bread wheat, and maize, in that order of importance. These cereals, together with food legumes (chick peas, broad beans, peas, and lentils), constitute the staple diet of the Moroccan people. Tables, 1, 2 and 3 present the average areas planted to each of the four cereals, their average production and their average yield per ha. for the period 1964-1973. As can be clearly seen, 1968 was an unusual year. The harvest was the largest in Morocco's history; the total area planted in cereals was also a record; and, the yields/ha. were, and have remained, the highest ever obtained. Two factors accounted for these results: first, due largely to widespread demonstrations conducted under a joint GOM/USAID project, the use of fertilizers gained acceptance among the more progressive farmers; second, and perhaps more importantly, rainfall during that growing season was ideal.

TABLE 1

AVERAGE AREA PLANTED TO THE MAJOR CEREALS
('000 ha.)

	BARLEY	DURUM	BREAD WHEAT	WINTER CEREALS	MAIZE	TOTAL CEREALS
1964-67	1,750	1,375	400	3,325	475	4,000
1968	2,100	1,400	500	4,000	500	4,500
1969-73	2,000	1,500	520	4,020	500	4,520

TABLE 2

AVERAGE PRODUCTION OF THE MAJOR CEREALS
('000 mt.)

1964-67	1,275	925	275	2,475	250	2,725
1968	3,500	2,100	700	6,300	400	6,700
1969-73	2,120	1,400	440	3,960	360	4,320

TABLE 3

AVERAGE YIELD PER HECTARE OF THE MAJOR CEREALS IN MT.

1964-67	.72	.67	.68	.70	.52	.68
1968	1.7	1.5	1.4	1.6	.80	1.5
1969-73	1.06	.93	.84	.98	.72	.96

The tables also show that although the 1968 crop season remains unequaled, cereal areas, production and yields per ha. have increased considerably since the period prior to 1968. Undoubtedly, the various GOM programs - Opération Céréales (Operation Cereals), Opération Engrais (Operation Fertilizers), and Opération Assolement (Operation Crop Rotation) - which the MARA has been implementing, have contributed to these results. The programs were supported by the U.S. between 1966 and 1974 directly through the Increase in Cereals Production Project (608-11-130-058), and the North Africa Wheat Improvement Project (698-11-130-173) and, indirectly, through allocations of local currency generated under SA loans and Section 402 and PL 480 Title I programs.

Nevertheless, the cereal situation remains unsatisfactory. In the Spring of 1974 late and prolonged rains brought about an outbreak of rust disease which caused severe damage to the harvest. As a result, the GOM was forced to import over one million metric tons of bread wheat. In the fall of 1974 no significant rains fell over Morocco, and the dry season, which normally ends in November, continued through mid-January. Although no official reports on the harvest have been published, releases from the MARA indicate that total cereal production in 1975 was less than 3 million tons, the lowest since 1966.

Morocco, with a population growing at the rate of 3.2%, is facing food deficit that is becoming increasingly more critical. The GOM is actively supporting a family planning program carried out with A.I.D. assistance. The effects of such a program, however, can only be felt in the long term. In the meantime, ways must be found to utilize more effectively the country's potentials for grain and livestock production.

As already noted, Morocco's irrigable land areas are limited to 1/8 of the total arable land and those lands under irrigation are devoted mostly to the production of industrial and export crops. Within the next 8 to 10 years, the major irrigation development program will be completed nationwide. However successful that program may be in increasing total agricultural output and income, it will not significantly reduce the country's expanding food deficit. This can be done only through development of the rainfed areas where the great majority of agricultural producers live and work and where most of the cereal is grown. These areas, which are collectively referred to as the bour, can be grouped into three zones on the basis of annual rainfall. From north to south, these zones, respectively receive more than 400 mm (16 inches), 300 to 400 mm (12-16 inches) and less than 200 mm (8 inches) of precipitation. GOM officials are reasonably satisfied with production performance in the first zone. They also recognize that the low rainfall characteristic of the third zone precludes its consideration as an agricultural area. They feel, however,

the necessity of maximizing production potentials in the intermediate zone. To date, their efforts in that direction have not been highly successful, and the GOM has consequently requested U.S. assistance.

GOM Agricultural Development Efforts in Rainfed Areas

a. 1968-1972 Five-Year Plan

While the agricultural sector accounted for 45 per cent of all funds allocated for public and semi-public investment during this Plan period, the investment priority was directed primarily toward the development of irrigated perimeters. Consequently, low priority was accorded to the development of rainfed regions, which are traditionally the major cereal producing areas.

(1) Irrigation - Highest Priority

The development of water resources for irrigation received 63% of the funds earmarked for agriculture. The long-term national goal was, and still is, eventually to have 1,000,000 hectares under some form of modern perennial irrigation. By the end of 1972, completed major reservoirs had a theoretical capacity for the perennial irrigation of 392,500 hectares. However, water distribution systems and on-farm irrigation development were complete on only 214,650 hectares. Thus a major lag existed in getting land into production following completion of the dams.

In addition to the large irrigation perimeters, the Plan envisaged small-scale irrigation development on 50,000 hectares, involving pumping from wells and streams as well as stream diversions. However, only 32,300 hectares were actually irrigated in this fashion during the Plan period. The main reason was the difficulty in planning and developing viable project proposals.

(2) Dryland Farming - Lower Priority

Rainfed agriculture, as noted above, received much less attention than the development of irrigated agriculture. For example, land and soil improvement in these areas was carried out on a very small scale. Soil improvement programs concerned 3,250 hectares; land consolidation 8,000 hectares; and new plantations of olives and almond trees, 15,000 hectares. The Ministry of Agriculture and Agrarian Reform (MARA) also entered into rotation contracts with farmers who undertook to use improved seeds and modern techniques in return for various subsidies. MARA granted subsidies to farmers to encourage them: (a) to use modern inputs (deep furrow plowing, fertilizers, and improved seed) for cereal cultivation, (b) to grow fodder and (c) to plant orchards. However, the MARA provided its services and subsidies to relatively small areas of Morocco's enormous rainfed belt: for plowing, 120,000 hectares; for fertilizers, less than 1,000,000 hectares; for seeds, less than 200,000 hectares; and, for rotation contracts, less

than 100,000 hectares. There were modest augmentations of support services to dryland farmers during the Plan period. Finally, the period saw the implementation of a small vocational training program for the sons of farmers. The overall impact of the Plan on dryland area crop production was, as could be expected, small or negligible.

(3) Extension Services

The activities of the Extension Service in the rainfed areas received some attention during the 1968-72 period. Large numbers of on-farm demonstrations of improved crop varieties and fertilizer use were carried out each year to improve the practices of both the extension agents and the farmers. The overall impact of these demonstrations seems to have been limited. The reasons for this are not presently clear since no in-depth study was conducted.

(4) Livestock Production

The targets for livestock improvement under the 1968-72 Plan were not met. Nevertheless, sanitary measures were expanded, and animal diseases were kept under control. Little was accomplished in other fields directly related to livestock production, such as pastureland improvement, livestock improvement centers, and dairies. Recognizing this failure, MARA recently created a department of animal husbandry, regrouping all activities related to the livestock sector, and has been recruiting a number of foreign veterinarians and livestock specialists.

b. 1973-1977 Five-Year Plan

(1) Shift in Priorities

During the current Five-Year Plan, the GOM's priorities have shifted somewhat in favor of the rainfed areas. Though still small in relation to the amounts to be invested in irrigation development, investments in rainfed agriculture are being increased substantially over the amounts invested during the previous Plan period. Under the 1968-72 Plan, DH 2.5 billion (approximately $625 million) were allocated to agriculture, of which only 7% for rainfed agriculture. In contrast, under the 1973-77 Plan, DH 7.1 billion (approximately $1.8 billion) is to be invested in the agricultural sector, of which 24% is for rainfed production. The Plan also places emphasis on the distribution of rainfed lands recovered from foreign owners.

This shift in policy reflects a conscious move towards extending the benefits of agricultural development more widely among the rural population. More importantly, perhaps, it reflects a growing realization that by far the most significant promise of agricultural production increase lies, not in the irrigated perimeters, but within the rainfed areas of Morocco.

(2) Extension Services

Training of agricultural extension agents has been accorded significant priority in the current Plan. Special emphasis is being placed on improved agricultural techniques, on methods of conveying information to farmers, on use and adaptation of agronomic research information provided by the Research Directorate, and on developing and evaluating farmer training programs.

Approximately DH 13.5 million ($3.4 million) is being spent over the five-year period to subsidize farmer purchases of machinery, such as sprayers, tractors, combines, plows, etc., and for the purchase of small tools for the small farmer. The Fertilizer, Crop Rotation and Crop Demonstration Programs are continuing under the current Plan. These programs will concentrate on expanding and intensifying the use of fertilizers and high-yielding seed varieties. Small farmers are being encouraged to form cooperative groupings of 20-80 hectares to facilitate the use of new technology. Such groupings qualify for a 30% subsidy on the cost of fertilizers, rather than the 20% accorded to individuals. All farmers are eligible for a 20% subsidy on improved certified seed. Funds to be spent for these purposes over the Plan period total some DH 100 million ($25 million).

(3) Livestock Production

As in the previous Plan, emphasis is placed on sanitation and disease control measures, including construction of 80 new dispensaries and renovation of 131 dip tanks. However, attention is also given to stock improvement through breeding and, of more immediate importance to the small farmer, through better feeding. A total of 64 lamb feeding centers are projected to be established, each with a capacity of 6,000 lambs, 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 (a) seeded ranges provide 5-6 times as much forage as non-seeded, and (b) live weight of lambs grazing the seeded ranges was nearly double that of lambs on native range. Subsidies for animal forage production during the Plan period will total some DH 20 million ($5 million).

2. Assistance Requested

GOM officials have expressed the view that the U.S. is uniquely qualified to assist Morocco in its efforts to develop its dryland areas. In August 1975, the GOM formally requested US assistance in three areas: dryland farming, range forage seed and agricultural extension. Specifically it requested:

(1) 16-20 man-months of consultant services to (a) identify, within the dryla ds, those areas that could first be developed and (b design a project for their development.

(2) Three specialists to assist GOM technicians in (a) determining the feasibility of establishing forage seed nurseries in Morocco, and (b) developing a forage seed production project for which it was indicated that further US assistance would, in time, be requested.

(3) Three consultants to assist in (a) a pilot study of the effectiveness of the agricultural extension service and (b) the development of a pilot project based on the findings of the study.

In October 1975, as a result of AID's own deliberations and the recommendations of a dryland agronomist who had been associated with the USAID/Turkey cereal project, USAID recommended to the Ministry of Agriculture that an applied dryland research project be considered as an essential first step in any effort by the GOM to improve production in the dryland areas. This recommendation was accepted by the GOM.

B. DETAILED DESCRIPTION

The project is designed to assist Morocco (i) in developing a production capability to meet its needs for basic food products; and (ii) in promoting improved income levels among the rural poor.

1. Sector Goal

Goal - Increase basic food production in order to meet the needs of Morocco's fast growing population and improve the income of traditional small dryland farmers.

Achievement Indicators - Reduction of basic food imports in absolute terms or in relation to population increase.

For the past 10 years, Morocco has been facing an increasing basic food crop deficit as a result of unfavorable weather conditions and poor production practices, particularly in the dryland areas. The majority of traditional farmers reside in these areas and, consequently, their income and nutritional status have been adversely affected, since their limited production is largely autoconsumed. This situation is further exacerbated by a high (3.2%) population growth rate which is also generating increased migration particularly from the more hard-pressed rural areas to the larger cities of Morocco and to Europe.

GOM development efforts to date have placed priority on irrigated agriculture in order to maximize outputs of high value cash and export crops and needed foreign exchange. To meet the rising demand for grain, the GOM has been forced to import increasing quantities of

wheat which it subsidized heavily in an attempt to keep consumer prices at a low level.

Rising prices and worldwide reduced availability of food grains, on the one hand, and concern for the welfare of the rural population, on the other, have led the GOM to recognize that only through effective development of the dryland areas can the food deficit be reduced if not eliminated. Under the revised current Five-Year Plan, 1973-77, considerably greater allocations of budgetary resources are devoted to the development of rainfed agriculture than was the case previously. This reflects the commitment of the GOM to the search for an effective solution to the food problem facing the country.

2. Project Purpose

A basic component of any solution to the food problem must be an indigenous capability to plan and implement programs which will result in increased production in the dryland areas. Current low production levels are due to a number of factors, the basic one being inadequate production technology, that is economically utilizable in the local setting, is extremely limited. Hence, US assistance to develop this technology was requested by the GOM.

This assistance, to be meaningful, must and will emphasize the establishment of a Moroccan capability to address the complex problems of dryland agricultural production as well as the needs of dryland farmers for technical support services.

Planned Outputs

(a) An applied research program designed to address production practices that are economically and socially applicable to increase yields of food crops in dryland areas.

(b) Seven (7) Moroccan technicians trained to effectively carry out dryland crop production research.

(c) A feasibility report on production of forage seed.

(d) A report on the provincial extension service operations as it relates to improving dryland farming operations.

These outputs will thus form the technological analysis for carrying out the dryland development program for Morocco and logically result in a series of projects or a major revision of this project which would enable it to carry out substantive applied research or other activities.

(d) Suggested project related commodities: vehicles, flat-bed truck and trailer, small combine harvester, seed drill, plow, harrow, miscellaneous tools and parts and shop equipment to maintain machinery.

Through a contract with a U.S. Land Grant University, preferably Oregon State University, the U.S. will provide a 4-man dryland research team comprising 2 research agronomists, 1 extension agronomist, and 1 agricultural economist. They and their Moroccan counterparts will work as a team, fully integrating their activities so as to adapt to local conditions, proven dryland and production practices and in such a way that Moroccan farmers can economically adopt these practices. More specifically, they will be concerned with: seedbed preparation operation under different climatic and soil conditions, and the equipment required to carry-out these operations; method, date, and rate of seeding, weed, disease and insect control; and cropping systems. Although they will be based at a central location, their activities will extend to several outreach areas to be selected on the basis of climate and soil. As much as possible, the adaptive trials will be conducted in cooperation with farmers and will involve the full participation of local extension agents. In this way, research, extension and production will be closely associated from the beginning.

The work of the research team will be complemented by short-term consultants in agricultural machinery and equipment, and agricultural extension. The consultants will also be provided through the same contract.

