

ANNEX C

REPORT OF THE PROJECT MANAGER - JAMES HUGHES

The adaptive research being carried out at the village level for the vegetable production project is based on the "farmer research approach". Due to little or no adaptive research data available Mauritania for vegetable production, a farmer research approach is necessary.

The farmer research approach takes into consideration the traditional methods of farming practices in areas influenced by the project. Interjection of selected improved technologies designed to enhance traditional production methods on a progressive basis are then introduced on a trial basis.

Once groups of improved technologies (ex. - new varieties plus low levels of fertilizers) have been proven worthwhile in demonstration gardens they are introduced to other farming communities. It is imperative that an understanding of local farming conditions be developed prior to inserting improved technologies if they are to be successful.

In this project adaptive agronomic research is being carried out on: variety testing, fertilizer levels, spacing, irrigation, the use of a limited number of insecticides, and manure incorporation.

Demonstration gardens serve as extension multipliers for farmers as well as GIRM agricultural officials. A Chef de Secteur responsible for agricultural extension in each of the three project regions aided by local village moniteurs extend better farming practices at the village level.

Due to lack of transportation (Land rovers, and gasoline/oil) Chef de Secteur and moniteurs are limited in their extension endeavors.

The planting of alfalfa for soil improvement, rather than for forage for village animals has not been investigated to date. Planting of alfalfa during the dry season is anticipated which will contribute to feed for animals during the off-season. Much research remains, however, to be investigated with soil improvement and forage/composting techniques.

Seed preservation is an important aspect of a viable vegetable production project. Most of the seed planted by Mauritanian farmers is imported from France. Imported seed is expensive for the traditional farmer and is oftentimes not available. More effort needs to be carried out on seed preservation techniques suitable for acceptance by villagers.

Seed preservation is a rather specialized technique. Work with a few better motivated farmers in each region to learn the techniques of seed preservation has yet to be initiated. The amount of water which can be hand-drawn from a village well and carried to a garden site is one of the major production constraints.

Investigations are now underway to introduce a simplistic gravity flow irrigation system which would be practical for village farmers. Field tests to date indicate that with incorporation of manure and fertilizer, one-half less water for gravity flow irrigation compared to hand watering has resulted in 2 times more potato production in one site. These trials will be expanded during the 1981-82 growing season since a short-term irrigation engineer has been added to the consultant staff.

RECOMMENDATIONS

1. More emphasis on inputs such as:
 - A. Manure incorporation
 - B. Low levels of fertilizer
 - C. Different irrigation materials
 - D. Nematode resistant varieties including nematode controlling plant varieties.
 - E. Emphasis on fewer vegetable variety trials based on growing seasons remaining.
2. Where market potential looks promising, concentrate on a large cooperative for production. Maximizing white potato production for example, with inputs of fertilizer, manure, insecticides if needed, - deducting costs of production, transportation, marketing - to determine if farmers can make a profit.
3. Study use of small rototillers along Senegal River where labor constraints, cash markets might warrant such intermediate technology.
4. Alfalfa and other soil building crops should be investigated for forage particularly during the hot, dry season.
5. Seed preservation studies. Mississippi State University has been contacted for 30 day consultation on seed preservation. No cost to mission or project.
6. Determine number of wells to be reinforced (cemented) and study other hydrologic problems.

ANNEX D

VEGETABLE PRODUCTION PROJECT - BUDGET ADDITIONS FOR

THIRD YEAR OF CONTRACT TECHNICAL ASSISTANCE AND

RELATED COSTS

<u>ITEM</u>	<u>OPTIONS</u>		
	<u>HIGH</u>	<u>MEDIUM</u>	<u>LOW</u>
<u>I. TECHNICAL ASSISTANCE</u>			
Team Leader (12 mos.)	125,000	125,000	125,000
Hort./Agronomist #1 (12 mos.)	55,000	55,000	55,000
Hort./Agronomist #2 (12 mos.)	90,000	75,000	-
Agricultural Economist (9 mos.)	75,000	-	-
Irrigation Engineer (12 mos.)	95,000	95,000	95,000
Nutritionist (9 mos.)	70,000	-	-
<u>SUBTOTAL</u>	510,000	350,000	275,000
Home Office (1 mos.)	5,000	5,000	5,000
Overhead	335,000	230,000	180,000
Fee	50,000	35,000	25,000
<u>TOTAL</u>	900,000	620,000	485,000
<u>II. PARTICIPANT TRAINING</u>	110,000*	10,000	10,000
<u>III. COMMODITIES</u> (Seed, Fert. Pesticides)	90,000	80,000	70,000
<u>IV. EQUIPMENT</u> (Teaching Aids, Tools, Fenc.)	20,000	15,000	10,000
<u>V. VEHICLES SPARE PARTS</u>	20,000	20,000	20,000
<u>VI. OTHER COSTS</u>			
1. Pol/Maintenance	90,000	90,000	90,000
2. Housing/Maintenance	40,000	40,000	40,000
3. Local Employees	50,000	45,000	40,000
Other Operational Costs			
<u>TOTAL</u>	\$1,320,000	\$920,000	\$765,000

* Includes possibility of 4-years U.S. based training program for Chief of Vegetable Production.