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MAURITANIA AGRICULTURAL RESEARCH II

Kaédi, Islamic Republic of Mauritania

FIRST ANNUAL REPORT

1986

Mauritanian Agricultural Research II Project
Office of Arid Lands Studies
College of Agriculture
The University of Arizona
Tucson, Arizona

and

Centre National de Recherche Agricole
Kaédi, Mauritania

Supported by U.S.A.I.D./Nouakchott

399

ANNUAL REPORT

INTRODUCTION

- AGRES II PROJECT
- CNRADA

1986 PERFORMANCE

ACCOMPLISHMENTS

CONSTRAINTS

EVALUATION OF OUTPUT PERFORMANCE AGAINST PROJECT PURPOSE AND OBJECTIVES: 1986

- Purpose and Objectives
- Technical
- Administration and Financial

MAJOR ACTIVITIES for 1987

- Technical
- Administration

APPENDICES:

A. OUTPUT CHART FOR THE YEAR 1986

B. TECHNICAL WORK PLAN AND SCHEDULE-1987

C. ON-FARM and STATION TRIALS and EXPERIMENTS: 1986-1987 Campaigns

D. WORKSHOPS AND SEMINARS

E. LIST OF REPORTS AND PUBLICATIONS

F. AGRES II project - Financial Account for 1986

G. AGRES II project - Budget for 1987

H. CONTRACT - AGRES II Project

I. OUTPUT SCHEDULE: Over the life of the Project

J. ESTIMATED TRAINING SCHEDULE

K. PROJECT DESIGN SUMMARY - LOGICAL FRAMEWORK

400

L. RAPID RURAL RECONNAISSANCE SURVEYS: Summary of Findings

- Dry Season Survey

- Rainy Season Survey

M. REPARTITION DES ESPECES ET VARIETES DANS LE GUIDIMAKHA -- SORGHUM AND MILLET VARIETIES COLLECTED FOR GERM PLASM (Guidimaka Region)

N. CROPS AND VARITIES MADE AVAILABLE BY AGRES II FOR RESEARCH AND DEVELOPMENT (in Mauritania)

O. THEMATIC SURVEY - Mauritania Floodplains and Recession Agriculture (walo) in Guidimaka, Gorgol, Brakna, and Trarza Regions - Objectives.

P. Peace Corps Volunteers (Agriculture) WORKSHOP/STAGE - Objectives.

MAPS - (i) Mauritania Agricultural Systems (Preliminary Recommendation Domains)

- (ii) Agro-Ecological Zones of Mauritania

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402

ANNUAL REPORT

INTRODUCTION

AGRES II Project

From the beginning the Mauritanian Agricultural Research II (AGRES II) project was conceived as part of a larger agricultural research project covering the Senegal River Valley to be under the auspices of the Organisation pour le Mise en Valeur du fleuve Senegal (OMVS) in which Senegal, Mali and Mauritania participate. Due to some discordance within OMVS the Mauritanians decided to implement their part of the project. The Mauritanian research center was very much the poor cousin compared to the Mali and Senegal research institutions. Thus the AGRES II project was initiated and implemented in order to improve and increase the research capabilities of the Centre National de recherche Agronomique et de Developpement Agricole (CNRADA).

The AGRES II team is made up of Chief of Party/technical person and an administrative manager. They work in close collaboration with the project coordinator (who is also the CNRADA's technical director), the head of the Grain Crop division of CNRADA and his assistant, all seconded by CNRADA on a part time basis.

The AGRES II project's approach to research and development is through applying the Farming Systems Research and Extension (FSR/E) methodology with the farm household as its main focus of all research and extension activities. The overall goal of the AGRES II project is to improve the standard of living of farm households by arresting the deterioration of the environment in the river valley. To accomplish this goal, the project has

403

three main objectives to strive for during its life span (four and one-half years). These include: 1) to establish the research center in Kaedi as a credible and regionally recognized research institution (Institution Building); 2) to establish collaborative links between the various rural development, agricultural, educational and research institutions and organizations (Institutional Linkages); 3) to apply the FSR/E methodology and approach to research and extension by establishing on-farm trials and experiments and by extending the new appropriate technologies developed by CNRADA (N'Gaide et al. 1986:1).

CNRADA

The Mauritanian research center known as CNRADA (Centre National de Recherche Agronomique et de Developpement Agricole) is an autonomous research organization within the Ministry of Rural Development (MDR) which is responsible of overseeing all agricultural research conducted in Mauritania. Established in 1974, its headquarters and major research stations are located at Kaedi. The center has substations in Selibaby, Kankosa, Barkeol, Rosso and Nouakchott (last two horticulture only) It has some financial support and technical assistance from various international development organizations. The center has a wide based research program but unfortunately it is sparsely staffed and poorly supported by the National Budget (N'Gaide et al; 1986:2).

CNRADA has developed numerous technologies many of which are ready for on-farm testing, very little work had been done in this area. This soon became apparent from the discussions that were held with various Mauritanian officials and persons involved in projects associated with CNRADA. A major constraint to on-farm testing and technology transfer was the weak linkages

4/04

between CNRADA and the various other agencies in the ministry especially the extension agencies (N'Gaide, 1986:2).

In the past, CNRADA had initiated some limited on-farm testing in the Gorgol Region carried out by the Pre-Extension Division, and lately some limited on-farm testing/demonstration plots was conducted in the Southern Guidimaka Region by the Grain Crop Division (N'Gaide et al. 1986:2). Budgetary constraints and the lack of qualified personnel has seriously inhibited the implementation of on-farm trials and the transfer of technology from the station to the farmer.

1986 PERFORMANCE

In December 1986, the project AGRES II has completed one year in Mauritania. during the first year the project was supposed to establish the administrative procedures, procure housing and equipment, and commence both the formal and informal training of national research staff. In the technical area the first year's activities were to consist of data gathering, observation of the farming systems, learning, and establishing research alternatives, goals and priorities. Yet in certain aspects the project has accomplished more than what was proposed in the first year's work plan such as conducting a number of surveys and on-farm trials and is a little behind in others such as the completion of certain reports. Even so, in the face of a number of adverse conditions, the extreme weather conditions being one, and certain given constraints, for example the poor infrastructure and not too reliable communication's system, the project personnel, CNRADA and short term consultants from the University of Arizona have managed to establish the project in Kaedi and the Senegal River valley. Through the publication of

4/05

some of its results and the active participation of researchers in conferences and workshops CNRADA and the project have gained some recognition and respect nationally, regionally, and in the U.S.

The first to arrive in Mauritania was Robert W. Ackerman III, the project's administrator, on December 5, 1985; Mark B. Lynham, the chief of party, followed about one month later. Within two weeks of Robby's arrival an aerial reconnaissance survey was completed - though it was flown under difficult and unusual conditions, a twenty-four hour rain in December between prolonged sandstorms. In early January, housing, office, furniture and some equipment was procured. By the end of January a second aerial reconnaissance survey had been completed and a multidisciplined reconnaissance survey was underway. By August the reports of the survey were redistributed, five researchers were studying in the U.S., a number of others had attended conferences, workshops and had been on short study tours, and a number of station and on-farm trials had been set out. An introduction to FSR/E workshop was held in September. Also a number of specific lectures had been given at the Agricultural School, to Peace Corps volunteers and to researchers of various local institutions. At the end of October a third aerial reconnaissance survey, a second general reconnaissance survey with an additional consumption survey, and a soils and soil management survey were completed, By the end of the year 1986 two other researchers attended an FSR/E workshop, another thematic study had been completed, germ plasm seed collection started (48 local varieties of rainfed sorghum and millet varieties), rainy season trials harvested and the recession agriculture on-farm trials placed out in the fields.

A major activity carried out by the project was the forging of linkages

406

between local, regional and international institutions and CNRADA, in order to enhance the center's capabilities and effectiveness in the area of research and development. The main linkage sought was between the research center and the other two corner stone institutions of agricultural development, extension (Inspection Regional d'Agriculture - IRA) and education (Ecole National de Formation et de Vulgarisation Agricole - ENFVA). Because of the lack of trained personnel in all three institutions a closer working relationship would help to alleviate the situation through the sharing of their expertise and training especially during the initial years when a number of persons are absent attending long term external training. Besides the decree of the Government of Mauritania, requires the eventual union between CNRADA and ENFVA. In the first survey a number of persons from the different Directorates of the Ministry of Rural Development (which includes the extension, SONADER) and the Ministry of Health participated. this was the first time in many years that such cooperation was achieved. The second survey team was composed of persons from CNRADA, ENFVA, and IRA.

Throughout the year meetings were held, seminars and training sessions, and field visits carried out with ENFVA teachers, students and IRA agents. Closer links have been established between the CNRADA and ENFVA to culminate in a memorandum of understanding between the two institutions and the University of Arizona/Consortium for International Development (CID) - to be signed in 1987. Cooperation was elicited from and agreed to by SONADER (Societée National de Developpement Rural) for future research studies (with outside funding). Strong links have been established between the Peace Corps and CNRADA/AGRES II and a number of on-farm trials were carried out by volunteers in the southern regions. Other Peace Corps volunteers (PCV's)

407

throughout the country have sought to actively cooperate with the Center in its research and studies. CNRADA participated in the West African Farming Systems Research Network (WAFSRN) symposium in March, 1986, and this has helped to establish new relationships with other regional and to open up other avenues of possible future cooperation.

Numerous local and external consultants and national functionaries have visited the Research Center and the project in Kaedi. For the most part the express purpose for these visits were to fund, establish, implement and/or evaluate research and development projects. In the majority of cases the visitors after their meetings with CNRADA agreed that a linkage or some degree of cooperation should be established with the Research Center. Unfortunately in most of the cases follow up of the meetings have not been carried out or have not been possible due to the lack of personnel and/or time on the part of CNRADA/AGRES II. There is a lot to be desired with regards to the present collaboration between the research/ development organizations and institutions. It seems that some of them still prefer to work in a partial vacuum, not cooperating with other projects within the country. Thus there is considerable repetition and overlap of research and development work.

ACCOMPLISHMENTS

The project AGRES II has managed to initiate and/or accomplished a number of objectives in its first year. Some significant accomplishments in the technical area are first, that four researchers fully understand the FSR/E methodology and approach and have extended their knowledge through seminars, workshops and short courses; secondly a number of extension agents and

408

teachers in ENFVA understand the basics of the FSR/E approach; thirdly, many persons, especially in the MDR, better understand the various farming systems in the southern regions and more importantly appreciate the farmers' problems and the major constraints of the agricultural production along the river valley. With regards to the administration the project has fully equipped offices (typewriters, computers, photocopiers, visual equipment, etc.), administration and logistic procedures completed, radios and generators installed, running vehicles, and adequately furnished housing. An extremely important fact is that CNRADA's financial situation is greatly improved and should soon be resolved through better management control and fiscal responsibility. Finally collaborative links have been established between research, extension and education, with the stronger and more dynamic link being between research and education through lectures, seminars and field visits.

The accomplishments of the project during the year are noted in the Output Chart. The major ones are listed below:

Technical - (1) Two general reconnaissance surveys and seven specific, or thematic,surveys were completed. Thus a much better understanding has been acquired of the farming systems in the river valley.

(2) Five reports based on the surveys have been distributed with five other reports in the process of being written or edited.

(3) Eight station experiments and fifty-five on-farm trials have been implemented. Data and information was obtained from three station experiments and on-farm trials.

409

(4) Five researchers are studying in the United States.

(5) Seven presentations, of which three were to the minister or his counselor, three short and one ten day seminar /workshops were held to explain the project's program, the survey findings and the FSR/E methodology and approach.

(6) Established close working relationship with CNRADA and more especially with the Division of Grain Crops Research and the Division of Horticulture.

Administration - (1) Established and implemented the administrative and fiscal procedures.

(2) Procured and installed the necessary equipment to try to ensure the continuous effectiveness of the project and efficiency of the adminstration.

(3) Completed the preliminary report on the financial and administrative situation of CNRADA.

A number of major constraints exist that restrain or impede the implementation and/or achievement of some of the objectives of the project and of some of the programs planned. The major constraint is the lack of personnel, especially trained researchers in CNRADA, in order to carry out a reasonable research program. The enormity of the research and development programs required in order to substantially improve the agricultural production in Mauritania and to help the country reach its avowed goal of food self-sufficiency will require a much greater effort in the research and diffusion activities and thus a much greater infusion of trained human and secure financial resources than is at present available or even proposed. this

4/8

situation is exacerbated as the research center's reputation improves and grows. The few remaining researchers of the Center, who are outstanding, are requested to participate and/or organize in-country and external conferences, seminars, and workshops. These same researchers need to obtain both short and long term training in order to enhance their expertise and capabilities. But these requirements and demands increase the workload for the remaining researchers who have put in long hours in order to accomplish all that is required and being asked of the Research Center.

Some other constraints that adversely affect the Center's work and/or its results are the lack of certain resources, facilities and equipment. An adequate and well catalogued document center and library has hampered the process and achievement of substantive research. Also due to a lack of information in Kaedi on past research and development unnecessary duplication of research work has occurred. The absence of proper storage facilities for seed, soil and vegetative matter has meant the loss of past seed (germ plasm) and vegetation (plants, etc.) collections leading to the inability of the center to ensure long term research in certain areas such as soil fertility and crop improvement and development. The project has acquired three freezers for this purpose but they are grossly inadequate and only resolve the problem temporarily. The Research Center's lack of adequate transport (running vehicles, motorcycles and/or bicycles) has badly restricted the ability of the researchers to get out beyond the research stations in order to study the farming systems and establish on-farm trials.

