

6080078-8

PROJECT APPRAISAL REPORT (PAR)

PD-AAA-178-D1 13.

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1. PROJECT NO. 608-11-130-078	3. PAR FOR PERIOD: Close out TO	5. COUNTRY Morocco	4. PAR SERIAL NO. Special Evaluation
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6. PROJECT TITLE
LIVESTOCK AND RANGELAND IMPROVEMENT

6. PROJECT DURATION: Began FY 1968 Ends FY 1974	7. DATE LATEST PROP 6/27/73	8. DATE LATEST PIP	9. DATE PRIOR PAR End of Tour Report June 1972
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11. U.S. FUNDS: a. Cumulative Obligation all FYs b. Current FY Estimated Budget: \$ 521,000	c. Estimated Budget to completion After Current FY: \$
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11. KEY ACTION AGENTS (Contractor, Participating Agency or Voluntary Agency) a. NAME INTERNATIONAL VOLUNTARY SERVICES (IVS) (phased out FY 1972)	b. CONTRACT, PASSA OR VOL. AG. NO. AID/afr - 564
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NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X)			B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
UNID	APR/T	MOST		
			<p>The attached paper is intended to chart, as the title indicates, a possible approach for future U.S. assistance in Livestock. In doing so, it traces U.S. experience in this sector since 1963 and devotes considerable attention to the recently terminated project 078. As it briefly documents project accomplishments and suggests lessons to be derived from the experience, it is being submitted for the record as a special wrap-up evaluation of this project.</p>	

D. REPLANNING REQUIRES	<input type="checkbox"/> REVISED OR NEW <input type="checkbox"/> PROP <input type="checkbox"/> PIP <input type="checkbox"/> PRO AG <input type="checkbox"/> PIO/T <input type="checkbox"/> PIO/C^ <input type="checkbox"/> PIO/P	E. DATE OF MISSION REVIEW
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PROJECT MANAGER/TYPED NAME, SIGNED INITIALS AND DATE Leland Fallon <i>Carl E. Ferguson</i> Carl E. Ferguson F&A	MISSION DIRECTOR/TYPED NAME, SIGNED INITIALS AND DATE Acting Director: Harvey E. Gutman ? July 74
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POSSIBLE APPROACH TO FURTHER U.S. INVOLVEMENT

IN LIVESTOCK SECTOR

INTRODUCTION

The Livestock Sector is important economically and politically to GOM in that it provides a substantial source of income for the majority of the rural Moroccans. The sector contributes nearly 16 percent of the total national product and is equivalent to that of all the other agriculture sub-sectors combined.

In spite of its importance and the priorities given to it, the Livestock Sector lags far behind its production potential and the growing needs of the population.

The GOM presented in December 1973, a request* for the activation in FY 1975 of an expanded project in livestock and rangeland production involving four U.S. advisors (three new positions) as well as consultants and commodities.

Due to the magnitude of the needs of the sector and the constraints described under Background, the determination of the feasibility and scope of any future USAID involvement should be made by an AID project design team. In order to be effective, this team must be able to work at the level of the Minister of Agriculture and the Secretary General.

* Propositions d'actions a mener dans le cadre de la cooperation entre les Etats-Unis d'Amerique et le Maroc. 2eme partie : Les Projets.

This is particularly important so that any future project will have full support at the highest levels and also because of the number of donors interested in assisting in various aspects of the sector. For example, the UNDP initiated in CY 73 a project to assist the GOM Water and Forest Service in a study leading to the eventual management and development of the forest lands suitable for grazing, which possibly could be expanded to cover all grazing lands. An agreement was also signed in 1973 with Romania to establish two integrated livestock production and fattening units in the El Jadida and Settat provinces. Discussions for similar units in other provinces have been held with Switzerland and Yugoslavia.

BACKGROUND

Twenty years ago livestock production in Morocco met the needs of the population, but with the demographic increase and higher earnings of the developing middle class, enabling a higher standard of living, demand is outgrowing the supply more and more each year. For example, the cost of imported milk and milk products has increased from DH 45 million in 1966 to nearly DH 75 million in 1971. The sheep population has nearly doubled in the past 40 years, nevertheless, the demand is increasing at a faster rate than supply. It has been projected that it will be necessary to import sheep meat by 1977 unless production is increased. During the ten years preceding 1971 meat prices increased 79 percent, while the general cost of living index increased approximately 27 percent.