Part of the purpose of this project is the development of a CCM capability for planning and implementing dryland production programs. This is, of course, a continuing process. However, it is essential that, at the conclusion of the project, a Moroccan staff be in place and have the ability to do the job.

In the almost total absence of Moroccans with adequate training and experience in the required disciplines, training is proposed for a nucleus comprising 12 dryland research agriculturalists and 38 extension technicians.

To be effective, these inputs must be available on a timely basis. In addition, proficiency of the resident US staff in the French language must be such as to enable them to perform effectively.

The CCM will provide adequate facilities for implementation of the various project activities, including research and extension personnel, laboratories, land, and laborers as needed. It is assumed

Planned Inputs

U.S.

(a) 12 months of specialized technical services to plan the applied dryland research program and technical assistance project. ($150,000)

(b) 24 months of participant training (short and long term) ($43,000)

(c) 20 months of specialized technical services for evaluating the extension services

(d) 9 months of specialized technical services for determining the feasibility of producing forage seed commercially in Morocco

Moroccan

(a) Counterpart staff for the studies

(b) Logistical support for the studies

(c) Participants for training and replacement staff while participants are out of country

(d) Project development staff as necessary for the preparation of the FY 77 applied research (extended agricultural development) project

END OF PROJECT STATUS

I. Applied Research Planning Team

The fielding of the applied research planning team is based upon the general finding of the GOM and AID, with consultant services of Oregon State that applied research in dryland farming is an essential ingredient to increasing average yields and farm income. The specific task of the team, in cooperation with the GOM, is to design the research program, pick the research sites, determine size and composition of staff, determine equipment and training requirements and to describe in detail (1) the nature of the technological problem, (2) the existing state of the art in dryland farming, (3) the social and economic organization (including women) and how such organizations impact upon farming and how it is likely to impact upon an applied research program. The formulation of research program will, of course, be based upon a thorough review, and listing, of what may already have been done or may be underway.

Some of the major technological issues, and social/economic problems one might expect to encounter are listed below on pages 20-22.

As an end result of the study teams effort a major revision of this project or a new applied research project will have been developed.

II. Evaluation of the Extension Service

Present operations of the Extension Service will be reviewed from an overall point of view and will be evaluated in one region or province. The evaluators will give particular attention to extension methods, training requirements of extension agents, communications between field and central headquarters, and financing of the Extension Service. The evaluation report will make specific and practical recommendations aimed at improving the effectiveness of the Extension Service from the standpoint of management as well as the farmer. The evaluation report will also contain a plan for establishing a pilot operation to test the validity of these recommendations before their nationwide adoption.

III. Feasibility Study for Commercial Forage Seed Production

Adequate supply of improved forage seed is presently a constraint to the modest range development efforts that have been planned. It will become more critical as the GOM increases its investment in livestock production. The proposed study of the feasibility of establishing range forage seed nurseries will address the question from both the agronomic and the economic standpoints. Using validated research findings of the former GOM/USAID project on Livestock and Range Improvement and other appropriate data available in the MARA, the team will outline a complete proposal for establishing these nurseries. Forage species to be produced, locations and sizes of the nurseries, required inputs and expected outputs will be included in the report.

I. TECHNOLOGICAL PROBLEMS

A. Moisture Conservation Technology

1. Since rainfall is the critical variable in dryland farming, the known techniques of reducing the weather effect should be studied in detail. One of the major moisture saving techniques is fallow (every other year cropping) which has been practiced for many years. The researchable topic is clean fallow versus traditional fallow. The traditional fallow provides (perhaps inadvertently) some grazing and has a relatively low power requirement. Clean fallow should conserve more moisture, permit slightly higher rates of decomposition of organic matter and permit earlier seeding. Clean fallow costs are higher in terms of lost grazing and for power and machinery. The utility of clean fallow will be determined.

2. Weeds are competitors for limited moisture so there should be a plan for determining the degree of the problem and the economics and technology of weed control.

3. If it appears clean fallow can conserve moisture within the planning range of a deep furrow drill, experiments might be designed to test the usefulness of this technique for utilization of limited moisture.

B. Cropping System Research

Since small dryland farmers engage in animal production as well as grain farming, cropping systems and land use patterns will be looked at as topics for research.

1. Use of annual clovers or legumes may be tried in the normal grain/fallow rotation as there is some evidence that both grain and feed production can be enhanced by such rotations.

2. Use of different wheat and barley varieties may be tried.

3. Estimates will be made as to the gains which might be achieved by retiring some poor crop land to managed pasture, or experimental designs suggested to determine the answer to this issue.

C. Cultural Practices

Because of inadequate power and machinery and the variability in moisture conditions, the traditional dryland farmer has opted for,

or had no choice, but for a low input type of agriculture. Yet the narrow margin between profitability and loss argues for precision farming. Thus the design of the research program will address:

1. Seed bed types and requirements for their preparation

2. Rate of seeding

3. Dates of seeding

4. Soil fertility maintenance programs (nitrogen levels, in row phosphate trials, etc.)

5. Determination of type of common diseases and insect pests, the severity of damage and control procedures.

6. Machinery requirements to effect new cultural practices.

It is apparent from the wide variety of technological research that much of it may have to be started on very small research plots or information gathered from secondary sources. It will be the responsibility of the technical assistance contractors and their counterparts to recommend to the GOM and USAID the timing of when to begin various research elements, plot size, control plots, use of farmers' fields, number of replications, support requirements and such other details of the research program as may be necessary for management purposes. It is anticipated that since the technology is being expressly developed for small scale farming operations that farmers' fields can be used early on in the project. While use of farmers as collaborators may add something to costs, in terms of extra supervisory effort, it may very well add to benefits in terms of early feedback on farm problems encountered in using the recommended technologies.

II. SOCIO/ECONOMIC RESEARCH PROBLEMS

In addition to the application of economic and statistical tests for the technological research, it will be necessary to generate a stock and flow of information about the "target" people and the milieu in which they live. First among the topics to be investigated are:

A. Details about the present farming techniques or "state of the art" studies

B. Village Social and Economic Organization

(A project requirement may need to know about land tenure and rental relationships. While it is hoped that small scale technology can be developed which is directly useable by most farmers, it might happen that the smallest of land owners might be well advised to rent out their land or form cost and profit sharing arrangements with farming associations.)

C. Cost/Price Relationships and Input Availabilities Farmers Face

While this type of information is obviously not needed for extension of technology yet to be developed, if started soon, it might (a) reveal bottlenecks not requiring major change, (b) influence nature of the research, and (c) be of great usefulness by the time the technological findings are available.

In this regard, negotiations are already underway with the Hassan II Agricultural Institute on ways and means to expand its present socio/economic farming studies to the dryland areas. Present indications are that the Institute is anxious to cooperate but precise project inputs and outputs have not been finalized and hence are not listed as part of the project design. The planning team will design research in the above areas.

III.) RELATED ACTIVITIES

A. The final design of the research program will include the use of international or other research centers as appropriate. The program will look to the AID-supported 211d grant to Oregon State University for weed control information and technical assistance, to CIMMYT for wheat and barley assistance, to ICRISAT for help on any pulses, millet or sorghums which might be tried, to ALDA (and ultimately ICARDA) and the Arab Dryland Research Center for research information being generated in the Near East.

B. In projects similar to this one farm families have proven to be an exceedingly useful source of information and agents of dissemination of applied research findings. The role of women, while unclear at this stage, may very well be important and their potential contribution and involvement will be addressed. The project proposes to develop a system whereby an active, collaborative role of farm family participation is ensured. It will be necessary to maximize this resource for feedback and ultimate program execution. The development of this program element will require identification and enlistment of persons sensitive to such program needs. On the part of the external technical assistance team, a thorough review of relevant literature will be necessary.

PART III - PROJECT ANALYSES

A. TECHNICAL ANALYSIS

Phase I - Applied Dryland Research

Current Production Practices

Although historically production of winter cereals has been the major agricultural activity in Morocco, the current cultural practices are inefficient and quite incapable of meeting the country's needs in food grains on a sustained basis.

As already noted, crop production in Morocco reflects directly the considerable variations that occur in the amount and distribution of rainfall. This is true for the modern sector as well as the traditional sector. Although modern farmers tend to use production inputs such as fertilizers and herbicides, and have access to mechanized equipment, while traditional farmers do not, their cereal production practices are basically identical; and neither group has developed more effective ways to cope with the hazards of the climate.

As a rule, winter cereals are harvested in June. Whether the harvest is done by hand or mechanically, the stems are also collected for use as fodder or litter and the land is left almost bare and idle throughout the dry season. During that period, livestock is allowed to graze the grasses and weeds that may emerge and to feed upon what little stubble may be left after the harvest. The net result is that, by autumn, as planting time approaches, the soil is baked and hardened.

Under these conditions, proper land preparation for seeding of the winter crops is extremely difficult with the traditional animal-drawn plow. Even where mechanically powered equipment is available, tillage operations are difficult. Therefore, most farmers do not begin seed bed preparation until after the first fall rains have somewhat softened the soil. Seed and fertilizer (when used) are generally broadcast by hand and covered over by shallow plowing or harrowing. As a result, the seed is unevenly distributed and buried. Poor stands are often obtained which, in turn, may make a second seeding necessary. Most farmers use seed saved from the previous harvest or purchased in the village market. Often the seed is of poor quality and mixed with impurities, including weed seeds. Weeds are a serious problem, competing

with the crops for moisture and nutrients. Generally, they are left uncontrolled.

Obviously, these practices do not make for effective and efficient utilization of either critical soil moisture or yield potentials of the seeds. Hence, low cereal yields are obtained throughout Morocco. In the more favorable zone (more than 16 inches of annual rainfall), average winter cereal yields are about 1.5 tons/ha. The yields for the rest of the country are estimated at 0.6 to 0.7 ton/ha. If Morocco is ever to reduce or, perhaps even eliminate its increasing cereal deficit, these averages must be raised. This has been repeatedly emphasized by Moroccan officials, including King Hassan II.

Current Dryland Production Activities

For the past two years, the Bureau of Dryland Farming of the Crop Production Division (DPA) has been conducting some crude experiments aimed at testing the chiselplow in preparing cereal seed beds and the deep furrow drill in seeding. Although these trials are significant in that they reflect an awareness on the part of GOM officials of the need to improve dryland production practices, they are not likely to generate useful and valid data. The trials are poorly designed, and the personnel of the Bureau is inadequate both in training and in number.

Proposed Activities

A more comprehensive effort is required if improved production practices are to be developed and made accessible to farmers. Such an effort must include not only the adaptation to Moroccan conditions of proven dryland machinery, equipment, and tillage practices, but also weed and pest control, types of fertilizers and their rates of application, the determination of the economic feasibility of these practices, and the training of Moroccans to carry out effectively such a program on a continuing basis, and transfer the useful results to farmers.

Such a program should be started on a modest scale and in areas where climate and soil are favorable enough to insure success and convince farmers of the effectiveness of the adapted technology. The program could then be expanded as results warrant.

COM officials share this point of view and are prepared to support such an approach. Although the MARA still faces a shortage of manpower, they are prepared to assign Moroccan agronomists to work with foreign technicians and be trained both in research and extension.

In view of AID's emphasis on food production and the well being of the small farmers, and considering the very real food deficit facing Morocco, the proposed Dryland Research Project should be given prompt and favorable consideration.

The proposed activities will require detailed planning which calls for U.S. assistance of the following specialities:

- Agricultural Economist	3 months
- Research Agronomist	3 months
- Social Science Analyst	3 months
- Agricultural Engineer	3 months

The planning teams work is based upon the proposition that the following areas are researchable. It will be the teams responsibility to investigate the proposition and design research accordingly.

OTHER - Supporting Studies

1. Agricultural Extension Evaluation

At the central ministry level, agricultural extension is the responsibility of the Development Directorate (DMV), which comprises 3 staff units called Divisions. These are namely: 1) the Division of Agricultural Production (DPA), 2) the Division of Vulgarization (DVA), and 3) the Division of Land Reform. Only DPA and DVA are concerned with extension activities.

The Provincial Services (S.P.) of the MARA are organized into Divisions which correspond to the central directorates and report to the Directors of the S.P's. Within its territory each S.P. operates a network of field stations which are called Centres de Travaux (C.T.). Each C.T. is headed by a Director and has a staff which is composed of the agents of the appropriate divisions of the S.P.

Broadly speaking, DPA is responsible for crop production planning, programming and implementation as well as for developing pricing and marketing policy. For its part, DVA is responsible for 1) transmitting to farmers, through various means of communication, information concerning crop production and protection technology, and government supported programs; 2) developing agricultural credit policy in relation to the government-sponsored programs; 3) promoting and assisting in the establishment of farmer groupings and cooperatives; 4) training rural youth in agriculture and organizing special

training programs, field days, field trips, etc. for farmers as well as DMV personnel; and 5) supervising the management of the national cereal marketing cooperatives.

Transmission of information to farmers is accomplished either through mass-media, television, radio, films, posters, brochures, etc, or through direct contact between the field agents of the DMV, at the C.T. level, and the farmers. Because the number of the C.T. agents is relatively small - on the average there is one field agent of the DMV per 500 to 600 farmers - heavy reliance has been placed on the use of films, radio and other mass-audio-visual aids. According to DMV officials, as much as 80% of their information budget is sometimes spent for the production and use of films. Yet, they also candidly admit that they are doubtful of the effectiveness not only of picture films but also of other mass-media as means of transmitting information to farmers.

Ministry officials, while crediting the Extension Service with achieving important increases in production of cereals, pulses, and industrial crops, question whether its effectiveness is proportional to the considerable budgetary support it receives. As the GOM is increasingly focusing its development efforts on the dryland areas, these officials feel that a thorough evaluation of the system at this time would be highly useful in order to strengthen its capability and improve its effectiveness.

The Proposed Study

In August 1975, the GOM requested the USAID to provide assistance in organizing and conducting a study of the impact on farmers of the activities of its agricultural extension service. Such a study is already being planned by the DVA. They proposed that the study be conducted in one or two representative pilot zones. The purpose of the study would be:

1. To evaluate in the pilot zones the effectiveness of the existing extension methodology, as well as the adequacy of the training level of extension agents, and of the financial resources available to them.

2. To develop for the pilot study zones a set of recommendations for improving the extension service which would be implemented in a project and subsequently applied throughout the country.

The specific assistance requested by the GOM consisted of three short-term consultants, namely: one evaluation specialist, one extension specialist, and one communications specialist.