An important constraint which in many projects is often overlooked is the fact that the administrative staff is inadequately trained to handle the short and long term administration of the center, (logistics, accounting,

4/11

personnel, filing and recordkeeping, storage and service of equipment). The dirth of local or regional long and short term training courses for the management, the administration personnel and the ancillary staff (secretaries, mechanics, etc.) has limited the development of this aspect of CNRADA. Without these types of training the efficiency of the Research Center suffers from the lack of an adequate administrative and logistic back-up service. Thus, because of this inadequacy, the long term sustainability of a good research program is questionable.

EVALUATION OF OUTPUT PERFORMANCE AGAINST PROJECT PURPOSE AND OBJECTIVES: 1986

Purpose and Objectives:

The purpose and objectives of the Mauritania Agricultural Research II Project and the expected outputs are detailed in the "Contract - AGRES II Project" (appendix H) and in the "Project Design Summary: Logical Framework" (appendix K). The "Output Schedule: Over the Life of the Project" summarizes the expected outputs by year. It should be said that the Project purposes laid out in the "Logical Framework" have been revised and are more in line with those project purposes and objectives as outlined in the Project Proposal under Section C: Description/Specification/Work Statement. After having completed the first survey and in writing the Agricultural Research Alternatives the project objectives/purpose and goals were again modified and informally accepted to read as follows: -

The overall objective and the three main goals of the AGRES II project are: 1) to establish the research center in Kaedi as a credible and region-

412

ally recognized research institution (Institution Building); 2) to establish collaborative links between the various rural development, agricultural, educational and research institutions and organizations (Institutional Linkages); 3) to apply the FSR/E methodology and approach to research and extension by establishing on-farm trials and experiments and by extending the new appropriate technologies developed by CNRA and on other research stations in the Sahel and West Africa (Establishing an FSR Capability).

The major reason for this modification is because of the Project's approach to research and development which is through the application of the Farming Systems Research and Extension (FSR/E) methodology as suggested in the Project Paper (Section C: 2 b). This approach is multidisciplinary and considers the farm household as the main focus of all research and extension activities.

Technical:

With regard to the technical aspect of the project, the emphasis was placed on: conducting on-farm trials with the primary objective of training research and extension staff (CNRADA, IRAG, PCV) and secondary objective of introducing sorghum CE 151 variety and sesame to the farmers (list of on-farm trials given in Appendix C); and in training personnel in the FSR/E approach through local seminars and workshops and third country workshops (Appendix D). Tentative Recommendation domains were established (Section C: Article I, 4, a). Three major domains were defined as shown on the maps. A fourth domain might be necessary after further studies are made. The three major recommendation domains are the River Valley System region, the Sahelian region, and the OASIS system area. The fourth domain would be the coastal region. The major recommendations that were derived from the two reconnais-

4/13

sance surveys concerning the research into and development of agriculture in the southern regions of Mauritania are summarized in Appendix L and are given in detail in the Agricultural Research Alternatives. The CNRADA Research Strategy and Implementation Plan will be based on the results of the surveys as given in the Agricultural Research Alternative and its addendum. The "Research Strategy" should be completed by mid-1987. The major constraint to an early completion of this document is the lack of sufficient qualified research personnel and the very heavy work load placed on them (five researchers being away on long-term training, leaving four researchers and the Technical Director to carry out the research work).

CNRADA research staff have travelled extensively attending seminars and workshops throughout West Africa either through the auspices of the AGRES II Project or byu invitation from certain International research organizations (CILSS, SAFGRAD, 3RS, etc.) and are becoming known and respected. Numerous documents that have been published by AGRES II Project/U of A have been distributed and have enhanced CNRADA's reputation and prestige. But the reports have not been distributed widely enough especially outside of Mauritania. The major constraint to the more extensive distribution of the published reports is cost. The AGRES II Project's budget has insufficient funds allocated for this purpose as project personnel did not anticipate the wide and popular demand for these reports, and these are the first of many to be published.

Thus in the first year of the project the process toward attaining the objectives and goals as stated in the Agricultural Research Alternatives (p.1) has been initiated and considerable progress made in establishing collaborative links between the various agricultural institutions in

Mauritania and (ii) the application of the FSR/E methodology and approach to research and extension. The purpose of the project as per the Project Proposal, Section C are being adhered to and the expected outputs (a), (b), and (d) are materializing and will be attained (refer to Output chart for 1986 - Appendix A, Output Schedule - Appendix I).

A major activity that was not foreseen by the project designers is the government mandate requiring the merger of the research (CNRADA) and agricultural education (ENFVA) institutions. The mandate was discussed in the "Plan de Redressement, 1985-88." - MIR Economic Recovery Plan. This section dealing with the merging of the two institutions is under Section IV, 65: b and reads as follows: -

> (b) Le renforcement de la vulgarisation qui doit etre un service a la disposition des paysans et non un service de controle de ceux-ci. Il doit integrer les acquis de la recherche agronomique et veterinaire afin de les promouvoir aupres des producteurs. A ce titre, le couplage du Centre de recherche agronomique et de l'Ecole nationale de formation de vulgarisation agricole pour organiser des programmes de formation et de recyclage continu sera realise rapidement. De meme, une coordination entre les programmes de vulgarisation dans les differents projets sera promue, en cooperation avec les bailleurs de fonds.

To this end strong links were set up between CNRADA and ENFVA and with AGRES II/U of A. Numerous meetings and discussions were had and a Memorandum of Understanding was drawn up and agreed upon. This document will be signed in mid-1987 by the U of A and the MRD of MIR. A working relationship was established between ENFVA and AGRES II whereby TDY's would lecture at the

415

school and the school would carry out some trials for the Project. This relationship will be strengthened into the coming year (1987) and will be formalized once the Memorandum is signed. The project and CNRADA has also forged strong links with the extension institution in the Gorgol Region and with SONADER in Boghe and Rosso. These institutions wish to collaborate with the research to conduct on-farm trials and experiments. The major constraints to strengthening these linkages are lack of personnel and mobility on the part of AGRES II/CNRADA. But the research will endeavor to strengthen these collaborative linkages as it cannot afford to abandon and reverse such efforts especially since the research initiated and insisted on acquiring collaborative linkages between agricultural research and development organizations.

Because of the institutional changes occurring with regards: to the research and agricultural educational organizations, and due to certain constraints within CNRADA requiring a deeper involvement of other research and development institutions in order to reach the Project's overall objective, the Project's design should be revised or modified to take into account the direction in which the project is going and the wider perspective it has acquired.

Administration and Financial:

During the first year the project has had to overcome many logistic and administrative constraints in establishing the project. Within the first few months the project was established in Kaedi with housing, office facilities, transport and essential equipment. Basic accounting, financial and administrative procedures were established and documented. Over the period the problems encountered with the communication between the U of A and the field

416

and Nouakchott and Kaedi were studied and alternative solutions tried with little success though the situation should improve in 1987 with the establishment of radio links between Kaedi and Nouakchott. By the end of the year the administrative and logistic aspects of the AGRES II project was running smoothly given the conditions and circumstances, though a number of constraints still need to be overcome in order to avoid delays and increase efficiency of the administration.

The component of the project that concerns the provision of "a good foundation of human resource development, . . . the development of financial, commodity and research systems (in CNRADA)"--Project Proposal Section C, Article I.--was initiated with a study into CNRADA's administration and finances. A was report completed and distributed--Special Report on CNRADA's Administration and Financial Viability. CNRADA did make considerable progress toward reducing its debt especially to local creditors in Kaedi. Progress towards developing the management and administrative human resources in CNRADA has been minimal. The establishment and development of "systems to handle all administrative, logistics and procurement activities will be initiated once the AGRES II project has created a model for CNRADA to follow, and also defined and documented all procedures and designed all forms that should be used for monitoring and control.

MAJOR ACTIVITIES FOR 1987

The most important activities that will be carried out during 1987 are to assist CNRADA to plan and implement numerous on-farm trials with the express purpose of (i) identifying an appropriate olienatious crop for the

417

Sahelian region and (ii) to extend a couple of promising sorghum varieties that had been identified by CNRADA through on-station trails; to assist CNRADA plan, design and implement station trials to identify suitable varieties of sorghum, maize, cowpea and sesame crops; to implement a thematic survey of the recession agriculture in Mauritania; to extend the FSR methodology and approach to research and development through training seminars and workshops; to strengthen the collaborative linkages between the various agricultural education, research and development institutions, organizations and projects in particular to assist in the merging of CNRADA and ENFVA as per the GIRM's National Recovery Plan (PREF); to complete and distribute the reports of the surveys that were started last year and not completed, of the research carried out during the 1986-87 crop year, and of the surveys and studies initiated during 1987; to assist the Research Center in drawing up the Research Strategy for CNRADA; and to initiate a program to develop the administration and financial management of the Research Center leading to (i) the creation of effective administrative and accounting systems, (ii) a sound management structure delineating responsibilities and accountabilities, and (iii) fiscal responsibility. For a detailed summary of the expected outputs refer to the workplan for 1987 (appendix B).

Other activities of importance planned for 1987 that are worth mentioning are the following:

TECHNICAL

1. To study the FSR evaluation techniques and procedures, adapt them to the Mauritanian situation, then initiate and establish on-going evaluation for the AGRES II project.

418

2. To develop and strengthen the Division of pre-extension in CNRADA. This division is charged with carrying out all on-farm trials, "final stage" station trials and experiments, and identifying areas for research and study.

3. Strengthen the human resources in (i) CNRADA by having qualified Peace Corps agricultural volunteers seconded to the center, and (ii) within the AGRES II project by adding one Technical Assistant (M.S. agronomy) to the team.

4. To send two more members of the CNRADA staff to study at the Graduate level in the U. S. This will make a total of seven persons from CNRADA studying in the U. S.

5. To identify suitable short courses to develop both research, development and administration personnel.

6. To ensure that a Memorandum of Understanding is signed by the University of Arizona and the MDR which will involve CNRADA, ENFVA and University of Arizona.

7. Preparation of the Minister of Rural Development's visit to several Western Land Grant Universities in the U. S.

8. To follow up and implement the recommendations given in the report on the Documentation Center for the Research Center.

ADMINISTRATION

9. To implement an in-depth study of CNRADA's administration and finances leading to a special report --- Administrative and Financial Alternatives.

10. Completion of the new CNRADA administration and research facilities; to initiate and implement the move to the new site.

419

Appendix - A

MAURITANIA AGRICULTURAL RESEARCH II PROJECT (AGRES II)
--OUTPUT CHART FOR THE YEAR 1986--

OJECT OUTPUTS	1st Quarter January - March		2nd Quarter April - June		3rd Quarter July - September		4th Quarter October - December		COMMENTS
	Proj.	Comp.	Proj.	Comp.	Proj.	Comp.	Proj.	Comp.	
SURVEYS									
General Dry Season Recon Survey									
-Implement	survey	done	-	-	-	-	-	-	complete -
-Reports dist.	start	start	1 draft	comp.	dist.	dist.	-	-	report #1
1st Aerial Recon. Survey									
-Implemented	survey	flown	-	-	-	-	-	-	complete -
-Videos and slides dist.	-	-	dist.	all dist.	-	-	-	-	report #4
-Report dist.	-	-	-	done	-	dist.	-	-	
Consump. & Nut. Survey: Part 1									
-Implemented	survey	done	-	-	-	-	-	-	complete -
-Report dist.	-	begun	1 draft	not com	dist.	dist.	-	-	report #3
Veg. Production Survey									insufficient data, and heavy editing required
-Implemented	-	-	-	comp.	-	-	-	-	
-Report written	-	-	-	begun	1 draft	not com	1 draft	not com	
Soils and Soil Man. Survey									
-implemented	-	-	-	-	survey	comp.	-	-	should be completed by early 1987
-soil analysis	-	-	-	-	collect	comp.	to lab	sent	
-report written	-	-	-	-	start	begun	1 draft	done	

426

PROJECT OUTPUTS	1st Quarter Proj.	1st Quarter Comp	2nd Quarter Proj.	2nd Quarter Comp	3rd Quarter Proj.	3rd Quarter Compl.	4th Quarter Proj.	4th Quarter Comp.	COMMENTS
6. Gen. Rainy Season Recon Srvey									
-implemented	-	-	-	-	survey	comp.	-	-	should be completed by
-reports written	-	-	-	-	start	begun	1 draft	not com	early 1987
7. 2nd Aerial Recon Survey									
-implemented	-	-	-	-	survey	flown	-	-	distribution
-videos and slides dist.	-	-	-	-	-	-	dist.	not dn	early 1987
-report written	-	-	-	-	-	-	start	-	
8. Nut. & Consump. Survey									
-implemented	-	-	-	-	survey	comp.	-	-	distribution
-draft rept dist	-	-	-	-	start	begun	fl drft	comp.	early 1987
9. Study & Survey of Sesame Prod									
-implemented	-	-	-	-	-	-	-	comp.	early 1987
-report written	-	-	-	-	-	-	-	begun	complete
10. Study of Admin & Finances of CNRADA									
-implement	-	begun	comp.	comp.	-	-	stdy 2	comp.	
-report dist.	-	-	start	comp.	dist.	dist.	request -	-	
TRIALS & EXPERIMENTS									
Dieri: on-farm				plan'd					droughts and
- implemented	-	-	-	-	10 vils	5 vils	-	-	insects caused
- completed	-	-	-	-	-	-	6 site	15 frms	extensive damage
- analysis	-	-	-	-	-	-	begin	begun	comp early 1987
- report written	-	-	-	-	-	-	-	-	comp 2nd Q 1987

