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MIXED FARMING PROJECT  
END OF TOUR REPORT

by  
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## Introduction

I first arrived in The Gambia in mid-February, 1984 for a 10 week consultancy with MFP. The assigned objectives were as follows:

1. Assist with data analysis and organization of the Baseline Report,
2. Participate in planning of integrated program activities for the final two years of the project,
3. Review and make suggestions for technical assistance in Social Science for balance of project term.

In mid-June, 1984 I returned to accept the long-term position of expatriate Agricultural Economist. This position continued to the project termination on June 30, 1986. Activities during the long-term assignment can be broadly classified as follows:

1. Developing, testing and implementing improved methods of collecting and analysing descriptive agricultural statistics within PPMU and MFP,
2. Conducting social science evaluations of activities being conducted by the Mixed Farming Project,
3. Assisting project and non-project scientists with data analysis, policy development, planning activities and manuscript review.

## Accomplishments

By function the work accomplished fell into the following areas:

Research	60%
Training	20%
Administrative	15%
Extension	5%

## Research

Shortly after arrival in 1984 it became apparent that the Farm Management Data Collection and Analysis System (FMDCAS) developed by FAO was not an appropriate system with which to analyse farm management data in The Gambia. The reasons for this were mainly: (1) the data coding parameters did not relate well to Gambian farming systems, (2) data collection and coding was a very time consuming and error prone

process, and (3) the system required a mainframe computer not available in The Gambia. Thus much time was required to prepare and verify data prior to analysis and a time lag in excess of 12 months was experienced in obtaining analysis print-outs from the computer facilities in Colorado.

Since MFP had purchased table-top micro-computers, which were installed at the Abuko office in early 1984, the capability existed in-country to perform the necessary analysis. To do so would allow greatly improved control over the data analysis. It was also decided that an independent in-country system should be left by the project for use by PPMU.

Informal surveys were conducted in mid-1984 among researchers to determine the type of farm management data needed and among field enumerators to identify areas of data collection problems. With the arrival of a Peace Corps Volunteer in late 1984, assigned to the computer facility of MFP, design, programming and testing of the Gambia Agricultural Data System (GADS) began. The system was used to develop crop and livestock budgets from data collected during the 1984 and 1985 seasons.

Interest has been expressed in GADS by PPMU, GARD and CILSS. At the time of preparing this report plans are for PPMU to institute GADS in Lower River Division (funded by CILSS) and by GARD to evaluate technology transfer from on-farm demonstrations and for case studies regarding water use in rice production areas.

Socio-Economic evaluations were made during 1984 and 1985 of the Mixed Farming Cultivator. Time series data was collected and analysed in both years as well as extensive interviews with farmers who used the machine. As a result of the first years evaluation several modifications were made in the machine itself and training and field supervision was significantly strengthened.

Socio-Economic evaluations were made in 1984 and 1985 regarding the deferred grazing and stover feeding programs of MFP. Both data collected and analysed using GADS and farmer interviews were used to make recommendations regarding modifications and continued application of these programs.

An intensive herding study was conducted in four cattle herds from June, 1984 to May, 1985 to determine patterns of herd management and production. Data was coded and analysed using the micro-computers at Abuko.

Interviews with farmers and village leaders and extensive literature reviews were conducted regarding the land tenure system in The Gambia.

Substantial work was done to redesign the questionnaires for the National Agricultural Sample Survey in 1985. Again in 1986 the questionnaire was redesigned to allow computerization of data analysis. Computer programs were designed and turned over to PPMU.

## Training

Formal presentations were made at the following training programs and workshops:

Sept., 1984 - Range/Pasture Workshop, "Basic Economics, Production Functions and Decisions", 1 hour.

Jan., 1985 - Agricultural Marketing Workshop, "Market Organization and Structure", 1 hour.

Feb., 1985 - ADPII Enumerators and Supervisors, "Field Data Collection Methods", 2 hours.

April, 1985 - Livestock Assistant/Inspector Workshop, "Maintaining Good Working Relations With Farmers", 1 hour.

May, 1985 - MFP-SEU Enumerators and Supervisors, "Gambia Agricultural Data System", 6 days.

June, 1985 - ADPII Enumerators and Supervisors, "Gambia Agricultural Data System", 3 days.