In discussions with DNV officials, USAID was informed that the study will be confined to two provinces: Meknes province where climate, soil and social conditions are relatively more favorable to agricultural production, and Settat province, which is a poorer area. The Mission believes that the GOM's request is sound and proposes the following:

USAID assistance will be advisory in nature, with the U.S. specialists directing the Moroccans who will perform the study, reviewing the work as it progresses, redirecting the work if necessary, and finally participating in the analysis of the data collected and the preparation of the report. This approach will not only result in a more effective and useful study than one done primarily by expatriates, it will also permit Morocco to acquire a cadre of experienced individuals who can direct and train other Moroccans and, in time, extend the evaluation process to other areas of the country.

The U.S. team will consist of the three specialists requested by the GOM. They will work directly with the Heads of the DVA and DPA. The team is scheduled to arrive in Morocco in August 1976 for an initial stay of three months. During that period it will familiarize itself with the extension service, including its structure, its staff and its operations. The team will also review all preparations made to date by the DVA for the study, including specifically: methodology, organization and implementation plans. Finally, the team will assist in launching the study during the month of November 1976, and, before leaving Morocco, will establish a schedule for its return.

At this time it is envisaged that all three members of the team will leave Morocco at the end of November. The evaluation specialist will return in February and the other two in March 1977. They will remain in Morocco through April 1977. During this second visit they will review and analyze data collected to date, evaluate the progress of the study, and if necessary, recommend needed modifications. They will return again to Morocco in June and July to participate in the preparation of the study report. It is understood that the preparation and production of the final report will be properly the responsibility of the DNV, with the U.S. team providing guidance and appropriate expertise. The entire

study will thus cover one crop season and will require a total of twenty man-months of U.S. financed assistance. In addition the designated USAID Project Manager will assure continuity and liaison between the U.S. team and the DVA. For its part, the GOM will provide all other project inputs, including office facilities and in-country transportation.

2. Forage Seed Nursery Feasibility Study

Background

Morocco's Dryland Range

Livestock production has been important in Morocco since early history. Until the establishment of the French protectorate in 1912, it constituted the major source of cash income for most of the rural population whose crop production activities were largely at the subsistence level. The recurrent conflicts which characterized the relationships between the Sultanate and the tribal groupings resulted in frequent migrations and changes in land occupancy. Under these unstable and uncertain circumstances, livestock ownership was a much safer investment than land ownership and livestock husbandry was by far more attractive than crop production.

Although the economic, political and social setting has been considerably altered by the colonial experience and national independence, livestock production and distribution of meat and meat products still involve today, in varying degrees, some 70% of the population and furnish the sole livelihood of some 100,000 nomadic families.

About 90% of the animals are raised on and marketed from the dryland areas which cover some 12.5 million ha, or approximately 25% of Morocco's territory. Of this total,8 million hectares are open grazing land, with the balance in forested areas.

Many years of mismanagement and over-stocking have reduced the forage production of this area. On some ranges the native perennial species have been completely destroyed. Ironically, as the range deteriorates, more animals are crowded on to offset the reduced gains. Compounding the problem is the increasing population and the ever-increasing demand for meat.

An estimated 18 million sheep, 8 million goats, 3.7 million cattle, and 1.5 million donkeys, mules, horses and camels make up the animal population of Morocco with an estimated 90% being raised on the open rangeland. Sheep are grazed in bands of from 50-300 animals. An estimated 25% of these bands are owned by absentee owners.

Rainfall throughout this range is erratic ranging from 200-300 mm annually with precipitation in the form of snow and rain during the winter months. Elevations range from 600-700 meters, the higher elevations usually being the forested areas. Nomadic herds are subject to the vagaries of the climate and there are annual periods of scarce forage with corresponding losses of animals. Hunger is the primary disease of these range animals, reflected in the steadily decreasing average carcass weight of sheep from 14.5 kgs in 1955 to 10.5 kgs in 1973. With 70% of the population depending, in some part, on the livestock industry, and 30-40% of agricultural income generated by livestock production, the future of this phase of the economy appears particularly bleak, unless drastic changes are made in the system of livestock production.

Due to the increasing population, meat imports have been climbing. In 1974, 120,000 sheep were imported for slaughter. The estimated import requirement for 1977 is 30,000 metric tons - more than a 10 fold increase in 3 years.

The system of tenure and use of grazing is complex. In addition to Government owned areas there are about 5.3 million hectares of collective, or tribal, rangeland. Boundaries of these grazing lands are, more or less, defined through traditional usage although there is some overlapping and trespass of migrating bands. Grazing of tribal lands is done collectively. About 1 million hectares of crop land is interspersed with the range in these tribal lands. Much of this crop land is thin, stony, steep and dry. Collective cropland is assigned to individuals on a short term basis resulting in little or no attempt at improvement.

Some 2.1 million hectares of rangeland are privately owned - usually interspersed with privately-owned cropland. Scattered as they are, these grazing areas do not lend themselves to range improvement programs.

The forest domain contains some 3 million hectares suitable for grazing, which are also very important for watershed protection. Thus controlled grazing is of utmost importance in these areas.

The major portion of the potentially productive grazing land lies within the tribal lands, but years of abuse, often two or three times the low carrying capacity of the range, have made any rejuvenation a task of major proportions. In these tribal areas, prestige lies traditionally in the number, not the quality of animals; there is inherent distrust of any governmental attempts at regulation; and the range is so depleted that expensive programs and long periods of time are required to bring about change through conservation. These, then, are the major problems of Morocco's dryland ranges. Ironically, range improvement and livestock offer the greatest, and perhaps the only opportunity for improving the living standard of the people on the collective lands.

Previous USAID Assistance in Range Improvement

From 1968 to 1974 a GOM/USAID Range Improvement Project attempted to develop and demonstrate improved range management and rehabilitation techniques. The focus was on three areas:

Midelt	1700m elevation	- 250-320mm rainfall
Kasba Tadla	400m elevation	- 300-350mm rainfall
Guercif	600m elevation	- 200-250mm rainfall

The project concentrated on:

- range improvement through reseeding;
- increased forage production through range management;
- increased livestock production through improved nutrition, management, health and breeding;
- adaptive research of both native and imported forage species.

Plot and field testing was done on nearly 200 species of plants. From these tests a number of adapted varieties were identified - some of which increased forage production up to 5 times that of unimproved range.

The results of this project proved that range improvement could be successful, but also pointed out the difficult problems to be overcome regarding tradition, legislation, administration, availability of trained personnel, and the need for in-country production of adapted forage seeds.

GOM Range Management Legislation

A beginning for rangeland rejuvenation was made July 25, 1969, when Dahir No. 1-69-171 was signed by King Hassan II. On this same date, Decree No. 2-69-312 was signed. These two documents (see Annexes) give the legal basis for establishing control over areas, to be specified later, and of programs designed for range improvement.

In essence, the Decree provides for creation in areas to be designated of Commissions composed of some twelve or more members who are local government officials and representatives of the local range users. A Commission is charged with the following responsibilities:

- overall supervision of the established perimeter;
- registration of legitimate range users;
- determining carrying capacity of the perimeter;
- determining animal allotments to users;
- adjudication of range rights and disputes;
- providing rotational grazing and management plans;
- enforcing regulations of the perimeter;
- developing sufficient water for the range;
- animal health and sanitation;
- re-seeding when necessary;
- soil conservation;
- elimination of noxious weeds;
- planting windbreaks.

In Official Bulletin No. 3293 dated December 12, 1975 (see Annex V), the Prime Minister promulgated a Decree to implement the policy of the 1969 Dahir on rangeland improvement. This Decree establishes a specific perimeter of 25,000 hectares and allows six months for users of that area to register with the established Commission. It also allows twelve months for any other livestock association which has been grazing that area to discontinue that practice.

A new livestock association will be formed to graze the perimeter. To become a member, one must be:

- recognized by, and registered with the Commission;
- a livestock owner;
- resident in the area;
- willing to abide by management regulations of the Commission.

The Ministers of Agriculture, Interior, and Finance, are responsible for implementation of this Decree, each in his respective area of concern.

GOM Request for Assistance

In August 1975, the GOM requested U.S. assistance to determine the feasibility of establishing forage seed nurseries in Morocco.

The specific purpose of the study would be to determine:

a. whether current demand, coupled with planned future programs, warrant the establishing of seed farm(s) to produce seed of adapted forage species for purposes of range and pasture improvement and

b. how many seed farms would be required and where they should be located;

c. the requirements in personnel equipment, land, etc. for the creation of these nurseries.

Proposed USAID Assistance

To conduct this study, USAID will provide a team of two specialists:

1 - Range Management specialist (3 man-months);
1 - Agronomist specializing in forage seed production (3 man-months).
1 - Agr. Business Economist or other (3 months).

The range specialist should have practical experience on the dry rangelands of the western United States and a working knowledge of range management programs with specific knowledge of plant species adapted to dryland ranges.

The agronomist will need the general knowledge of soils and their production capabilities, with specific knowledge in the methods and economics of grass seed production and harvesting. He will be expected to be able to estimate possible yields, by species, under both irrigated and dryland conditions, and the inherent problems of species.

Basic, practical research information on adapted forage species is available from the five-year Range Improvement Project mentioned earlier. This information will be available to the team.

To supplement this team, the GOM will assign two full-time counterparts at the M.S. level from the Direction de l'Elevage of the Ministry of Agriculture.

The agr business economist will calculate net benefit to farmers who might grow forage and to those who might produce seed: He will analyze the financial and economic affects of growing or staying with seed importation. He will assist on possible follow on project design.

It is envisaged that the study will review the past history of range renovation in Morocco, and existing plans for range improvement. Major range areas will be visited and possible locations for seed production will be identified.

This study is compatible with, and complements the proposed Applied Dryland Research Phase of this project. It will increase Morocco's capability to improve deteriorated grazing lands, increase forage production, regulate the use of rangelands, and thereby eventually provide an improved, stable livelihood to the population of the vast dryland areas of Morocco.

It is estimated that the study will require up to 6 man-months to complete travel, information gathering, and inventory of available facilities and equipment, and two (2) additional man-months to prepare a final report with recommendations.

The scope of the study will include, but not be limited to the following:

Scope of the Study

A. Current Forage Seed Requirements

- Areas Seeded & Locations - GOM, tribal, private lands;
- Forage species being produced;
- Sources of available seed;

B. Projected Forage Seed Requirements

- Projects and Programs planned or being studied: timing, areas, location.
- Estimated seed requirements by species.

C. Current Seed Production and Distribution System

- Organization of the system - size, facilities, personnal, operation, adequacy in relation to need, viability.

D. Requirements for Seed Nurseries in Morocco

- Research on forage improvement;
- Possible sites;
- Land and water requirements;
- Production;
- Equipment requirements;
- Other production inputs requirements - chemicals, labor, etc.;
- Seed processing requirements;
- Personnal requirements.

E. Economic Feasibility of Seed Nurseries

F. Recommendations

B. FINANCIAL ANALYSIS

1. GOM Budget for Dryland Agriculture

The operating budget of the Ministry of Agriculture planned for the 1973-77 period was projected in 1975 by the Secretariat of State for the Plan and Regional Development at DH 3.4 billion ($843 million). The investment budget for the same period was revised in 1975 from the initial planned level of DH 2.3 billion ($563 million) to DH 3.7 billion ($930 million). Concomitantly, the Government earmarked the following amount in the budget for the development of rainfed agriculture: in the operational budget, DH 865 million ($216 million); and, in the investment budget, DH 821 million ($205 million).

Stated another way, 24% of the projected agricultural sector budget under the revised 1973-77 Five Year Plan will be spent for the development of the Zones Bours. This is a significant budgetary level which will continue to grow in absolute terms as Morocco accelerates the shift in focus from the development of irrigated areas to that of rainfed areas of the country.

For the project period, 1976-80, and as described in detail in the following two tables, both the GOM operating budget and investment budget for rainfed agriculture are projected at DH 1 billion ($250 million). These projections are based on the 1973-77 Five Year Plan figures revised in 1975 by the Secretariat of the Plan and Regional Development and on Mission estimates for the subsequent 1978-80 period.

The relevant figures for this planning and studies project are a portion of the 1976 and 1977 calendar year budgets and an estimate of direct project activities costs are shown in Table 7.

2. Other Donors

There are no "other donor" investments of the nature planned for this project. The project studies will take direct interest in the findings of the 3 week IBRD study being undertaken in 1976, which will look generally at the dryland resource.

3. Financial Plan and Budget

AID's and the GOM's contribution to this project are shown in Tables 6 and 7.

TABLE 4

THE REVISED 1973-77 AND ESTIMATED 1978-80 OPERATING BUDGET OF THE AGRICULTURAL DEVELOPMENT DIRECTORATE (ZONES BOURS)
(DH 000)

	1975	1976	1977	TOTAL	1973/74	TOTAL 1873-77	1978	1979	1980	TOTAL
AGRICULTURAL DEVELPT. DIRECTORATE	198,673	178,619	186,591	563,883	301,117	865,000	200,000	210,000	225,000	1,500,000
Operations (rainfed areas)										
- Central services	2,972	5,030	885	8,887	↑	↑	↑	↑	↑	↑
- Provincial services	16,830	8,608	5,170	15,461						
- Extension centers	14,359	10,215	11,077	35,651						
- Small & medium irrigation	30,000	45,000	50,000	125,000						
- Community services	40,000	40,000	40,000	120,000						
- Land consolidation	38,095	24,505	28,190	90,790						
- Integrated land develop.	-	9,500	12,500	22,000						
- Agricultural extension	56,417	35,761	38,769	146,094	↓	↓	↓	↓	↓	↓

SOURCE: (a) Plan de Développement Économique et Social 1973-1977.

(b) L'éxecution des Deux Premières Tranches du Plan de Développement Économique et Social 1973-1977 et les Perspectives Pour La Periode 1975-1977.

