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UNITED STATES GOVERNMENT

Memorandum

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TO : AFR/DS, Mr. Princeton Lyman

DATE: March 10, 1976

FROM : AFR/DS, John Blumgart

SUBJECT: Mauritania Range and Livestock -- Status and Next Steps.

The purpose of this memorandum is to offer an assessment as to the situation we face with respect to this proposed project, taking into consideration the information and insights provided by the consultant reports and the all day review session with the consultants on February 18 and subsequent discussions within AFR/DS and with AFR/CWR and CDO/Nouakchott.

A. Major Conclusions from Review

Review of the consultant reports and the results of our meeting lead me to a number of conclusions, both negative and positive, regarding the viability and merits of the proposed project. I'll start first with the negative ones.

1. Incapacities of the GIRM. This is both a general problem and one specifically related to the project. There is a general inability to get actions and decisions out of the bureaucracy in Nouakchott. This includes getting project vehicles released from customs or getting the Serviece de l'Elevage to even produce lists of their requirements for project funding. There is a specific incapacity of the government to support livestock activities in the 10th Region -- lack of vaccines, vehicles, personnel, fuel -- so that at least one official has quit in discouragement and there have been frequent transfers.

There are indications that military operations in the Sahara may exacerbate this problem further in two ways: (a) it is generally diverting official high level attention from development questions to those concerned with the war effort, (b) it has led to the reallocation of domestic resources from development outlays to security expenditures as manifested in cut backs on planned increases in staffing agricultural jobs.

2. Logistics. Our experience with the consultants shows that the logistic problems of supporting a project in the 10th Region will be at best formidable and costly. It will be necessary to construct (or persuade the GIRM to construct) houses for project personnel, a garage, spare parts inventory, and fuel depot for vehicles, direct radio communications with Nouakchott, stand-by arrangements for emergency

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evacuation, and a regular provisioning system. If heavy earth moving equipment is required, the logistics become even more difficult and will involve repair of the road between the Bakel ferry crossing and Selibaby and probably rehabilitation or construction of the ferry itself. The expense and logistics of supporting heavy equipment in a project of this kind are probably prohibitive.

3. Marketing and Export Embargo. The GIRM has officially established a state cattle marketing organization, has fixed retail prices on meat and has embargoed the export of cattle. The ostensible reason is to cut out the middle man and encourage herdsmen to reconstitute their herds. The real reason is probably identical to that in Mali and Niger, namely, to hold down post-drought price increases for meat in the domestic urban markets. The embargo and price controls have been only partially effective due to clandestine slaughtering and smuggled exports, but some herds are being caught and confiscated at the border. These actions are also cutting down on the flow of consumer goods from Senegal (since cattle exports are a principal means of paying for such goods) and thereby reducing incentives for herders to sell their animals.

4. Sahara Conflict. The conflict with Algeria and the Algerian-supported guerillas over Spanish Sahara, in addition to its impact at the national level, as noted above, is also increasing existing ethnic tensions in the Selibaby area. The predominant sedentary groups, especially the Sarakolle, are highly disinclined to fight in a White Maure officered army in a war in which they feel they have no stake.

5. Fragile Environment

As the consultants stress, there is potential risk for harming the physical environment and for aggravating inter-racial class conflicts for any AID activities in this area. The technical and ecological feasibility of all planned interventions must be carefully phased and activities started only on a small scale with adequate monitoring, flexibility and beedback considerations.

On the other hand, the reports and the review identified a number of very positive factors which need to be noted and assessed.

1. Local Attitudes toward Assistance. The local population groups are eager to participate in farming or herding innovations that will improve their living standards or permit them to utilize their environment more effectively. In particular, there is a desire for assistance in animal health, nutritional supplements and improved water and pasturage. There is also an eagerness to improve agricultural practices providing the innovations introduced are economically feasible and do not involve a major change in technology. As a result of the numerous visits to the area by AID teams and consultants, local expectations have been aroused and there is now a growing impatience with lack of any tangible results.

2. Local Officialdom. Although plagued by numerous transfers, discouraging conditions and neglect by Nouakchott, much of the local officialdom has had the interest of the local population at heart and has been, with some exceptions, energetic and able. If a strengthened local staffing were made a condition of our further involvement, there are probably good chances that our technicians could establish effective counterpart relationships.