PROJECT OUTPUTS	1st Quarter Proj	1st Quarter Comp	2nd Quarter Proj	2nd Quarter Comp	3rd Quarter Proj	3rd Quarter Comp	4th Quarter Projected	4th Quarter Comp	COMMENTS
Walo: on-farm							plan	plan'd	
- implemented	-	-	-	-	-	-	3 frms	3F, 2G	
- completed	-	-	-	-	-	-	-	-	1 Q 1987
- analysis	-	-	-	-	-	-	-	-	2 Q 1987
- report written	-	-	-	-	-	-	-	-	2 Q 1987
Station experiments									
1st campaign				plan'd					
- implemented	-	-	-	-	2 sites	3s, 4t	-	-	drought and
- completed	-	-	-	-	-	-	3 sites	3s, 3t	insects caused
- analysis	-	-	-	-	-	-	begin	begun	extensive damage
- report written	-	-	-	-	-	-	begin	not yet	comp early 1987
2nd campaign									comp 2 Q 1987
- implemented	-	-	-	-	-	-	1 site	1 site	
- completed	-	-	-	-	-	-	-	-	1 Q 1987
- analysis	-	-	-	-	-	-	-	-	2 Q 1987
- report written	-	-	-	-	-	-	-	-	2 Q 1987
SEED COLLECTION									
germ-plasm									
Dieri crop:									
completed	-	-	-	-	-	-	-	begun	comp early 1987
report written	-	-	-	-	-	-	-	-	to be written
Walo crop:									
completed	-	-	-	-	-	-	-	-	early 1987
report written	-	-	-	-	-	-	-	-	
OTHER REPORTS									
Quarterly Reports:									
#1 draft dist	-	-	comp.	comp.	-	-	-	-	
final dist	-	-	-	begun	dist.	dist.	-	-	

5/22

PROJECT OUTPUTS	1st Quarter Proj	1st Quarter Comp.	2nd Quarter Proj	2nd Quarter Comp	3rd Quarter Proj	3rd Quarter Comp	4th Quarter Proj	4th Quarter Comp	COMMENTS
#2 draft dist	-	-	comp.	comp.	-	-	-	-	
final dist	-	-	-	-	-	begun	dist.	not com	dist early 1987
#3 draft dist	-	-	-	-	comp.	not com	dist.	dist.	
final dist	-	-	-	-	-	-	comp.	not com	early 1987
#4 draft dist	-	-	-	-	-	-	-	-	early 1987
final dist	-	-	-	-	-	-	-	-	2 Q 1987
End of Year Report									
draft dist	-	-	-	-	-	-	-	-	early 1987
final dist	-	-	-	-	-	-	-	-	2 Q 1987
Rprt on Documentation Center, Kaedi									
distributed	-	-	-	-	-	-	write	comp.	dist early 1987
STUDENTS long-term									
Left for USA	3	3	1	2	-	-	-	-	5 BS candidates
TOFEL exam	-	-	-	-	3	5	-	-	2nd exam in Jan
Start coursework	-	-	-	-	begin	5 F'd TOFL	-	-	4 to start (4 passed TOFL)
WORKSHOPS/SEMINARS									
# persons attending:									
duration (wks)									
									Totals
USA	-	-	-	-	1 : 3	1 : 3	-	1 : 4dy	2 persons
West Africa	-	-	2 : 3	2 : 3	-	-	4 : 3	2 : 3	4 persons
Mauritania	-	-	-	-	-	-	-	-	
By CNRADA/AGRES II				FSR/E	intro	intro			Sems./Wrkshps
# persons	-	-	-	6-4-5	EN'A/PC	12-16	-	-	3 short
duration (days)	-	-	-	1-2-2	6 - 5	5	-	-	1 medium

PROJECT OUTPUTS	1st Quarter Proj	1st Quarter Comp	2nd Quarter Proj	2nd Quarter Comp	3rd Quarter Proj	3rd Quarter Comp	4th Quarter Proj	4th Quarter Comp	COMMENTS
Lectures by TDYs	-	-	-	-	-	1(x3)+1	-	-	
- ENFVA						1 PCV			
VISITS & TRAVEL									
sponsored by AGRES									
Study tours - cntry	USA			USA	USA	USA			
persons : duration	2:2 wks	postcnd	-	2:10 dy	1:2 wks	1:3 wks	-	-	Total of 3
Conferences/Meetings									
country	-	Senegal	-	Nkctt	-	-	Senegal	Senegal	
# persons:duration	-	2:2 wks	-	1:1 wk	-	-	3	1	
TDY's - number	3	3	1	1	5	6	-	-	8 UA tech cnslt
- duration wk	2x3,1x6	2x3,1x6	10 days	10 days	varying	varying	-	-	Total: 9.5 mnth
- purpose	survey	survey	review	review	survey	survey/ equip.	-	-	
Visitors to Kaedi									
(AGRES II)									
- Nat'l Officials	-	-	-	2	-	1	-	3	
- USAID	-	1	2	3	1	3	-	8	
- Consultants									
(Int. Org.)	-	3	4	6	-	-	-	6	
Locally hired cnslts									
- numbers	-	1	-	1	-	-	-	-	
- duration	-	6 wks	-	3 wks	-	-	-	-	
- purpose	-	survey	-	survey	-	-	-	-	

Appendix - B
TECHNICAL WORK PLAN AND SCHEDULE
Mauritania AGRES II Project
- 1987-

Time Period	ACTIVITIES	OUTPUT	SEMINARS/ WORKSHOPS	VISITS & TRAVEL
FIRST QUARTER				
January	1. Report writing 2. Review of AGRES II progress and plan for 1987. 3. Monitor trials and experiments both on-farm and station. 4. Collect germplasm (Dieri).	Reports Report - Report Seed germplasm Photo record	None	To Mauritania: Dr. Dewhirst - Dean of Research. U of A Michael Norvelle - P.I. AGRES II Proj. U. of A. (10 days) To Dakar & Bamako: Mark B. Lynham - C.O.P. AGRES II. (7 days)
February	1. Report writing. - Distribute Consumption Report 2. Monitor trials and experiments both on-farm and station. 3. Survey of the Mauritanian Walo. (4 person team - 4 weeks) 4.Collect germplasm	Reports - Report Report Seed germplasm Photo record	None	To Mauritania: Timothy Frankenberger - AGRES II Technical Consultant. (3 weeks) Administration and Finance Consultant (4 weeks)
March	1. Report writing - Complete the draft copies of all reports coming out of the September	General Report Alternative Research	Start a 2 week FSR/E Workshop for PCV's	Mamadou Diarra -Director of CNRADA to visit Mali and Niger.

Time Period	ACTIVITIES	OUTPUT	SEMINARS/ WORKSHOPS	VISITS & TRAVEL
	Reconnaissance Survey	-Soils Rpt -Veg. Rpt -Aerial Recon. Report		
	2. Collection of data from the dry season trials and experiments.	-		
	3. (i) Plan for horticultural trials for the hot season. (April, May June) (ii) Plan conservation trials (for potatoes and onions).	Trial proposal		
	4. Plan and prepare two week FSR Work-shop.			
SECOND QTR.				
April	1. Write report on 1986-87 trials and experiments.	Report		Dr. Helen Hender-son. Women in Development of U of a. (2 weeks)
	2.Write proceedings of FSR/E workshop.	Proceed-ings	FSR/E Wkshp for PCV's	Minister of Rural Development to visit U.S. Universities
	3. Analysis of data from the trials and experiments - start writing report on 1986/87 On-farm/ Station Trial	Trials & Exp. Rpt.		
	4. Implementing "hot" season trials			
	5. Meetings and planning sessions with IRAG (exten-sion) and ENFVA (education) to co-ordinate work and			

Time Period	ACTIVITIES	OUTPUT	SEMINARS/ WORKSHOPS	VISITS & TRAVEL
	elicit cooperation in trial implementation.			
May	1. Planning and designing trials and experiments for	Proposals	Presentation of 1986-87	None
	2. Visit proposed sites for on-farm trials.	-	Ba Bocar Soule - Secretaire Technique (MJR) to attend workshop in U.S.	
	3. Introduction of PCV's seconded to CNRADA.	-	3 day workshop on On-farm trial implementation for CNRADA, IRAG, and ENFVA personnel	
June	1. Preparation for Season Campaign: both on-farm and station.	-	Graduate Student Candidate to travel to U of A.	Sidi R'chid to visit Tucson (3 weeks).
	2. Visit proposed sites for on-farm trials.	-	Two day workshop on on-farm implementation for cooperating PCV's	To Mauritania: Dr. Voigt - AGRES II crop production and breeding consultant.
	3. Receive additional T.A.	-		Michael Norvelle-P.I. AGRES II Project, U of A (2-3 weeks).
	4. Study/Research into Pastoral and Sedentary Agriculture relationship (with objective to propose an Agro-Sylvo-Pastoral Code -two months, 3 persons) (Dah Ould Salihi, Kebe Ibrahim)	Report and Proposal		
	5. Move to the new AGRES II office building.			

Time Period	ACTIVITIES	OUTPUT	SEMINARS/ WORPSHOPS	VISITS & TRAVEL
THIRD QUARTER				
July	1. Implement rainy season station and on-farm trials and experiments. Target - 15 villages Guidimaka 15 villages Gorgol 15 villages Brakna -for a total of 60 on-farm rainy season trials. -5 on-station trials (at three stations).	-	2nd graduate student candidate to travel to U of A. Candidate to attend Soils and Soil Management Workshop. Language Seminar - Pulaar (PCV - 2 wks.) Seminars at ENFVA by two U of A students.	-
August	1. Monitoring trials and experiments, both on-farm and station.	-	2-3 day seminar on irrigation land management land water harvesting for CNRADA, ENFVA, IRAG, and SONADER. 1-2 day seminar on water harvesting and land management for PCV's	To Mauritania: Dr. G. Matlock -Ag. Engineer and small farm irrigation expert. (2 weeks) R&R: R. Ackerman
September	1. Survey of the Hods, Assab, and the Oasis. (2 weeks, 3 persons) 2. Range Management Survey in the southern Regions of Mauritania (2-3 weeks, 4 persons). 3. Collection of germ plasm from the low rainfall areas.	Report Report Report Seed germplasm photo record.	-	To Mauritania: Mike Norvelle P.I. AGRES II Project, U of A. (3 weeks)

Time Period	ACTIVITIES	OUTPUT	SEMINARS/ WORKSHOPS	VISITS & TRAVEL
	4. Preparation of presentation at FSR/E Annual Meeting	Report Paper		
FOURTH QUARTER October	1. Monitor trials and experiments, both on-farm and station.		Mark Lynham to attend FSR/E annual meeting (Arkansas)	-
	2. Survey of Dieri for additional germ plasm.	Report Seed germ plasm photo record.		
November	1. Collection of data from the Rainy Season trials and experiments. (Dieri) 2. Preparation for dry season trials and experiments. (Walo) 3. Visit proposed sites for on-farm trials 4. Commence to implement dry season trials and experiments (Gardens, Walo, and irrigated). Target - 5 farms - Gorgol - 5 farms - Dirol - 5 farms - in other walos - 10 gardens - 2 station trials	-	-	To Mauritania: Dr. Voigt - AGRES II crop production and breeding consultant (2 wks.) CNRADA researcher to visit Cape Verde -INIA (FSR project) (one week)
December	1. Implement dry season trials and experiments, both on-farm and station (Gardens, Walo, and irrigated)	-	-	
	2. Analysis of data from the trials and experiments - commence writing reports on rainy season trials and experiments.	Report		

Other possible activities, seminars/workshops, and/or visits and travel:

1. Soils laboratory instrumentation short course (USAID)
   Georgia - April-June

2. Irrigation course (USAID) either in the U.S.A. or Morocco
   June-July

3. Visit to Cape Verde - INIA FSR/E project:
   for irrigation - January through June
   for rainfed agriculture - October and November
   to visit the Soil laboratory facilities

4. Visit the GAR project in the Gambia:
   for horticulture - April

5. Chief of Party's meeting (INIA, AGRES II, and Lesotho project) with the P.I.s - date and place to be determined.

6. Dr. V. Marcarian to visit Mauritania
   Rainfed Season - September through November
   Dry Season - January or February
   (possibly best time during Dr. Voigt's visit in November)

Appendix - C

ON-FARM and STATION TRIALS and EXPERIMENTS
-- 1986 - 1987 Campaigns --

TYPE	CAMP	DESCRIPTION of Trials and/or Experiments	TRTS	RPS	FMS	RESEARCHER	OBSERVER	Place: Village	Place: Region	No. Plots: PLN	No. Plots: IMP	No. Plots: COM
ON-FARM	I	Sesame - Sorghum	2	1	2 1	Sidi R'Chid (CNRADA)	Yeli Konute (CNRADA)	KININKUNMU	GUIDIMAKA	5	2	2
ON-FARM	I	Sesame - Sorghum	2	2	3	Sidi R'Chid	Yeli Konute	KININKUNMU	GUIDIMAKA	0	3	3
ON-FARM	I	Sesame				Sidi R'Chid	Yeli Konute	DANGRIMOU	GUIDIMAKA	4	3	1
ON-FARM	I	Sesame - Sorghum	2	1	3	Sidi R'Chid	Yeli Konute	GUEMOU	GUIDIMAKA	5	3	3
ON-FARM	I	Sesame in association with cowpeas	2	2	1	Sidi R'Chid	Yeli Konute	GUEMOU	GUIDIMAKA	1	1	1
ON-FARM	I	Sesame - Sorghum	2	1	5	Sidi R'Chid	-	HASSY CHAGARD	GUIDIMAKA	5	0	0
ON-FARM	I	Sesame - Sorghum	2	1	-	Sidi R'Chid	"War on Want Project"	GUIRAYE	GUIDIMAKA	5	0	0
ON-FARM	I	Sesame	1	1	1	T.J. Wyatt (PCV)	T.J. Wyatt	M'BOUT	GORGOL	5	6	1
ON-FARM	I	Sesame	1	2	1	T.J. Wyatt	T.J. Wyatt	M'BOUT	GORGOL	0	1	1
ON-FARM	I	Sesame - Sorghum	2	2	2	Peter Schlesinger	Peter Schlesinger	FERRALLA	GORGOL	5	2	2
ON-FARM	I	Sesame - Sorghum	2	2	1	Peter Schlesinger	Peter Schlesinger	FERRALLA	GORGOL	0	1	1
ON-FARM	I	Sesame (timing)	3	1	1	Mary-beth Souza	Mary-beth Souza	ROUFI AUDI	GORGOL	1	1	1