- ٣٤ -

TABLE 5

THE REVISED 1973-1977 AND ESTIMATED 1978-1980 INVESTMENT BUDGET
OF AGRICULTURAL DEVELOPMENT DIRECTORATE (EQUES BOWS)
(DH 000)

	1973	1974	1975	1976	1977	Total	Read-justments	New Projects	Revised Plan	1978	1979	1980	TOTAL
A. - AGRICULTURAL DEVELOPMENT DIRECTORATE													
PROVINCIAL SERVICES													
1) Operations													
1.1. - Office equipment	600	3,600	1,650			5,850							
1.2. - Administrative buildings	150	150	100	130	150	680							
1.3. - Rolling stock	300	100	100	100	120	720							
1.4. - Technical & Laboratory materials	75	125	100	100	100	500							
TOTAL A 1	1,125	3,975	1,950	330	370	7,750	5,754	1,852	15,356				
2) Surveys													
2.1. - Development surveys	1,850	3,800	2,050	800	1,000	9,500							
2.2. - Overall surveys	1,300	1,300	1,300	1,200	1,000	6,200							
2.3. - Surveys of development technology	1,000	1,000	1,000	1,000	1,000	5,000							
TOTAL A 2	4,150	6,100	4,350	3,100	3,000	20,700	2,396	4,350	27,446				
B. - PROVINCIAL SERVICE.													
1) Operations													
1.1. - Land purchases	52	-	-	-	-	52							
1.2. - Buildings construction	1,150	1,500	750	750	570	4,720							
1.3. - Office materials	190	180	180	180	170	1,000							
1.4. - Rolling stock	1,000	750	750	828	900	4,228							
1.5. - Technical & workshop materials	590	110	100	100	100	1,000							
TOTAL B 1	3,082	2,540	1,780	1,858	1,740	11,000	N.C.	N.C.	11,000				
2) Small & medium irrigation	15,000	25,000	25,000	30,000	30,000	125,000							
4) Land consolidation	16,000	13,500	13,500	13,500	13,500	70,000							
3) Communal Services	19,132	26,460	24,635	24,505	28,190	122,922							
5) Integrated land development	3,000	4,250	5,250	6,250	6,250	25,000							
TOTAL B	56,214	71,750	70,165	76,113	79,680	353,922	135,852	13,660	503,434				
C. - EXTENSION CENTERS (C.T.)													
1) Operations													
1.1. - Land purchases, construction & infrastructure development	3,580	3,484	3,900	4,457	4,801	20,230							
1.2. - Materials													
1.2.1. - Office & workshop materials, etc.	650	300	325	350	350	1,975							
1.2.2. - Rolling stock	2,949	990	1,322	1,262	1,527	8,150							
1.2.3. - Agricultural equipment	2,400	3,330	2,670	4,046	4,399	17,845							
TOTAL C 1	9,579	8,104	9,025	10,215	11,077	48,000	11,526	5,412	62,940				
2) Agricultural extension													
2.1. - Extension	3,359	3,036	3,388	3,746	4,110	17,840							
2.2. - Operation "Fertilizer"													
2.2.1. - Fertilizer	4,667	4,739	4,652	4,606	4,562	23,229							
2.2.2. - Seed	3,229	3,285	3,080	2,903	2,931	15,392							
2.3. - Seed subsidies	2,325	2,635	3,185	3,410	3,875	15,345							
2.4. - Seed production bonuses	4,850	6,160	7,890	9,220	10,780	38,900							
2.5. - Operation "forage"	3,289	3,358	3,613	3,845	4,202	18,331							
2.6. - Subsidies for procurement of agricultural equipment	1,500	2,313	2,044	2,964	3,264	12,660							
2.7. - Subsidies for tree-fruits production	3,488	3,965	4,500	5,045	5,045	22,048							
2.8. - Land Development	500	-	-	-	-	500							
TOTAL C 2	27,407	29,491	32,817	35,761	38,769	164,245	28,225	8,354	200,824				
OVERALL TOTAL	101,557	121,960	120,087	127,377	134,626	605,617	183,755	31,628	821,000	194,000	215,000	235,000	1,465,000

SOURCE: (a) Plan de Développement Economique et Social 1973-1977.
(b) L'Execution des Deux Premières Tranches du Plan de Développement Economique et Social 1973-1977 et Les Perspectives Pour la Période 1978-1980

TABLE 6
Cost Estimates, U.S. Inputs

I. Applied Research Planning Study and Training Program (three months)		
Agricultural Economist Research Agronomist		
Agricultural Engineer Social Science Analyst		
Salaries	$ 45,000	
Fringe Benefits	3,000	
Transportation	5,000	
Per diem	18,000	
Overhead	45,000	
Translation services, home office support	9,000	
	$125,000	
Contingencies 20%	25,000	
	$150,000	
Participant Training	43,000	
TOTAL (FY 76)		$193,000
II. Evaluation of the Extension Service and Training		
Study Team Evaluation Specialist (8 months) Agr. Extension Specialist (6 months) Communications Specialist (6 months)		
Salaries	$ 67,000	
Travel	3,000	
Overhead, Fringe Benefits, etc.	50,000	
	$120,000	
Training of GOM staff	6,000	
	$126,000	
III. Feasibility Study of Forage Seed Production and Training		
Study Team (3 months study)		
Personnel Range Management Specialist Agronomist Agribusiness and other consultants	$ 40,000	
Overhead, Travel, Fringe Benefits, etc.	20,000	
	$ 60,000	

TABLE 6 (continued)

Cost Estimates, U.S. Inputs

III.	Feasibility Study of Forage Seed Production and Training (fwd.)	$ 60,000	
	Training or Study Tour for GOM Staff	4,000	
		$ 64,000	
	TOTAL--From T.Q. Funding		$190,000
	GRAND TOTAL		$383,000

TABLE 7

Estimated Value of GOM Contribution Calculated as US Dollars

	CY 76	CY 77
Counterpart Staff		
Applied Research Planning		
4 employees 6 months	14,000	
4 employees 12 months		28,000
Forage Seed Production Study		
3 employees 5 months		8,749
Extension Service Evaluation		
4 employees 3 months	6,996	
4 employees 5 months		11,660
Logistic Support (vehicles, drivers, office space, typing, etc.)	7,000	3,000
Participant Training		
10 staff year equivalent salaries	35,000	35,000
10 staff year equivalent replacement Staff	25,000	25,000
	73,996	111,409
TOTAL	$185,405	

C. SOCIAL ANALYSIS

1. Morocco's Rural Society

Morocco is a remarkably well-knit society with color and other racial features making relatively little difference in the distribution of economic advantages and technical assistance in the rural areas.

The basic feature of Moroccan rural society is its division into plains-dwelling Arabic-speakers on the one hand, and mountain-dwelling Berber-speakers on the other. These two groups do meld together at the edges of the mountains and in other senses mentioned below; but in an important sense they also remain differentiated both ethnically and culturally. The Berbers of the plains areas not only live on an integrated basis with the descendants of the Arabs, they also have adopted the Arabic language, have accommodated themselves somewhat to Arabic social and political conditions, and are intermarrying and absorbing the rather small number of Arab descendants. On the other hand, the mountain-dwelling Berbers maintain most of their mountain-based culture intact, although they have added a command of colloquial Arabic to it in recent years. Hence, a certain degree of cultural differentiation between Arab-speaking and Berber-speaking peoples has developed over the centuries. This cultural difference is an important social reality in rural Morocco; however its significance for technical assistance can be easily overestimated because the language differences and preferences cover so many similar and commonly-held belief patterns as well as cultural similarities that co-habitate with the cultural differences.

A major explanation of the cultural similarities of the two groups is that only 10 to 15% of Morocco's tribes are of genuine Arab origin. And even among these tribes, one can distinguish the presence of discrete elements of Berber origin. Hence, the vast majority of native Arabic-speakers in our target groups are really Arabized Berbers whose religious and social practices, and whose manner of speaking Arabic, have been heavily influenced by their Berber backgrounds. It is for this fundamental reason that, despite certain accounts to the contrary, Moroccan Arabic-speaking agricultural extension officials are capable of speaking understandable Moroccan colloquial Arabic even to minimally bilingual Berber-speaking Moroccan farmers.

These two major population groups include some 600 tribes. No tribe or tribal group dominates the access of other tribes or groups to off-the-farm inputs or to land, or denies them access to other sources of agricultural opportunity, such as basic education or technical assistance services from the Government. The fundamental explanation of this is that in Morocco the distribution of authority at every point in the tribal structure is based on a system of balanced opposition among tribes, from the largest to the smallest divisions, so that there cannot be any single authority in any tribe or group that would enable tribal or group action against other tribes or groups in any social situation short of welfare.

The Berber and Arabic-speaker groups, plus the Christians, Jews (whose numbers have substantially declined as a result of migration), Gypsies and the Harratines (Negroes), all reside on an intermingled basis, though usually as individuals rather than as groups. Hence, there is ground for accepting the proposition that these groups need not or could not be separated out for purposes of this assistance. It seems probable from our vantage point that further study of these groups would verify this proposition.

The suppressed condition of women in Morocco's rural areas makes women as a group a prime candidate for project attention. However, it would be impractical in operational programs to attempt to divide Moroccan rural society on a sexual basis. There are three fundamental reasons for this:

- One, Islamic law and tribal custom regulate in profound and fundamental ways the economic behaviour of women in the rural areas. For example, tribal custom generally prohibits women from owning farms, regardless of the circumstances. Also, though they might serve as sources of alternative employment and income to the men, women in many tribes are not allowed to do any ploughing; they are not permitted to work in vegetable fields and gardens in some areas. However, it appears that male dominance of women's farming behavior is too fundamentally based in the culture to permit effective external interventions on a sexually separated basis.

- Two, the absence of alternative employment to farming in the rural areas gives the rural Moroccan woman no practical leverage with which to challenge and change, if she wanted to, the fundamental ways in which she is allowed to contribute to farm productivity and her own welfare as a rural resident. She can only migrate to the cities as an alternative to her role in the rural areas.

- Finally, any project, including this one, which is successful in generating increases in food production by the small farmers will benefit women, because the Moroccan family system assures that every member of the family, women included, derives a certain measure of all family income benefits.

For this project (basic studies) target client involvement is not required directly, except of course as respondants, and it is probable that for the applied research project success little or no changes will be required in the principal social organization outside the family in rural areas, i.e., the tribe. Tribal ethnocentricity that might constrain social changes has been reduced markedly in recent years by GOM efforts to reorganize tribal or communal boundaries along more logical economic geographical, and communications lines. The group orientation of tribal values, as mentioned elsewhere in this paper, facilitates social changes within individual family groups who own and operate farms. Moreover, past receptiveness of the small Moroccan farmers to suggested changes gives strong reason to expect ready acceptance of new and well-supported ideas and technology. Over time the applied research project which will follow this project will, of course, determine the social organizational chantes which might be required and how farmers and women will be involved in an information input and feedback system.

2. Modern and Traditional Agriculture

Two types of agriculture are practiced more or less side by side in Morocco: traditional or subsistence on 6.5 million ha. and modern or commercial on 1.5 million ha.

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 about 20% of the country's arable land, but it is the more fertile land 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 breadwheat. Since independence, the modern sector has been favored by public investment and policy, as it was in the colonial period. This pattern stems from the Government's preoccupation with the need to increase agricultural output and to keep food prices low, and from the necessity to increase foreign exchange earnings, which could be used if necessary to finance wheat imports, thereby creating an effective hedge against food shortages resulting from population growth and recurrent drought.

By contrast 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 represent their primary if not sole source of cash income. They produce mostly cereals and pulses, which constitute the staple diet of the country, and they consume the greater part of the crop harvests. Any serious effort to increase overall production in Morocco must find ways to bring the traditional farmer into the mainstream of modern agronomic practice.

3. Land Distribution

Of the 8 million hectares of arable land, approximately 1.6 million ha. is controlled by the State. The remainder, or 6.4 million hectares is owned by private farmers. Some 1.1 million of the estimated 2.1 million rural families own two hectares or less of land, while another 441,000 families own none at all. 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 the 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: State-owned 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 register their titles properly.

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. By the end of 1975 approximately 266,000 ha. will have been distributed to this group. Presently, about 60% of the total agricultural land is owned or controlled either by the State or by a small number of Moroccans. Croplands belonging to the State amount to about 1.6 million hectares, of which 1.2 million 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 religious (habous) lands are auctioned off, parcel by parcel, by the Government.

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.

Redistribution of land and resettlement of farmers into larger plots of land are taking place. However, the pace of land reform is so slow that significant numbers of small farmers will not benefit from the reform for the foreseeable future. Hence, there is the necessity to adapt from existing technology a new set of techniques that will increase the productivity and improve the viability of small farming units.

4. Patterns of Land Use

Agricultural associations play an important role in Moroccan traditional agriculture. Among traditional dryland farmers there are different forms of contracts based on Islamic law and local customs, which bring into play five factors of production: land, seed, animal power, labor and money for hiring extra labor during peak periods, and for purchasing fertilizer. In early times each of these factors was weighted equally; the person contributing any single factor receiving an equal share of the harvest. In more recent times, as land has become more scarce, prime value has been attached to the land factor and whoever contributes the land receives up to one half of the harvest.

These agricultural associations only last from one crop year to another, and are formally renewed each year. The associations take on a variety of arrangements; for instance, one of the parties might contribute not only land but a portion of the seeds. He would receive compensation accordingly at time of harvest. These associations generally are formed only where the landholding is 3 hectares or more; the great majority of farmers with two or less hectares of land work the land directly without forming associations.

Social change in the countryside has tended more towards individualization as old tribal structures and patterns break down. The tribe is now mainly a sentimental association, having lost much of its economic importance. Whereas in earlier times farmers' associations developed only among farmers belonging to the same tribe, and there were formal prohibitions against associating outside the tribe, farmers' associations are now even developed among total strangers in chance meetings at the souks (rural markets).

The various factors of production are usually unevenly distributed among farmers. A small landowner might own several draft animals which would permit him to work more land than he possesses. He will then seek to rent extra land to make full use of his animals. Another farmer may have too few laborers in his household; he will then seek to employ extra hands.

Widows or older people who cannot work their land will lease it. Through such arrangements the various factors of production in theory should be fully utilized; however, it happens that as population continues to increase, labor in particular becomes excessive.

Sharecropping, where up to half the harvest goes to the landowner, is widespread. Land is invariably leased for one crop year at a time, in order to permit the landowner to increase his share of the harvest periodically, as demand for land increases. Landowners who lease their land are not necessarily those who possess large holdings. A number of small, poor landowners owning less than two hectares leave their rural

environment to inhabit the shanty towns (bidonvilles) of the larger cities. Twice a year they return to their villages to work out the lease on their land and to assist in the harvest and the sharing of the grain.

5. Beneficiaries

As an applied research planning project with several supporting studies, this project's immediate beneficiary is the agricultural and rural development planners who will utilize the increased stock and flow of knowledge to develop programs to meet the needs of the ultimate beneficiary, the owners and operators of small, dryland farms.

