PD-AAQ-822 32628

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

1. TRANSACTION CODE: A (A - ADD, C - CHANGE, D - DELETE)

PP

2. DOCUMENT CODE: 3

3. COUNTRY/ENTITY: Type C Field Support DS/AGR RDA-4

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 936.4021

6. BUREAU/OFFICE: A. SYMBOL: DSB; B. CODE: 08

7. PROJECT TITLE (Maximum 40 characters): Dryland Agriculture Support Service

8. ESTIMATED FY OF PROJECT COMPLETION: FY 85

9. ESTIMATED DATE OF OBLIGATION: A. INITIAL FY 80; B. QUARTER 4 (Enter 1, 2, 3, or 4); C. FINAL FY 84

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 -)

A. FUNDING SOURCE	FIRST FY 80 B. FX	C. L/C	D. TOTAL	LIFE OF PROJECT E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	440		440	4200		4200
(GRANT)	(440)	( )	(440)	(4200)	( )	(4200)
(LOAN)	( )	( )	( )	( )	( )	( )
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY						
OTHER DONOR(S)						
TOTALS	440		440	----		4200

11. PROPOSED BUDGET APPROPRIATED FUNDS ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE C. GRANT	D. LOAN	E. 1ST FY 80 F. GRANT	G. LOAN	H. 2ND FY 81 I. GRANT	J. LOAN	K. 3RD FY 82 L. GRANT	M. LOAN
(1) FN	120 I	022	-	440	---	---	---	1000	---
(2)									
(3)									
(4)									
			TOTALS	440	---	---	---	1000	---

A. APPROPRIATION	N. 4TH FY 83 O. GRANT	P. LOAN	Q. 5TH FY 84 R. GRANT	S. LOAN	LIFE OF PROJECT T. GRANT	U. LOAN
(1) FN	1250	---	1500	---	4200	---
(2)						
(3)						
(4)						
TOTALS	1250	---	1500	---	4200	---

12. IN-DEPTH EVALUATION SCHEDULED: MM 11 YY 82

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

1 NO / YES

14. ORIGINATING OFFICE CLEARANCE

SIGNATURE: Richard R. Solem

TITLE: Acting Director, Office of Agriculture Development Support Bureau

DATE SIGNED: MM DD YY

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

AID 1330-4 (3-76)

DRYLAND AGRICULTURE SUPPORT SERVICE

PROJECT PAPER

Soil and Water Management Division

Office of Agriculture

Development Support Bureau

April 1, 1980

PROJECT PAPER OUTLINE

Dryland Agriculture Support Service - Project No. 936:4021

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I SUMMARY AND RECOMMENDATION

A. Recommendation

It is recommended that $4,200,000 in grant funds be approved to finance a five year Cooperative Agreement with the Consortium for International Development, CID. The grant will provide for a center of expertise in the area of dryland agriculture. The grant also will provide for use of the Recipients capabilities in the assessment of constraints in several LDCs and development of methodologies and programs to implement sound agriculture projects in selected LDCs. The obligation schedule would be as follows: FY 80-$450,000 for the first two years; FY 82-$1,000,000 for the third year. If the project proceeds as planned $2,750,000 would be scheduled for the last two years, FY 83 and FY 84. Subject to availability of funds, the project will start in FY 80.

B. Summary Description

Technical assistance agencies and national governments have come to understand that small farms are important in the battle against poverty and world hunger. If the major potential for feeding the rural poor is increased production and income on small farms, then analyses of various existing and potential farming systems is needed. The problem of dryland farming systems, which this project addresses, is one component of a general agricultural farming systems programmatic area.

Drought is a constant threat to man and animals in areas receiving limited precipitation (500 mm or less). It is estimated that more than 500 million people live in low rainfall areas of the developing countries. Not only are the inhabitants of these zones in the majority but they also represent the poorest of the poor.

The purpose of this project is to assist a Cooperative Agreement Recipient in the strengthening, refinement, and maintenance of technical capacities and to provide for their use to increase productivity in LDC dryland farming systems. In general, the project area will be limited to dryland areas where average annual rainfall is between 250 and 1250 mms and supplimental water is not available for irrigation.

The project is based on the premise that:

- effective farmer assistance programs result when the concerned country institutions have a thorough understanding of the problems facing the farmer; and

- a necessary condition for implementation of improvement programs is farmer involvement throughout the development process, from problem identification through implementation of solutions.

In building its capacity and capability to assist AID with identification and implementation of effective dryland agricultural projects, the grant Recipient will be asked to:

1. develop a state-of-the-art analysis of what is known about dryland agriculture, what AID and other donors are doing and an experience and literature review of technologies which might show promise of improving these systems.

2. conduct a problem identification survey and analysis in several LDC dryland agricultural systems.

3. pilot test several improvement technologies in at least two countries by developing a long term relationship with institutions in these countries.

4. provide AID with advisory and consulting service in the area of dryland agriculture farming systems.

5. and provide specific on-the-job training to host country participators in the conduct of this grant. The Recipient will also prepare working manuals and handbooks on technologies showing particular promise in relieving constraints in LDC dryland agriculture.

These activities will all be accomplished by the Recipient working closely with the AID/W project manager, specific USAID Missions, and especially host country institutions and farmers. For this reason the program will develop slowly. Of necessity, work schedules, project sites, and site specific methodologies will all have to be worked out among the above mentioned cooperators. It is expected that much of the first two years will be devoted to the state-of-the art, development of methodologies and selection and gaining access to project sites.

The final result of the project will be the formation of a center of support service expertise which is knowledgeable about the current state of dryland agriculture; has developed a method of technology intervention to increase production in dryland farming systems; and has implemented several programs in LDCs.

II DESCRIPTION OF THE PROJECT

The project will provide for a cooperative agreement with the Consortium for International Development, CID. Its purpose is to assist the Recipient in the strengthening, refinement, and maintenance of technical capacities and to provide for their use to increase productivity in LDC dryland farming systems.

A. Background

Rainfed agriculture includes most of the world's agricultural land since it includes all non-irrigated lands. The obvious difference between rainfed and irrigated agriculture is the reliability of water for plant growth. In one case the water is manipulated to meet the agricultural demand; in the other the agriculture is mainpulated to match the water supply.

Rainfed agriculture is practiced under a wide variety of precipitation and climatic conditions. Therefore productivity can vary from zero to that achieved under irrigated agriculture. A common subdivision for rainfed agriculture includes areas where rainfall exceeds crop water needs as opposed to areas where rainfall is not sufficient or reliable enough to produce maximum crop yields. The former situation usually results in a rice agriculture, the latter an agriculture based on some other cereal grain.

This project will concentrate on areas of deficient precipitation and henceforth the target sector will be referred to as "dryland" agriculture where annual precipitation is from 250 to 1250 mms, and supplimental irrigation is not used. These areas include a wide belt across central Africa, the Mediterranean, the Indian sub-continent, most of southern South America, and much of Central America.

In general, conditions have forced LDC farmers to push agriculture into zones of lower rainfall and poorer soils than being practiced in developed countries. Survival agriculture obviously tolerates lower productivity. These farmers are most assuredly among the world's poorest and yet they manage a significantly large amount of the world's agricultural land. They are a social and economic force which must be included in the overall development of nations.