3. Water and Pasture Development. The socio-anthropological studies and the animal/range studies have reached identical conclusions as to the impossibility of establishing a controlled range management scheme for the three zones proposed in the original PROP. As a next best alternative they recommend establishing additional temporary watering points (ponds, tanks, cachements -- not wells) in the northerly areas of the 10th Region. These would be designed to run dry before permanent ecological damage would occur from overgrazing. Such action would have the following benefits: (a) spread grazing pressure more evenly throughout the area and utilize large areas of currently unutilized pasturage, (b) delay and/or moderate the influx of White Maure and Peuhl cattle into the regions East, West and South of Selibaby during the dry season, these areas already presently serving as year-round pasturage for the sedentary herds. An intervention of this kind would make eminent socio/ethnic and ecological sense if properly designed and phased. However, implementation would be greatly complicated if heavy equipment was required.

4. Agronomic Innovations. As a result of population growth and changes brought about by the drought, there is a trend toward sedentarization and interest in cultivation of crops. Also, there are barren areas of land circling the villages and towns of the area due to overgrazing and poor cultivation practices. The suggestions of the consultants for pilot interventions in animal traction, perennial grasses and improved agricultural practices offer possibilities for testing innovations for rehabilitating barren areas and introducing rotational cropping systems.

B. Short Term Implementation Requirements

Unfortunately, implementation of the activities -- vaccines, vehicles, veterinary equipment, minerals, animal feeds, wells, vaccinations corrals, fire breaks -- funded by the $340,000 that was provided under the FY 1975 Project Agreement has been very slow. It is important, in terms of credibility with the local population and local officialdom, that the GIRM and AID seek to bring some concrete benefits to the area prior to the next rainy season (June - September).

C. Requirements for Further Design Work

As a result of the field studies done to date, we now have a well founded conceptual basis for a program. We have a good fix on the socio/anthropological characteristics of the area, the animal husbandry conditions and herding patterns, population and herd numbers, herd composition, and some strong indications as to the most important components of a project package which could improve the current situation.

However, we do not have yet the detailed design data. We lack detailed design and cost information for the water/pasture interventions, the agronomic, animal traction and village pasture pilot projects, and the other activities that should be included (assistance to the local livestock and agricultural services, including vehicles, training, vaccines, improved seeds, anti-parasite equipment, vaccination corrals, etc.) We also lack an economic analysis, especially of benefits to the producer that the project would generate.

Of critical importance for the water/pasture program is a range and surface water resource inventory of the area to be developed, utilizing aerial photography and remote sensing data. This assessment would be similar to the Dilly and New Lands study which we plan to have carried out in Mali by the Earthsat Corporation and the one being implemented in Tanzania. Such a resource assessment is essential for determining the extent of the range which is available and the location of depressions which would lend themselves to improvement as cachements. The inventory should also include considerable "ground truthing" by a surface water hydrologist and range ecologist to identify the location and design of the watering points, so that their drying up can be synchronized with optimum utilization of the pasture. An agricultural economist would also be required to estimate economic returns, under various assumptions of offtake and prices.

The survey and final design work for the water and pasture program should be accompained by detailed design work for the agronomic and grazing pilot activities that have been recommended in the environs of Selibaby, and show promise of replication.

The best time to carry out all of this work would be after the next rainy season (October - December) when the pasture and surface water characteristics can best be identified and inventoried.

Thus, the best approach would appear to be similar to the one followed in other projects, that is, of phasing the final design work to fit seasonal constraints and AID management and contracting capabilities.

The next phase of the work -- that is between now and mid-June, when rains and flooding prevent ground activity -- would be devoted to obtaining sufficient design information to permit preparation of a Project Paper for Interim Quarter financing. This Project Paper -- which would be slated for presentation to the ECPR by mid-July -- would contain sufficiently firm program information and cost/benefit analysis to permit obligation of the funding ($700,000) programmed for the Interim Quarter. It would also seek authorization of the remaining funding programmed for the project ($2.1 million), subject to approval of a PP amendment (or its equivalent) which would be prepared after the resource inventory and agronomic design work had been completed (early CY 1977).

It is reasonable to estimate that the activities which would be financed by the Interim Quarter financing would include (a) the range and water resource survey, (b) design of the specific agronomic interventions, (c) further support to the livestock service, focussed more on the Ould Yenge Department, which was not included in the FY 1975 Project Agreement and has even fewer resources than the Selibaby Department's service. This also makes sense in terms of allocating resources more equitably among the various ethnic groups in the area.