TYPE	CAMP	DESCRIPTION of Trials and/or Experiments	TRTS	RPS	FMS	RESEARCHER	OBSERVER	Place: Village	Place: Region	No. PLN	No. IMP	No. COM
ON-FARM	I	Phosphate trials (Maize)	1	1	1	Mary-beth Souza	Mary-beth Souza	ROUFI AUDI	GORGOL	1	1	1
DEMON.	I	Tomatoes and lettuce (vegetables)	1	1	1	Mary-beth Souza	Mary-beth Souza	ROUFI AUDI	GORGOL	1	1	1
ON-FARM	I	Peat and phosphate	2	2	2	Erv Brock	Erv Brock	WALY	GORGOL	2	2	0
STATION	I	Rice - sorghum - maize/2 soil type under irrigation	3x2	3	-	Sidi Fall (CNRADA)	Ideo Sow (CNRADA)	BELINABE & SILLA	GORGOL	1	1	1/2
STATION	I	Millet - fertilizer and spacing			-	Sidi Fall	Sal Amadou (CNRADA)	SILLA	GORGOL	1	1	1
STATION	I	Sunflowers - fertilizer and spacing			-	Sidi Fall	Ideo Sow	BELINABE	GORGOL	1	1	1
STATION	I	Sesame (timing)			-	Sidi Fall	Sal Amadou	SILLA	GORGOL	1	1	1
STATION	I	Sesame (timing)	3	3	-	Sidi R'Chid	Yeli Konute	SELIBABY	GUIDIMAKA	1	1	1
ON-FARM	II	Sorghum - sunflowers	3	3	3	Sidi R'Chid	Sidi R'Chid	Gorgol Walo	GORGOL	3	3	-
ON-FARM	II	Sorghum - cowpeas	3	1	2	Sidi R'Chid	Sidi R'Chid	Gorgol Walo	GORGOL	2	2	-
DEMON.	II	Sesame	1	1	2	Sidi R'Chid	Sidi R'Chid	Gorgol and Dirol Walo	GORGOL	2	2	2
ON-FARM	II	Potato varieties	3	2	1	Ba Djiby	Mary-beth Souza	ROUFI AUDI	GORGOL	1	1	-
ON-FARM	II	Potato varieties	3	2	1	Ba Djiby	Peter Schlesinger	DEBAI DOUBEL	GORGOL	1	1	-

TYPE	CAMP.	DESCRIPTION of Trials and/or Experiments	TRTS	RPS	FMS	RESEARCHER	OBSERVER	Place: Village	Place: Region	No. PLN	No. IMP	No. COM
ON-FARM	II	Potato varieties	3	3	1	Ba Djiby	Holly Munroe	GANKI	GORGOL	1	1	-
STATION	II	Variety trials - sorghum and maize	-	-	1	Sidi Fall	Ideo Sow	BELINABE	GORGOL	1	1	-
STATION	II	Sesame	1	1	1	Sidi Fall	Sal Amadou	SILLA	GORGOL	1	1	-

TYPE = Type of Trial
CAMP. = Campaign
PLN = Planned
IMP = Implemented
COM = Completed

	PLN	IMP	COM
TOTAL ON-FARM TRIALS	47	34	-
TOTAL DEMONSTRATION PLOTS	3	3	3
TOTAL STATION TRIALS (AGRES II)	7	7	-

Appendix - 9 (ii)

LOCAL CURRENCY ACCOUNT - PROJECTED 1987 EXPENSES

UNIVERSITY OF ARIZONA
MAURITANIA AGRICULTURAL RESEARCH PROJECT II
CONTRACT NO. 682-0957-00-C-5129-00

PERIOD	SALARIES MAURITANIAN EMPLOYEES	LOCAL TRAVEL	OFFICE SUPPLY	INCOUNTRY OPERATIONS	SEMINARS	TRIALS	OTHER		TOTALS
1ST QUARTER	15000	4000	1500	6500	1000	1000			29000
2ND QUARTER	10000	4000	1500	12500	6000	1000			35000
3RD & 4TH QUARTERS	25000	12500	2500	25000	5000	66000			136000
TOTAL	50000	20500	5500	44000	12000	68000	0	0	200000

(All figures in U.S. Dollars)

Appendix - H

CONTRACT -- AGRES II PROJECT
Number 682-0957-00-C-5129-00

SECTION C: Description/Specification/Work Statement:

ARTICLE I - BACKGROUND AND OBJECTIVES

1. The development strategy in the Senegal River Basin is to provide a regional approach to the development of the Basin through the OMVS. A.I.D. support of the OMVS Agriculture Research II Project fully conforms to this strategy by strengthening regional and multi-donor collaboration within the OMVS and by seeking improvements of existing production systems consistent with Senegal River Basin development plans. The proposed research will build upon farmers' existing knowledge and practices and upon agriculture research results obtained during the past fifty years which were not fully tested on local farms. These will be accessible to the developers of the Basin to verify and test in irrigation projects.

2. The Agricultural Research Project consists of bilateral sub-components in Mauritania, Mali and Senegal, linked by a regional project to be managed from Senegal by OMVS.

3. The goal of this combination of efforts is improved the capacity of Senegal, Mauritania and Mali to more effectively plan and implement agricultural development activities in the Senegal River Basin. This goal will be accomplished through a long term (10-15 years) institution building effort with the OMVS and national research stations at Fanaye, Kaedi and Same.

The purpose of the project is:

A. to develop Senegalese, Mauritanian and Malian agricultural research capacities in the Senegal River Basin through training, facilities development, and participation in the design and implementation of adaptive research and farming systems research programs; and

B. to improve the combined effectiveness of national agricultural research in the Senegal River Basin through regional coordination and prior itizing within the OMVS.

4. The project will support farming systems research in Senegal, adaptive crop research and on-farm trials of improved technology in Mali, and research planning/management and farming systems research in Mauritania. At the end of this (five) year project, the following outputs will indicate progress towards achieving the purpose and goal:

a. production systems studies, on-farm trials of improved technology, and improved technical packages for "recommendation domains" in major ecological areas of the Senegal River Basin (a "recommendation domain" is a homogenous subgroup of farmers undertaking similar activities and having similar social customs, support facilities access, marketing opportunities, and technology and resources endowment.);

b. upgraded technical and professional skills for agricultural researchers, research assistants and research technical;

c. upgraded agricultural facilities for the three research stations located at Fanaye, Senegal; Kaedi, Mauritania; and Same, Mali;

d. strengthen regional research linkages among national research agencies, appropriately coordinated with national development agencies.

5. This project will be undertaken to identify and refine improved farm production practices which can be utilized in the Integrated Development Projects of the OMVS. Project inputs will be provided for establishing extensive field trial programs and research management activities in the three existing research stations. Since the research programs at the three stations will continue under the administrative jurisdiction of the respective countries, the project will have linkages to the research information available in all three national research organizations. The OMVS agricultural offices will provide for technical and professional collaboration among the researchers working in this project thus facilitating coordination and efficiency in research methods and application of results. The field trial programs will build working linkages with the regional development agencies to facilitate the application of improved technologies on farms not involved in the field research program.

The initial phases of the Mauritanian Sub-component will focus on providing a good foundation of human resources development, the development of a research strategy as well as the development of financial, commodity and research systems. A joint GIRM/USAID review and further design work indicated that development of an adaptive crops research program would be premature at the present time. A transition to Farming System Research will by made in the latter stages of the project, after the basic research systems are in place.

6. Specifically, the project in Mauritania will finance one long-term technical advisor and an administrative assistant at the Kaedi research station. The Research Planner/agricultural Economist will be the counterpart of the Director of CNRADA and as the Chief of Party (CoP) will be responsible for the implementation of the project. Together with the staff of CNRADA, the Planner will design the long range research strategy for CNRADA. The plan will match resource availability with the research priorities of Mauritania. The plan will focus on the River Basin.

The research strategy and implementation plan will be used as the guidelines for developing the specific systems necessary for implementation. In the preparation of the strategy it will also be necessary to make an inventory of research resources and farmer needs. Thus, its preparation may take as long as one year.

The Researcher Planner will be assisted by a project-financed Administrative Assistant, also based in Kaedi, who will be responsible for establishing systems to handle all administrative, logistics, and procurement activities. In addition, a project-financed USAID Country Project Officer, Based in USAID/Nouakchott, will be responsible for liaison with the Ministry of Rural Development in Nouakchott and other relevant national agencies, for the processing of all documentation needed for the project (initiation,

contracting and implementation), for organizing project evaluations, for coordinating mission agricultural research activities and for liaison with the project contractor, CNRADA, OMVS, and USAID/RBDO. Short-term technical assistance in financial management will be provided by the OMVS regional Financial Management Specialist.

During year two of the Chief of party's tenure he will monitor the beginnings of implementation and address concerns attendant upon a functioning research station; organization/procedures of research committees; research proposal justification and approval; release of improved genetic material and establishment of a documentation center.

7. Training of research staff is a major component of the CNRADA development program. The project will therefore provide (four B.S. and Two M.S.) Scholarships. In addition to the planned academic program, a number (of) short-term training activities are also planned. (A detailed description of the entire training component is included in the attached project paper pages 77 - 80).

The CoP will also be responsible for the integration of returning trainees into the activities of the research center, especially in the development of Farming Systems Research program. This program will be a long-term effort to work with a high priority, economically viable production system and cooperating farmers. It is hypothesized that an applied or "downstream" Farming Systems Research program will be developed with SONADER and cooperating farmers involved in growing irrigated rice.

8. The expected outputs of this program will be as follows:

-- (a) An established research system, including the development of a research strategy which will serve as a basis for the eventual transition to a farming systems research program in the latter years of the project;

-- (b) Six Mauritanian researchers trained to the B.S. and M.S. levels, Mauritanian research assistants given special third country and U.S. training and other GIRM field staff benefiting from in-country seminars;

-- (c) Provision of four houses for researchers at the Kaedi research station;

-- (d) A strengthened regional research system integrating national research agencies (e.g. CNRADA) appropriately coordinated with national development agencies (e.g. SONADER).

Article II - Statement of Work

The contractor will supply an initial team of two long-term persons who will be assigned to CNRADA at Kaedi. They will live in housing provided by the project at Kaedi and work in the surrounding regions of Mauritania along the Senegal River. These two long-term persons will be supported by up to 15 person-months of consultants as needed during implementation of the project. The contractor will be responsible for home office backstopping for the technical assistance team and its operations.

A. Agricultural planner/Agricultural Economist

(a) Qualifications:

- M.S. in Agronomy with specialization in cereals production rice, wheat, sorghum, corn;
- three to five years experience in agronomic research involving extensive on-farm trials and field work in Third World;
- experience in training research personnel;
- fluency in French FSI - 3 level.

(b) Major Tasks and Responsibilities

Under the policy supervision of the director of CNRADA and the technical guidance of the Chief of the Plant improvement Service of CNRADA the agricultural planner/agricultural economist will:

- participate with other researchers in developing and implementing a long term research strategy for the CNRADA program including assistance in project design, research resources management (including the development of methodology to predict cost effectiveness of research activities) and project reporting and evaluation;
- develop and implement a farming systems research program on irrigated river basin agriculture;
- work closely with the regional development agencies in setting up and implementing the on-farm trials and assist in the provision of information and interpretation of results for extensive farm dissemination by regional development agencies;
- assist in training Mauritanian counterparts.

2. Administrative Assistant

(a) Qualifications:

- B.S. in management and accounting;
- three to five years experience as an Administrative Officer in either the private or public sector;
- at least two years in a responsible position in administrative work in a developing country;
- fluency in French at the FSI - 3 level.

(b) Major Tasks and Responsibilities

Under the day to day supervision of the Director of CNRADA and the guidance of the agricultural planner, the Administrative assistant will:

- assist CNRADA and the project in its routine functions of administrative and logistical support, including commodity procurement, travel and housing arrangements for research station staff and TDY personnel;

- work closely with CNRADA staff and the OMVS management specialist on project implementation;

- be responsible for establishing liaison with the AID Project Officer based in USAID/Nouakchott regarding project implementation;

- arrange meetings, transportation and other required support for evaluation teams.

B. Short-Term Personnel (15 person-months)

Consultants

Consultants will be provided in irrigation engineering, horticulture, statistics, marketing, equipment maintenance, integrated pest management, and documentation and information services, as required during project implementation.

ARTICLE XII - REPORTING AND PLANNING REQUIREMENTS

a. Quarterly reports: the contractor chief of party will provide a quarterly report covering the following:

- progress measured against planned objectives;
- problems encountered;
- major activities during period;
- actions planned for next reporting period;
- recommendations for revisions in project activities.

b. An annual work plan with clearly defined objectives, time-frame, budget and designation of persons responsible.

c. Semi-annual project reports.

d. Research reports (jointly with CNRADA) on results of the research activities.

e. Evaluations: the contractor will gather and assist in interpretation of information required for the two evaluations envisioned under the project.

f. Such other reports as required by USAID and/or USAID Project Manager.