AID, in response to the rural poor mandate, has developed projects of assistance to the poorest population segment. This has resulted in several rainfed projects being initiated. Projects are now being considered in all regions; where five years ago, there was essentially no effort being made by AID to provide assistance directly to this large and poor segment of agricultural societies.

U.S. technology usually is not readily suited to LDC rainfed agriculture conditions; moreover U.S. technicians are not well experienced or knowledgeable about this type of agriculture. Obvious reasons for this include the fact that this type of agriculture is practiced in LDCs under more extreme conditions than considered practical or economic in the U.S.; the U.S. systems are based completely on high energy inputs not available to the LDC farmer; and U.S. experts have not had long term experience with this type of agriculture. With AID now becoming increasingly involved in dryland agriculture programs it seems reasonable that a center of expertise be developed through carefully planned activities which will not only give the Recipient LDC experience but will also start to improve USAID programs in rainfed agriculture.

In spite of the fact that productivity is low and population sparse in dryland agriculture it is an an important sector.

The world's arable crop land comprises an estimated 1.4 hectares. Only about ten percent is irrigated; the remainder depends on rainfall. Nearly 0.6 billion rainfed hectares are considered semi-arid to arid, i.e, receive less than 500 millimeters of annual precipitation. However, these low rainfall areas produce a major portion of the world's cereal crops. Approximately 500 million people inhabit low rainfall areas of developing countries.

According to ICRISAT*, the farmers of these areas and the villagers who depend on his crops for food are touched only lightly by modern technology. He uses little fertilizer; the soils he tills are often eroded and depleted of nutrients. The power he uses is almost always animal or human. His productivity is generally low. For the most part, his implements are primitive; he uses the same type of wooden plow or hand implement that his ancestors did and with the same results.

The most restrictive of his natural resources is water-limited in amount and distributed during a short rainy season in unpredictable and frequently intense storms that erode his land. Pests and diseases attack his crops and diminish production, but he has learned to depend on varieties which insure a crop in most seasons, even if they bring low yields.

Despites these obstacles, farmers in these regions produce more than one-half of the world's sorghum, at least 80 percent of the pearl millet, 90 percent of the chickpea, 96 percent of the pigeonpea and 67 percent of the groundnut. Yields of these crops are only one-fourth to one-half those in the developed world: yet these are the crops that sustain life in many of these areas.

*ICRISAT AT WORK: A Progress Report, ICR 79

B. Rationale for the Project

There is no question that much of the dryland sector of agriculture in LDCs is considered small scale and the farmers are small under most any reasonable definition. There is also much evidence that improvement programs in "small scale" agriculture are hazardous and success rates are low. This surely accounts for dryland agriculture projects being unpopular among donor and lending agencies.

According to an AID funded study[1], economically and agronomically effective production packages for dryland agriculture require extensive applied field research conducted over relatively long time periods. Site specificity in tuning the package to local conditions is necessary. The basic climate and soils data needed to design a program often are not available in LDCs. Or if the information can be obtained, personnel with capability to interpret and apply it cannot be found.

There is ample evidence that successful programs of assistance to small scale agriculture can be designed and implemented. However, the margin of error in project design is narrow with dryland LDC agriculture because: (1) farmers are hard to convince, their risk leverage is small and since productivity is dependent on weather conditions they are used to extreme variability in productivity; (2) they are extremely poor; and (3) they are sparsely settled, technology diffusion is difficult - extension service poor to non-existent.

In 1975, AID sponsored a study[2] of 36 rural development projects, the conditions for success in small farmer development. Overall success was mostly affected by the local action taken by small farmers to complement outside development management and resources. This study concluded that there were changes needed before achieving success with small farmer assistance programs.

> "Our general conclusion is that getting the benefits of development of the small rural producer in a manner which can become self-sustaining will require changes in the project identification, design and implementation procedures of external assistance agencies. Projects have failed frequently in the past because of mistaken conceptions or inadequate information on the small farmer's priorities and the alternative mechanisms by which they might be real-

1. Dryland Agriculture in Winter Precipitation Regions of the World; Oregon State University, Dec. 1979.
2. "Strategies for Small Farmer Development: AID funded study by Development Associates, 1976.

alternative mechanisms by which they might be realized. These are not things an outsider can uncover in the short time during which external assistance projects are usually generated. A detailed knowledge of the thinking processes and behavior of the small farmer as well as his trust are required, and these things take time to develop.

Gone should be the initial ten-day, ten-man expert team that flys in, around and out of a country to identify projects with a price tag of more than ten million dollars. Gone should be the amazingly de tailed 150 page reports which specify exactly the procedures and steps to be taken when the project is implemented. Gone should be the extremely long and detailed outside evaluation of projects based upon the inputs used, construction completed and money spent. In their place should be a healthy appreciation for the preceptions, interests and risk considerations of small farmers themselves.

What is recommended requires a great deal of time, patience, understanding and negotiation - all inputs which cannot be purchased. Such projects require small funding per unit of time or per unit of management. In other words the time and manpower inputs are high.

These recommendations, then, are difficult to implement at the USAID Mission level. The AID project and budget system and the direct hire staffing restrictions preclude Missions from becoming too involved in projects which require large amounts of manpower and time relative to total fund obligations.

The rationale for strengthening an institution to provide AID with an experience and knowledge base in dryland agriculture is based on the fact that AID neither has nor has plans to strengthen its own direct hire expertise in this area.

The recipient would be expected to strengthen and build several capabilities and capacities as follows:

1. It is expected that the Recipient already has a thorough knowledge of dryland agriculture in the United States.

Many principles of production are the same in agriculture regardless of inputs or natural resource availability. It is essential that the Recipient be expert in these principles before trying to increase its capacities in LDC farming systems.

2. Knowledge and data base on present and past worldwide activities (including AIDs).

Aid should have available a complete knowledge of all that is going on in development in the area of dryland agriculture. No one in AID has time to devote to this because there is an ever increasing amount of acitivity. As donor agencies direct attention to the "poorest of the poor" in agriculture it is natural to focus on dryland agriculture, because this sector of agriculture represents the poorest. It therefore, is reasonable for AID to develop this readily available center of expertise. AID needs someone knowledgeable of past development experience so that mistakes are not repeated. A knowledge of present programs and a continual monitoring of these is necessary in order to maintain the best possible programs on a global scale.

3. An ability to expeditiously respond and communicate with AID.

This is necessary because as development assistance programs develop at the Missions level, expertise is needed without delay. There is usually not much lead time. The Recipient will therefore have to develop a stable staff so that those knowledgeable and involved in this program will be available to AID. This will involve the Recipient increasing the number of professionals involved in dryland agriculture and at least one full time technical expert involved solely with this project.

4. A relationship building capacity with LDCs in pursuit of problem identification and solution implementation strategies to increase production in small scale dryland agricultural farming systems.

This will assist Missions and relieve them of some responsibility for the slow, variable cost, but relatively inexpensive process of assessing the present situation and determining intervention technologies to increase productivity and importantly of educating host country institutions to the situation and in building an awareness and interest among farmers and institutions regarding the need and possibilities for improvement.

5. An experience and knowledge base regarding the state of dryland agriculture in LDCs, the principal constraints to increasing production, and a knowledge and evaluation of technologies which have or have not been successful in relieving constraints.

Dryland agriculture farming systems are so fragile and the farmers operate with so many constraints that successful development assistance programs have little margin for error. Therefore, it is only logical that AID's projects benefit from the best possible expert advice. Presently no one person or institution contains such experience and knowledge. It has never been synthesized in the area of dryland farming.

