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DRYLAND AGRICULTURAL
DEVELOPMENT PROJECT (BARANI), PAKISTAN

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INTENSIFIED EXTENSION PROJECT FOR BARANI AREAS

I. INTRODUCTION

The purpose of this visit was to review the progress of the project, to participate with team members in making work plans for the next 12 to 18 months, and to review needs for other consultants for the project during the remainder of the contract. The visit was also used to become more intimately acquainted with the problems and nature of barani agriculture, and to become acquainted with the views of Pakistani and American personnel working with the problems of barani agriculture.

Over the two-week period from April 9 through April 22, conferences and meetings were held with Messrs. Headrick, Lundberg, Wirtz, Handly, Lezin; and, more briefly, with several other members of the USAID staff. Conferences were also held with Rana Saleem, Brigadier Monsoor, Major Aslam, and Mr. Shah of the Barani Project in the Punjab; Lal Mohammed Khan, the Project Director in the Northwest Frontier Province (NWFP); Nazir Mohammed Khan, Director of Agriculture for the NWFP; M.H. Shah, Director of Agricultural Research Institute at Tarnab; and Dr. Manzoor Elahi Raja, Director of the Maize and Millet Research Institute.

Field trips were made to the Daulta Jotli, Chak Bali Khan, and Chauntra areas in the Punjab; and the Kohat, Peshawar, and Abbotabad areas in the NWFP.

II. GENERAL OBSERVATIONS

The impact of the project is beginning to be felt in barani areas as more and more farmers are exposed to fertilizer use and approved cultural practices. The project in the Punjab continues to be hampered by continual changes in personnel, particularly the project agronomist. The long delay in finally getting the PC-1 approved and slowness in payment of local financial obligations have also been a deterrent to good internal operation of the project. A great deal has been learned by the Experience, Incorporated team about barani agriculture, its potential, and the job needed to be done to make progress toward solving some of the problems. The timing and the background are right for obtaining substantial benefit from increased emphasis and support for the project.

Unfortunately, the project is operating under two major uncertainties that could negate some of the progress made and knowledge obtained. It is uncertain whether the Punjab Barani Project directorate will ever function smoothly enough to operate a successful project, and the longevity of the Experience, Incorporated contract is uncertain because of the current USAID freeze on new financial obligations to Pakistan.

The general observations on the direction of the project are best summarized in the work plans of the three team members.

III. WORK PROGRAM FOR CLARENCE MILLER

Several worthwhile studies and programs have been started during the course of the project and these are expected to see completion over the next 12 to 14 months. These include supervision of the Benchmark Survey that was begun prior to the Experience, Incorporated contract, a survey of cooperating farmer profiles, analysis of plot yields and economic practices, an impact survey (impact of the Barani Project), a market center project, and a marketing survey designed to develop information for new market programs. The latter two are action programs, while the others are specific tasks and surveys aimed at analyzing barani agriculture and monitoring the effectiveness of the project. The current priority is to meet specific deadlines on action programs and to keep analysis and data assembly moving ahead on the evaluation and monitoring programs. The latter requires keeping support staff properly supervised and channeling their efforts toward ultimate preparation of written reports.

A. May through October, 1978

Two projects will occupy virtually all of Dr. Miller's time during this period. These are: the Impact Survey, and the Market Survey and Program. Figure 1 identifies the tasks and time requirement estimates for these two projects.

On the Impact Survey Dr. Miller will have the assistance of a clerk in completing the tabulations but will have full responsibility for the analysis and writing the final report.

The Market Survey program includes a survey of six areas, four in the Punjab and two in the NWFP, to determine the types of marketing problems common to those areas. The Survey will also attempt to determine operating costs, margins, price determining methods, and price discovery methods in the markets for cash crops from these areas. The areas to be surveyed coincide with the target areas for an intensified extension program. See Section VI of this report.