June, 1985 - PPMU Enumerators and Supervisors, "Getting Good Data From Farmers", 1 hour.

Dec., 1985 - PPMU Enumerators and Supervisors, "Agricultural Data Collection and Analysis", 2 days.

April, 1986 - PPMU Enumerators and Supervisors, "Data Collection Using NASS Questionnaire", 2 days.

May, 1986 - GARD/Extension Subject Matter Specialists, "Gambia Agricultural Data System", 1 day.

May, 1986 - PPMU, GARD and ADPII Enumerators and Supervisors, "Gambia Agricultural Data System", 4 days.

Informal training took place on an almost daily basis in working with field enumerators, field supervisors, computer operators, Peace Corp Volunteers, extensionists and other scientists.

## Administrative

Considerable time was consumed in administrative matters regarding the team of SEU field enumerators and supervisors. Motorcycle maintenance, transport and mileage allowances, twice monthly evaluations of all SEU field and computer staff and leave records were major responsibilities managed.

The preparation of several SEU quarterly reports and assistance to the Chief-of-Party in writing and proof reading annual reports was also accomplished.

## Extension

Assistance was provided to project and non-project scientists and extensionists in designing and implementing on-farm demonstrations, field days and workshops. Some time was spent assisting in the organization of the Maize Growers Association.

## Publications

The following publications were authored or co-authored during the tour.

Patrick, Neil A. and Russo, S., "FSR Gains a Foothold in The Gambia", Farming Systems Support Project Newsletter, Vol. 2, No. 3, University of Florida, Gainesville, FL, Nov., 1984.

Patrick, Neil A., "Evaluation of MFP Cultivator After One Year", Mixed Farming and Resource Management Project, Staff Report, Banjul, The Gambia, March, 1985.

Patrick, Neil A., Jammeh, M.O.S., and Gai, B., "Evaluation of Department of Agriculture/MFP Maize Technology as Utilized by Farmers, 1984; Emphasis on Fertilizer Component", Mixed Farming and Resource Management Project, Staff Report, Banjul, The Gambia, March, 1985.

Patrick, Neil A., Russo, S. and Deffendol, S., "Conducting Farm Level Feeding Trials in The Gambia", Paper presented at Farming Systems Symposium, Kansas State University, October, 1985, to be published in Symposium Proceedings.

Patrick, Neil A., Gai, B., Jallow, Y. and Rowe, J.S., "National Agricultural Sample Survey, 1986/87: Enumerators Handbook", Planning, Programming and Monitoring Unit, Ministry of Agriculture, Banjul, The Gambia, April, 1986.

Patrick, Neil A., Jakus, P. and Jabang, L., "The Gambia Agricultural Data System: Users Manual", Mixed Farming and Resource Management Project and PPMU, Technical Report, Banjul, The Gambia, May, 1986.

Patrick, Neil A., Eastman, C., Spencer, W., Jakus, P., Eckert, J. and Jammeh, M.O.S., "The Gambian Livestock System: A Socio-Economic Perspective", Mixed Farming And Resource Management Project, Technical Report, Banjul, The Gambia, June, 1986.

Patrick, Neil A., Eastman, C., Jammeh, M.O.S., Kidman, D., Owens, S., Schuman, R. and Spencer, W., "The Maize Program of The Mixed Farming and Resource Management Project: An End of Project Report", Mixed Farming and Resource Management Project, Technical Report, Banjul, The Gambia, June, 1986.

## Agency Collaborations

Assistance was provided to a number of international and national agencies over the past two years. These agencies are listed below with a brief description of collaborative activity.

### ADPII

- assisted with design of evaluation instruments,
- provided training for enumerators and supervisors.

### CILLS

- assisted in design of early warning food sufficiency system,
- provided data for their farm management studies,
- provided supervision of four field enumerators during 1985 crop season.

### DAHPP

- participated in Pasture and Livestock Assistants training programs.

### Dept. of Agriculture

- assisted scientists in designing and evaluating experiments,
- assisted in planning and participated in field days,
- participated in evaluations of intercropping demonstrations and MFP cultivator.

### Extension

- assisted in planning on-farm demonstrations, field days and workshops,
- provided training regarding GADS for Subject Matter Specialists.