Four provinces have been selected by the GOM as being representative of the less favored rainfed areas of Morocco for crop production. The activities of the research phase of the project will be centered in these provinces, namely: Safi, Essaouira, Settat, and El Kelaa. Together they have a population of about 1.7 million (nearly ten percent of the national population) of which 1.3 million, or 78 percent, live in rural areas. It is estimated that about 225,000 of the 1.3 million inhabitants are heads of families.

Analysis of data obtained from the Ministry of Agriculture shows that in five counties (cercles) within three or the four provinces, 137,242 farmers cultivate some 893,068 hectares, which are planted primarily in cereals. This represents about 1/5 of the country's total cereal producing area.

Average farm size in the five counties taken together is 7.7 hectares, compared to the 10-25 hectares which the GOM estimates as necessary for viability in the drylands.

No reliable information is available on the income of farmers in the four provinces. However, in the neighboring Doukkala area, SCET-International, a French development corporation, has estimated that net annual revenue from dryland farming is 560 DH/Ha for a two hectare farm producing four crops, and 480 DH/Ha for a five hectare farm producing either four or six crops. In dollar terms, the estimated net returns are about $131 and $112 per hectare, respectively. Assuming that these estimates are valid for the four provinces, and considering that about 40-45 percent of the farmers in the area cultivate less than five hectares, the income which a sizeable portion of the population derive from farming, is low.

6. Timing of Project Benefits

Given the nature of the project (research planning and studies), it is not possible for the target group to participate in the early stages of its implementation. Even GOM staff are not professionally familiar with the techniques that will be applied in the agronomic

research sub-project, the key segment of dryland activity. However, as the research progresses, the target population will progressively become a decision-maker and implementator of project activity.

It is expected that before the end of the project this group will begin to benefit from a) an improvement in the Extension Service as a result of the evaluation study scheduled for completion within the next two years; b) the forage nursery seed feasibility study, which should lead to the establishment of seed nurseries for rangeland improvement; and c) implementation of the recommendations of the dryland study. Finally, it is expected that limited numbers of farmers will be applying, within the next five years, some of the findings of the applied dryland research which we expect will follow this project.

On the basis of the expected impact of this project alone, it is not possible to project the reach of concrete benefits among the intended beneficiaries. The project will only set the stage for development of the dryland areas rather than engage in the actual process of dryland development. The project will impact on the target groups to the extent it is successful in providing the GOM with the technical basis for launching a program of dryland development.

D. ECONOMIC JUSTIFICATION

Since this project (applied research planning and supporting studies) do not require an infusion of capital (in the financial investment sense) nor direct revenue benefits (in the cash flow sense), it has not been the subject of a feasibility analysis for determination of internal rates of return, benefit-cost ratios or sensitivity analyses. The relevant questions of technical and economic soundness and economic validity are, however, addressed below.

The project development team reviewed relevant experience in similar projects in developing countries (Turkey, Jordan, Tunisia, as well as Morocco) and are familiar with modern techniques which can, if properly adapted, be applied to Moroccan dryland farming conditions.

1. Economic Relevance

Nationwide, average cereal yields per hectare on farms in the traditional dryland areas are currently .5 to .7 metric tons per hectare, with historical trends offering no indication of significant upward movement under present agronomic conditions in Morocco. Yields per hectare during the 1969-1973 period were statistically stagnant, reflecting neither an upward nor downward trend, while apparently fluctuating only in response to yearly weather conditions. These averages are based on the combined yields of both the modern and traditional sectors of agriculture.

Yields in the traditional sector are generally much lower than in the modern sector, and even lower during a drought year. In normal years, traditional wheat yields are 55 to 65 percent of those in the modern sector. On the other hand, wheat yields during drought years are only 30 to 40 percent as high in the traditional sector as those in the modern sector.

Better soil and climatic conditions in the modern farm sector may account for part of the better yields; but it is probably that use of more suitable cereal production techniques in the modern sector account for the largest part of the difference.

2. Economic Potential - General Conclusion

Even from the low base of .5 to .7 metric tons per hectare, the net benefit to the economy, as discussed in detail below will be in the neighborhood of $14 million annually. Returns will of course fall off as one faces increasing marginal costs.

3. Economic Potential - Assumptions

It is assumed that of the 1.2 million traditional farmers producing cereals in Morocco, a fourth of these will not adopt modern methods because of low rainfall and unfavorable climatic conditions. Of the approximately 900,000 traditional farmers remaining, perhaps 700,000 have less than four hectares of cultivable land and one can assume it will be exceedingly difficult to develop economically viable production systems for them no matter how successful the adaptive research turns out to be. Some benefits could accrue to them, but not enough to permit creation of economically viable farms. These assumptions leave some 200,000 farmers, while still small-scale farmers, who have 4 hectares or more of cultivable land and are in a more favorable climatic zone - 300 mm or more rainfall. These farmers may have a total of 1,000,000 hectares of cultivable land now yielding 500-600 kg. of grain per hectare or a total of 500,000 to 600,000 metric tons. In arriving at a net benefit to the economy of $14 million annually, the further assumption is that production costs to generate the incremental product are about half the product value.

The critical assumption that farmers will, in fact, participate in using improved technology is based on several crucial factors to be addressed in the project.

4. Economic Potential - Costs and Benefits

The present cereal farming pattern in Morocco is one of relatively low inputs and subsequently low yields. Cash costs are presently low and the challenge is to keep them low or make them highly productive.

Table 11 shows the present production costs at one dryland site. From existing production reports one can safely estimate at least 220 kg.

DURUM WHEAT PRODUCTION COSTS AND RETURNS ESTIMATES - BEFORE AND AFTER INNOVATIONS OF MINIMUM TECHNOLOGY[1]

(M.T./Ha., $, 1974 Prices)

Operating Expenses/Ha.	Present[2]		Expected
Tillage	$ 7		14
Seeding	2		2
Seed 100 Kg.	20		20
Fertilizer	-		-
Herbicides	-		5
Pesticides	-		-
Harvesting	18		22
Misc. Labor & Animal Hire	4		4
Total Operating Costs	$ 51		67
RETURNS			
.6 m.t. durum at 150 =	90	.82 m.t.	123
.3 m.t. straw at 50 =	15	.41 m.t.	20
Gross Returns	$ 105		143
Net Returns to Land, Capital and Management[3]	$ 54		$ 76

1/ Technology assumed to be better seed bed preparation, earlier seeding and use of herbicides.

2/ Berkane, Dryland Farming Costs, 240-420 min. rainfall zone.

3/ To the extent self or family labor is used in any of the operations, which it no doubt is to a large degree, the returns would include a return to the farmers' labor. The partial budgets above indicate hired services for illustrative purposes to thus indicate the potential profitability of simple innovations even if they were mainly purchased.

4/ Costs and returns data are representative of national data as major cash inputs and cereal prices are fixed and uniform. Yields of course will vary by soil type, rainfall, distribution, etc.

production increase from better seed bed preparation and weed control. The problem is that these reports are generalized and the farmer needs specific information on the technology, its availability, its costs and expected returns relative to his particular set of farm problems.

It is felt that the $24/ha. increase in net returns per hectare (41% increase per hectare or a 150% return on investment) will be sufficient to cover risk and uncertainty factors, provided the technology can be delivered at the costs and at the time needed. These incremental benefits represent the early, cheaply acquired net returns and subsequent returns will fall. It is felt the farmer will participate. This is presently evidenced by the considerable hiring of equipment, custom combining and occasional use of herbicides and fertilizer on the better drylands. The planned evaluation and vitalization of the Extension Service lends further support.

The low yield estimates shown are illustrative of the difficult problem of working with small farmers with relatively low-productivity land. Quantum jumps in yields are simply not possible in the short run and even significant marginal increases require critically timed inputs.

The illustrative yield of .8 mt/ha may, however, be low in comparison to other dryland. Research yield trials in Turkey, under a fallow system, and at a 240 mm rainfall station, produced about a ton of wheat per hectare under traditional cultural practices, approximately two tons under improved tillage and fallow practices and 2.4 to 2.8 tons with the added use of fertilizer and herbicides.

In Morocco research trials also indicate yield potentials of 2.2 m/t in the 350-400 mm zone. The critical question is: can appropriate technology, which is easy to apply and easily available, be developed for the small farmer? Like dryland farming itself, attempts to develop such technology are not without risks. Observations of improved dryland technology indicate the power constraint is of a critical nature as it is central to tillage and seeding operations and their timeliness, and hence the realization of potentials from fertilizer, herbicides and improved yielding varieties.

In the final analysis there will no doubt be a number of other such constraints to achievement of sector goals. It is not certain that the appropriate technology can be developed for the small scale Moroccan farmer. However, the basic proposition in this project is that it is feasible to try to design a research program to address the potential.

5. Other Feasibility Issues

a. There are no feasibility studies planned to validate the above proposition.

b. There are no known price or marketing constraints for planning the development of the technology as such. For ultimate use of the technology, any such constraints would obviously have to be addressed. The GOM has several programs with respect to marketing, credit and similar services. It is expected that these programs will continue to be carried out.

If bottlenecks occur in the follow-on project's testing and application of the innovations, such problems will be brought to the attention of responsible parties and project resources will then be introduced as necessary to address the problem.

c. The immediate employment effects of the project are nil with respect to total employment. The effect of the technology, when applied, should increase total employment substantially. The research design will stress the use of locally available resources whenever it is practical to use them. The net effect should therefore be increased labor use. It will stem from:

- (1) Marketing of production inputs and farm products.

- (2) Mixed, but increasing use of, capital and labor in tillage, spraying, fertilizing and harvesting.

- (3) Secondary effects resulting from increased net farm income.

d. The planned feasibility study of forage seed nursery development will of course provide its own tests of economic soundness.

IV. IMPLEMENTATION ARRANGEMENTS

A. RECIPIENT'S AND A.I.D.'S ADMINISTRATIVE ARRANGEMENTS

1. Recipient

The responsibility for the negotiations, provision of GOM resources and the implementation of this project lies within the Office of the Secretary General of the Ministry of Agriculture and Agrarian Reform (MARA) which will retain prima-facie responsibility for and control over this activity during the projected life of the project (1976-1977). (See Annex III: Organizational Chart of MARA.)

More directly, the Livestock Directorate will be responsible for the Seed Nursery Feasibility Study. The other activities proposed under this project will be implemented by the Development Directorate - Direction de la Mise en Valeur Agricole (DMV) through the Division de Vulgarisation Agricole (DVA) and the Division de la Production Agricole (DPA).

Within the DPA, a Dryland Farming Bureau was established three years ago and charged with the responsibility of developing crop production practices that are better suited than the current ones to Moroccan conditions. Its staff is presently limited to one B.S. level agronomist who received his training under A.I.D. auspices at the American University of Beirut and one junior college female technician who was trained in Morocco. USAID has been assured by GOM officials that the staff of the Bureau will be augmented to meet project requirements. Specifically, the Head of the DPA has given USAID the commitment that four B.S. level agronomists and 8 assistant agronomists will be added to the Bureau at the beginning of project implementation. We have been assured by the GOM that it will provide sufficient budgetary allocations to support the Dryland Farming Bureau.

Between 1969 and 1974, USAID was closely associated with the Livestock Directorate and the Development Directorate in the implementation of two projects - Cereals Production and Range Improvement - which ended in 1974. Both directorates are well established and have the capability to successfully implement this project.

2. A.I.D.

Monitoring of project implementation will not necessitate additional A.I.D. staff commitments. The Mission has designated a project manager for this activity and will maintain close contacts with both the contractor and the GOM.

B. IMPLEMENTATION PLAN

It is proposed that U.S. assistance to the GOM be implemented through a combination of U.S. Land Grant University contracts and PASA agreements as appropriate. Several U.S. universities, among them Oregon State University and Wash. State University, have outstanding expertise in dryland agriculture.

Given the nature and importance of the problem to be addressed by the research activity, strong participation by Moroccan agriculturalists is essential. Moreover, a key output of the project is the development of a Moroccan capability in dryland production research and in extension. Therefore, the number of Moroccan technicians and scientists assigned to work in the project will be not only a significant indicator of GOM support but also a basic factor in determining the probability of success for the project. Hence, this will be a key consideration in determining, after the joint review scheduled each year, whether the project will be continued as planned, modified or terminated.

The implementation schedule for this project calls for the planning of the applied research program to be done in the T.Q. or early FY 1977, and for the other studies to be done in FY 1977, (with TQ funds). Participants will be identified in FY 1976 or the T.Q. and called forward for training as soon as language capability permits or study tours (with translators provided) are organized.

C. Evaluation Strategy

The evaluation process will consist primarily of thorough reviews of the planning and study reports and close GOM, Mission and AID/W collaboration in formulating the follow-on project activities. During the evaluation of the reports and the action programs they recommend, particular attention will be given to the comprehensiveness of the reports with respect to social and institutional factors as well as technical issues.

PART V. ANNEXES

AID 1020-28(11-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project: 76
From FY 76 to FY 77
Total U. S. Funding 383,000
Date Prepared: 6/4/76

Project Title & Number: Dryland Farming 608-11-120-131

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: Establish an agricultural development program for the low rainfall areas of Morocco.	Measures of Goal Achievement: Initiation of Field Projects in the 200-400 mm. rainfall zone.	GOM Program Review.	Assumptions for achieving goal targets: Low Rainfall areas continue to receive increasing attention.
Project Purpose: To provide information, analysis, and design for specific dryland agricultural projects and to train staff for project execution.	Conditions that will indicate purpose has been achieved: End of project status. Final Study Reports and Designed Projects.	Analysis of The Reports.	Assumptions for achieving purpose: Adequate professional and support facilities for study teams.
Outputs: 1. A plan of research for a Dryland Agricultural Project. 2. An evaluation of the extension service. 3. A feasibility study for the production of forage seed. 4. Trained staff.	Magnitude of Outputs: Final Study Reports and Designed Projects.	Analysis of The Reports.	Assumptions for achieving outputs: Adequate professional and support facilities for study teams.
Inputs: 1. Research Design Team. 2. Training. 3. Study Teams (Extension Service and Forage Seed Production).	Implementation Target (Type and Quantity) Participants in Training.		Assumptions for providing inputs: Personnel will be available fo both training and for the stud teams and will have or acquire language capability.