The principal tasks which need to be accomplished between now and June would be preliminary assessments of (1) the extent of unutilized pasturage in the 10th Region, particularly in the northerly areas (Tek Tak, Ould Yenge and Harr) (2) locations and quantity of new or enlarged watering points, (3) design and cost of watering points under varying assumptions including use of hand labor, (4) receptivity of local leaders and villagers to construction of watering points; (5) modes of villager participation, methods of organization, rates of pay, tool requirements, equity considerations.

This information could be collected in 3-4 weeks in the field by a team comprising a range ecologist, a social anthropologist, a design officer and an interpreter/logistics assistant. If a suitable agricultural economist can be recruited, he should be included, but this work can if necessary be deferred until after the rainy season. Aside from the economist, it is quite probable that experts used on the previous field studies could be recruited for the next assignment (with the exception of the interpreter which would have to be recruited by CDO/Nouakchott). The existing Near East Foundation contract is available for hiring the non-AID personnel. A realistic schedule would contemplate 3-4 weeks field work in May with 1-2 weeks in Nouakchott in June for discussions with the GIRM and write up.

The schedule also assumes that CDO/Nouakchott will be able to provide adequate logistic support for the field team -- a matter which has caused problems in the past with the earlier teams. An exchange of messages should be able to enable the CDO to plan the necessary support.

The approach recommended above will enable the EOPR to review the project in its Mauritanian context again in July prior to engaging AFR in a multi-year commitment. Meanwhile, the design actions recommended above will permit AFR, at relatively low cost, to firm up the materials necessary for the Project Paper.

It is also recommended that since agricultural interventions should occupy an important place in The Scope of the project that the project's title be changed to "Mauritania Rural Development (Tenth Region)".

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UNITED STATES GOVERNMENT

Memorandum

TO : Mr. Gene Bable, ADO, AID/Nouakchott
Mr. Marc Madland, AID Selibaby
Mrs. Marguerete Madland, AID Selibaby

DATE: November 4, 19

FROM : Fred M. Tileston, Engineer, REDSO/WA

SUBJECT: Report of Trip to Mauritania,
Range and Livestock Project, Selibaby, Oct. 23 to 26, 1975

1. Tileston and Kent Salter, Liaison-interpreter joined Madlands at Bakel on the 23rd. The party proceeded to and overnighted in Selibaby. On the 24th we proceeded to Tik Tak, White Moor camp via Ouldyenge lying about 100 km North of Selibaby. The party overnighted with the Moors, inspected water point sites in the Tik Tak area on the 25th and returned to Selibaby. On the 26th the party proceeded southward to Koumba Ndao about 20 km from Selibaby lying in Zone A of the proposed animal-pasture project. It was planned to go to Mbalou lying 10 km north-east of Koumba Ndso, but the marigot had been recently filled by rain water and the land rover could not be transmitted. We returned and overnighted in Selibaby, and thence to Bakel on the 27th.

2. The purpose of Tileston's visit was to assist and advise the Madlands with development of stock water points required in connection with the Selibaby range and livestock improvement program.

3. The program very briefly consists of three grazing Zones A, B, and C (50,000 to 60,000 ha each in extent lying around Selibaby). The program is to be initiated in Zone A lying SE of Selibaby. It will be a demonstration of improved range and cattle management practices including the development of water supply points for the livestock involved in the areas.

4. One of the primary constraints to developing range and livestock improvement practices is availability of water. Within Zone A, indications are that both surface and/or pond storage and ground water can be developed that will provide adequate water to support the project.

5. The GOM Dept. of Water Resources has prepared a ground water inventory and study of the region including the three project zones. Madlands have secured a map prepared by the GOM shows water points and other hydrological data. It is believed that this map is a portion of a detailed ground

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water report. The report must be obtained before a rational assessment can be made of the ground water situation.

6. At Koumba Ndao, a village in Zone A, the villagers were queried about the water situation. They stated that adequate pasture and water for their cattle was available throughout the year. During the rain season up through October, water is procured from marigots and small rain fed ponds. When these begin to dry up in October-November the villagers dig wells in the marigot and stream beds 1-1/2 to 3 meters in diameter and 4 to 10 meters in depth. Each family provides its own water source. Up to 70 such wells are usually dug each year. It was reported that difficulty was experience developing water in 1965. Usually the village is able to develop enough water to supply its human and animal needs. Some of the dug wells are a bit salty but apparently the stock can tolerate it. The villagers reported that during the drought were able to provide their own water needs.

