PD-AAN-935

CSU FIELD PARTY QUARTERLY REPORT

Contract AID/ta-C-1411

July 1 - September 30, 1978

STAFF MOVEMENTS

Mr. Dwayne Konrad and family arrived at post on September 2. Mr.Konrad has been with CSU for 10 years as Extension Engineer located at Burlington, Colorado. He replaces Mr. Tom Trout who departed post of September 4, to return to campus. The field party is presently at full strength and consists of:

John O. Reuss	Chief of Party
Sidney A. Bowers	Soil Scientist
Helmer Holje	Economist
Normal Illsley	Agric. Engineer (Equip.)
Dwayne Konrad	Agric. Engineer (Irrig.)
Douglas Merrey	Social Antropologist
Dwayne Westfall	Agronomist

Dr. Wynn Walker, Agricultural Engineer from CSU joined us on TDY from July 21 to August 24, 1978, to work on a watercourse level simulation model.

Dr. W. D. Kemper campus coordinator and former Chief of Party was in country from August 5 to October 4, 1978. His mission here was not administrative but involved a field survey of water losses and associated water management problems in Baluchistan.

MONA RECLAMATION EXPERIMENTAL PROGRAM (WORK PLAN I)

The proposal for local currency funding has been forwarded to AID/W and we are hoping for approval in the near future. Fortunately work is underway on the Water Management Research program as WAPDA has included the program in their annual budget so the MREP people are proceeding on this basis.

The skimming well site has been selected and plane table, topographic, and salinity surveys are underway. These should be completed within a few weeks so that leveling operations and tubewell installation can get begin.

Dr. Kemper brought designs for a "Jet Junction" from campus. This device is designed to utilize the energy normally dissipated in the splash box of a tubewell installation to lift the combined flow of the canal and tubewell water to a higher level. This is very useful on many watercourses where high fields result in watercourse operating levels too high to allow for design delivery from the outlet, particularly when the TW is operating. When this occurs the users of the watercourse receive less than their allotted share of water. The test device works well and farmers, Mona staff, and visitors have all been very impressed with the results. The next step is to adapted the design to locally available lower cost bulk fabrication techniques.

A report on the cleaning and maintenance program has been completed and is being published by MREP. Dr. Holje has been assisting with the Mona project evaluation study. Previous studies include a 1966 benchmark and a 1971 study. The first draft of the new report has just been completed. Dr. Bowers and MREP staff have just completed a report on a complete one week measurement study of the watercourse at TW MN 180. These measurements were collected some months ago. This is an "uncommanded" watercourse, i.e. it is not served by a canal but only by the SCARP tubewell. Overall delivery efficiency was 51.6%, very similar to that found on watercourses in the Mona area served by both canal and TW. Improvements are being designed for this watercourse. The sandy soils and steep gradient present special design problems and some new techniques will be tested.

The irrigation advisory program has been reinitiated under the direction of Dr. Westfall and Mr. Shafique, SRO at Mona. We are utilizing one module of the watercourse model to establish the seasonal water use pattern for the various crops. The field personnel will adjust this weekly use predicted by the model for actual rainfall occurring in the area in order to recommend irrigation times for the individual fields.

The major problem we see at Mona at present is their inability to secure cement through the established channels. They are being forced to use contractors for some construction activities because these people have their own sources of supply. We are not anxious to go this route because in the past we have felt that contractor work was more costly and sometimes of poorer quality than carefully monitored work carried out by project personnel.

TRAINING FOR WATER MANAGEMENT ADVISORS

The second training course at the University of Agriculture, Faisalabad (UAF) was completed on August 29. Reports on the session indicate that it is vastly improved over the previous effort but we still feel we have some rough spots to polish up for the next session presently scheduled to start in February. This training is designed for people who will do the water management extension work after the construction is completed and at least in the Punjab the trainees have now been assigned to this work. Next time we hope to increase the emphasis on extension and agronomic skills.

We find one of the major problems is that the number of field teams in the OFWM programs is not sufficient to utilize the full capacity of the program to turn out trainees. As a result the number in each course is less than could be accommodated and the course is not conducted as often as it could be. In cooperation with UAF a proposal has been developed to better utilize this capability. This proposal would (1) make some seata available to instructors at the Agriculture Training Institutes that train field assistants. These instructors can then incorporate material on water management in their programs (2) establish a second eight week program to be run twice a year for present Agricultural Extension staff to upgrade their water management skills. This course would largely consist of the extension . training, watercourse maintenance, and production related aspects of water management presently taught in the 4½ month course. The Punjab Department of Agriculture has accepted the idea and this activity is presently being incorporated as an added section in the UAF water management research proposal.

WATER USERS ASSOCIATION RESEARCH (II-b)

Data collection is under way and we expect an interim report on the first few villages some time prior to November 1.