FIGURE 1. CLARENCE J. MILLER WORK PLAN AND TIMETABLE

IMPACT SURVEY ^{a/}	May	June	July	August	September	October
Preliminary Report	████████					
Simple and Cross Tabs Regression Analysis Final Report		████████	████			
MARKET SURVEY AND PROGRAM ^{b/} Punjab -- 4 areas NWFP -- 2 areas						
Contracting Discussions	████████					
Preliminary Surveys		████	████████			
Preliminary Data Tabs and Analysis			██████████			
Preliminary Market Improvement Plan					████████	
Extension Input					██████████	
Complete Report						██████████
ANNUAL LEAVE				████████		

a/ Additional personnel needed include: Interviewer (4 weeks) and Computer Programmer (1 week).

b/ The following personnel should be contracted for the Survey: Two Economists (4½ months each), Two Interviewers (2 months each), Two Clerks (2 months each).

Dr. Miller will be primarily responsible for project planning but anticipates entering into a contract with Pakistani professionals to carry out the survey and basic tabulation. The first output from this program will be some extension-oriented material to assist farmers in effectively marketing groundnuts and other Kharif crops. A more comprehensive report will also be prepared.

The market center project will require some participation in decision making, but the major supervision for this project will be provided by Mr. Shah of the Barani Project office.

B. October, 1978 through July, 1979

Several other projects that have been started during the course of the contract will be completed and reports prepared during this period. This includes a plot yield data summary, a summary and report on the characteristics of farmers who participated in crop demonstration programs, assembly and analysis of historic data on response of wheat to fertilizer, and the economics of fertilizer use in various programs sponsored by USAID over the past four or five years. The Benchmark Survey will also be summarized.

The purpose of these programs are three:

1. To be able to better understand the problems of barani agriculture.
2. To better understand the accomplishments and limitations of the current Barani Project.
3. To be able to plan better future programs.

If something is learned in all three of these areas, there should be substantial opportunity to improve implementation of future programs as a result of the improved knowledge obtained.

IV. PUNJAB BARANI PROJECT
AGRONOMIC PROGRAM, 1978-1979

A. General Program

There are three separate but related thrusts to the Barani Extension and Adaptive Research Program for 1978-79. These include: 1) continuation of the demonstration plot program; 2) an adaptive research program directed by Mr. Ulsaker; and 3) an intensified extension program for barani areas.

Each of these thrusts could demand the full-time services of Mr. Ulsaker. However, there is a need in 1978-79 to utilize the technical abilities and extension skills of Mr. Ulsaker in the best possible way. The original emphasis was on the demonstration program. The history of the Punjab barani demonstration plot program over the past two years has suggested that:

1. The proper support for an efficient demonstration program is sporadic at best.
2. The program can be a complete failure for an entire crop season if the procurement and distribution of inputs is not done on time.
3. Turnover of personnel is detrimental to such a large administrative undertaking.
4. Programs other than demonstration plot education are needed to meet the needs of the barani farmer.

It is believed that a well-organized Barani Project staff can conduct the program with minimal advisor involvement, while a poorly organized staff requires undue amounts of Mr. Ulsaker's time in administrative and mundane activities.

B. Flexibility and Opportunity for Accomplishment

The three thrusts that are planned will provide some flexibility to conducting a useful program and emphasis will be on the Pilot Intensified Extension Program. If the assistant agronomists are hired by the Barani Project and if they have a sufficient research orientation, then a limited adaptive research program can be carried out under the direction of Mr. Ulsaker (with planning and research design participation by Agricultural Research Council (ARC)).

If the Punjab fully supports and efficiently carries out all details of the demonstration program, then the Barani Project and Extension staff can carry out a reasonably effective program with minimal guidance by Mr. Ulsaker.

C. Intensified Extension Program

The basic pattern for this program is what is generally known as the Training and Visit System. The specific approaches and key elements are described in the draft PC-1. The tasks for Mr. Ulsaker are currently perceived as follows:

1. Outline the schedule of events and timetable for the first 12 months of the program, beginning May 1, 1978.
2. Outline the subject matter content of subjects to be presented in each two-week period. This will be done in broad terms initially and will be reviewed by other people interested in the program. It is probably not practical at the outset to specify exactly which topics would be covered in a given session.