ROYAUME DU MAROC

MINISTERE D'ETAT
CHARGE DE LA COOPERATION
ET DE LA FORMATION
DES CADRES

DIRECTION DE LA COOPERATION

المملكة المغربية

وزارة الدولة
المكلفة بالتعاون
وتكوين الاطارات

Rabat, le 15 AOUT 1975 الرباط في

N° 12737 /ME.1/SM
SR

Le Ministre d'Etat chargé de la Coopération et de la Formation des Cadres

à

Monsieur le Directeur de la Mission A.I.D
Ambassade des Etats-Unis d'Amérique
S/C de Monsieur le Ministre d'Etat chargé des Affaires Etrangères
- RABAT -

OBJET : -Projet 608-11-110-122 relatif à "l'aide à la Recherche et à la Formation Agronomique",
-Fiches d'évaluation de trois nouveaux projets.

P.J : 4.

Monsieur le Directeur,

J'ai l'honneur de vous faire parvenir ci-joint, le projet n° 608-11-110-122 relatif à l'aide à la recherche et à la formation agronomique. Ce projet ayant obtenu les différents accords nécessaires, je vous serais très reconnaissant de bien vouloir veiller à ce qu'il puisse se dérouler dans les délais prévus par la convention correspondante.

Par ailleurs vous voudrez bien trouver ci-joint trois fiches de requêtes que je soumets à votre appréciation et que je vous demanderais de bien vouloir appuyer auprès des autorités responsables de votre organisme. Ces trois requêtes concernant respectivement la réalisation d'une opération de Dry Farming, la création d'une pépinière de production des semences pastorales et enfin la méthodologie et la mesure de l'impact de la vulgarisation en milieu rural

Veuillez agréer, Monsieur le Directeur, l'expression de ma haute considération.

Le Ministre d'Etat
chargé de la Coopération et de
la Formation des Cadres

Signé : Dr. BENHIMA

MINISTERE DES AFFAIRES ETRANGERES
19 AOUT 1975
4386
DCC/1

DCC/1

ROYAUME DU MAROC

MINISTERE D'ETAT
CHARGE DE LA COOPERATION
ET DE LA FORMATION
DES CADRES

DIRECTION DE LA COOPERATION

المملكة المغربية

وزارة الدولة
المكلفة بالتعاون
وتكوين الاطارات

Rabat, le 16 DEC 1975 الرباط في

N° 145834 /DE.1.TM

/-)

.H

Monsieur le Directeur de la Mission AID
Ambassade des Etats Unis d'Amérique
- RABAT -

S/C de Monsieur le Ministre d'Etat, Chargé des Affaires Etrangères

OBJET : Coopération Maroc-USAID dans le domaine agricole

REFER : M/L n° 2757 du 15 août 1975

Monsieur le Directeur,

Par ma lettre ci-dessus référenciée, j'ai l'honneur, en vous faisant parvenir le projet n° SCC.1... relatif à l'aide, à la recherche et à la formation agronomique, de soumettre à votre appréciation trois fiches de requêtes.

Je vous avais notamment précisé que ces trois requêtes concernaient respectivement la réalisation d'une opération de Dry Farming, la création d'une pépinière de production de semences pastorales et enfin la méthodologie et la mesure de l'impact de la vulgarisation en milieu rural.

A ce propos, Monsieur le Ministre de l'Agriculture et de la Réforme Agraire a bien voulu me faire savoir que par lettre en date du 3 octobre 1975 et dont il m'a d'ailleurs adressé copie, vous avez bien voulu, à la suite de la visite au Maroc d'une équipe d'experts de l'USAID en culture en sec, lui proposer certains amendements aux projets qui vous ont été présentés.

Monsieur le Ministre de l'Agriculture et de la Réforme Agraire m'ayant fait part de son accord au sujet de vos nouvelles propositions, je vous serais très reconnaissant de tout la diligence avec laquelle vous voudrez bien donner suite à ces projets, qui pourraient comme vous le proposez, être regroupés lors de la phase préliminaire.

Veuillez agréer, Monsieur le Directeur, l'expression de ma haute considération.

Le Ministre d'Etat
Chargé de la Coopération et de
la Formation des Cadres

Signé : Dr. BENHIMA

MINISTERE DES AFFAIRES ETRANGERES
ARRIVEE
19 DEC

FICHE No. 1 - EVALUATION D'UN PROJET DE DRY-FARMING

I - SITUATION ACTUELLE :

La direction de la Mise en Valeur, en collaboration avec la SODEA, a entrepris un programme d'étude de l'intensification céréalière dans les zones arides et semi-arides.

La première étape de ce travail a consisté en une recherche bibliophique. La seconde a permis la confrontation des différentes compétences (techniciens, enseignants, chercheurs).

La troisième a vu la mise en place d'un protocole d'expérimentation, en automne 1974, pour une durée de 4 ans.

Cette phase expérimentale doit permettre de juger de l'efficacité des techniques DRY FARMING dans les conditions marocaines. En effet, ces techniques conservent au Maroc une apparence de nouveauté bien qu'elles soient devenues classiques dans de nombreux pays et notamment aux U.S.A.

Le bureau du Dry Farming du Service de l'Orientation de la Division de la Production Agricole est chargé de diriger et de coordonner l'ensemble de ce programme d'expérimentations qui comprend 12 unités, couvrant chacune 48 ha et dispersées en différents points géographiques du pays, depuis Oujda jusqu'à Marrakech.

II - ASSISTANCE SOUHAITEE :

Grâce à l'aide technique et financière des Etats-Unis, des travaux importants de Dry Farming ont été réalisés en Turquie. Avec l'utilisation des techniques culturales appropriées, les rendements des cultures céréalières dans les zones soumises à une faible pluviométrie on doublé ou même triplé dans les cas de sol favorable.

La réalisation d'une telle opération dans notre pays nécessite au préalable une délimitation des zones de première intervention, une évaluation des moyens en matériel et en personnel à mettre en place, un planning des interventions culturales et, enfin, une évaluation du montant des crédits nécessaires au financement de l'opération.

Ce pré-projet ne peut être préparé que par des experts ayant déjà réalisé ce genre d'opération à grande échelle, en collaboration avec nos techniciens qui connaissent des contraintes du milieu.

L'équipe dont les travaux dureront 4 à 5 mois pourrait comprendre:

- 1 économiste chef du groupe.
- 1 agronome spécialiste des travaux en Dry-Farming.
- 1 ingénieur en matériel agricole.
- 1 écologiste spécialiste des cultures céréalières.

FICHE No. 2 - EVALUATION D'UN PROJET DE CREATION D'UNE PEPINIERE DE PRODUCTION DE SEMENCES PASTORALES.

I - SITUATION ACTUELLE

L'aménagement et l'organisation des parcours ont fait l'objet de plusieurs études (Sediac, Erès, Latinoconsul etc...) et de diverses expérimentations tentées notamment dans l'oriental et sur les plateaux de Midelt.

Si les principes d'organisation sont définis grâce au Code des Investissements agricoles - Dahir No. 1-69-171 du 10 Joumada I 1389 (25 Juillet 1969) et decrét No. 2-69-312 du 10 Joumada I 1389 (25 Juillet 1969) l'aménagement se heurte le plus souvent a un manque de semences pastorales. Les expériences lancées n'ont pu aboutir que grâce à des semences importées d'Australie et des Etats-Unis. Les différentes études entreprises ont démontré que notre pays peut produire ces semences sur place en quantités suffisantes et que même les semences australiennes ont une origine marocaine.

II - AIDE DEMANDEE

La direction de l'Elevage désireuse de développer son action sur les terrains de parcours qui occupent des millions d'hectares et qui sont la ressource unique et indispensable en matière d'alimentation de la grande majorité du cheptel ovin, disposent de terrains tant à Oujda qu'à Midelt et Settat, pour la création de pépinières de production des semences adaptées aux parcours des régions intéressées. Cependant, une aide extérieure apparait nécessaire, tant en matériel spécialisé qu'en personnel qualifié permettant un bon démarrage des opérations. Les U.S.A. qui sont très qualifiés dans ce domaine ont accordé une aide au Maroc dans le projet connu sous le nom de projet "Carter" et qui a duré environ 5 ans (1969-1974) aboutissant à plus de 400 ha de fourrage permanent en zone bour dans la région de Midelt.

L'aide demandée actuellement à l'U.S.A.I.D. comporterait 2 phases :

1ère phase : La fourniture de deux à 3 experts spécialisés dans les fourrages de parcours, qui aideraient les techniciens marocains à évaluer la création d'une ou plusieurs pépinières installées dans diverses régions du Maroc. Cette évaluation, tiendrait compte des moyens en place (terrain, eau d'irrigation, batiments, personnel etc...) et dresserait les besoins nécessaires (matériel, personnel, crédits d'équipement et de fonctionnement etc...) pour aboutir à la production de semences en quantité et qualité satisfaisantes. Un planning de réalisation et de production progressive permettrait de mener en parallèle une formation du personnel national chargé d'assurer la relève des experts étrangers.

2ème phase : Après mise au point du projet et inscription des crédits nécessaires dans les budgets des services intéressés, le Maroc sollicitera dans une requête établie en temps opportun une aide pour la réalisation et la mise en route des pépinières projetées.

FICHE No 3 - EVALUATION D'UN PROJET DE METHODOLOGIE ET DE MESURE DE L'IMPACT DE LA VULGARISATION EN MILIEU RURAL

I - SITUATION ACTUELLE

Le système actuel de vulgarisation agricole est défini dans ses grandes lignes et semble complet.

La hiérarchie présente trois niveaux : Services Centraux, Services Provinciaux, et Centres de Travaux.

La décentralisation des décisions poussée à l'extrême limite de la hierarchie.

Les organisations professionnelles sont associées à la prise de décision aux différents niveaux.

Mais l'on constate que ce système aussi parfait soit-il dans ses structures manifeste un comportement qui le rapproche d'une administration de gestion et non d'un organisme de développement. Les efforts nombreux qui sont entrepris sont caractérisés par leurs dispersion et l'on note que si l'information descendante est à peu près assurée, l'information montante l'est beaucoup moins.

On arrive très difficilement à regrouper au niveau des services centraux l'information indispensable à la prise de décisions à moyen ou à long terme.

Enfin, malgré l'importance et la diversité des actions entreprises on note que les méthodes comme les moyens utilisés ne sont pas ou à peu près pas capitalisés.

Les principaux modes d'action utilisés aujourd'hui sont:

- des actions de masse diffusées par moyens de masse sur l'ensemble du pays et portant généralement sur les spéculations agricoles, (opérations céréales etc...).
- des actions de vulgarisation par l'encadrement en place et dont les objectifs visent plus au développement global, des exploitations qu'à la promotion de telle technique ou de tel mode d'organisation.

II - AIDE DEMANDEE

Devant ces problèmes, il semble de première nécessité de procéder à une étude rationnelle de l'impact des actions entreprises et ce par le biais d'opérations pilotes.

Le but a atteindre serait :

1° - Dégager les méthodes et capitaliser les moyens:
  - de la vulgarisation agricole elle-même
  - de la formation des personnes chargées de la vulgarisation.

2° - Mettre en place de bonnes conditions de circulation de l'information entre le terrain et les Services Centraux.

La demande d'aide technique formulée aujourd'hui est relative à la première étape d'études préalables indispensables à la préparation de l'action.

D'une durée de 8 mois environ, elle fera appel à des consultants occasionnels dont 3 experts:

1 généraliste
1 en méthode d'analyse
1 en moyen de masse

Le travail de ces experts devra aboutir au bout des 8 mois à la présentation d'un rapport critique et d'un projet d'évaluation des moyens à mettre en place pour l'organisation d'une méthodologie de vulgarisation d'abord dans une zone pilote, ensuite selon une généralisation progressive.

October 3, 1975

Mr. El Haj Attar
Secretary General
Ministry of Agriculture and Agrarian
Reform
Rabat

Dear Mr. Attar:

During its 3 week visit in Morocco, our dryland farming team participated in numerous discussions with officials of the Division de la Production Agricole, Division de la Vulgarisation, Direction de la Recherche Agronomique, l'Institut Agronomique et Vétérinaire Hassan II, and CODRA. They also visited several sections of Morocco, from the Rabat area to Ben Slimane, Settat, Berechid, Marrakech and the Doukkala. Finally, they explored at length with our resident staff various ways in which the USAID might be of assistance to the MARA in its efforts to increase food production in the dryland areas of Morocco.

A summary of their observations and recommendations is presented below for your information and consideration.

Although the team recognized that an assessment of the dryland potential of Morocco is necessary, it felt that a realistic estimate of the economic and technical feasibility of developing this potential is not possible at this time due to lack of basic information. Recognizing also that Morocco faces some serious problems in the rainfed areas, it suggested that consideration be given to the establishment of a project which would comprise several activities which would all focus on the improvement of the lot of the rainfed farmers. These activities would be namely:

1. Experimentation. Starting from an operational base near Rabat, various dryland production techniques would be tested simultaneously in various locations within the 300-400 mm rainfall belt. This range of precipitation was recommended because it offers a greater probability of success in adapting existing production technology to Moroccan conditions. Gradually, however, experimental trials would be extended in areas receiving less than 300 mm of rain. Conversely, the possibility of applying the adapted production technology to more humid areas would not be excluded. This phase of the project

would not be limited to purely technical production problems but would also be concerned with the economic applicability of the technology.

2. National Dryland Resource Assessment. More or less concurrently with the experimental program, an assessment of the dryland resources within 200-400 mm rainfall belt of Morocco would be undertaken to determine the most effective and profitable manners in which these resources can be developed.

3. These activities would also be supported by the projects suggested by you to assist in the evaluation of extension services and the development of pasture seed nurseries.

Should this approach meet with your approval, we would appreciate the opportunity to discuss the matter with you at your earliest convenience. It would also be most useful if you could designate a representative with whom we could discuss the details of a project paper which we would submit to our Washington offices by November 15, 1975.