C. Project Activities

"Our plans for more productive agricultural technology must start from what exists now and not from some package that we cook up on the experimental farm or in the laboratory.*

The evidence is convincing that successful interventions in dryland agriculture farming systems require:

- Farmer and government involvement in problem identification, planning for, and testing suitable technologies for improvement.

- Clear descriptions of how the present farming system operates; careful analyses of the variables which affect it; and a reasonable assessment of resources which can be used to bring about change.

- Pilot testing of selected improvement technologies so farmers and institutions can modify them to suit the local socio-economic and environmental conditions.

These conditions require considerable time and are location specific because of variability among social, technical, and natural resource bases. Therefore it is difficult and time consuming to develop programs to positively influence productivity in dryland agriculture farming systems. The problem being that a great deal of time and patience is necessary to involve farmers and institutions in problem assessment and technology selection. This project addresses this problem by providing central funding during these initial project phases. A mechanism is proposed which can address the problem by building relationships between the LDC and a cooperative agreement Recipient who has and will increase its expertise in this particular type of agriculture. The final result of the project will be the formation of a center of support expertise which is knowledgeable about the current state of dryland agriculture development in the world; has developed a methodology of technology intervention to increase production within dryland farming systems; and has implemented several programs in LDCs.

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* A. H. Bunting, Senior Biologist, University of Reading, UK at OECD Workshop on Scientific and Technological Cooperation with Developing Countries - Paris, April 1978.

Activities to accomplish these results are as follows:

1. State-of-Art - This activity will involve a careful analysis of what is presently known about dryland agriculture management and what is going on in development assistance worldwide. The 211d grant activities at Oregon State University and at the University of California, Riverside have accomplished a part of this activity. There is much more however which needs to be done. Aid's present portfolio of dryland agriculture projects need to be analyzed regarding what is involved and how accomplished. The same needs to be done with programs of other donor and multilateral aid agencies.

Finally, this initial project stage should include a study and description of technological packages for dryland agriculture and an analysis of the conditions under which each might be sucessfully implemented. Also an initial literature and experience review of how farmers cope with constraints in dryland agriculture. These two items will be used later on in the project to select technologies for test at specific sites.

2. Problem Assessment - A methodology to assess constraints and present practices, and to develop an inventory of resources available for interventions will be developed. It will need to be devised so a small 4-6 person team can make the analysis in a given country in a 4-6 week period.

The methodology would then be tested and refined by going to at least 6 countries and developing profiles of the dryland farming situation. The methodology should be refined if need be after two country assessments.

The output of these analyses will be recommendation for possible technologies which after pilot testing, should have high probability of increasing production using existing resources.

3. Pilot Testing - After analysis of at least 6 countries, a longer term relationship between the grant Recipient and perhaps as many as 3 countries would be developed. This activity would involve selecting and testing technologies for increasing production. Of course, the selection will be based on the analysis and the review of the success/failure rates of various technologies. The important aspect here is that the technologies would be selected by the host government institutions and the farmers. The Recipient would act as a consultant which could or could not involve the Recipient placing long term technicians in the field.

The final output of this activity would be the development and refinement of a program to implement improvement technologies, whatever they may be, on a large scale. At this point undoubtedly donor assistance would be needed, but the groundwork would have been laid for the launch of a successful national program. This project then would have been successful at that particular place and save for a monitoring aspect to follow implementation problems it would be finished there.

4. Advisory and Consulting Service - The grant Recipient already has a great deal of domestic and some LDC experience in dryland farming systems. This cooperative agreement will provide for a greatly increased experience and knowledge base in LDC dryland agriculture. Recipient professionals will therefore be highly knowledgeable and useful to LDCs as consultants in this area. The grant will provide for short term advisory and consulting service. Such consultancies might include advice on project or program strategies, evaluations, technology assessment, program review, and other technical questions involving short term individual consultation. Ordinarily USAID Mission's requests for teams from the Recipient to accomplish project papers, evaluations or special studies would be handled under work orders and paid for from Mission funds.

5. Information and Training - During the conduct of this program several items will be deliniated as items for publication. Certainly country assessments for problem identification will be published. Specific technologies for increasing production under dryland agriculture will be identified and manuals will be prepared on their suitability and techniques for adoption under various conditions existing in LDCs.

A great deal of country specific data will result from the studies. These data will be placed in the AID computer data bank for ready access to AID Training will be limited to on-the-job training of host country technicians in techniques required to accomplish the activities of the program. Certainly data collection and analysis techniques will need to be taught and during pilot testing there will undoubtedly be several techniques which will require training. In all cases the training will involve "learning by doing" with the recipient working with the host ocuntry personnel.

D. Methods

In all activities this cooperative agreement represents a close working relationship among the recipient, AID/W, USAIDs, and host countries.

At the outset the program will be described to all Missions and at every state of development they will be requested to be involved. Certainly as the Recipient focuses on specific countries for the problem identification assessments and finally for the longer term relationships of testing technologies there will need to be committments from Missions and host countries. These will only be possible by planning and working out details among all concerned parties. It is expected that these arrangements will take considerable time and patience. If no suitable arrangements can be made then the project will have failed in the major components of getting something accomplished on the ground in LDCs. The recipient, however, will have increased its capacity and knowledge base and therein be better qualified to assist LDCs as consultants.

It is expected that the recipient will work closely with the international centers, especially ICRISAT and ICARDA, in learning their techniques and programs as they might relate to this one. In some cases cooperative arrangements might be especially worthwhile.

The Recipient should use the workshop method for developing the initial set of methodologies for problem assessment and pilot testing implementation. Knowledgeable consultants worldwide should be used to design project strategies. Modifications will come after testing but the initially developed procedures should have the benefit of the world's best experience at the outset.

The problem assessment and pilot testing activities both require farmer and host country institution involvement. This is the key to successful development finally of a national program of assistance. All cooperators in this agreement must continually keep this in mind. The project is designed specifically for this involvement but it is always possible and sometimes it is expeditious to ignore the local scene. This must not be allowed to happen.

Finally, the DS/AGR project manager will work closely with the recipient to ensure that the various activities are reasonably scheduled. The AID project manager will, of necessity, need to devote considerable time to the program because of the necessary cooperation needed among the Recipient, the Missions, and the host governments.

E. End of Project Status

If the project proceeds as scheduled there will be ongoing programs in 2 or 3 LDCs in dryland agriculture improvement. These programs will have been based on careful clinical analyses of exisiting situations and testing and development of improvement programs to fit these situations. Farmers and host government institutions will have played the major role in development of the programs.

Strengthening the capacities of the cooperative agreement Recipient will have been achieved when the Recipient has developed:

1. A knowledge and data base on worldwide activities in dryland agriculture and the base is available to AID through its computer retrieval system.

2. An ability to respond expeditiously and communicate with AID by increasing its staff, stabilizing its staff, and appointing at least one full time professional to this activity.

3. Relationships with 2 or 3 LDCs in pursuit of problem identification and solution implementation strategies to increase production in small scale dryland agriculture farming systems.

4. An experience and knowledge base regarding the state of dryland agriculture in LDCs, the principal constraints to increasing production, and a knowledge and evaluation of technologies which have or have not been successful in relieving constraints.