3. Assemble technical materials for use in training sessions, including:
 - a. Previously prepared materials (used in other training programs in Pakistan and elsewhere).
 - b. General resource materials.
4. Obtaining cooperation of others in preparing technical write-ups.
5. Begin preparation of materials for training sessions.
6. Devise, communicate, and attempt to obtain a consensus on the division of efforts between:
 - a. Agronomy Advisor - Mr. Ulsaker, Experience, Incorporated
 - b. Extension Training Specialist, Experience, Incorporated
 - c. Communications Consultant, Experience, Incorporated
 - d. Field Operations Officer, Government of Pakistan (GOP)
 - e. Extension Communication Officer, GOP
 - f. Administration/Accounts (three), GOP
 - g. Subject Matter Specialist Extension Personnel, GOP

D. Adaptive Research Strategy

If certain difficulties arise in initiating the Intensified Extension Program, the opportunity exists for expanding the much needed adaptive research under barani conditions. Mr. Ulsaker could channel his efforts very usefully in this direction, including:

1. Designing a research plan in conjunction with:
 - a. ARC personnel
 - b. Maize and Millet Research Institute (MMRI)
 - c. Punjab Barani Research Program in Chakwal
 - d. Agricultural Research Institute, Tarnab
 - e. Other groups with demonstrated interest in barani research.

2. Using the land available on farms managed by deputy directors of agriculture (DDAs) and extra assistant directors of agriculture (EADAs) where practical and using the Pakistan Agricultural Research Center (PARC).

3. Considering a program for using farmer fields for adaptive research.

4. Utilizing Barani Project assistant agronomists to help monitor plots and collect data.

5. Coordinating the analysis, interpretation, and reporting of the adaptive research data with the appropriate personnel in the Barani Project.

V. NORTHWEST FRONTIER PROVINCE
EXTENSION PROGRAM APPROACH, 1978-79

In the NWFP the project has proceeded fairly close to the original project plan. The Provincial leadership was fairly well prepared to begin the project effort at the time Mr. Burgess joined the project as an extension agronomist advisor. Continual effort brought forth support for the project by the Department of Agriculture.

The program and progress to date can be summarized roughly as follows:

1. The necessary staff has been hired and needed support has been increasing.
2. An organization and mode of operation for a demonstration-type of extension program has been developed.
3. A level of training and accomplishment in the ability of field assistants (FAs) and other extension staff has been achieved in putting out basic demonstrations of crop practices.
4. Cooperation of research groups and the Integrated Rural Development Program (IRDP) has been encouraged and offered in working on problems of barani agriculture.
5. Extension bulletins relevant to barani agriculture have been prepared and others have been planned.

During this period Mr. Burgess has actually done a great deal of detail work to keep the project moving ahead.

The emphasis of the project over the next 18 months will be different and the strategy to be followed by Mr. Burgess will also be different. The general project direction will include:

1. Continue to establish quality field demonstration plots.
2. Substantially enhance the educational value of the demonstration plot by:
 - a. Training FAs to conduct good farmer meetings.
 - b. Improving, through training, the technical competence of the extension workers.
 - c. Helping to plan for a program of farmer meetings at the demonstration sites.
3. Continue to prepare extension bulletins relevant to barani agriculture but with increased participation of agricultural professionals in the NWFP, including Barani Project staff, research staff of research organizations, and other qualified people.
4. Increasing the use of audio visuals in training sessions.
5. Incorporation of new factors in the demonstration plot scheme from results of adaptive research that has been successfully conducted.

Mr. Burgess will carry the responsibility of advising, fostering, and guiding the program direction outlined above. His personal strategy will gradually change, however, from the earlier stages of the project. Rather than carrying out each task in detail himself, the approach will increasingly be one of:

1. Identifying specific tasks to the project director and appropriate Barani staff.

2. Suggesting possible approaches for accomplishing tasks and objectives.
3. Being less "available" for doing the detailed work.
4. Following up frequently on the progress of specific tasks and being readily available to advise and support.
5. Continuing to enhance the interest and involvement of various agencies in barani agriculture and the Barani Project in the NWFP.