On the other hand, livestock feeds (Agro-industry bi-products) critically essential for increasing livestock production, are being exported due to lack of domestic demand. In 1972 over 62 percent (50,000 tons) of the molasses production was exported along with 71 percent (20,000 tons) of the meal produced from sunflower and cotton seed. Nearly all the fish meal produced (23,000 tons) is exported. Although export limitations were imposed in 1973, the current domestic demand for these feeds is far below production because the livestock producers are not fully aware of their values nor do they know how to properly use them. Low quality roughages such as straw and bean residues are mostly improperly used or wasted. Planting forage crops (legumes) in rotation and on fallow land in the rainfed cereal areas as well as grazing of suitable grain fields in winter and early spring offer substantial sources of livestock feed yet to be exploited.

The GOM has given high priority to the development of large irrigation schemes during the past 20 years, but only a small part of the lands are devoted to forage crops and livestock production. Expansion and integration of intensive livestock production, particularly dairying, with crop production in the irrigated sector, could provide an important source of livestock and livestock products.

The traditional sector, however, retains its importance because approximately 95 percent of the livestock (18.2 million sheep, 8 million goats and 3.6 million cattle) are raised by traditional stockmen mostly on unfenced rangelands and on free feed along road rights-of-way and borders of crop land. Centuries of overgrazing and abusive grazing practices have driven forage production on most rangelands far below their economic potential in both quantity and quality of forage produced.

Herds and flocks are often two and three times larger than the carrying capacity of the range, based on sound management norms.

Collective grazing lands account for 5.3 million hectares, an area roughly equal to all of Morocco's cropland. Although tribal grazing rights are generally known in the collective grazing lands through a history of use, definitive boundaries between tribes and groups have not been established. Individuals within the tribes similarly have no identifiable lands reserved exclusively for their use. Use of lands for grazing is not controlled, therefore, overgrazing is rampant.

The privately owned range lands (several million hectares) are, in general, in poor condition and also producing far below their production potential due mostly to overgrazing, poor management and the need for development.

The Livestock Sector is identified in the current GOM Economic Development Plan (1973-77) as one of the three priority areas in agriculture for development. Development of the sector was also given priority in the previous 5-Year Plan. Unfortunately, progress to date has been far below the production and development levels established in the plans.

USAID has assisted the GOM during the past ten years with a poultry project (phased out in 1967), and the following three major livestock projects.

1. Livestock Production and Marketing - 044 (FY 1963-68)

The long-range objective of this project was to effect an improvement in livestock practices that would result in an increase in livestock production and hence raise the standard of living of the stockmen. The main thrust of the project was the distribution of forage seed and feed grains to cooperators as an incentive to produce more forage and to improve their livestock.

Thirty-one thousand farmers participated in the project. They planted a total of 59,236 hectares to such crops as alfalfa, berseem clover, corn, oats with vetch or peas and sudan grass. USAID support consisted of one U.S. technician, 23,000 metric tons of PL 480 corn (\$2,116,000) and 142 tons of forage seed. The project was originally implemented with the Livestock Service but was transferred to the Economics and Planning Division, also in the Ministry of Agriculture, in October 1965 to effect better administration. In 1966, the name of the above project was changed to "Forage Development for Animal Production". The project was phased out on its planned termination date of June 30, 1968. Because of numerous administrative problems and delays on the GOM side, the project failed to reach its objectives, however, it substantially contributed to the increased production of forage crops for livestock. GOM has continued through the DMV (Agricultural Development Service), to stress forage production and preservation as a result of the stimulus provided by the project. The impact on livestock production is difficult to measure, but we believe that the producers of forage have increased their production of meat products substantially as a result of the project.

2. Livestock Breed Improvement - 065 (FY 1967-1970)

The project was initiated pursuant to a GOM Livestock Service request for assistance in initiating an artificial insemination program. The purpose of the project was to improve and upgrade native cattle owned by both modern and traditional livestock farmers through cross breeding with improved stock. A national Artificial Insemination (A.I.) Center was established and equipped near Casablanca. Seven Moroccans were trained to operate the A.I. Center as well as other technicians to staff sub-stations. USAID provided one full-time veterinarian and approximately \$711,000 in commodities, of which \$680,000 came from a local currency loan.