ARTICLE IV - TECHNICAL DIRECTIONS

Performance of the work hereunder shall be subject to the technical directions of the cognizant AID Project Officer. As used herein, "Technical Directions" are directions to the Contractor which fill in details, suggest possible lines of inquiry, or otherwise complete the general scope of the work. "Technical Directions: must be within the terms of this contract, shall not change or modify them in any way, and shall not constitute changes (as described in the General Provision clause of this contract entitled "Changes"), which may only be accomplished by the Contracting Officer. The Contractor shall notify the Contracting Officer in writing of any Technical Directions which he considers to constitute changes prior to proceeding therewith.

Appendix - I

MAURITANIA AGRICULTURAL RESEARCH II PROJECT
- OUTPUT SCHEDULE -
(Over the Life of the project)

1. Year One

a. On-station trials, assessment of existing technologies based on criteria and evaluation

* Completed on-station trials.... Reports to come out in early 1987.*

b. Socioeconomic surveys on specific topics (investigating complex and confusing issues)

* Two general surveys and four thematic surveys completed - three reports completed, the rest to follow in early part of 1987. *

2. Year Two

Researcher managed on-farm trials (establish criteria for the conduct evaluation)

3. Years Three and Four

a. Farmer managed on-farm trials (establish criteria for the conduct evaluation)

b. Rapid verification of the other, like recommendation domains to insure comparability for specific recommendations

c. Design of evaluation for extension program (on-going evaluation program to be instituted so that local program can adjust to new developments)

4. Year Five

Formal Extension Program begins (Extension training begins Year One)

DOCUMENTATION AND INFORMATION CENTER

Once the research resource review and baseline study are complete, the information to design the Documentation and Information Center will be assembled. The following development plan is proposed. Phase I of the Documentation and Information Center would coincide with the baseline study for the Research Strategy. Phase II would be ongoing through the analytical phase and two final recommendations will be included in the Final Draft Report No. One.

The objective of the proposed technical assistance is to establish a modern system and associated facilities for acquiring, storing, processing, and disseminating information relating to Mauritania's agricultural development. (Project Proposal p. 196)

** Dr. Robert Varady visited Kaedi to review the possibilities of crediting and designing a Documentation center. A report was written and distributed. **

Appendix - J

ESTIMATED TRAINING SCHEDULE

Month	Activity
0	At least three long-term training participants identified upon proposal approval (Project Paper p. 51).
* January 1985	6 candidates identified for B.S. program. *
0.5	Identify intended programs and state or preparation of selected candidates. Documentation provided.
* February 1986	Candidates took qualification exam, 5 accepted. *
0.5	U of A immediately initiates development of programs and identifies prerequisites, initiates admissions procedures.
* March 1986	Areas of Specialization identified. Development of programs initiated. Admissions Procedures for 3 candidates started. The other 2 were started in May. *
1.5	Program discussed with USAID, CNRADA, including any remaining English training.
* March and April 1986	Programs discussed and agreed upon. *
2.0	Admissions completed.
* March - May 1986	Admissions for the 5 B.S. Candidates completed. *

2.5 (Aug 15, '85)	Candidates arrive U of A. ** One-week orientation and registration, (Aug 19-23, '85)

** If contract not signed, students can begin under OICD-USAID contract.

* April 1986	3 candidates arrived in Tucson, AZ. *
* June 1986	2 candidates arrived in Tucson, AZ. *
2.75	Classes and CESL begin. *** If enrolled in CESL for one semester, classes can begin Spring 1986 semester (1/86).
* By June 1986	All 5 B.S. candidates enrolled in CESL and started classes. Both 1st and 2nd groups at U. of A., Tucson. *
4-9	Second group of candidates selected and sequence can begin for enrollment Fall '86 semester (with CESL as early as March 15, 1986).
* August 1986	Third group of candidates for Graduate level training identified. *
15	Fall 1985 classes begin 8/25/86.
* January 1987	5 B.S. candidate students passed TOFEL and started degree program. *
18-21	Short-term training participants identified.
* 1986	6 short-term training participants identified - 4 attended 3 week FSR/E workshops. Other courses being identified. *

21-24	Observation and study tour, and 3rd country participants identified and programs developed.
* 1986	Two persons participated in Observation and Study tours.

*** Fall 1985 semester classes begin 8/26/85. CESL classes begin 8/26/85, 10/27/85, 1/20/86, 3/20/86, 6/16/86. Source: Project Proposal (pp 242, 243)

Appendix K

ANNEX A

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Life of Project :
From FY 83 to FY 88
Total US Funding $13.5 million
Date Prepared March 1982

PAGE 1

Project Title & Number OMVS Agricultural Research II (625-0957)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal : The broader objective to which this project contributes :	Measures of effectiveness:		Assumptions for Achieving goal targets :
Senegal, Mali and Mauritania will more effectively plan and implement agricultural development activities in the Senegal River Basin (SRB).	Greater use of improved technologies which will provide higher yields.	Project evaluations Economic indicators	The Member States will provide recurrent and capital budget allocations, and human resources to support agricultural research in the Senegal River Basi
	Improved design of agricultural research activities by the OMVS and by each national research component.	Evaluations	
	Farmers actively participating in the research program.	Evaluations	Research results will be readily accepted and used by development agencies and farmers.

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PROJECT DESIGN SUMMARY

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Life of Project:
From FY 83 to FY 88
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NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose:	Conditions that will indicate purpose has been achieved: End of project status:		Assumptions for achieving purpose:
1. To develop and strengthen OMVS agricultural research capacities in the Senegal River Basin. 2. To improve the combined effectiveness of national agricultural research programs in Senegal, Mauritania and Mali through regional coordination and prioritizing within the OMVS.	Quality research is being carried out on critical technical and socio economic agricultural problems. Research recommendations are being implemented by national development agencies and adopted by farmers. Research programs are implemented cooperatively among the three countries and results are disseminated by the OMVS throughout the SRB. Research staffed by nationals of the countries.	Research reports by national research agencies and the OMVS. Reports by national development agencies. Project evaluation.	OMVS and the Member States will provide adequate policy direction, coordination and support. CIERDA and national scientific and technical review committees will function effectively. Donors will collaborate and provide continuing inputs in a timely manner.

ANNEX A

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

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From FY 83 to FY 88
Total US Funding $13.5 million
Date Prepared March 1982

Project Title & Number OMVS Agricultural Research II (625-0957)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs :	Magnitude of Outputs		Assumptions for achieving Outputs :
1. Improved crop varieties, and technical packages developed and field tested	1. 3 or 4 promising cultivars and improved technical packages have been developed and field tested and are ready for farm use for each major cereal crop in each major ecological area of the Basin.	1. Reports of the national research agencies and by researchers.	1. Positive agronomic and social options will emerge. Farmers will be able to put into practice the improved agricultural technologies.
2. Upgraded technical and professional skills for agricultural researchers.	2. a. 12 researchers trained to BS & MS level b. Research assistants given special academic third country & US training and short courses c. Station accountant/administrative assistants, and mechanic and maintenance personnel given special short courses.	2. Training records for U.S. and 3rd country participants.	2. Relevant and effective training programs are found and well qualified candidates are proposed.
3. Upgraded agricultural research facilities at three locations in the SRB.	3. a. Fanaye, Senegal: 4 houses for researchers 4 houses for research assistants 1 office for researchers 1 office for assistants & library b. Mauritania Kaédi : 2 houses	3. Inspection Project Reports.	3. Bidding and evaluation procedures are efficiently undertaken so that work starts promptly. Facilities development is coordinated with other donors.

8/12

ANNEX A

PROJECT MASTER SUMMARY

LOGICAL FRAMEWORK

Life of Project :
From FY 83 to FY 88
Total US Funding $13.5 million
Date Prepared March 1982

Project Title & Number OMVS Agricultural Research II - (625-0957)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs :	Magnitude of Outputs		Assumptions for achieving Outputs :
	c. Samé, Mali: 5 houses for researchers 1 office building for 6 offices and support 1 soils and plant laboratory electric power station water supply and waste disposal systems Renovation of guest house, and warehouse.		
4. Strengthened regional research system integrating national research agencies and involving national development agencies.	4. a. Regional research system with effective research/extension liaison assured by protocol arrangements. b. Field trials executed jointly by national research station and appropriate national development agency in each geographic area. c. Improved regional coordination among research stations for regional research priorities and dissemination of technical information by OMVS.	4. Protocol agreements. Reports and records of research agencies and development agencies	4. Continuing support for agricultural research and rural development from Member States and donors.

ANNEX A

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Project Title & Number OMVS Agricultural Research II (625-0957)

Life of Project ;
From FY 83 to FY 88
Total US Funding $13.5 million
Date Prepared : March 1982

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Inputs :	Implementation Target (Type and Quantity) :		Assumptions providing inputs
AID			
1. Technical Assistance: 6 research scientists 60 person/months consultants 1 management specialist 1 Deputy project officer (regional) 3 Deputy project officers (national)	1. $6.4 million for technical assistance	Project records and disbursement accounts	Funds are available and all inputs are provided on a timely basis. Construction and technical assistance contracts are signed without excessive delays.
2. Training: U.S. and 3rd country participant training short courses and seminars.	2. $1.7 million for training		
3. Construction: Construction for national research centers at Fanaye, Kaédi and Samé.	3. $2.5 million for construction		
4. Commodities: Vehicles, housing and office furnishings, electric generators, farm equipment and research supplies.	4. $1.5 million for commodities		
5. Operating Support: Support for research station operations	5. $1.6 million for operating support		

Appendix - L

RAPID RURAL RECONNAISSANCE SURVEYS

A Summary of the Findings

DRY SEASON SURVEY

The first reconnaissance survey, which was held in February of 1986, involved up to 16 persons drawn from the research center (CNRADA), SONADER, three departments under the Ministry of Rural Development (Department of Agriculture, Department for the Protection of Natural Resources, and Department of Livestock and Range Management), the Ministry of Health, Peace Corps Volunteers, and the team from the University of Arizona. It was the first time a team from so many GIRM Ministries and Departments had been successfully put together and had worked together in a frank yet cordial manner. The survey entailed four days covering secondary material, over three weeks in the field visiting certain development organizations and covering 34 villages along the Mauritanian bank of the Senegal River from Woumpou in the Guidimaka region to Gani in the Trarza region, and along the Gorgol Valley to Lexeiba. All the Mauritanian members of the survey team expressed the feeling that participating in the reconnaissance survey was a great learning experience and gave them a greater appreciation of the river valley ecosystem, its population and the dry-season farming systems.

The survey basically explored three major areas: (1) the major constraints confronting farmers in agricultural production and marketing; (2) farmers' compensating strategies to overcome these constraints; and (3) research and development opportunities. The major constraints were lack of water for both crop and livestock production and for household use (due to various factors, one of which was the climactic conditions); the deterioration of the environment due to both climactic conditions and human intervention, one compounding the other in a vicious circle to accelerate the process of desertification; and the inadequacies in the market structure and the lack of a rural cash economy, both engendering collapses in the farming systems and the closures of a number of irrigated perimeters.

A number of compensating strategies were found and recorded which led to five salient research and intervention strategies that would revive the agriculture in the river basin and stimulate the rural economy.

(1) Increased research into vegetable production and development of market outlets. This would alleviate the consumption problems of farm families and as a cash crop bring in needed revenue for the maintenance of pumps and equipment, the purchase of crop inputs, and to obtain supplemental foods.

(2) Initiate research into the production of sesame and develop an appropriate technology for the extraction of the oil for cooking. This would allow for a cash crop to be grown in the low rain-fed sandier areas (dieri). It would also reduce the country's total reliance on imports of edible oil. Lastly, it would improve the opportunity for reforestation. Since birds do not normally eat sesame, planting sesame would remove the major constraint to reforestation--that trees are a haven for grain-eating birds.

(3) Research into (a) alternative water-efficient crops for the perimeters and (b) short-cycle crop varieties.

(a) Availability of water-efficient crops would give greater flexibility in the perimeter cropping systems. It would help to improve water management and reduce the vulnerability of the crops to old and over-worked pumps that often break down.
(b) Availability of short-cycle crop varieties would ensure some traditional crop production in drier years and possibly increase the number of crops per year in higher rainfall years.

These would reduce the vulnerability of the farmer to climatic conditions in the traditional systems, and to mechanical failures in the perimeters.

(4) Promoting effective extension and better pump and perimeter maintenance based on improved instruction and incentives. These interventions would bring about more rapid spread of improved technologies that are "on the shelf" and that have been developed in the research station and reduce the vulnerability of perimeters to pump breakdowns and extended down-times. Both would improve the crop production of irrigated perimeters, especially in the case of new ones.

(5) The creation and development of cooperative boutiques. The boutiques would fulfill a number of functions such as:
(a) through economies of scale facilitate the marketing of produce
(b) facilitate the access to inputs
(c) create an investment opportunity and be a source of credit
(d) act as a storage center in times of surpluses and as a food bank in times of seasonal shortages

RAINY SEASON SURVEY

The rainy season FSR reconnaissance survey involved up to 12 persons drawn from the Research Center (CNRADA), the Department of Agriculture (IRAG), the Agricultural School in Kaedi (ENFVA), Peace Corps volunteers, and the team from thje University of Arizona. The survey team took five days to cover the secondary material and prepare for the field. Over two weeks were spent in the field visiting certain development organisations and interviewing farmers in 21 vilages along the Mauritanian bank of the Senegal River from Boghé in the Brakna Region to Wonpu (Wompou) in the Guidimaka Region, along the Gorgol River and also the areas around M'Bout (Gorgol Region) and Selibaby (Guidimaka Region).