5. Finally, it is expected that the Recipient already has a complete and thorough knowledge of dryland agriculture in the U.S. and that the Recipient has, at least, twenty professionals working full time in that area.

III PROJECT ANALYSES

A. Economic Feasibility

The rationale for the project is based on the assumption that AID will invest considerable funds over the next 10 years in projects to increase production in dryland agriculture. It is further assumed that the target beneficiaries of these projects will be the farmers who presently practice little more than survival agriculture.

Past history, with successful projects having impact on small farmers, clearly tells us that to be successful in increasing productivity investment programs must: (1) take into account the existing situation, (2) involve farmers and local institutions in the selection of improvement programs, and (3) implementation of technologies must be carefully done over time so farmers and the local system can adjust the technologies to match resources of the local environment.

This project proposes to increase the capabilities and capacities available to AID to accomplish sound project initiation in dryland agriculture, by improving the capabilities of a grant Recipient and by implementing the above mentioned problem identification and technology selection process in several LDCs.

The alternative to doing this is to continue to develop USAID projects in this area by contracting with short-term design teams who necessarily will design projects with no farmer and little host government institution involvement. It must be realized, also, that nowhere in the United States is dryland agriculture practiced under conditions approaching the LDC farmers' constraints. U.S. dryland agriculture is totally based on high energy inputs - highly mechanzied to speed operations and high commercial fertilizer inputs.

Even though the soil-water-plant management principles are the same wherever dryland agriculture is practiced; U.S. experienced technicians must gain experience in and an appreciation for LDC farming systems before they can be called experts in such systems. This project provides a mechanism to build such experience and expertise and to use it by initiating programs in LDCs by using sound technical and development principles.

This project cannot be subjected to the usual economic analysis since its true benefits will result through its effect on other projects. However, assuming AID would invest $100 million over the next 10 years (surely conservative since projects presently initiated total more than $40 million); this project would then represent a 4 percent investment in improvement and use of design techniques. This is certainly not an unrealistic amount when compared with any other development endeavor anywhere in the world. Important also is the fact that benefits will accrue relatively soon and be repeated over time certainly beyond the project life.

A similar AID program in irrigated agriculture has affectd worldwide thinking in irrigation system renovation; has caused FAO to change its emphasis in irrigation programs; and provided much of the rationale and concept for development of an international center in irrigation water management. The economic benefits of these types of project consequences cannot be specifically measured.

B. Social Soundness Analysis

The initial beneficiaries of the project are those institutions and agencies involved in designing and implementing dryland agriculture projects. The ultimate target group of beneficiaries are the farmers who operate dryland farming systems. The project will facilitate reaching the utlimate user with appropriate technologies designed specifically to match their resources and constraints. In fact, the project's primary purpose is to build expertise and methodologies which will provide dryland agriculture projects with some assurance that the project benefits will reach the end user.

The project is designed specifically to involve farmer beneficiaries in studying their own system and in selecting and developing technologies for improving their own systems. The active participation by farmers and host govenment institutions in a careful and systematic approach to increasing productivity is the basic logic behind this project.

The social soundness and impact of this project, then, is manifest in its influence on other projects and programs and is designed to make them socially acceptable through assistance in reaching the ultimate beneficiaries with appropriate and acceptable technologies.

C. Technical Feasibility

The development model suggested by this project requires: (1) a careful precise quantification of farmers' problems; (2) the selection of appropriate solutions based on farmer and institutional constraints; (3) the testing and evaluation solutions within the farmer and institutional environment, and (4) careful implementation which provides the required training and technical assistance.

This project is designed to ensure that, for dryland agriculture farming systems, the first 3 items in this model are accomplished in AID programs before proceeding to number 4. These 3 items would be accomplished with farmer and governmental institutional involvement. There is much evidence in the literature and from successful small farmer projects that there is no alternative to successfully changing fragile farming systems than to involve the farmers totally in selecting and adapting the change agents to his constraints and limited available resources.

The project recognizes that AID personnel need expert help in the dryland farming system area and that U.S. technicians will need to gain experience in LDC systems. This experience will be gained by participating in the problem identification, technology selection and testing process with LDC farmers and institutions.

The project is timely in that AID's mandate to reach small farmers, especially the poorer sector has caused an increase among Mission projects in the dryland area where, in fact, most of the world's poor farmers operate on most of the world's agricultural land. It is expected that the emphasis on increasing food production in dryland agriculture farming systems will increase over the next 10 years.

D. Administrative Feasibility

The project calls for a Cooperative Agreement with the Consortium for International Development, CID, to strengthen, refine, and maintain its capability to assist AID in developing and implementing sound projects to increase productivity in dryland farming systems.

CID is a consortium of 11 universities operating in ten western states. The natural resources, precipitation patterns, soils and topography, of these states closely resemble the natural resource base of the LDC target areas for this project. All of the CID universities have significant programs in dryland agriculture, including experiment stations devoted solely to dryland agriculture. Therefore, there is within CID a large pool of scientists presently devoting full time to dryland agriculture.

The Consortium maintains an administrative office separate from the university systems. This facility gives AID ready access to the Consortium without becoming involved in the various and different internal operating systems within each university.

AID, has over the past 5 years, funded 21ld grants to two CID institutions, Oregon State Unviersity and the University of California at Riverside. Therefore some LDC experience has been gained and state-of-the-science reports have been prepared by each institution. This Cooperative Agreement would build on this experience and permit CID to expand its expertise pool and get them directly involved in LDC farming systems.

The project will require careful and continual planning and negotiation among the Recipient, the AID/W project manager, concerned Missions, and LDC institutions. For this reason, it is imperative that CID assign at least one professional to full time status on this project. This can be done at CID headquarters, thus ensuring that the individuals concerned would not become involved with extra curricular activities always prevalent on University campuses.

The DS/AGR project manager will also need to devote a great deal of time to this project. A conservative estimate would indicate the need for at least one-third time for one experienced person. This could be a serious defect in project design since DS/AGR technical staff is severely limited in numbers and experience. If no further cuts are made in the Soil and Water Management Division and if a Division Chief is hired before this project is initiated there will be sufficient expertise to handle this project.

The project design also calls for much USAID Mission involvement in planning and facilitating access. It is assumed that some Missions will want this project to take place in their countries and will edvote time to it. Certainly this assumption could be critical but, in the sense that should no Mission want to become involved the project would not proceed, little would be lost in making the attempt. The same of course, applies to host country institutions.

The project is designed to allow for a great deal of time in developing relations with Missions and host government institutions. It is assumed that given this near 2 year period suitable arrangements will be made in several places. Certainly this is not unrealistic.

E. Environmental Concerns

The Environmental Threshold Determination was approved March 28, 1980 and determined that this project is not a major feferal action which will have a significant effect on the human environment.

The project activities fall into the area described in environmental procedural regulations as "Analyses, studies, academic or investigative research, workshops and meetings." These classes of activities will not normally require the filing of an Environmental Impact Statement or the preparation of an Environmental Assessment.

IV BUDGET

This proposal provides for a 5 year Cooperative Agreement to strengthen, refine, and maintain technical capabilities and capacities by the grant Recipient and to provide for the use of these capabilities to increase productivity in LDC dryland farming systems.

The estimated budget represents a phasing of activities to allow for careful planning and negotiation regarding access to study sites. It is anticipated that during the final 3-year project period several experts would be stationed outside the U.S. Specific locations will depend on the activities and negotiations during the first two years.