Progress has been slower than we had hoped. The project vehicle was wrecked and transport problems developed while it was being repaired. Mr. Merrey did help by taking staff to the field with the USAID vehicle during this time but this was only a partial solution. The second problem is that staff hired for data collection on this project are only temporary employees. Therefore they accept these positions as interim work while actively seeking permanent employment. When permanent employment is offered they leave. Replacement procedures are slow and cumbersome. The result is that they are continually operating with less than full staff and with inexperienced staff. We presently have one PSC position open that has previously been filled by an Agriculture Engineer. We are planning to replace him with a Social Scientist stationed at Faisalabad to help this program over the rough spots and provide continuity. This person will also be available for interviews and related work with our Mona program.

The need for legally constituted WUA is becoming ever more apparent. The negative recommendations from the seminar in Islamabad last June certainly slowed down progress in this direction. However, the interest remains in many quarters and we expect a resurgence of active interest.

EVALUATION AND MONITORING (II-c)

At the time of the last quarterly report we expressed concern whether this program could ever be gotten moving, or whether it would finally be in a form we could support.

The present status is more encouraging. The Federal Ministry of Agriculture is now requesting WAPDA to submit a revised proposal, somewhat reduced in scope from the previous version. We have helped WAPDA prepare a revised version. Reductions in cost in this proposal result from a decreased in the planned intensity of sampling on individual watercourses

rather than any substantial change in the number of watercourses. Several sets of watercourse measurements made during the past year with the help of Dr. Bowers and Mr. Trout have been analyzed, and the results indicate that the status of an individual watercourse can be adequately determined with less measurements than originally proposed. On the other hand the sample of 40 improved watercourses proposed probably cannot be reduced much and still obtain a statistically adequate sample.

While the present status is more encouraging than when the last report was written the delays resulting from indecision have been excessive.

TRAINING AND RESEARCH CENTER (II-d)

The row planter bed shaper system designed by Mr. Illsley is virtually complete but a few minor changes are being made as a result of field tests. Crops requiring this unit are mostly grown during kharif season but we will continue field testing to be sure the units are ready for use in planting cotton and maize next kharif.

WATER MANAGEMENT RESEARCH PROGRAM UAF (III)

Agreement has been reached with the Planning and Development Department of the Punjab that this proposal would be extended to five years and that the expanded training program mentioned above would become part of this proposal. The proposal has again been returned to UAF for incorporation of these changes. Dr. Ali Mohammad Ch. of the Faculty of Agriculture Economics and Rural Sociology has been named coordinator of this program.

RESEARCH INSTITUTIONS (IV)

The plans developed by Mr. Trout for the water delivery systems at the several research institutions along with proposals for associated research projects are now in the hands of the Agricultural Research Council. We have not yet been apprised of any decision but it is by no means certain that they will be approved. Dr. Holje assisted the Irrigation Research Institute in finalizing a proposal for PL-480 funding that was submitted in late July.

REGIONAL ANALYSIS (V)

Dr. Walker made quite a bit of progress on the watercourse level simulation model. The model is being set up in four modules. The first module calculates potential evapotranspiration from climatic input. This module is complete and in use. The second module is the irrigation scheduling-decision making section. This is virtually complete but requires some additional de-bugging. These two modules are sufficient for many of the operational uses of the model. We are hoping Mr. Trout will be able to complete the watercourse delivery model as part of his campus activities. The fourth module is to be the groundwater portion and is not yet past the planning stage. It is becoming quite clear that we need increased competence in this area on the field party.

INTERNATIONAL TECHNICAL ASSISTANCE (VII)

Dr. Reuss's TDY activities at Chaing Mai University were reported last quarter. Other than finalization of the trip report there were no international technical assistance activities by the field party during the third quarter.

OTHER ACTIVITIES

The analysis of data from the cooperative studies with WAPDA Master Planning in which intensive measurements were made on three watercourses around the country has been completed. A report on these studies was completed before Mr. Trout left. We hope to receive clearance by WAPDA for public distribution of this report in the near future. Copies are now available for limited internal use only.

As mentioned in the "staff movements" section above Dr. W. D. Kemper spent several weeks surveying water management problems in Baluchistan and completed a comprehensive report on that activity before leaving. He found water losses in distribution average only 24% or about half of the losses generally encountered on the Indus Plain. However costs of water from

tubewells there run from Rs.75 to 1,200 per acre foot and this high value indicates that management techniques that save water are highly profitable. Over-irrigation is also common and with the combination of his cost water and high value crops this is particularly costly. As a result of these studies recommendations have been made for some modification in the OFWM program in Baluchistan as well as for needed research. We have agreed to help Baluchistan staff develop a plan for a water management research program.

October 29, 1978.