Sincerely yours,

Albert P. Diedier
Mission Director

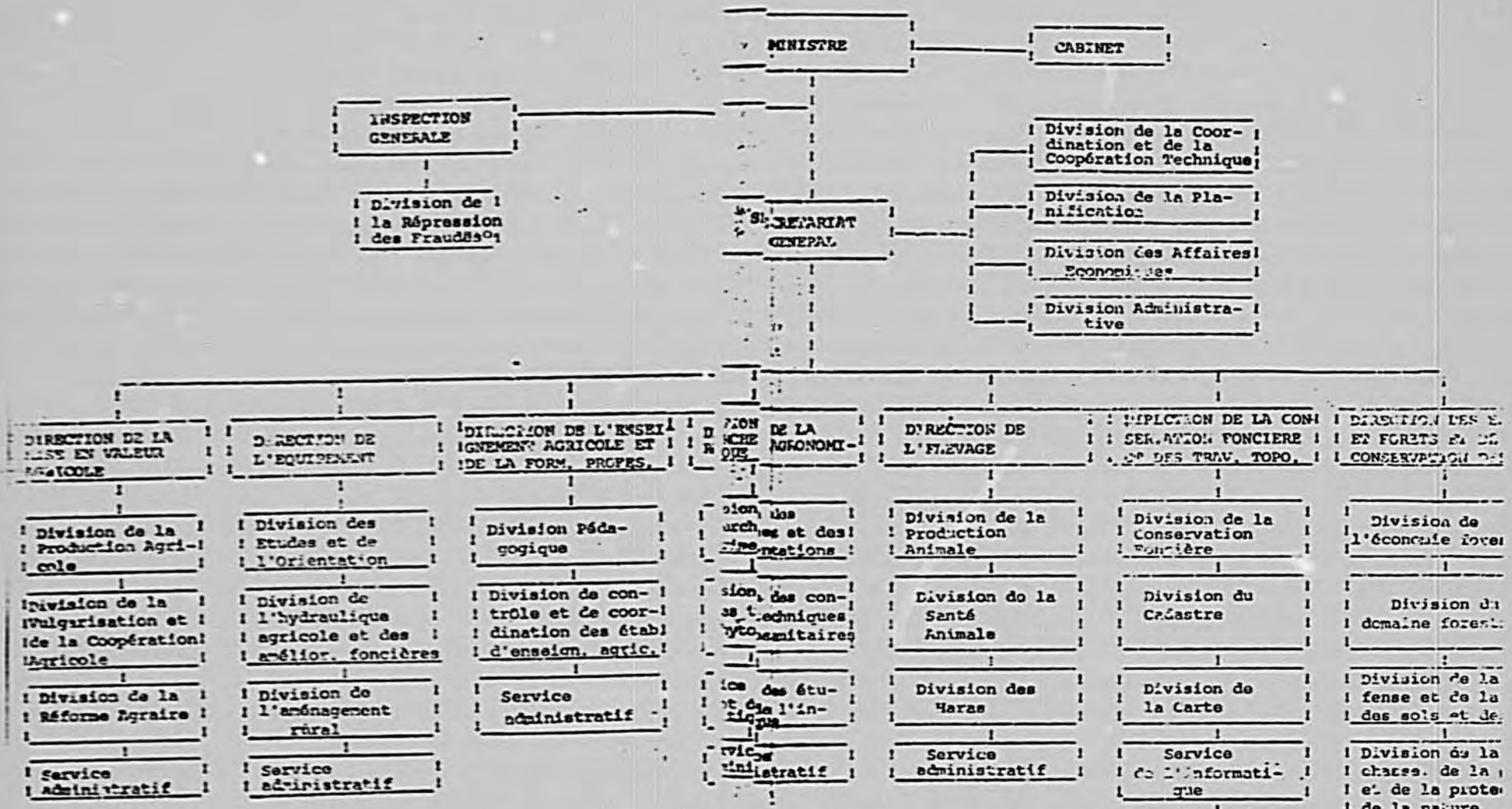
Drafted by:P&A:GJNeptune:mfb:10/3/75

Clearances:PROG:NRBrashich (in draft)
ASST.DIR:PBrecher _____

ORGANIGRAMME DU MINIS[illegible] DE L'AGRICULTURE ET DE LA REFORME AGRAIRE

(Services Centraux)

ANNEXE 1



Dahir No. 1-69-171 du 10 joumada I 1389 (25 Juillet 1969)
relatif à la création de périmètres d'amélioration pastorale.

LOUANGE A DIEU SEUL!

(Grand Sceau de Sa Majesté Hassan II)

Que l'on sache par les présentes - puisse Dieu en élever et en fortifier la teneur!

Que Notre Majesté Chérifienne,

Vu le décret royal No. 136-65 du 7 safar 1385 (7 Juin 1965) proclamant l'état d'exception,

A DECIDE CE QUI SUIT :

ARTICLE PREMIER - Afin d'enrayer la dégradation des patûrages et d'en assurer la reconstitution en vue d'une exploitation rationnelle, des décrets pris sur proposition du ministre de l'agriculture et de la réforme agraire, après avis du ministre de l'intérieur et du ministre des finances pourront délimiter des zones spéciales d'action rurale dites "périmètres d'amélioration pastorale".

ART. II. - En vue de la création des périmètres d'amélioration pastorale, les propriétaires et les exploitants sont tenus de laisser les agents de l'office régional de mise en valeur agricole intéressé ou des services techniques compétents du ministère de l'agriculture et de la réforme agraire proceder librement aux études, recherches et expérimentations nécessaires à l'établissement du projet d'aménagement.

ART. III.- A l'intérieur des périmètres d'amélioration pastorale, l'Etat ou les établissements publics de mise en valeur agricole agissant pour le compte de l'Etat procèdent d'office à des travaux en vue:

a) De réaliser des équipements tels que points d'eau, pépinières, pistes, bornes, fossés, repères, bains parasiticides, silos, centres d'affouragement, abris et logements de gardiens;

b) D'assurer la régéneration et l'enrichissement des pâturages au moyen d'actions telles que exécution des travaux de conservation des eaux et des sols, fumures et amendements, semis ou plantation d'espèces fourragères herbacées ou arbustives, élimination d'espèces végétales nuisibles, implantation de brise-vent, boqueteauxet plantes abris.

Les travaux de régénération et d'enrichissement ne sont effectués que dans des zones de mise en défens constituées et délimitées à l'intérieur du périmètre conformément à l'article 8.

ART. 4. - Sont interdites les associations en vue de l'élevage de bétail dans les périmètres d'amélioration pastorale.

Au sens du présent dahir, il y a association lorsque le bétail appartient en totalité ou en partie à une personne non titulaire d'un droit de propriété ou de jouissance sur le terrain où le troupeau est élevé, entretenu ou engraissé.

ART. 5. - Les associations visées à l'article 4 et conclues antérieurement à la date de publication des décrets prévus à l'article premier devront être déclarées par les associés dans les délais et conditions fixées par décret.

Ce décret précisera, en outre, le délai accordé aux intéressés pour mettre fin à l'association.

ART. 6. - Un arrêté du ministre de l'agriculture et de la réforme agraire précise :

1° Le nombre maximum et l'espèce des animaux à admettre dans le périmètre en fonction de la superficie, de l'état du sol et de la végétation ainsi que des conditions climatiques;

2° Les conditions d'exploitation rationnelle du patûrage par rotation du pacage sur les parcelles et pacage différé.

Cet arrêté est pris après avis d'une commission dite "commission locale d'amélioration pastorale" dont la composition et les règles de fonctionnement sont fixés par décret.

ART. 7. - L'exercice du droit de pâturage dans un périmètre d'amélioration pastorale est subordonné à l'inscription sur une liste nominative et à la possession d'une carte de parcours.

Les conditions d'établissement de la liste et celles de délivrance et de cession de la carte sont fixées par décret.

ART. 8. - Les zones de mise en défens visées à l'article 3 sont créées et délimitées par arrêté du Ministre de l'agriculture et de la réforme agraire pris après avis de la commission prévue à l'Art. 6.

La superficie des zones soustraites au pâturage par la mise en défens ne peut excéder le cinquième de la superficie du périmètre d'amélioration pastorale.

L'arrêté prévu à l'alinéa premier ci-dessus précise en outre le plafond mentionné à l'article 13 et la valeur fourragère visée à l'article 9.

ART. 9. - Une indemnité dite "indemnité en raison de la mise en défens", correspondant à la valeur fourragère des superficies mise en défens, sera versée annuellement, en espèces ou en nature, aux groupements ethniques et propriétaires intéressés jusqu'à l'ouverture au parcours des zones de mise en défens.

Le montant de cette indemnité ne doit pas toutefois exceder par hectare mis en défens et par an la valeur de 0,30 quintal de blé tendre suivant les cours fixés pour ce dernier par la règlementation annuelle.

ART. 10. - Les zones mises en défens sont ouvertes au parcours lorsque l'amélioration des pâturages aura été jugée suffisante par les services techniques compétents.

L'ouverture au parcours est alors autorisée par arrêté du ministre de l'agriculture et de la réforme agraire pris après avis de la commission prévue à l'article 6.

Cet arrêté précise :

1° Le montant du coût réel des travaux de régénération et d'enrichissement du pâturage ;

2° Le montant et les modalités de paiement de la part des frais de régénération et d'enrichissement des pâturages laissée à la charge des bénéficiaires conformément à l'article 12.

ART. 11. - Les travaux d'équipement; d'études, de recherche et d'expérimentation sont entièrement à la charge de l'Etat.

ART. 12. - Les frais exposés par l'Etat pour l'exécution des travaux de régénération et d'enrichissement des pâturages sont supportés en partie par les bénéficiaires, à concurrence d'un pourcentage qui sera déterminé par arrêté conjoint du Ministre de l'agriculture et de la réforme agraire, du ministre de l'intérieur et du ministre des finances.

Ce pourcentage s'applique au montant des frais réels exposés tels que precisés dans l'arrêté prévu à l'article 10, sauf si ce montant excède un plafond fixé par l'arrêté prevu à l'article 8. Dans ce dernier cas, le pourcentage s'applique à ce plafond.

Le remboursement de la part des frais laissés à la charge des intéressés est effectué à compter de l'ouverture au parcours des zones de mise en défens et au moins en vingt annuités égales calculées sans intérêt.

ART. 13. - Les infractions aux dispositions du présent dahir et des textes pris pour son application sont recherchées et constatées par les officiers et agents de police judiciaire ainsi que par des agents spécialement commis à cet effet par le Ministre de l'Agriculture et de la réforme agraire.

ART. 14. - Sont punis des peines prévues à l'article 606 (1er alinéa) du code pénal:

1° Ceux qui brisent, dégradent, détruisent, déplacent ou font disparaître les bornes, fossés, repère, murs, signes et clôture quelconque servant à délimiter les zones de mise en défens;

2° Ceux qui, par labour, défrichement, coupe extraction ou emploi du feu, détruisent ou endommagent de manière à les faire périr, le tapis herbacé, les arbres, arbustes ou plante-abris d'un périmètre d'amélioration pastorale ;

3° Ceux qui détruisent, rompent ou mettent hors de service les constructions et ouvrages réalisés par l'Etat pour l'équipement ou l'enrichissement du périmètre .

Sont punis des peines prévues aux articles 518, 519 et 609 du code pénal, suivant les circonstances précisées par ces textes ;

Ceux qui récoltent ou enlèvent des fourrages, feuillage, branchages, fruits ou graines dans les zones de mise en défens.

ART. 15.- Les propriétaires et les gardiens des animaux d'espèces non autorisées ou en surnombre en violation des dispositions de l'article 6 (1er alinéa, paragraphe 1er) seront punis d'un emprisonnement d'un à trois mois et d'une amende proportionnelle au nombre d'animaux en infraction ou de l'une de ces deux peines seulement.

Le taux de l'amende est fixé à 5 dirhams par tête d'espèces ovine, à 20 dirhams par tête d'espèce bovine, équine, caprine ou asine et à 50 dirhams pour un chameau.

ART. 16. - Sans préjudice des penalités prévues aux articles 14 et 15, ceux qui ne présenteront pas leur carte de parcours aux agents chargés du contrôle seront punis d'une amende de 10 à 50 dirhams.

ART. 17. - Le ministre de l'intérieur, le ministre des finances et le ministre de l'agriculture et de la réforme agraire sont chargés, chacun en ce qui le concerne, de l'exécution du présent dahir qui sera publié au Bulletin Officiel.

FAIT A RABAT, le 10 joumada I 1389

(25 Juillet 1969)

FGA:cbi 4.1.76

Décret No. 29-2-312 du 10 joumada I 1389 (25 Juillet 1969) portant application du dahir No. 1-69-171 du 10 joumada I 1389 (25 Juillet 1969) relatif à la création de périmètres d'amélioration pastorale.

LOUANGE A DIEU SEUL!

Nous, Amir Al Mouminine, Roi du Maroc

Vu le décret royal No. 136-65 du 7 safar 1385 (7 Juin 1965) proclamant l'état d'exception ;

Vu le dahir No. 1-69-171 du 10 joumada I 1389 (25 Juillet 1969) relatif à la création de périmètres d'amélioration pastorale, notamment ses articles premier, 4, 5, 6 et 7.

DECRETONS:

ARTICLE PREMIER.- Outre sa publication au Bulletin officiel, le décret créant un périmètre d'amélioration pastorale fait l'objet d'une publicité locale.

A cet effet, il est affiché au siège de l'autorité locale, des tribunaux du sadad, des communes rurales intéressées et des services techniques compétents. Il est également publié par voie de criée, aux jours et heures les plus propices, dans les agglomérations et sur les marchés, par les soins de l'autorité locale.

ART. 2. - La commission locale d'amélioration pastorale prévue à l'article 6 du dahir No. 1-69-171 du 10 Joumada I 1389 (25 juillet 1969) susvisé est composée ainsi qu'il suit :

Le gouverneur de la prefecture ou de la province ou son représentant président;

Un magistrat, désigné par le président de la juridiction dont le ressort englobe les communes situées dans le périmètre d'amélioration pastorale ;

Le président de l'assemblée préfectorale ou provinciale et deux autres membres de cette assemblée, désignés par elle;

Trois représentants du ministre de l'agriculture et de la réforme agraire;

Un représentant de la Caisse nationale de crédit agricole;

Un représentant du ministre des Finances

Les supercaïds et caïds intéressés;

Deux représentants de la chambre d'agriculture désignés par elle;

Les présidents des communes rurales intéressées ;

Un représentant de chaque groupement ethnique propriétaire d'un immeuble collectif situé dans le périmètre d'amélioration pastorale.

Le président peut inviter à participer, à titre consultatif, aux réunions de la commission toute personne susceptible d'en éclairer les délibérations.

La commission délibère à la majorité des voix. En cas de partage, la voix du président est prépondérante.

Le secrétariat de la commission est assuré par un des représentants du ministre de l'agriculture et de la réforme agraire.