About this time of year the Moors and Peuhls start moving herds southward in search of water and pasture. According to the Koumba Ndao villagers, the Moors have little regard for the cultivated crops and their animals damages crops for which the villagers receive no compensation.

This migratory movement of stock through Zone A and return north with attendant pasture grazing in Zone A has convinced the Madlands that no real good animal and pasture improvement program can be initiated in the Zone until the migrations to and through the area are eliminated or at least reduced.

7. The Madlands have studied and collected data concerning animal migration movements. The White Moors originating around Tik Tak would prefer to remain in their northern zones and not migrate southward and/or remain longer in their northern locations. The Moors' Chief at Tik Tak indicated that the tribe would like to settle down and build permanent homes in the Tik Tak valley. There is considerable under-utilized pasture in that region, but the marigots are drying up and very little ground water has been developed. The lack of water has forced these Moors to migrate to find water for their stock and leave considerable unused pasture in that area.

The Hydrological Ground Water Division of the GOM did not include the Tik Tak and northern zones in the studies shown on Madlands map. The Madlands believe that area is being studied. The data the GOM has collected will need to be obtained so assessment can be made of possibilities of developing ground water resources in that area.

8. At Ould Yenge, about 75-90 km of Selibaby, about 15 km from Tik Tak there are found hand dug cement lined wells. The well examined adjacent to the village center is cement lined two meters diameter, and 13.5 meters to the water surface. The villagers reported the water level drops during the dry season, but the well has not been known to go dry. The well was hand dug with shovels by local villagers; the rock was broken and penetrated by hammers and bars and the well cement plastered. The well construction was managed and run by the French. There are three other similar wells in the village, one of them is salty.

9. At Tik Tak the Moor Chief indicated a location where he would like a well constructed. It would be unwise to attempt to dig a well without additional assessment of the ground water situation based on studies being conducted hopefully by the GOM.

The wells developed in Ould Yenge and there may be others nearby, indicate that ground water resources may be developed. The soils of the region appear to be absorptive and rock and valley formations observed indicate there may be underground water in storage. The problem is to find it.

The marigots in Tik Tak Valley are still retaining water. The Chief stated they would soon be dry and the tribe would begin moving southward in search of water and pasture. The pasture in Tik Tak and surrounding regions is in excellent condition, knee high and studded with trees. The zone looks like a lightly forested grassy park. Too bad, lack of water prohibits full utilization of those vast pasture lands.

Madlands believe that surface and/or water pond development could also be a water source. This may well be. The marigots in Tik Tak valley have retained water for a prolonged period indicating that enough clay exists in those pond bottoms to produce a watertight storage area. In those locations observed it would be possible to clean up and enlarge the ponds. This operation would require the use of heavy construction equipment. The size of the ponds would be governed by the stock carrying capacity of adjoining range lands.

10. <u>Summary</u>:

The limited data collected and observed, reservedly supports Madland's thesis that the migratory herds can be maintained out of the zones proposed in the range improvement project

or at least delay the movements enough to enhance the possibility of success of the project.

We need additional ground water data. It is recommended that the Madlands and AID office in Nouakchott collect or copy all available written material and reports regarding ground water in the Selibaby and Tik Tak zones. A water resource engineer will need the data in an attempt to assess any proposed ground water development.

For pond or surface water development, the area will have to be examined more carefully to pinpoint the best probable sites. The Madlands have been over much of the area now know the characteristics desired for an ideal pond water storage site and will have good suggestions to offer.

Finally, the Madlands have collected significant data on:

1) Herd migration patterns
2) Pasture zones and extent
3) Water locations (not in Moor zone)
4) Herd composition
5) Grass species index
6) Cultivation patterns
7) Crop grown
8) Don't have herd numbers and these data will require additional nine months to collect
9) Fairly good marketing information
10) Offtake data

cc:
Mr. and Mrs. Madland, Selibaby, Mauritania
Mr. Joe Royce, REDSO/WA, Abidjan
Mr. Hop Wilder, Project Manager, AID/Dakar