### FAO

- provided data and manuscript review for Coarse Grains Team,
- provided data for a team making a feasibility study of improved road in URD north bank,
- consulted with H. Vega regarding use of linear programming,
- participated in evaluations of fertilizer situation.

### GARD

- provided information and consultation to design team,
- assisted in developing implementation program,
- training and consultations regarding implementation of GALS,
- participated with short-term consultants, ie: Rowe and Johnson.

### ITC

- assisted with computer installation.

### Maize Growers Association

- participated in organizational meetings,
- assisted in drafting constitution.

**MDI**

- assisted in evaluation and development of institute activities.

**ODA**

- provided data for farm management research,
- assisted with design of on-farm demonstrations and evaluations.

**OMVG**

- provided data for upland cropping systems.

**Peace Corps**

- participated in volunteer evaluations,
- assisted in program development.

**PPMU (see paragraph below)**

**World Bank**

- provided data and manuscript review for several policy papers authored by Dr. M. Ousman,
- participated in evaluations of ADPII project.

**Selected Comments**

This section consists of short paragraphs on a number of topics which, in my view, had impacts on my productivity, attainment of project objectives and impact on Gambian farmer welfare. These are listed in no particular order of priority.

**Support of Field Staff**

Colorado State University did an excellent job of supporting the expatriate and Gambian field staff. Answers to questions, shipment of supplies and equipment and other administrative activities were accomplished in a timely and complete manner. Shortages of in-country supplies (ie, fuel) occasionally reduced our capability to accomplish needed field work. Purchase in advance, when supplies were adequate, and storage could have solved these inconveniences. Improved organization and management of secretaries, drivers, warehousemen, etc. would have made life easier for all. The Chief-of-Party was often overloaded with minor administrative/logistic matters to the point where his proper attention to program aspects was limited. More delegation of authority, and responsibility, would have improved this situation considerably. In all, however, few significant problems or constraints were experienced.

**The Integrated Program**

The program of integrated project activities in the villages of Piniai/Choya and Boiram/Njoben was never implemented as originally designed. The program was intended to work with a select group of farmers at each village who would accept and implement a package of practices as follows:

1. Plant a portion of their cropland to maize,
2. Utilize recommended levels of fertilizer and management practices on the maize,
3. Seed some fallow areas to legumes and intercrop some cereals with legumes for improved post-harvest grazing,
4. Harvest maize grain for human food and maize stover for cattle feed,
5. Remove the maize stover from the field early and store in a protected, fenced area for later feeding,
6. Provide selected animals from their cattle herds for stover feeding and deferred grazing during late stages of the dry season,
7. Allow the Socio-Economic Unit to collect data in order to evaluate the package.

For a number of reasons the "package" nature of the program failed to materialize and what was accomplished was simply to have all sections of MFP working in the same geographic areas for the final two years of the project. This made it impossible for Social Scientists to evaluate the "package" as was originally intended.

#### Credit Kafo's

As a pilot program to assist the farmers in Piniai/Choya and Boiram/Njoben the project sponsored the formation of maize credit Kafo's in conjunction with the fertilizer program of FAO. The success of the program was limited and variable mainly because the kafo's failed to function as intended. It is my contention that the idea of a farmer managed credit revolving fund program is good if properly organized, explained to the members and everyone carries out the responsibilities assigned. This concept should not be discontinued at this time.

#### Integration with PPMU

One of the stated objectives of MFP was to integrate the activities of the Socio-Economic Unit with those of PPMU. Due to several factors, most beyond the control of MFP, this aspect did not begin until mid-1984. The work plans for 1984-85 and 1985-86 for the Farm Economics and Statistics Section of PPMU and the Economics sub-unit of MFP were developed to be identical. Counterparts for the SEU expatriate staff were appointed to PPMU in 1984 and 1985. Eighteen MFP trained enumerators and supervisors were employed by PPMU in mid-1985. The MFP computer facilities, a computer programmer and three operators were turned over to PPMU in 1986 along with a series of software programs.

Considerable time was spent in reorganization, improving data collection procedures and training of enumerators for the National Agricultural Sample Survey. The present system includes a complete computerization of data analysis.

Assistance was provided in the preparation of policy papers

and monitoring activities of PPMU. I also served on the Library Advisory Committee which was responsible for organizing the library and development of a publications procedure.