Project costs, to be borne by AID, are estimated to be $4,200,000 for the 5-year period. The project will be intially funded in FY 1980 for the first two years.

	Expenditure ($000's)	Obligations ($000's)
FY 80	30	450
FY 81	400	-
FY 82	800	1,000
FY 83	1,400	1,250
FY 84	1,570	1,500
	$4,200	$4,200

An input/output detailed budget appears on the following page.

COSTING OF PROJECT OUTPUTS/INPUTS
($ 000)

OUTPUTS

	FY 80	FY 81	FY 82	FY 83	FY 84	Total
1. SOTA	200	-	100	50	50	400
2. Synthesis	130	-	200	50	50	430
3. Problem Assessment	40	-	300	200	50	690
4. Pilot Testing	-	-	300	700	1000	2000
5. Advisory Service	60	-	50	100	100	310
6. Info. Dissemination	20	-	50	150	150	370
	450	0	1000	1250	1500	4200

INPUTS

1. Salaries	180	-	370	420	500	1470
2. Fringe Benefits	25	-	45	50	60	180
3. Overhead	170	-	355	400	470	1395
4. Travel & Transport	30	-	20	40	50	140
5. Allowances	5	-	75	110	150	340
6. Other Direct Costs	35	-	115	210	250	610
7. Equipment	5	-	20	20	20	65
	450	0	1000	1250	1500	4200

V IMPLEMENTATION PLAN

The anticipated schedule for project approval and awarding of the grant is as follows:

1.	PID approval completed by	July 1979
2.	Limited review of brief project description	February 15, 1980
3.	Project Paper prepared	April 1, 1980
4.	Project approved by AID	May 1, 1980
5.	PIO/T to CM/COD	June 1, 1980
6.	Grant awarded	August 1, 1980

This the final draft of the Project Paper has considered all suggestions made at the PID review and from the review of the brief project description circulated in January 1980. The comments from the various Bureaus appear in Annex D.

It will also be noted that this Project Paper addresses only one component of water management that was suggested in the PID. During the PID review and approval it was decided that a dryland agriculture project should not be combined with an irrigation water management project. Consequently this project actually represents a portion of the project suggested in the PID. See Annex C for the PID review minutes and the memo of approval for this PP.

The project will be managed in the Soil and Water Management Division of DS/AGR. It is anticipated that approximately 1/3 person years each year from this Division will need to be devoted to this project. The water managment specialist cannot devote this much time and continue to successfully carry out his present programs. It is threfore anticipated that the Division Chief will need to participate in management of the project.

Within AID/W a project committee will be selected to assist DS/AGR with carrying out AIDs involvement in the cooperative effort. This committee will be made of 5 persons knowledgeable in rainfed agriculture and will not necessarily be selected from each Regional Bureau. At least one resource economist and one rural sociologist will be on the committee. This committee will review and approve major outputs and decisions and, importantly, they will take an active part in developing the initial relationships between the recipient and the host countries.

The schedule of key activities and events is presented on the following page. It will be noted that a great deal of time is allowed for events. This is because there is a need for a cooperative effort and it is difficult to precisely schedule activities. It is assumed, for example, that it will require more than one year to prepare background material, develop a methodology, and make suitable arrangements to carry out the problem assessment study in the first country. The budget also reflects this phased planning.

Schedule of Key Events

	October 80	81	82	83	84	85
SOTA	(1)(2)(3)(4)					
Problem Assessment	(1)	(2)(3)(4)(5)	(6)	(7)		
Pilot Tests		(1)	(2)	(3)	(4)	
Information Service						
Advisory & Consulting	----------continuing ----------					

State-of-the-Art (SOTA)

1.	Method to review AID and other donor documents developed by	Oct. 80
2.	Review of literature regarding technological packages	Apr. 81
3.	Review of literature regarding LDC farmer techniques	July 81
4.	Complete review AID & other donor project documents	Oct. 81

Problem Assessment

1.	Method developed to assess problem by	July 81
2.	Select first two countries	Oct. 81
3.	Conduct first two assessments	Apr. 82
4.	Select second two countries	July 82
5.	Revise method	Oct. 82
6.	Conduct second assessment	Apr. 83
7.	Conduct assessments in 5th & 6th countries	Dec. 83

Pilot Tests

1.	Select first country	Apr. 82
2.	Initiate program, 1st country	Oct. 82
3.	Initiate program, 2nd country	July 83
4.	Initiate program, 3rd country	July 84

Information Service

1.	Publish SOTA report by	Apr. 82
2.	Publish country assessments 1 & 2	Sep. 82
3.	Publish first technical handbook	Nov. 82
4.	Publish country assessments 3 & 4	Sept.83
5.	Publish 2nd technical handbook	July 84
6.	Publish country assessments 5 & 6	Sep. 84
7.	Publish 3rd technical handbook	Aug. 85
8.	Final report	Sep. 85

The problem assessment and pilot testing phases of the project will require close USAID Mission and host country involvement. The arrangements for these activities will have to be made after project initiation by careful planning and negotiation. Once a country site is agreed upon certainly that country's government will have to devote some resources to the project. For example, even with the problem assessment activity it is not planned that the grant Recipient do this on his own. One of the important benefits of doing a problem assessment is to provide a vehicle through which local institutions can systematically study the dryland farming system and become aware of its constraints. Therefore, as a minimum the host country would need to provide technicians to be trained and assist in the problem assessment phase.

The pilot testing phase, of course, will require even more host country resources since a local agency would have to provide key personnel on a full-time basis to the effort. It is anticipated that this phase will only be attempted in countries where some on-going governmental assistance programs assisting farmers in the dryland sector are in place. Selection and arrangements for this activity can only be made through careful planning. It will be noted on the schedule that the first pilot program is not anticipated until two years after project initiation.

Since one of the objectives of the project is to develop a center of expertise in dryland agriculture, the Recipient is expected to develop clear work plans and carefully select personnel to manage each activity. Especially important for the grant manager will be to be sure that several disciplines (agricultural engineers, agricultural economists, agronomists, soils specialists, crop specialists, rural sociologists) become involved and experienced in LDC dryland farming systems.

The DS/AGR project manager will be responsible for project monitoring. He will be assisted, in making important decisions, by the AID project committee. He and the Committee will play a key role in providing access to AID project documents, in selecting handbook topics for publication, and in selecting countries and making arrangements for the in-country activities.

VI EVALUATION ARRANGEMENTS

The project will be managed by the Soil and Water Management Division in DS/AGR. An AID/W Project Committee (Regional Bureaus and DSB) will serve an advisory evaluative role. The project will be closely monitored with bi-monthly meetings between the project manager and the contractor.

A regular evaluation will be made annually with the contractor presenting a progress report before the Project Committee. A team evaluation will be made at the end of the second and fourth years to evaluate progress, determine project impact, to suggest improvements and to recommend future direction for the project.