The project was phased out in 1970 primarily because of inadequate GOM support. The Livestock Service failed to provide the necessary Moroccan counterpart, vehicles and other support essential for the inseminators to cover their routes. As a result, the program progressed at a slower rate than the capability of the Center and staff. The project was highly successful, however, in getting the Center and artificial insemination program established. During the past three years the GOM has materially expanded the program and has opened a number of sub-centers. Artificial insemination is extremely important in increasing cattle production, particularly dairying, and will undoubtedly continue to expand.

3. Livestock and Rangeland Development Project - 078 (1969-1974)

In 1966, USAID financed the Carter Feasibility Study and Project Design for a livestock and rangeland development program on the collective lands. Based largely on the Carter study, GOM included in the 1968-72 Economic Development Plan a livestock and rangeland improvement program of approximately six million dollars addressed to the development of one million hectares of collective grazing lands. Subsequently, in FY 1969, implementation of the Livestock and Rangeland Development Project based on the Carter study was initiated. The purpose of the joint GOM Livestock Service - USAID pilot effort was to develop and demonstrate improved management and rehabilitation techniques for halting overgrazing and for increasing the production of forage and livestock products. At the outset, the project was intended to reach 12 management areas covering 325,000 hectares (803,000 acres) of Morocco's depleted collective rangelands. However, after eighteen months of operation it became evident that the scope was far beyond

the capabilities of the Livestock Service to implement. Subsequently, the scope was changed in December 1969 to reduce the magnitude to two areas covering 70,000 hectares (175,000 acres), to intensify the research elements, and to reorient the project to conform to Dahir No.1-69-171 enacted on July 25, 1969, governing the management and development of collective grazing lands through the establishment of Grazing Perimeters by Royal Decrees.

In February 1972, the Minister for Agriculture and USAID mutually agreed to phase out the Livestock and Rangeland Improvement Project in its existing form as of June 30, 1972, but to continue the activities on an operational scale under field management of GOM personnel. It was further agreed that the USAID Project Manager would be assigned as Advisor to the Chief of the newly established Bureau for Rangeland Development in the Livestock Service to advise on the preparation and implementation of the new 5-Year Plan.

The USAID has provided the continuous services of one senior Range Management Advisor and in the earlier stages up to five IVS (International Voluntary Services) contract technicians to work on the pilot project sites. The project also included one local-hire Project Assistant, participant training and a small amount of commodities (valued at approximately \$35,000).

The initial objectives of the project, testing and demonstration of methods of rangeland and livestock improvement, have been largely accomplished although on a reduced scale. Nearly 200 varieties of local and imported range forage species have been field tested on 700 hectares (1,700 acres) at nine locations covering the major ecological zones of the collective lands. Rates of seeding and different

techniques of seedbed preparation and seeding have been tested to determine their effects on seedling establishment. Improvement through natural revegetation methods was also studied at the same sites. The grazing trials on 1,000 hectares (2,500 acres), which have been conducted in the Midelt region to determine and demonstrate the productivity of forage on the seeded range, show increases up to 5 to 6 times over that of the native range. The live weight gain of the lambs grazing on seeded range, in cooperation with local stockmen, has been nearly double that of the lambs grazing on native range under traditional conditions. In addition to greater live weight and faster rate of gain, improved management and nutrition has shown a marked effect on the number of lambs produced per breeding ewe in the 500 ewe study flock. Increases of 100 to 200 percent or more of the number of lambs produced by 100 breeding ewes can be expected from improved management, nutrition and breeding practices.

A new Bureau for Range and Development established in 1972 is headed by a former USAID participant who holds an M.S. degree. The Bureau includes a staff of six University graduate level technicians, half of whom are in field positions. The Bureau has been responsible also for the operation of the forage distribution program to the provinces for emergency livestock feed purposes - a 35 million dirhams (US \$8.0 million) program for the 5-year period. During the past year it has also been made responsible for the allocation of Morocco's production of industrial feed by-products such as oil seed meals, bran, beet pulp and molasses. As a result, the headquarters staff has had little time to devote to the development of the collective land resources. Little progress has been made in expansion

of rangeland and livestock improvement activities since the project scope was amended in 1972 except for the continuation and expansion of the grazing and livestock production studies at Midelt and the initiation of two new perimeters in the oriental region near Oujda. The first year (1972) was largely spent on the preparation of the CY 73-77 Plan, which was not finalized until mid-1973. Since the 5-Year Plan was completed, implementation has been held up primarily because:

- (1) The headquarters staff has been largely occupied with the emergency forage and industrial livestock feed by-products programs rather than range development;
- (2) The Royal Decrees have not been issued legally establishing the perimeters for management and development;
- (3) 12 tons of seed initiated for purchase in June 1972 for 1972-73 seeding program was not delivered until April 1974;
- (4) Program personnel requirements were not adequately met;
- (5) Field technicians were without adequate transportation and operating funds until February 1974, when the Livestock Service received 200 new vehicles.

It is estimated that less than ten percent of the GOM funds projected in the previous 5-Year Plan for the collective grazing lands have been expended for that purpose. Each year, and 1973 was not an exception, large sums of GOM project funds for seeding, construction of wells, etc. remain unexpended due to the inability of the Livestock Service to carry the program forward.

Although there appears to be progress in resolving some of the major constraints, the fact remains that since 1963, the Livestock Service

has been unable to establish an organization with the manpower and administrative capability to satisfy USAID project requirements for meaningful national programs directed at increasing livestock and rangeland production. Likewise at higher levels, Royal Decrees officially establishing Range Improvement Perimeters and limiting grazing to those holding permits, essential to the management of rangeland resources, have not been issued although some have been pending since 1970.

While the Livestock Service currently has the major responsibility in the sector, other agencies in the Ministry of Agriculture such as the DMV (Agriculture Development Service), DRA (Agriculture Research Service) and Water and Forest Service also must be integrated into the effort. The following semi-autonomous government agencies should also be brought into the effort: COMAGRI⁽¹⁾ (Moroccan Agriculture Development Company). This organization operates a number of livestock and dairy farms for the purpose of providing farmers with breeding stock, seed, and other plant materials.

SOGETA⁽²⁾ (Society for the Management of Recuperated Agricultural Lands) operates farms including large numbers of livestock recuperated in 1973 from foreigners.

In spite of the importance of the sector and the well established American expertise in the livestock and range development sciences, future USAID involvement in the sector should be made contingent

(1) COMAGRI - Cie. Marocaine de Gestion des Exploitations Agricoles

(2) SOGETA - Societe de Gestion des Terres Agricoles

upon GOM's over-coming the constraints which have caused the former assistance projects discussed above to be characterized by frustrations, disappointments and not being able to attain the levels of accomplishment readily attainable had the constraints not prevailed.

WORK OF DESIGN TEAM

Before considering any further U.S. involvement in the livestock sector beyond an occasional consultant or participant, it is believed that the services of a design team are needed for two to three months to analyse Morocco's livestock sector, including its administrative, technical, economic, and social dimensions. The design team working out of the office of the Secretary General of the Ministry of Agriculture would be expected to examine the critical points affecting sector development and assess the feasibility of U.S. assistance. If appropriate, the team would make specific recommendations for design of an AID project to assist in development of this sector.

COMPOSITION OF DESIGN TEAM

The team should include the following expertise:

- (1) Range Management Specialist to look into range management and range development programs on collective lands.
- (2) Livestock (sheep) Extension Production Specialist to examine programs for increasing livestock production (primarily on collective lands) with emphasis on sheep raising.
- (3) Marketing Specialist to look at the market system and ways to induce producers to sell their animals at an earlier age and

to ensure that they receive a fair market value for improved animals when they do sell.

(4) Water Development Specialist to assess plans and construction of livestock waterpoints consisting of earth dams, pits, spring developments and bored wells primarily on collective lands in support of range improvement programs.

(5) Design Methods and Systems Analyst to develop an integrated approach for the team's sector study.

TIMING

The services of the design team will be requested by the USAID after (a) a decree(s) setting up a range management perimeter(s) has been issued and (b) the USAID ascertains the extent to which the Livestock Services is prepared to move from the pilot testing stage to a full production program of rangeland and livestock improvement, and whether the Ministry of Agriculture has carried out any required reorganization to implement such a program.

It is estimated that the range management and livestock extension specialists and the methods specialist would spend up to two months in Morocco. The services of the marketing and water development specialists could be phased in when convenient for three to six weeks.

Food and Agriculture Office
July 1974