Les procès-verbaux des reunions sont signés du président et du secrétaire de la commission.

ART. 3. - Les associations visées à l'article 4 du dahir No. 1-69-171 du 10 joumada I 1389(25 Juillet 1969) précité formées antérieurement à la date de publication au Bulletin officiel du décret créant un perimètre d'amélioration pastorale, devront être déclarées à l'autorité locale dans le délai de six mois à compter de cette publication.

Il est accordé aux associés un délai de douze mois à compter de ladite publication pour mettre fin à l'association.

ART. 4. - L'office régional de mise en valeur agricole intéressé ou les services techniques compétents du ministère de l'agriculture et de la réforme agraire sont chargés de tenir un registre des droits de parcours comportant notamment la liste nominative des ayants droits et la répartition entre eux du nombre total des bêtes admises.

Le registre est visé par le ou les caïds intéressés et pour les terrains collectifs par le ou les représentants des collectivités intéressés.

Chaque bénéficiaire reçoit à titre de justification de ses droits au parcours une carte délivrée par l'office régional de mise en valeur agricole intéressé ou les services techniques compétents du ministère de l'agriculture et de la réforme agraire, précisant notamment ses nom, prénoms, adresse ainsi que le nombre et l'espèce des animaux lui appartenant, qu'il peut faire paître sur la partie du périmètre dans laquelle il possède des droits de propriété ou de jouissance. La durée de validité de la carte y est, en outre, précisée.

Cette carte doit être présentée à toute réquisition des agents de contrôle mentionnés à l'article 13 du dahir No. 1-69-171 du 10 joumada I 1389 (25 Juillet 1969) susvisé.

ART. 5. - Le collectiviste détenteur d'une carte de parcours peut céder tout ou partie de son droit au parcours à un autre collectiviste installé sur les lieux, pour une durée au plus égale à la durée de validité de la carte. Cette cession n'est valable que si elle est constatée par une mention portée par l'Office régional de mise en valeur agricole ou les services techniques compétents du ministère de l'agriculture et de la réforme agraire sur la carte de parcours et sur le registre prévu à l'article 4.

Les propriétaires de terres privées ne peuvent céder leurs droits au parcours qu'à l'occasion de la cession ou de la location de leurs terres.

Toutefois, le détenteur d'une carte de parcours peut céder son droit de parcours ou en faire apport à une coopérative d'élevage constituée conformément à la législation en vigueur.

ART. 6. - Le ministre de l'agriculture et de la réforme agraire et le ministre de l'intérieur sont chargés, chacun en ce qui le concerne, de l'exécution du présent décret qui sera publié au Bulletin Officiel.

FAIT à RABAT, le 10 Joumada I 1389
(25 Juillet 1969)

EL HASSAN BEN MOHAMMED.

LE PREMIER MINISTRE.

Vu le dahir N° 1-69-171 du 10 joumada I 1389(25 Juillet 1969) notamment ses articles 1,5 et 7 :

Vu le décret n° 2-69-312 du 10 Joumada I 1389(25 Juillet 1969) portant application du dahir susvisé n° 1-69-171 du 10 Joumada I 1389 (25 juillet 1969).

Sur proposition du ministre de l'agriculture et de la réforme agraire et après avis du ministre de l'Intérieur et du ministre des Finances.

D E C R E T E :

ARTICLE PREMIER.- Afin d'enrayer la dégradation des parcours et d'en assurer la régénération en vue d'une exploitation rationnelle, il estcréé sur les terrains de parcours collectifs de l'Arid (Cèrcle dellidelt, province de Khénifra une zone spéciale d'action rurale dite "Périmètre d'amélioration pastorale de l'Arid".

ARTICLE 2.- Le périmètre visé à l'article premier d'une superficie de 25.000 hectares environ est délimité à l'est par l'oued Ansegmir, au sud par le domaine forstier de la montagne Borji, à l'ouest par l'oued Oudrhes au nord par la Moulouya, au nord-ouest par une ligne horizontale reliant la Moulouya à l'oued Ansegmir et passant par le point d'altitude 1532.

Ce périmètre ci-dessus défini est délimité par un liséré jaune ainsi qu'indiqué sur la carte au 1/200.000 annexée à l'original du présent Décret.

ARTICLE 3.- Les associations d'élevage constituées dans les limites du périmètre antérieurement à la date de publication au Bulletin Officiel du présent Décret doivent être déclarées aux autorités administratives locales de Midelt dans un délai de six(6) mois à compter de cette publication.

Il est accordé aux associés un délai de douze (12) mois à compter de ladite publication pour mettre fin à l'association.

ARTICLE 4.- En vue de l'inscription sur la liste prévue à l'article 7 du dahir n° 1.69.171 du 10 Joumada I 1389 (25 Juillet 1969) et de la délivrance de la carte de parcours également prévue par le dit article, toute personne ayant un droit de pâturage sur les terrains sis a l'Intérieur du périmètre visé à l'article premier, doit le déclarer aux autorités administratives locales de Midelt qui procèdront aux vérifications nécessaires et établiront la liste définitive.

Le délai de déclaration accordé est de six (6) mois à partir de la date de publication au Bulletin Officiel du présent décret.

Pour l'obtention de la carte de parcours, il faut :
Figurer sur la liste des ayants droits visée au premier alinéa :
Etre propriétaire du bétail :
Etre membre des collectivités possédant des droits depâturage sur le périmètre et résider sur le territoire des dites collectivi

... / ...

ARTICLE 5.- Le ministre de l'Agriculture et de la Réforme Agraire le ministre de l'Intérieur et le ministre des finances sont chargés, chacun en ce qui le concerne, de l'exécution du présent décret qui sera publié au Bulletin Officiel.

Fait à Rabat, le 27 Kaada 1395 (1er Décembre 1975)

Pour contreseing
Le Ministre de l'Agriculture
et de la Réforme agraire.

AHMED OSMAN

SALAH M'ZILY.

Le Ministre de l'Intérieur

MOHAMED HADDOU ECHIGUER

Le Ministre des Finances

ABDELKADER BENSLIMANE.

Décret No. 29-2-312 du 10 Joumada I 1389 (25 Juillet 1969) portant application du dahir No. 1-69-171 du 10 Joumada I 1389 (25 Juillet 1969) relatif à la création de périmètres d'amélioration pastorale.

LOUANGE A DIEU SEUL!

Nous, Amir Al Mouminine, Roi du Maroc

Vu le décret royal No. 136-65 du 7 safar 1385 (7 Juin 1965) proclamant l'état d'exception ;

Vu le dahir No. 1-69-171 du 10 Joumada I 1389 (25 Juillet 1969) relatif à la création de périmètres d'amélioration pastorale, notamment ses articles premier, 4, 5, 6 et 7.

DECRETONS:

ARTICLE PREMIER.- Outre sa publication au Bulletin officiel, le décret créant un périmètre d'amélioration pastorale fait l'objet d'une publicité locale.

A cet effet, il est affiché au siège de l'autorité locale, des tribunaux du sadad, des communes rurales intéressées et des services techniques compétents. Il est également publié par voie de criée, aux jours et heures les plus propices, dans les agglomérations et sur les marchés, par les soins de l'autorité locale.

ART. 2. - La commission locale d'amélioration pastorale prévue à l'article 6 du dahir No. 1-69-171 du 10 Joumada I 1389 (25 juillet 1969) susvisé est composée ainsi qu'il suit :

Le gouverneur de la prefecture ou de la province ou son représentant président;

Un magistrat, désigné par le président de la juridiction dont le ressort englobe les communes situées dans le périmètre d'amelioration pastorale ;

Le président de l'assemblée préfectorale ou provinciale et deux autres membres de cette assemblée, désignés par elle;

Trois représentants du ministre de l'agriculture et de la réforme agraire;

Un représentant de la Caisse nationale de crédit agricole;

Un représentant du ministre des Finances

Les supercaïds et caïds intéressés;

Deux représentants de la chambre d'agriculture désignés par elle;

Les présidents des communes rurales intéressées ;

Un représentant de chaque groupement ethnique propriétaire d'un immeuble collectif situé dans le périmètre d'amélioration pastorale.

Le président peut inviter à participer, à titre consultatif, aux réunions de la commission toute personne susceptible d'en éclairer les délibérations.

La commission délibère à la majorité des voix. En cas de partage, la voix du président est prépondérante.

Le secrétariat de la commission est assuré par un des représentants du ministre de l'agriculture et de la réforme agraire.

Les procès-verbaux des reunions sont signés du président et du secrétaire de la commission.

ART. 3. - Les associations visées à l'article 4 du dahir No. 1-69-171 du 10 joumada I 1389(25 Juillet 1969) précité formées antérieurement à la date de publication au Bulletin officiel du décret créant un perimètre d'amélioration pastorale, devront être déclarées à l'autorité locale dans le délai de six mois à compter de cette publication.

Il est accordé aux associés un délai de douze mois à compter de ladite publication pour mettre fin à l'association.

ART. 4. - L'office régional de mise en valeur agricole intéressé ou les services techniques compétents du ministère de l'agriculture et de la réforme agraire sont chargés de tenir un registre des droits de parcours comportant notamment la liste nominative des ayants droits et la répartition entre eux du nombre total des bêtes admises.

Le registre est visé par le ou les caïds intéressés et pour les terrains collectifs par le ou les représentants des collectivités intéressés.

Chaque bénéficiaire reçoit à titre de justification de ses droits au parcours une carte délivrée par l'office régional de mise en valeur agricole intéressé ou les services techniques compétents du ministère de l'agriculture et de la réforme agraire, précisant notamment ses nom, prénom, adresse ainsi que le nombre et l'espèce des animaux lui appartenant, qu'il peut faire paître sur la partie du périmètre dans laquelle il possède des droits de propriété ou de jouissance. La durée de validité de la carte y est, en outre, précisée.

Cette carte doit être présentée à toute réquisition des agents de contrôle mentionnés à l'article 13 du dahir No. 1-69-171 du 10 Joumada I 1389 (25 Juillet 1969) susvisé.

ART. 5. - Le collectiviste détenteur d'une carte de parcours peut céder tout ou partie de son droit au parcours à un autre collectiviste installé sur les lieux, pour une durée au plus égale à la durée de validité de la carte. Cette cession n'est valable que si elle est constatée par une mention portée par l'Office régional de mise en valeur agricole ou les services techniques compétents du ministère de l'agriculture et de la réforme agraire sur la carte de parcours et sur le registre prévu à l'article 4.

Les propriétaires de terres privées ne peuvent céder leurs droits au parcours qu'à l'occasion de la cession ou de la location de leurs terres.

Toutefois, le détenteur d'une carte de parcours peut céder son droit de parcours ou en faire apport à une coopérative d'élevage constituée conformément à la législation en vigueur.

ART. 6. - Le ministre de l'agriculture et de la réforme agraire et le ministre de l'intérieur sont chargés, chacun en ce qui le concerne, de l'exécution du présent décret qui sera publié au Bulletin Officiel.

FAIT à RABAT, le 10 Joumada I 1389
(25 Juillet 1969)

EL HASSAN BEN MOHAMMED.

Extrait du Bulletin N° 3293 du 10.12.75

ANNEX VI

LE PREMIER MINISTRE.

Vu le dahir N° 1-69-171 du 10 joumada I 1389(25 Juillet 1969) notamment ses articles 1,5 et 7 :

Vu le décret n° 2-69-312 du 10 Joumada I 1389(25 Juillet 1969) portant application du dahir susvisé n° 1-69-171 du 10 Joumada I 1389 (25 juillet 1969).

Sur proposition du ministre de l'agriculture et de la réforme agraire et après avis du ministre de l'Intérieur et du ministre des Finances.

D E C R E T E :

ARTICLE PREMIER.- Afin d'enrayer la dégradation des parcours et d'en assurer la régénération en vue d'une exploitation rationnelle, il estcréé sur les terrains de parcours collectifs de l'Arid (Cèrcle dellidelt, province de Khénifra) une zone spéciale d'action rurale dite "Périmètre d'amélioration pastorale de l'Arid".

ARTICLE 2.- Le périmètre visé à l'article premier d'une superficie de 25.000 hectares environ est délimité à l'est par l'oued Ansegmir, au sud par le domaine forstier de la montagne Borji, à l'ouest par l'oued Oudrhes au nord par la Moulouya, au nord-ouest par une ligne horizentale reliant la Moulouya à l'oued Ansegmir et passant par le point d'altitude 1532.

Ce périmètre ci-dessus défini est délimité par un liséré jaune ainsi qu'indiqué sur la carte au 1/200.000 annexée à l'original du présent Décret.

ARTICLE 3.- Les associations d'élevage constituées dans les limites du périmètre antérieurement à la date de publication au Bulletin Officiel du présent Décret doivent être déclarées aux autorités administratives locales de Midelt dans un délai de six(6) mois à compter de cette publication.

Il est accordé aux associés un délai de douze (12) mois à compter de ladite publication pour mettre fin à l'association.

ARTICLE 4.- En vue de l'inscription sur la liste prévue à l'article 7 du dahir n° 1.69.171 du 10 Joumada I 1389 (25 Juillet 1969) et de la délivrance de la carte de parcours également prévue par le dit article, toute personne ayant un droit de pâturage sur les terrains sis à l'Intérieur du périmètre visé à l'article premier, doit le déclarer aux autorités administratives locales de Midelt qui procèdront aux vérifications nécessaires et établiront la liste définitive.

Le délai de déclaration accordé est de six (6) mois à partir de la date de publication au Bulletin Officiel du présent décret.

Pour l'obtention de la carte de parcours, il faut :
Figurer sur la liste des ayants droits visée au premier alinéa :
Etre propriétaire de bétail :
Etre membre des collectivités possédant des droits depâturage sur le périmètre et résider sur le territoire des dites collectivit

... / ...

ARTICLE 5.- Le ministre de l'Agriculture et de la Réforme Agraire le ministre de l'Intérieur et le ministre des finances sont chargés, chacun en ce qui le concerne, de l'exécution du présent décret qui sera publié au Bulletin Officiel.

Fait à Rabat, le 27 Kaada 1395 (1er Décembre 1975)

Pour contreseing
Le Ministre de l'Agriculture
et de la Réforme Agraire.

SALAH M'ZILY.

AHMED OSMAN

Le Ministre de l'Intérieur

MOHAMED HADDOU ECHICUER

Le Ministre des Finances

ABDELKADER BENSLIMANE.