ANNEX

A. Log Frame

B. Scope of Work

C. Minutes of PID Review and PID Approval

D. Comments on First Draft Project Description

AID 1020-28 (1-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 80 to FY 84
Total U.S. Funding 4,200,000
Date Prepared: April 1, 198

Project Title & Number: Dryland Agriculture Support Service (931-4021)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: Stimulate development and adoption of improved dryland agriculture farming systems that make effective and efficient use of limited natural resources under semi-arid conditions.	Measures of Goal Achievement: Increased use of inputs into dryland farming systems. Decreased environmental degradation of natural resources. Increased yields in dryland sector.	Fertilizer sales, extent of credit and government budgets in dryland sector. Soil erosion and vegetation surveys. Farm income and production in dry land sector.	Assumptions for achieving goal targets: That AID and other donors will spend significant funding in dryland agriculture. That LDCs will devote resources to assisting farmers in dryland agriculture.
Project Purpose: To assist the grant Recipient in the strengthening, refinement, and maintenance of technical capacities and to provide for their use to increase productivity in LDC dryland farming systems.	Conditions that will indicate purpose has been achieved: End of project status. 1. A knowledge and data base on worldwide activities in dryland agriculture with an ability to respond to AID. 2. Problems identified in 6 LDCs. 3. Implementation programs developed in 2 LDCs. 4. A knowledge and experience with technologies to increase production.	Evaluation of expertise center regarding nos. of personnel and size of budget involved in LDC dryland agriculture. AID records of use of Recipient capacities. LDC involvement with project.	Assumptions for achieving purpose: That the Recipient will give AID support and service commensurate with the inputs. That LDCs will need technical assistance in developing farmer assistance programs in dryland agriculture.
Outputs: 1. Field support available to AID 2. State of art analysis of existing programs. 3. Country profiles of dryland activities and production constraints. 4. Pilot tests of technologies for increasing productivity. 5. Information system	Magnitude of Outputs: 1. At least 4 Mission requests for service annually. 2. AIDs, FAO and World Bank experience in dryland agri. surveyed. 3. Profiles in at least 6 countries. 4. Pilot tests in at least 2 countries. 5. Four newsletters annually and three handbooks during LOP	Aid records. Annual reports. Publications. Evaluations. Country records.	Assumptions for achieving outputs: That Missions and host countries cooperate in development of the service and in using its outputs.
Inputs: A grant Recipient knowledgeable in dryland principles. AID management and cooperation. LDC institutions and personnel. AID funding.	Implementation Target (Type and Quantity) Recipient with research stations, programs and at least 20 personnel devoted to dryland agri. systems in U.S. one-third time AID project manager & 5 -man Project Committee. At least 6 countries permitting project involvement. $4.2 million over 5 year LOP.	Recipient records and management arrangements. AID project records and management arrangements. AID budgets.	Beginning of Project Status: 1. LDCs giving increased attention to dryland agri 2. Donors have little expertise in dryland agri. 3. U.S. technical base is minimal in LDC dryland agri., no similar farming systems in U.S. 4. Little knowledge exist regarding LDC farmer constraints in dryland agri.

ANNEX B

SCOPE OF WORK

(Dryland Agriculture Support Service -931.4021)

The purpose of this project is to assist the Recipient in the strengthening, refinement, and maintenance of institutional and technical capacities and to provide for their use to increase productivity in LDC dryland farming systems. This will be accomplished through interrelated activities which will enhance the Recipients capacities and capabilities in LDC dryland agriculture and will assist LDC personnel and institutions in planning and implementing programs that will releive farmer constraints and increase productivity. The activities will be conducted over a five-year period.

All specific project activities, discussed here, will be developed and coordinated by the Recipient in consultation with the AID Project Manager and the AID Project Committee. The level of effort for the various activities will, of course, be dependent on the level of funding. When and if funds are insufficient for all activities the Recipient and the AID Project Manager will determine priorities among the activities. The Recipient will also consult and work with USAID Missions as appropriate and necessary. Arrangements for such consultations will be made through the AID Project Manager. The Recipient and the AID Project Committee will make every effort to secure additional Mission and Host Government support for specific country related activities. Such cost sharing will reduce costs to the centrally-funded project, thereby enabling the project to support a wider range of activities at the Mission level. The Recipient is expected to assign one full-time professional to management of this project. That person should be technically qualified in some phase of dryland agriculture and desirably with some experience in LDC dryland farming systems. It is also expected that the Recipient will appoint, from among its ranks, a three to five person advisory committee from among the disciplines of agricultural engineering, agricultural economics, agronomy, plant science, soil science, and/or rural sociology. It is essential that activities of this project be accomplished in an interdisciplinary manner which can be facilitated by cross discipline inputs at the planning stages.

The Recipient is expected to develop clear and specific work plans annually. This will be accomplished by the Recipient orally presenting an annual summary report to the AID Project Committee at which time discussions will be held regarding specific programming problems and suggestions will be made for development of the next year's work plan.

The Recipient is expected to become knowledgeable with the AID project development system to facilitate communication with AID and to better understand specific advisory and consulting assignments. It

will also be necessary for the Recipient to understand other DS/AGR projects closely related to this one. Specifically the Recipient is expected to become familiar with the Benchmark Soils, the Soil Management Support Service, the Soils CRSP, and the Water Management Synthesis projects.

The Recipient is expected to become especially familiar with the dryland agriculture activities at international centers. Expecially important are ICRISAT and ICARDA. Where and whenever possible the Recipient should work directly with these centers in the accomplishment of the project specified activities which are listed below:

1. State-of-the-Art

   The Recipient is expected to analyze present literature and experience knowledge in LDC dryland agriculture. AIDs present portfolio of dryland agriculture projects will be studied and summarized. A summary of activities by other donors will also be made. Finally, a library study of technological packages to increase productivity in dryland agriculture will be made as well as a literature and experience review of how farmers cope with constraints in dryland agriculture. After becoming aware of present aid assisted dryland projects worldwide, the Recipient is expected to keep abreast of new activities within AID, FAO, and other donor agencies.

2. Methodology Development

   The Recipient should use the workshop method for developing the initial set of methodologies for activities 3 and 4 below. Knowledgeable consultants worldwide should be used to design project strategies. Modifications will undoubtedly be necessary after testing but the initially developed procedures should have the benefit of the world's best experience. The methodology must be an interdisciplinary approach based on working cooperatively with farmers and local institutions. Costs of such workshops will be charged to the agreement.

3. Problem Assessment

   Using the methodology, the Recipient is expected to determine constraints, describe present practices, and assess available resources to increase productivity, in dryland agriculture, in at least 6 countries. The methodology should be reviewed and refined if necessary after testing in two countries.

4. Pilot Testing

The Recipient is expected to develop long-term relationships with host country institutions and USAID Missions in at least two countries. Activities to be carried out would involve selecting and testing technologies for increasing production. It is expected that selection and testing will be done by working directly with farmers and local institutions. The Recipient may or may not provide full-time in-country technical cooperators, depending on the desires of the host country.

5. Advisory and Consulting Service

In consultation with Regional Bureaus, Missions, and the AID Project Committee, the Recipient is expected to provide services of short term consultants to assist Missions in preparation of program strategies, PIDs and PPs for country programs in dryland agriculture. The Recipient is also expected to, upon request from AID/W or the Regional Bureaus, provide technical backstopping to specialists working on Mission dryland agriculture projects.

6. Country Profiles

Based on activities 1 and 3, the Recipient is expected to publish country profiles on the dryland agriculture situation for those countries studied. The profiles will include as assessment of the problems and an analysis of the potential for increasing productivity given the local constraints.