The Mixed Farming Project should consider this aspect one of its successes in the area of institution building.

### Counterpart

Circumstances prevented a satisfactory and/or completely productive relationship with my counterpart. During the first year of my tour he was involved in finishing the data analysis and writing for the Baseline report. His participation in ongoing project activities was thusly severely handicapped. In mid-1985 he departed for a 90 day leave and upon returning was appointed to the position as Deputy Director of PPMU. This responsibility required his attendance at the PPMU office in Banjul and a major portion of his time. We were able to make only one up-country trip together in my two year term.

Controversy regarding the lateness and validity of the Baseline report resulted in alienation to the point that, during much of the final project year, he withdrew completely from project activities.

### Information Sharing

Several aspects constrained the capability of the Social Scientists in accomplishing their tasks in an efficient and effective manner. Often field work and/or experiments were begun without informing other members of the professional project staff. This resulted in disorganization and implementation of activities that could have been more efficiently carried out had full discussion occurred prior to beginning. Some scientists objected to having their work evaluated by social scientists sometimes to the point of providing misleading information that severely hampered our progress. Several studies had to be abandoned due to this factor. The Gambian penchant for providing only partial information (never technically wrong but just not complete) caused similar problems. One can only surmise the extent to which our productivity and impact could have been improved if these aspects had not been present.

### Implementation of GADS by PPMU

In May, 1986 we were informed that PPMU intended to implement the GADS data collection and analysis in Lower River Division during the current crop season funded by CILSS. Six enumerators were employed (of which several had no experience in collection of agricultural data) and a four day training program was carried out. No monies were provided for the employment of a field supervisor. Management was turned over to a Senior Supervisor already overworked in supervising the National Agricultural Sample Survey and an inexperienced Cadet Economist. The Head of

the Farm Economics and Statistics Section and a Senior Supervisor had departed for training programs in the U.S.

Although we are pleased that the system is being implemented the hurried nature of getting the enumerators hired, trained and posted and the lack of experienced supervision raise serious concerns. We are confident that GADS works as designed but it is an intensive process requiring high levels of supervision. The accuracy of the output is dependent on the validity of the field collected data.

### Acknowledgements

Four individuals deserve special recognition regarding their contributions during my tour of duty:

**Lamin Jabang - Computer Programmer**

Lamin's assistance and management of the MFP computer room was a key factor in the accomplishment of data analysis for myself and other scientists of the project. His efforts in understanding the job at hand and his programming skills (mostly self taught) were of great value.

**Yero Bah - Senior Supervisor**

Yero's skills in supervision of the field enumerator team and patience in working with the expatriate team was essential to gathering accurate data. His knowledge of Gambian agriculture and culture was an asset to all on the project.

**Paul Jakus - Peace Corps Volunteer**

Paul's efforts and skills were instrumental in the development of GADS. Without him this task would have been impossible. His teaching capabilities were an important input into the training functions of the project.

**Mam-Marie Sallah - Secretary**

Mam-Marie's tireless efforts and persistent good nature enabled the timely preparation of manuscripts and reports. Her skills with the word processing programs were greatly appreciated.

### **Social Science Aspects to Continue or Begin**

1. Implement GADS data collection and analysis on a planned rotational basis with adequate support and supervision,
2. Continue market data collection, analysis and reporting.
3. Institute a system of socio-economic evaluation of proposed research and interventions prior to implementation.
4. Conduct a study to determine why farmers fail to benefit from improved technology. This may be the most important piece of research at this time.

5. Continue expatriate assistance to the Farm Economics and Statistics Section of PPMU. Also in the area of Rural Sociology.
6. Refinement of Contribution of Livestock to Farmer Income with improved research design and larger samples.
7. B.S. level training should be provided for;  
1 or 2 in Rural Sociology  
1 in Agricultural Statistics/Computer Science
8. Comprehensive training in Project Monitoring and Evaluation.
9. Continue to improve on sampling and data collection procedures for National Agricultural Sample Survey.
10. Improve the management capabilities of Ministry of Agriculture staff.
11. Work towards institution of a quality aspect in marketing of agricultural products.
12. Develop and institutionalize closer structural and working relationships between research and extension.
13. Work toward more privatization of agricultural input and product markets.
14. Conduct research on a workable agricultural credit system including viable alternative investment possibilities for farmers.