VI. THE INTENSIFIED AGRICULTURAL EXTENSION PROGRAM

The USAID office of agricultural programs has outlined a pilot program on intensified extension work. The program is patterned after the training and visit system which has been successfully sponsored by the World Bank in India, Thailand and elsewhere. However, some special features have been developed that are particularly well suited to Pakistan and barani agriculture. The tentative plans are for this program to be initiated during the remainder of the Experience, Incorporated contract.

This is considered a pilot program and emphasis will be on learning how the program can best function and what plans should be made for implementing a somewhat larger scale program in the future. A revised PC-1 will be required to accommodate the new Pakistani staff positions, and an extension training advisor for the duration of the contract is to be supplied by Experience, Incorporated. Preliminary notes on the types of training sessions and the qualifications of the extension advisor are contained in the appendix to this report.

While there is some support for this program in the Punjab Province, it is uncertain whether or not all levels of the administration will expedite action to permit the program to go forward promptly.

A. TRAINING METHODOLOGY

1. Introductory Training Session (Orientation)

- a. Introduction to the system
- b. What role is expected of agents
- c. How agents will schedule time
- d. Possible preliminary planning by each A.O. and F.A.
- e. New record keeping process
 - (1) diary
 - (2) feedback
- f. Training in the future will be in the field
- g. The incentives
 - transport
 - honorarium based on objectives
- h. What is expected of agents! -- No "ifs", "ands" or "buts"
- i. Role and relation to contact farmer (contact farmer for each farmer group -- two to five in a village)
- j. Role of farmer organizer -- one or two farmer organizers in each pilot area
- k. Relate what farmers have thought of agents in the past and how they are going to have a new image; and how that image is going to be established
- l. People to help make the introductory session work
 - Brigadier
 - MLA - Punjab
 - Trainers
 - Other well known persons

2. Seasonal Overview Session

- a. Cover total package for each crop, livestock, and schedule of when specific training sessions will be conducted
- b. Will be expected to demonstrate the entire package on a demonstration on contact farmer's farm. Will use this example as the focal point for discussing the technology

3. Bi-weekly Sessions

- a. Land preparation
- b. Seed selection and purchase
- c. Germination test
- d. Seed treatment (where applicable)
- e. Fertilizer rates
- f. Planning for input purchasing
- g. Row seeding
- h. Financing opportunities
- i. Depth of planting
- j. Improved tillage tools utilization
- k. Weeding and cultivation
- l. Insect control of growing crop
- m. Rodent control
- n. Disease identification
- o. Thinning
- p. Soil and water management
- q. Field trips to adaptive research
- r. Farm and village storage

- s. Harvesting
 - (1) Marketing
 - (2) Moisture levels
 - (3) Prices
 - (4) Market locations

B. EXTENSION TRAINING SPECIALIST JOB OUTLINE (12-15 months
Duration -- Location: Islamabad)

1. Organize and design and prepare delivery system and assist with presentation of prepared materials (see outline of training)
2. Responsible for training material development
 - a. Work with Agronomy Advisor, Project Leader, subject matter specialist in determining modules of training materials
 - b. Help develop cassette materials and illustrations to put at village information centers
 - c. Organize and prepare radio programs for broadcast with participation of other staff
3. Select and organize people to do actual training
 - a. Field operations office
 - b. Subject matter specialists
 - c. Extension communications officer
 - d. Assistant agronomists
 - e. Agronomy advisor (Ulsaker)
4. Relevant experience desired for Extension Training Specialist
 - a. Understanding of and enthusiasm for the Training and Visit System
 - b. Experience in taking agronomic and other agricultural technical information and put in form to be used by low level extension agent (high school education or less) as well as a depth slightly above for agricultural officers

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- c. Developing country experience
- d. Relevant education

C. COMMUNICATIONS SPECIALIST

1. Experience required -- substantial experience in agricultural extension communications in support of extension staff using all types of media
2. Duration -- 60 to 90 days
3. Job requirement -- assist in technical preparation of visual aids for training programs.