7. Short Courses and Seminars

If requested by the AID Project Manager, a Regional Bureau, or a Mission the Recipient may organize and conduct short courses or seminars on subjects related to management of resources in dryland agriculture. In organizing these meetings, the Recipient is expected to seek joint sponsorship by host governments, FAO and other interested international organizations.

8. Publications

The Recipient is expected to publish at least three technical manuals or handbooks on subjects dealing with increasing productivity in dryland agriculture. Subjects for the handbooks will be selected by the Recipient and the AID Project Committee. Other expected publications will include: the state-of-the-art report, country profiles for all countries studied, annual reports, and a final report.

9. Newsletter

The Recipient is expected to prepare and distribute a dryland agriculture newsletter in English on a quarterly basis throughout the life of this cooperative agreement. Initially 500 copies will be published but this number could be increased or decreased depending on demand.

10. Reference Library, Data Bank, and Photo Collection

The Recipient is expected to build upon the resource libraries built by the 211(d) grants in dryland agriculture and expand it to the point necessary to provide technical information and audio-visual aids for effective communication with trainees. The Recipient will, during the course of this agreement, develop a considerable bank of country specific data. It is expected that the Recipient make suitable arrangements to place all data possible into AID's computerized social and economic Data Bank.

A proposed schedule of key activities is attached.

Schedule of Key Events

	October 80	81	82	83	84	85
SOTA	(1)(2)(3)(4)					
Problem Assessment	(1)	(2)(3)(4)(5)	(6)	(7)		
Pilot Tests		(1)	(2)	(3)	(4)	
Information Service						
Advisory & Consulting	——————continuing ——————					

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7.	Conduct assessments in 5th & 6th countries		Dec. 83

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2.	Initiate program, 1st country	Oct. 82
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Information Service

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5.	Publish 2nd technical handbook		July 84
6.	Publish country assessments 5 & 6		Sep. 84
7.	Publish 3rd technical handbook		Aug. 85
8.	Final report		Sep. 85

ANNEX C

UNITED STATES GOVERNMENT

Memorandum

TO : DS/AGR, Gil Corev

DATE: July 6, 1979

FROM : DAA/DS/FN, Tony Babb /s/ TONY

SUBJECT: Water Management Support ~~Service~~ –

Following my review of the project implementation document and the minutes of the PID review meeting, and my meeting with you and Dean Peterson, I have made the following decisions.

1. The PID is approved for the Water Management Support Service.

2. You should move as rapidly as feasible to prepare a project paper.

3. The Water Management Support Service project should not be combined with the Water Management Synthesis project.

4. The project should be developed as a cooperative agreement.

I have decided against combining the two projects because I feel that the subject matter of dry land and rain fed agriculture management is sufficiently different from management of irrigation systems that the project ought to have a separate team of specialists and separate management system. It would appear that a combination of these two rather major projects would create unnecessary confusion.

CC: DS/AGR, Dean Peterson
PPC/PDPR, Douglas Caton
AFR/DR/ARD, William Johnson
LA/DR, John Balis
ASIA/TR, Calvin Martin
NE/TECH, Russell Olson

7/9/79

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

March 15, 1979

MINUTES ON THE WATER MANAGEMENT SUB-COMMITTEE ON THE WATER MANAGEMENT SUPPORT AND SERVICES PROJECT

The review was held on March 15, 1979 and was attended by the following:

DS/AGR, Gil Corey
DS/AGR, John Wilson
DS/AGR, John Yohe
DS/AGR, Mary Mozynski
DS/PO, Ron Rogers
ASIA/TR/ARD, Dave Lundberg
ASIA/TR/ARD, Don Mitchell
CM/DS/POL, Harry White
PPC/PDPR/RD, Doug Caton
DS/AGR, Tejpal S. Gill
ASIA/TR/ARD, Tom Hobgood, IDI
ASIA/TR/ARD, Tony Ganey, IDI
AFR/DR/ARD, Boyd Whittle

Dr. Corey opened the meeting by describing the project proposal and its relationship to the existing project on Synthesis of Water Management. He stated that a Pre-PID description of the project had been circulated to the Mission and the Regional Bureaus in November 1978 and changes in the design were made and are incorporated in the attached PID. However, there was general agreement that the proposal should be developed into a project paper. A summary of the Missions' and Regional Bureaus' comments are attached to the PID.

The project was reviewed for the following criteria:

1. Technical soundness and project design

It was agreed that the project paper should incorporate the following changes in the project design:

a. That the project components be grouped as follows:

- Irrigated agriculture

- Dryland

- Rainfed

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b. The distinction between rainfed and dryland agriculture will be related to total precipitation.

c. Care must be taken to ensure that the rainfed and dryland components are given equal emphasis with irrigation.

d. The project will address the social economic aspects of water management which may be more important than the technical ones.

e. Provisions will be made for the contractor to work with and subcontract with LDC and international institutions, as appropriate.

f. The Water Management Synthesis project must be a component of the proposed activities.

g. Basic framework for the project involves both soils and water management. Therefore, DS/AGR must assure that service activities within these components be closely coordinated between the soils and water clusters.

h. The water resource and data base component suggested in the PID will be omitted.

2. Relevance to the Regional Bureau and Mission needs

It was agreed that the LDCs, Missions and Regional Bureaus all require technical services in the field of water management, that additional information on conditions in LDCs is required, and seminars and workshops are required to bring LDC and U.S. scientists together to discuss issues and problems.

Don Mitchell and Dave Lundberg expressed their concern that not enough attention would be given to rainfed agriculture if it was combined with the other areas. It was recommended that funds be earmarked for each area of speciality.

3. Anticipated future requirements for field support

All participants agreed that the Missions and LDCs would draw upon this activity as soon as it is in place. Dr. Corey is going to draft an airgram requesting information on the expected level of services required by each mission which will be incorporated in the contract. Harry White stated that there would be no problem with the contract as long as the funds are tied to specific tasks.

4. Relevance to the future requirements of the LDCs

It was agreed that the LDCs will require data and services on water management services for many years to come.

There was a discussion on the implementation procedures regarding the need to revise the PID, the scope of work, selection of the contractor, and the contracting arrangement. It was agreed that the following implementation arrangements would be followed.

a. DS/PO, Mr. Rogers stated that there was no need to revise the PID. DS/AGR can proceed with the project paper.

b. The project paper for Synthesis of Water Management will be amended to cover the expanded scope of work. This indicates that CID would be the contractor rather than using Title XII as suggested in the PID.

c. The project manager will investigate the possibility of amending the present contract with CID to add the additional water elements to the existing contract; or to negotiate a new contract with CID for the additional services. His recommendation will be incorporated in the revised project paper.

DS/AGR, GC/MM:kb 3/15/79

UNITED STATES GOVERNMENT

memorandum

DATE: January 15, 1980

REPLY TO ATTN OF: DS/AGR/TSWM, G. L. Corey G.L. Corey by AP

SUBJECT: Project Propsal - Water Management Support Service - Rainfed Agriculture.

TO: See Distribution

Attached is a summary description of a project being considered in the Soil and Water Division, DS/AGR. You may recall there was a meeting on the project PID last March 15 (minutes attached).

The PID involved much more than this summary suggests. After the PID meeting and because of the discussions there and among DS/AGR and Tony Babb subsequently, it was decided to limit their project to the rainfed agriculture sub-sector and the PID was finally approved on that basis (see Memo Babb/Corey dated July 6, 1979 attached). Rainfed agriculture, in this project, refers to non-irrigated agriculture in areas of deficient precipitation.