The methodology used was basically the same as that used in the dry season survey during the month of February with a few modifications which were felt would improve the survey team's efficiency.

The rainy season survey not only confirmed the findings of the dry season survey with regards to the major constraints facing the farmers, but indicated that the constraints were more acute for the river valley rainfed cropping

systems and especially the Sahelian agricultural system. The major constraints are the lack of water; the deterioration of the environment thus increasing competition for land (both cropping and pasture); and the inadequacies in the market structure and the lack of a rural cash economy which both hamper development.

The team found that most of the farmers interviewed sought out compensating strategies such as planting quick maturing varieties, applying water harvesting and conservation techniques and adapting to changes in soil texture and moisture. Farmers were also trying out innovations such as animal traction and supplimentary feeding of livestock.

(PRESENTATION TO THE MINISTRY OF RURAL DEVELOPMENT, MIR.)

After presenting our findings from the second reconnaissance survey, which wwas held in September of 1986, to the Ministry of Rural Development the Secretary General of the MDR suggested that the report should keep the following question in mind -- How do the agricultural constraints affect or impinge on the MIR agricultural and rural development policy. The policy must make propositions and recommendations as to how to address these constraints and problems at the peasants' level, the field extension level, departmental level and ministerial level.

The Secretary General of the MDR recommended that the team come up with and include in the report some alternative suggestions in order to create a reasonable and viable agro-pastoral code. He emphasised the fact that an acceptable agro-pastoral code was essential to the harmonious development; agriculture, livestock production (pasture) and forestry (including the natural vegetation).

The Secretary General of the MDR also suggested that the team come up with some recommendation as to how the linkage between the research (CNRADA), education (ENFVA) and extension be strengthened and institutionalized. The unification of the research and education is envisage and is mentioned in the MIR Economic Recovery Plan, 1985 - 1988 (#65(G)).

1. Water Harvesting and Water Conservation.

Water harvesting and soil water conservation techniques are known and widely used throughout the valley region by the farmers. Techniques such as dikes, trenching, counter-flow furrows are widespread and farmers cultivate the dieri depressions, the weds (wadis), and the higher flood plain areas (rain fed flood).

The survey team believes that because the knowledge of water harvesting and soil water conservation are present and the techniques are being applied, improved water harvesting techniques can be introduced and effective means can be taken to conserve water, especially in the dieri, which could reduce the farmers' risks due to the inadequate and disparate rain falls.

2. Animal Traction.

Animal traction seems to be practiced to a limited extent in every village surveyed. It appears that the practice was more widespread in the past. Farmers cited numerois reasons why it has become less prevalent or its use less emphasized such as: the drought debilitated and in many cases killed off the traction animals (the trained animals); the inadequate rain fall has reduced

the dieri area planted by each farmer thus making animal traction unfeesable; and much of the equipment was damaged with parts broken or missing.

The team believes that the introduction of improved and appropriate animal traction equipment and the refurbishing of the equipment already in the villages would help improve agricultural production especially when animal traction is practiced in conjunction with water harvestion and conservation techniques. An extension component would be required to provide both animal training and technical training (proper equipment maintenance and appropriate cultural practices).

3. Soils Classification System

Farmers throughout the river valley have a soil classification scheme which is fairly closely associated with land use. Some soils are being reclassified by the farmers due to the changes being brought about by the drought which proves that this classification scheme is dynamic.

An attempt should be make to thoroughly understand these classification schemes. It is importantant for the introduction of interventions which are more likely to be adopted if they fit into the farmers' existing classification schemes. For example: existing farmers' crop-soil associations would be a reference to start from in order to introduce new varieties, beginning with the researcher who knows under what soil conditions the introduced crop may be grown down to the increased ability of the extension agent to communicate with farmers in their own terminology.

A thorough understanding of the soils will be necessary in the promotion of water harvesting and soil water connservation techniques.

4. Short Cycle Varieties Germplasm.

To adjust to the late rains and the devastation of the crops by grasshoppers, rodents and termites, farmers are seeking the seed of short cycle quick maturing varieties from a number of sources. A point that came out of the survey was that farmers are turning to the north (away form the river and toward the oasis) for quick maturing grain varieties. A middle to late planting strategy that farmers are carrying out is to mix short and long cycle varieties when seeding in order to spread the risks and also to spread food availability. It is an adaptive strategy and should be encouraged.

Attempts should be made to collect a germ plasm of varieties of varying cycles so as to provide alternatives for farmers. It is imperative that a germplasm of local varieties should be collected as well as of seed from international sources.

5. Peanut Production

Peanuts are much more widely grown, especially in the Guidimaka region, than the team was originally led to believe. Peanuts are grown by women on the sandy soils (dieri).

More research and studies should be conducted especially with regards to varieties grown, cropping practices and use of the outpot.

6. Agro-Pastoral Code

Agro-sylvo-pastoral techniques should be encouraged but this requires considerable cooperation between farmers and herders. It also requires cooperation from and between the different directions involved.

The agro-pastoral code needs to be modified before improvements in land,

pastoral and forest management is likely to incure. In the meantime both the agricultural and the livestock sectors will suffer continued low production outputs. Because more people (such as nomadic herdsmen and fishermen) are turning to agriculture the pressure to convert rangeland to agricultural land will increase and the competition for agricultural land and for pastures could lead to conflict in the future.

7. Fencing.

Access to fencing material is a very serious problem that must be resolved. Unattended animals (especially camels) and wild animals do extensive damage to crops with the loss be quite considerable. Acquisition of locally available fencing material is either illegal or causes environmental degradation by the removal of trees and shrubs.

Some means to overcome or solve this problem are:

(1) planting live fences.
(2) planting trees in order to harvest as fenceposts.
(3) the availability of wire/metal fences.

8. The Grasshopper Infestation.

The damage to the dieri crop done by grasshoppers was extensive this year. Farmers had to resow several times, up to three times in some cases because of the total loss of the crops to the grasshoppers. Farmers felt that the spraying carried out against the pests was done too late and had little effect.

9. Supplimentary Feed and Minerals for Livestock.

Farmers and herdsmen realize that minerals and supplimentary feeding are beneficial for their animals.

The team believes that local minerals and supplimentary feed can be obtained (such as sesame cake, rice bran, salt and phosphates) and thus its production from local resources should be encouraged.

10. Consumption of Wild Foods.

In villages where credit was available wild foods were not very important, but in villages where credit was not available wild foods took on greater importance.

The team believes that because the wild foods are an important food source it is important that the administration should enforce the protection of the natural resources (eg. more effective protection of the fruit trees) and encourage the development of the natural resources in future rural and agricultural development schemes.

11. Linkages Between Education, Research and Extension.

Linkages have been established between the ecucation, research and extension, especially in Kaedi. One of the purposes of the two surveys (the dry season survey and the rainy season survey) was to forge linkages between the Departments of the MDR and especially between CNRADA and the ENTVA and IRA of the valley region.

The team believes that the establishment of these linkages needs to be encouraged; that the linkages should be strengthened and institutionalized. The three institutions (CNRADA, ENFVA and IRA) have researchers with complimentary disciplinary training that could be drawn upon and thus increase the effectiveness of each institution (education, research and extension).

Appendix - M

REPARTITION DES ESPECES ET VARIETES DANS LE GUIDIMAKHA

Especes	Varietes	Cycles jours	Caracteristique	Lieu de la Collecte	Observations
Sorgho Panicules Compactes					
FELLA	(1)Takhalit	180	gros grains de 3 couleurs .Blanc .Rouge . Creme	Ouad Garva (20-12-86)	Rakhe bas Walo-Hollalde
	(2)Fella-Doumbe	120	Epis rouge clair et rouge fonce	Kabou (22-12-86)	"
	(3)Fella Kore	210	Epis sensible aux oiseaux, Epis poilus	Kinikoumou (20-12-86)	Rakhe bas Walo-Hollalde
	(4)Mortombo	120-140	Epis sensible aux oiseaux	Guemou (22-12-86)	"
	(5)Nabana	90	Polyvalence pour tous les sols. egrainage faci-le apres matu-ration physio-logiques	" El Waara (27-12-86 Sinetou (22-12-86	Polyvalent
	(6)Manga-Doumbe	100	Rouge clair, et fonce glume noire exigent en eau	Kinikoumou (20-12-86)	Rakhe
	(7)NGoufou Gotel NGabe Didi	80	2 grains/glumes de couleur blan-che.	Srankouat (21-12-86)	Singha
	(8)Hamidou	100-120	Glumes blanches grains blancs, resistant aux oiseaux. n'aime pas beau-coup d'eau.	Srankouat (21-12-86)	"
	(9)N'Dabiri	60-70	Grains blancs cires avec glu-mes violettes	Srankouat (21-12-86	Chalkha

Suite Sorgho :-

(10)Lassel-Boye ou Gourvava	100-120	Resistant aux oiseaux grains enfermes des glumes blanches, grains blancs.	Srankouat (21-12-86)	Chalkha
(11)Farda	60-90	Resistant aux exes d'eau glumes rouges ouvertes grains rouges	Sranhouat (21-12-86)	Singha Rakhe
(12)Takhalit	70-80	Grains rouges-blancs	M'Bekire (21-12-86)	Rakhe
(13)Sicre N'Keile	70-80	Grains blancs glumes blanches Cultive pour sa canne. Grains peut etre consommes	M'Bekire (21-12-86)	Ouad-El Waara
(14)Chouetra	90-100	Grains rouges clairs, glumes noires	M'Bekire (21-12-86)	Ouad El Waara
(15)Chreiva	70-80	Grains blancs cires, glumes noires	M'Bekire (21-12-86)	"
(16)Mamouma	70-80	Grains blancs cires glumes blanches, epis allonges, grains gros.	M'Bekire (21-12-86)	"
(17)Niobougou	-	Grains rouge glumes rouge	Diougoun-tourou (22-12-86)	Wallo
(18)CE 151	80-85	Grains blancs Vitreux egrainages faciles intro-Recherche en 85	Guemou (22-12-86)	Bas Fonds

Suite Sorgho :-

(19)CE 145	90-100	Couche brune, glume rose, grains blancs cires. introduit par Recherche 84-85	Guemou (22-12-86)	"
(20)E 35	90-100	Grains blancs, glumes blanches: egrainage, faciles. introduit par le Projet DRIG 82.	Guemou (22-12-86)	"
(21)Choutoute	90-120	Gros grains blancs, glumes blanches. Resistant aux oiseaux.	Boudjou (27-12-86)	decrue
(22)Madya Souleima	-	Glume noire blancs epis efille tres difficile pour egrainage	"	Rakhe decrue
(23) "		Grains blancs, glumes blanches: tachees de noires. Resistant aux oiseaux	"	decrue Rahke
(24) "		Gros grains blancs, cires, glumes noires un peu barbues	"	decrue
(25) "		Grains blanc, cires glumes noires un peu barbues	"	decrue

Suite Sorgho :-

	(26) Mecqua	90	L'epiaison/ noued.egrainage facile fourrage consommable par animaux. introduite 84-85.Experimentation 85-86 par Mamadou Saidou Sow. .Origine:Mecque	Taktaka Ferlo (27-12-86)	Sol leger Singha
	(27)NGK 1	80-90	Grains rouges, glumes semis ouvertes noires tres precoce Programme CILSS	Guemou (22-12-86)	Bas Fonds
	(38)Djoni-Djoni	90-100	Grains blancs-glume noire rouge barbues	Kabou (22-12-86)	Singha
Sorghos Panicule Laches					
NIENICO	(28)Faregnil-le	100	Fourrage pour ane glume noire grains rouges degenerescence du ferrage rouge	Kinikoumou (20-12-86)	Rakhe
	(29)M'Bayery	55-60	Grains blancs et durs glumes noires ouvertes peut virer au rouge chaque plant peut donner 12 a 25epis 2 bonnes pluies suffisant	Srankouat (21-12-86)	Singha
	(30)Sidinie-leba	75-80	Glumes rouge, grains blancs un peu barbues glumes ouvertes	M'Bekire (21-12-86)	Singha Ouad
	(31)Moussa N'Diaye	80-90	Glumes noires ouvertes peu barbus	M'Bekire (21-12-86)	"

Suite Sorgho :-

	(32)Hary	90-100	Glumes rouges, ouvertes grains blancs vitreux	M'Bekire (21-12-86)	"
	(33)Samba Dobala	70-80	Glumes noires ouvertes grains blancs, rachis longs, barbus, grains vitreux.	M'Bekire (21-12-86)	"
	(34)Guidibine	90-100	Grains, glumes noires ouvertes barbus, rachis tres long	Kabou (22-12-86 Kabou (22-12-86)	
	(35)Demba-Minty	150-160	Grains blancs, glumes noires ouvertes barbues.	Kabou (22-12-86)	Rakhe
	(36)Silymaya	90-100	Grains blancs, glumes noires ouvertes, barbues	El Waara (27-12-86)	
	(37)Djioby	60-70	Grains blancs, glumes rouge, parfois noires ouvertes.	El Waara (27-12-86)	Singha
	(1)Soumadepe	70	Longueur epis majeurs. sans barbe	Kinikoumou (20-12-86	Par welle
	(2)Soumabine	70-80	Epis-long. sans barbe	"	"
Mil Pennisetum	(3)Soumabine	70	Resistant aux oiseaux avec barbe	"	"
	(4)Souna 3	80-85	Epi mince, tres long. introduite par les projets, achete au Senegal/Paysans	"	Singha
	(5)Souma Ignitinte	120-150	Exigent en eau	Danguidere (27-12-86)	Chalkha

Suite Mil :-

(6)Souma Die	60-90	Grains tres petit sensible aux oiseaux	"	Singha
(7)Soumakhore	150-180	epis barbus resistant aux oiseaux. Exigent en eau	Bouly (27-12-86)	Chalkha
(8)Moutry	90	epis long. bonne	Ould Yenge (27-12-86)	Batt Ha
(9)Soghe	90-100	-	Toulel (30-12-86)	Dieri

Appendix - N

CROPS AND VARITIES MADE AVAILABLE BY AGRES II FOR RESEARCH AND DEVELOPMENT

CROP	SOURCE	VARIETY	DESCRIPTION	WEIGHT
SORGHUM	U of A	-	Yemen sorghum collection from over 2000 lines - nearly every seed different.	300 gm
	U of A	-	ATP4R (Sorghum population) - nearly every seed different.	200 gm
	U of A	-	NP9BR (Sorghum population) - nearly every seed different.	200 gm
	U of A	Yemen sorghum lines	(i) 003-4A	25 gm
			(ii) 003-11	25 gm
			(iii) 003-24	25 gm
			(iv) 003-45	25 gm
			(v) 003-62	25 gm
	Mauritania (Bagodine)	Same	Promising variety found in Bagodine (3/86)	1 kg
MILLET (PEARL)	U of A	R78-7088	A combine grain type pearl millet line - (a restorer line if used as a pollinator on "A" lines).	25 gm
MAIZE (CORN)	U of A	-	Arid environment adapted seeds germ plasm.	100 gm
	U of A	-	One cycle increase of inter-crossed International Maize Drought Tolerant test series - Each seed is different.	150 gm
	U of A	Incredible	Hybrid Sweet Corn	-
	U of A	Jubilee	Hybrid Sweet Corn	-
	U of A	Sugar Buns	Sweet corn	-
	Mauritania (Ouloum Atar)	-	Sixty day variety (4/1986)	1 kg
COWPEAS	W. Atlee Burpee Co. U.S.A.	CB5	California Black Eye Cowpeas: CB5-5177, Lot 20805570, Germ. 92%: 11-86.	10 lbs
	Mauritania (Bagodine)	-	Collected in the Dirol Plain - 3/86	500 gm

CROP	SOURCE	VARIETY	DESCRIPTION	WEIGHT
WHEAT	Arizona Crop Improvement	Super-X	Red wheat	1 lb
	Association	Mexicali 75	Durum wheat	1 lb
		Yavaros 79	Durum wheat	1 lb
		Viejo Rojo	Red wheat	1 lb
SESAME (Indicum L.)	SESACO (Tucson)	-	Variety from Venezuela - irrigated	2 kg
	SESACO (Tucson)	-	Lot # 1666 (from Central America)	40 gm
			Lot # 1667 (from Central America)	40 gm
			Lot # 1669 (from Central America)	40 gm
	Mali	38-1-7	Varieties obtained from the Sotuba	packet
	Mali	S1P1	Research Station	packet
	Mali	CSE 3	in Mali	packet
	Mali	E.8	in Mali	packet
	Mali	Yaudev 55	in Mali	packet
	Mali	Besu	in Mali	packet
	Mali	Common	Seed obtained in the market of	500 gm
	The Gambia	(No name)	Seed obtained from CRS in Bakel	15 kg
	Mauritania	Guidimaka (common)	Seed purchased in the region of Guidimaka.	25 kg
	Mauritania	Wild Variety	Seed collected in fields near ENFVA	2 kg
	Burkina Faso	32-15	Obtained from the Kamboense Research Station near Ouagadougou.	packet
SUN-FLOWERS	The Gambia	Russian	Obtained from the CRS, Bakel - to irrigate and for extraction of oil.	10 kg

CROP	SOURCE	VARIETY	DESCRIPTION	WEIGHT
PEANUTS	U of A	Early Bunch	Ft - Cobb 85 - 150 days	-
	U of A	Va-81-Bunch	Ft - Cobb 85 - 150 days	-
	U of A	OK - FH - 14	Inc Ft - Cobb 85 - 150 days	-
	U of A	Spanco	Ft - Cobb 85 (110-120 days)	-
	U of A	N. Mex. Val.c	Ft - Cobb 85 (110-120 days)	-
	U of A	MyRan	Ft - Cobb 85 (110-120 days)	-
	U of A	Pronto Y-T-Increase	Ft - Cobb 85 (110-120 days)	-
WATER-MELONS	Peto Seed Co.(Tucson)	Peacock Imp	Lot No. 504 4009; germination 90% - 1/87	1/2lb
		Royal Sweet	Hybrid watermelon. Lot No. 046 5026; germination 90% - 11/86	1/2lb
		Royal Windsor	Hybrid watermelon. Lot NO. 062 5009; germination 90% - 11/86	1/2lb
		Crimson Sweet	Lot No. 010 4013; germination 90% - 11/86	1/2lb
	Harris Moran (Tucson)	Oasis	Hybrid watermelon. Lot No. 8151; germination 90% - 11/86	1/2lb
	Hollar & Co. U.S.A.	Cal Sweet	Lot No. 12099; germination 90% - 12/86	1/2lb
ALFALFA	Arizona Agricultural Experiment Station	"Lew" Alfalfa	There is enough seed to sow 500m²	1 kg
	Tree Seed International (Washington, D.C.)	Moapa 69	Lot No. 855 (0-2853-1) 15 kg	

CROP	SOURCE	VARIETY	DISCRIPTION	WEIGHT
FORAGE	U of A (Tucson)	Atriplex camarones	M 203 from Chile	-
	U of A	Atriplex nummularia	M 489 from South Africa	-
	U of A	Atriplex barclayana	M 552 from Mexico	-
	U of A	Atriplex cinerea	M 589 from Negev Institute	-
	U of A	Atriplex lentiformis	M 710 from Mexico	-
TREES	Tree Seed International (Washington, D.C.)	Prosopis africana	Lot No. TSI-85-201 (S.E. Senegal)	9 pods
		Prosopis juliflora	Lot No. TSI-85-172 (Kitui, Kenya)	100 gm
		Maesopsis eminii	Lot No. TSI-85-212 (Kitui, Kenya)	100 gm
		Casia spectablis	Lot No. TSI-85-62 (Kitui, Kenya)	100 gm
		Eucalyptus paniculata	Lot No. TSI-85-62 (Western India)	50 gm
		Combretum schumani	Lot No. TSI-85-210 (Kitui, Kenya)	100 gm
		Schinus molle	Lot No. TSI-85-183 (Brazilian Pepper)	150gm

Appendix - O

THEMATIC SURVEY

Mauritanian Floodplains and Recession Agriculture (WALO) in Guidimaka, Gorgol, Brakna and Trarza Regions

OBJECTIVE

Changes are occuring along the Sénégal River basin especially with the installation of a barrage downstream and a dam upstream of the river. Some of these changes are irreversible. These changes have had and are affecting the Walo cropping systems specially as to the time of planting. Data and information about the walo must be collected at the present time (March), and possibly on an annual basis for the next few years, in order to monitor the changes that are occuring in one of the most important cropping sytems in Mauritania. The data and information and the subsequent analysis and recommendations will be very useful in the planning of future research in areas of recession crop varieties and walo ciltural practices. The research into the walo cropping systems will be a major component of the research strategy whose objective is to increase grain production in Mauritania. The data and information collected during the survey will also be of use in designing development strategies for the walos. Improved walo cropping systems with greater grain yields and higher economic returns besides helping Mauritania achieve some measure of self sufficiency should reduce rural out-migration and also stabilize population movements and drift within the rural areas in the Sénégal River valley.

Appendix - P

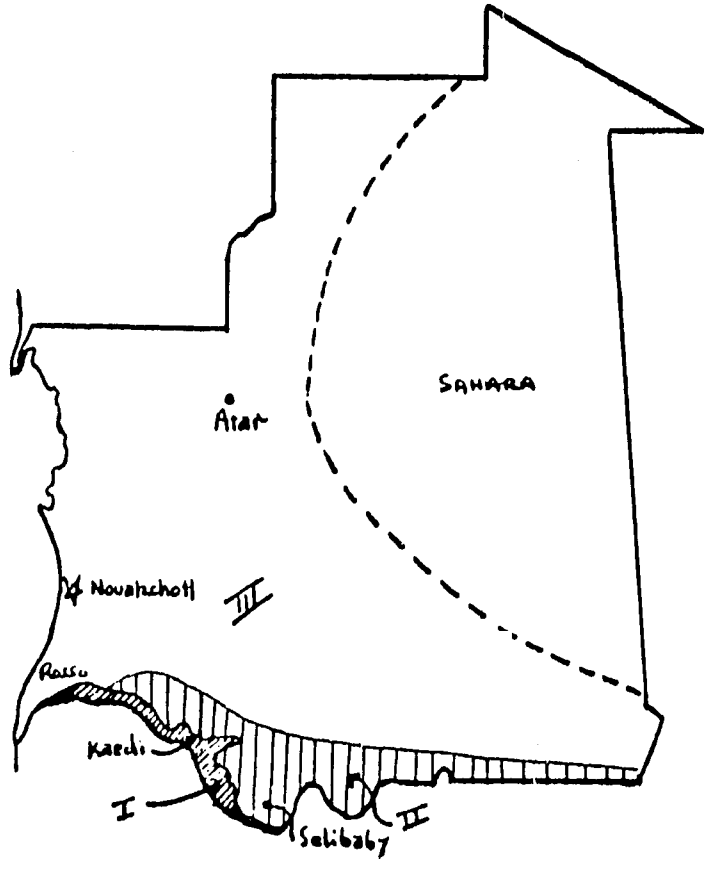
CENTRE NATIONAL DE RECHERCHE AGRONOMIQUE ET DE DEVELOPPEMENT AGRICOLE
and
AGRICULTURAL RESEARCH II PROJECT (AGRES II)

P C V WORKSHOP/STAGE OBJECTIVES
(Peace Corps of Mauritania)

The Centre National de Recherche Agronomique et de Developpement Agricole (CNRADA) and the Mauritania Agricultural Research II Project will conduct an eleven - day workshop/stage on Farming Systems Research and Extension: Diagnosis and Design. The purpose of the workshop/stage is for participants to gain an understanding of the FSR/E methodology and approach to agricultural development especially as it applies to research. The participants will become familiar with the FSR/E approach to data collection and diagnosing the farming systems through the Rapid Reconnaissaince Survey or SONDEO. They will be able to recognize and delineate recommendation and research domians, diagnose constraints, and prioritize research themes. They will also be able design and implement on-farm trials and experiments.

Participants will become familiar with the basic operations of CNRADA and with the purpose and objectives of the project AGRES II. The worksop/stage will provide a means for participants to discuss the application of the FSR/E concept and methodology in approaching the rural and agricultural development in Mauritania. It will also allow participants to have an input into the planning and designing of the on-farm trials and experiments for the coming growing seasons (1987-1988)

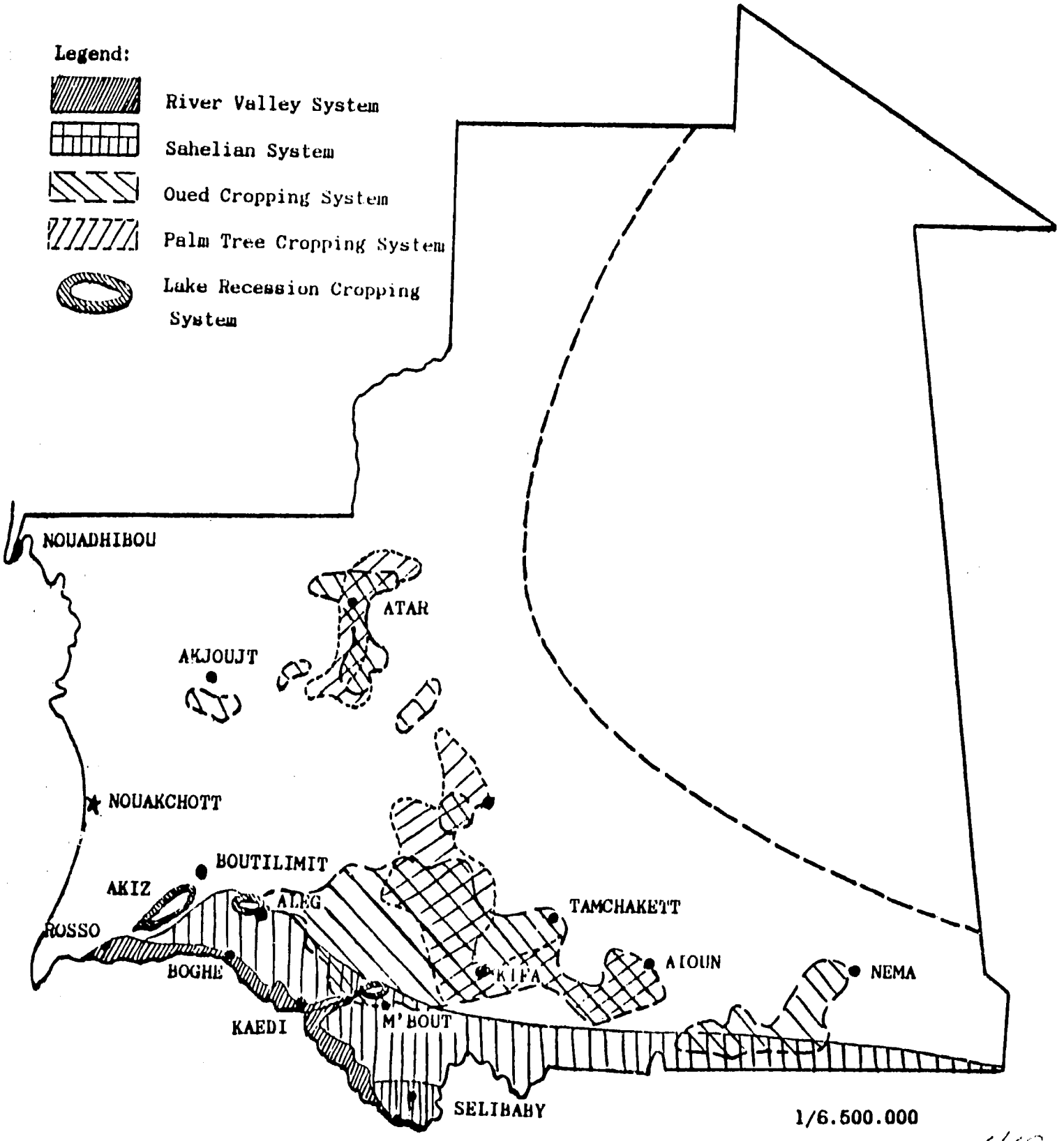
MAURITANIAN AGRICULTURAL SYSTEM:



FARMING SYSTEMS - I River Valley System II Sahelian System III Oasis System

OASIS SYSTEMS:			
	(i) Irrigated cropping system (perimeters)	(i) Rainfed cropping system (dieri)	(i) Oasis system
	(ii) Flood recession cropping system (walo)	(ii) Rainfed flood recession cropping system	(ii) Palm tree cultivation
	(iii) Rainfed cropping system (dieri)	(iii) Oued cropping system	(iii) Horticultural garden system
	(iv) Horticultural garden system	(iv) Horticultural garden system	(iv) Oued cropping system
	- forestry	(v) Rangeland	(v) Rangeland
		- forestry	

AGRO-ECOLOGIC ZONES OF MAURITANIA
(and Farming Systems Domains)



469

Appendix - D

MAURITANIA AGRES II Project

WORKSHOPS AND SEMINARS

DATES	WORKSHOP/SEMINAR	PLACE	NUMBER OF PERSONS (S) Sponsored or (A) Attended	CONDUCTED BY:
April 5-25 (3 weeks)	Methods of Diagnosis, Design and On-Farm Experimentation in FSR/E	The Gambia	2 (S)	FSSP/GAR Project
June (2 days)	Design Aspect of On-Farm Experiments (English for PCV's)	Kaedi	4 (A)	CNRADA/AGRES II: (Sidi Fall and MBL)
June (2 days)	Design aspect of On-Farm Experiments (in French)	Kaedi	5 (A)	CNRADA/AGRES II: (Sidi Fall and MBL)
June (5 days)	Problems of Desrtification in Mauritania	Nouakchott	2 (S)	MDR/CILSS/Club de Sahel
August 10-29 (3 weeks)	Methods of Diagnosis, Design and On-Farm experimentation in FSR/E	Gainesville, Florida, USA	1 (S)	FSSP
August 30 to September 6 (1 week)	Introduction to FSR/E	Kaedi	12-16 (A)	CNRADA/AGRES II: Hamath N'Gaide, Sidi Fall, and MBL
November 2-22 (3 weeks)	Methods of Diagnosis, Design and On-Farm Experimentation in FSR/E (in French)	Mali	2 (S)	FSSP/Mali Project
August/September	Lecture Series - Soils and Soil Management (3 lectures)	ENFVA/Kaedi	3rd year students	Joe Tabor
August 26	Lecture Series - Brief Introduction to FSR/E	Rosso	PCVs	Tim Frankenberger
September 22	Lecture Series - Brief Introduction to FSR/E	ENFVA/Kaedi	about 20 students	Tim Frankenberger
October	FSR/E Annual Conference in Kansas	Manhattan, KS		FSSP/Univ. of Kansas

Appendix - E

LIST OF REPORTS AND PUBLICATIONS
(AGRES II / CNRADA)

Farming Systems Research Along the Senegal River Valley Series:

- A Dry Season Reconnaissance Survey in Guidimaka, Gorgol, Brakna, and Trarza Regions. Report No. 1. Timothy R. Frankenberger, Mark B. Lynham, Hamath N'Gaide, Sidi Fall, Moussa Pere N'Diaye, and Barbara Perquin. (1986 : 298)

  French version : °Recherche sur les Systemes de Production Rurale dans la Vallee du Fleuve Senegal.§ Une Mission de Prospection en Saison Seche des Regions de Guidimaka, Gorgol, Brakna, et Trarza. Rapport No. 1. Frankenberger et al. (1986 : 338)

- Alternative Research Strategies. Report No. 2. Hamath N'Gaide, Mark B. Lynham and Timothy Frankenberger. (1986 : 33)

  French version: Alternatives de la Recherche Agricole. Rapport No. 2. N'Gaide et al. (1986 : 40)

- Food Consumption Survey in Guidimaka, Gorgol, Brakna and Trarza Regions. Report No. 3. Timothy Frankenberger, Barbara Perquin, and Fatimetou Mint M'Halla. (1986 : 105)

  French version: Etude de Consommation Alimentaire dans les Regions de Guidimaka, Gorgol, Brakna, et Trarza. Frankenberger et Perquin. (1986 : 116)

- An Aerial survey in Guidimaka, Gorgol, Brakna, and Trarza Regions. Report No. 4. Charles F. Hutchinson, Christopher B. Mack Douglas H. Kliman, Ann B. Ackelmire and Peter L. Warren. (1986 : 29)

- Food Consumption Survey in Guidimaka, Gorgol, and Brakna Regions: the Rainy Season. Report No. 5. M. Priscilla Stone, Timothy R. Frankenberger, and Mimouna Jaghana (distribution - 1987)

- Soils and Soil Management for Agriculture, Forestry and Range in Mauritania. Report No. 6. Joseph A. Tabor and Ba Djiby (Distribution - 1987)

- A Rainy Season Reconnaissance Survey in Brakna, Gorgol, and Guidmaka Regions. Report No. 7. Mark B. Lynham, Timothy R. Frankenberger, William Phelan, Hamath N'Gaide, Priscilla Stone, Joseph A. Tabor, N'Dongo. (distribution - 1987)

- Additional Alternative Research Strategies. Report No. 8. Hamath N'Gaide, Timothy Frankenberger, and Mark B. Lynham (distribution - 1987)

- Vegetable Crop Production and Marketing along the Senegal River Valley: Mauritania. Report No. 9. Barbara Perquin and Timothy Frankenberger. (distribution - 1987)

Other reports:

- Special Report on CNRADA Adminstration and Financial Viability. Robert W. Ackerman II (1986 : 5)

- Documentation Center for CNRADA: trip observations and recommendations. Robert Varady. (1986 : 4) - English and French versions.

- Quarterly Report Activities: First Quarter 1986. Robert W. Ackerman, Mark B. Lynham, and Michael E. Norvelle. (1986 : 27 (English) - 21 (French))

- Quarterly Report Activities: Second Quarter 1986. Robert W. Ackerman, Mark B. Lynham, and Michael E. Norvelle. (1986 : 14) - English and French editions

- Quarterly Report Activities: Third Quarter 1986. Robert W. Ackerman, Mark B. Lynham, and Michael E. Norvelle. (1987 :) - English and French editions

- Quarterly Report Activities: Fourth quarter 1986. Robert W. Ackerman, Mark B. Lynham, and Michael E. Norvelle (1987 :) - English and French editions

- Mauritania AGRES II Project NEWSLETTER: #1 edited by Michael E. Norvelle. (1987)

- AGRES II Sponsored Students Report: No. 1. David M. Atkinson and Michael E. Norvelle. (1986 : 4)

Forthcoming reports:

- Sorghum and Millet Varieties Found in the Dieri (Rainfed) areas in Guidimaka and Gorgol Regions. Sidi ould R'Chid

- Sorghum and Corn (Maize) Varieties Found in the Walo (River flood plains) in Guidimaka, Gorgol, Brakna and Trarza Regions. Sidi ould R'Chid.

- Production of Sesame in Mauritania. Sidi ould R'Chid.

- Proceedings of a FSR/E Workshop: Introduction to FSR/E. Edited by Hamath N'Gaide and Bathily

Associated Reports:

Farming Systems Research Along the Senegal River Valley

- Senegal. A Rainy Season Reconnaissance Survey in the Middle Valley Between Podor a Matam in Senegal. Timothy R. Frankenberger, Eric Arnould, Alex Cunard, Oumar Aw, Margaret Norem and Priscilla Stone. Office of Arid Lands Studies, University of Arizona, Tucson, AZ. 1986

Appendices – F and G

The tables on following pages show the financial status of the project at year-end.

A request for 20.000.000 U.M. for counterpart funds for the period July, 1987 through December, 1988 was drafted and submitted to the USAID/NKC ADO for his review. The proposal requested funding to permit AgRes 2 to conduct on-station and on-farm trials and experiments since this activity is not funded under the University contract. Also, Ouguiya funds were requested to pay all local operating costs of AgRes 2. The dollars now budgeted for these expenses would then be used only for procuring commodities and services that require the use of dollar funds.

At present funds for the local currency account come from the University of Arizona. The current procedure used to fund our local currency account is as follows. The U of A maintains a revolving fund of $25,000 for the project and reimbursements are sent to the field via a wire transfer. This money originates at the Valley National Bank in Tucson, is transferred to the 1st Interstate Bank of Arizona in Phoenix, sent to CITIBANK in New York City who transfers it to the BCM in Nouakchott with instructions that the funds are for the AgRes 2 account at the BMDC in Nouakchott.

Attached find an Analysis of Expenditures report for the local currency account which shows ouguiya expenses for 1986. The project status report shows the current situation with regard to the total project financing of $3,820,000. Also attached is a table which shows projected local currency expenses for 1987.

Appendix - F

LOCAL CURRENCY ACCOUNT - ANALYSIS OF EXPENDITURES

UNIVERSITY OF ARIZONA
MAURITANIA AGRICULTURAL RESEARCH PROJECT II
CONTRACT NO. 682-0957-00-C-5129-00

PERIOD	SALARIES MAURITANIAN EMPLOYEES	LOCAL TRAVEL	OFFICE SUPPLY	INCOUNTRY OPERATIONS	SEMINARS	CNRADA EXPENSES	TRIALS	OTHER	TOTALS
DEC, JAN & FEB	483990	426638	29524	360666					1300818
MARCH	59400	152327	6105	193415					411247
APRIL	282463	231966	49089	374117		426016			1363651
MAY	28720	70044	44676	77326		8200			228966
JUNE	258357	155924	22706	129630		13850	11900		592367
JULY	128632	183011	22820	405381		146089	118347		1004280
AUGUST	204234	26820	6196	4120	1460	1526	6440		250796
AUGUST	27005	83367	30255	6870	18955		116195		282647
SEPTEMBER 1 - 16	68280	180937	13550	73112	10800		28589		375268
SEPTEMBER 17 - 30	236993	100403	305	3610	54628		48762		444701
OCTOBER	148040	85961	5183	6910	4350	73958	58073		382475
NOVEMBER	163198	52286	9756	69640	4732		72675		372287
DECEMBER	96786	68274	1940	237156			12756		416912
TOTAL TO DATE IN U.M.	2186098	1817958	242105	1941953	94925	669639	473737	0	7426415
$	29148	24239	3228	25893	1266	8929	6316	0	99019
% DISBURSED TO DATE	30	21	22	31	5	112	90	0	28
AMOUNT BUDGETED IN U.M.*	7200000	8625000	1125000	6225000	1875000	600000	525000	75000	26250000
$	96000	115000	15000	83000	25000	8000	7000	1000	350000
AMOUNT REMAINING IN U.M.	5013902	6807042	882895	4283047	1780075	-69639	51263	75000	18823585
$	66852	90761	11772	57107	23734	-929	684	1000	250981

EXPENDITURES TO DATE SHOULD BE 24.07 % OF BUDGETED AMOUNTS.

CONSIDERING THIS IS THE 13TH MONTH OF A 54 MONTH PROJECT, TO DATE WE ARE OVER OR UNDER BY THE FOLLOWING AMO

weighted -.02 % actual 4.22 %

-5068 U.M. -68 $ 1106971 U.M. 14760 $

* Calculated à 75 U.M. =$1.00 Control 0

145

Appendix - G

PROJECT STATUS REPORT
FOR THE PERIOD ENDED: March 31, 1987

Prepared by: Akoita
Date: 3/31/87

PROJECT NAME: OMVS Agricultural Research
PROJECT NUMBER: # 682-0957
GRANT SIGNED: 2/85
AMENDMENTS: N/A
PACD: 8/30/1990

PROJECT INPUTS	OBLIGATIONS	EARMARKINGS	UNEARMARKED	DISBURSEMENTS TO DATE	UNLIQUIDATED	ACCRUALS	ACCRUED EXPENDITURES	PIPELINE
UNALLOCATED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
I. Technical Assistance:	2.739.000.00	2.143.550.00	595.450.00	308.166.01	2.430.833.99	300.000.00	608.166.01	2.130.833.
II. Training:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
III. Housing & Commodities:	682.000.00	367.870.07	314.129.93	173.568.26	508.622.02	0.00	173.568.26	508.622.
IV. Other Oper. Costs & Cont. Support:	291.000.00	3.154.73	287.845.27	674.48	290.325.52	0.00	674.48	290.325.
V. US AID Procurement Support:	108.000.00	20,000.00	88,000.00	19.091.87	88.908.13	0.00	19.091.87	88.908.
VI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
PROJECT TOTAL:	3.820.000.00	2,534,574.80	1,285,425.20	501,500.62	3.318.689.66	300.000.00	801.500.62	3.018.689.