This is not a PP but does represent, I hope, a description of the basic components of the project. I would appreciate your review and suggestions for improvement by February 5. I intend to develop the final draft of a Project Paper by March 1.

Possible issues I'd like help on:

1. Does it make development sense?
2. Should we go to competitive bidding?
3. IMPORTANT: Are there additional activities which could reasonably and usefully be carried out under the project framework?

Distribution:

DS/DAA/FN, T. Babb
DS/PO, A. Silver
PPC/PDPR/RD, D. Caton
ASIA/TR/ARD, D. Lundberg
AFR/DR/ARD, D. Gates
NE/TECH, W. Fitzgerald
LAC/DR, J. Balis or soil & water designee
DS/AGR, R. Solem, K. McDermott, K. Byergo, M. Mozynski
DS/RES, F. Williams
DS/ESP, J. Day
DS/AGR/TSWM, T. Gill, J. Malcolm, L. Frederick, S. Engberg

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

memorandum

DATE: January 23, 1980

LY TO
TN OF: Raymond Hooker (Food and Agriculture Officer, USAID/Pakistan) and Thomas Worrick (Agriculture Economist, USAID/Pakistan), ASIA/TR/ARD

BJECT: Comments on the Project Proposal, Water Management Support Services - Rainfed Agriculture TJW xRH

TO: Mr. A. David Lundberg, ASIA/TR/ARD

Early Involvement of USAIDs in Project. It is noted in the project proposal that the development of "a methodology to thoroughly assess the rainfed agriculture sub-sector whereby key problems can be identified" is to be completed without USAID or host country involvement. So is the review of literature and experience with rainfed agriculture (p. 6).

Strong consideration should be given to obtaining early involvement of interested USAIDs in this project. At a minimum, these USAIDs should be asked to review and comment on the methodology developed by the contractor. It is also highly likely that the contractor's review of the literature and experience in rainfed agriculture would benefit substantially from discussions with USAID and host-country managers of projects in rainfed agriculture.

The stated purpose of the project is to improve USAID-supported project design, implementation, and operation in the rainfed sub-sector of agriculture in selected developing countries (p. 2). However, the linkage between this project as now designed and its purpose is rather tenuous and could be greatly strengthened if the approach were collaborative from the very start. It is anticipated that the output from this research project will serve as an input into USAID-supported developmental projects. Hopefully, the research results of the project could be fed directly into such USAID-supported developmental projects. A collaborative approach from the very start would facilitate this process and reduce the time gap between the point when research results are available and the utilization of these results in a developmental project. Given the foregoing considerations, the response to the first question posed in the covering memo, "Does it make development sense?" is clearly yes if the findings are used. Earlier USAID/host country participation in the project would increase the likelihood that the findings would be expeditiously used by incorporating them into a developmental project.

Competitive Bidding. We would be inclined to go with CID. However, our knowledge base for this recommendation is indeed limited.

Are There Additional Activities that Could Reasonably and Usefully be Carried Out Under the Project Framework? The response to this question

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5010-112

depends on what the proposed project says. If it is only to increase production as seems to be implied (or stated) at times, then it is too narrow and would not be generally acceptable to USAIDs. The latter have to be concerned with equity, employment and conservations/environmental considerations. This narrow interpretation apparently is not the intended one, however, since the methodology to be developed is to thoroughly assess the rainfed agriculture sub-sector whereby key problems can be identified. This makes the proposed project extremely broad. It could cover tenure arrangements, conservation/environmental considerations, rural development, marketing, extension, credit, local institutions, local participation, adaptive research, opportunities for women, etc. A major problem will be identifying the key problems/ constraints about which something can be done to increase productivity, income, and employment; to promote equity; and to check environmental degradation and promote conservation. The proposed project is broad enough to be the basis of a rural development project.

UNITED STATES GOVERNMENT

memorandum

DATE: January 25, 1980

REPLY TO ATTN OF: AFR/DR/ARD, Dillard H. Gates

SUBJECT: Comments, Project Proposal Water Management Support Service, Rainfed Agriculture

TO: DS/AGR/TSWM, Dr. Gilbert Corey

I believe the proposal is good and would like to see you proceed.

In response to the three issues you raised: (1) the proposal makes sound development sense; (2) I would support the idea of going to CID with the two 211(d) Universities (Oregon State and University of California, Riverside) taking a major role; (3) There may be additional activities, but your proposal will identify some of them during the early "study" phase. You have taken on a big enough load to get the idea started.

I have an additional comment or two. (1) Will LDC governments admit they do not know the problems of their small farmers? (2) Both OSU and UC-R have completed SOTA reports. The UC-R report has been published. The OSU report is in press. These reports should be of real value to you.

If I can be of further help let me know.

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5010-112

DS/AGR/TSWM, G. L. Corey

February 5, 1980

NE/TECH/AD, L. W. Fitzgerald

Project Proposal: Water Management Support Service
Rainfed Agriculture

As requested in your memo of 1/15/80, we have reviewed the summary description of the subject (proposed) project attached thereto, as well as the earlier PID, and submit the following comments and questions which reflect our views and concerns. Hopefully, these will be useful in your preparation of a (draft) project paper.

In submitting these comments, I will first speak to some rather general issues before outlining few more specific problems and concerns, as we see them.

General Issues

As noted by their absence in both the summary of pre-PID comments, as well as minutes of the 3/15/79 meeting of the TPCA Sub-Committee on Soil and Water Management, the Near East Bureau (NE/TECH/AD) has not submitted any prior views or comments on this proposal project, although I assume (and am sure) it had the opportunity. The reasons for this absence of expressed views is not known and this point is only mentioned to explain some of the rather fundamental questions and concerns setforth below:

1. Support of Rainfed Agriculture Focus

We strongly support the decision to both limit the scope of the project to rainfed agriculture and to focus primarily, at least initially, on the lower-rainfall regions (areas of deficient precipitation and where irrigation is not feasible). Two reasons underly this position:

(I) These (low-rainfall) regions contain some of the world's poorest and most disadvantaged people, who have both been largely excluded from the main stream of economic development and constitute part of the target population

upon which AID's programs of assistance are mandated to place emphasis.

(II) While possessing less productive resources and conditions under which their full development and exploitation is more difficult, these regions constitute a significant and important agricultural production potential, both globally as well as to the particular countries wherein they are found, that can no longer go under -ultilized, in view of growing food deficits, limited resource and dwindling production alternatives.

However, after stating this support, we wonder if a project of the nature being proposed is the best way to address the problem of Water Mahagement (Water resource development, Conservation and efficient utilization) in low rainfall, rainfed agriculture.

2. Water Not the Only Constraint

The above concern, regarding the appropriateness of the project as proposed stems from the following:

(I) A distinguishing (and Major) difference between irrigated and rainfed agriculture is, as stated in the Summary (lead-off paragraphs)-in the former, Water (availability) is manipulated to meet agriculture demand; in the latter, the agriculture (production) process is manipulated to match the water supply. Consequently, while there is room and need to develop, conserve and efficiently use the source water available, in rainfed condition) it is the overall production system that must also be managed diligently, if improvements in productivity and output are to be achieved.

(II) Moreover, the task of managing low-rainfall (non-irrigated) agricultural production systems are made difficult, not only because of the problems of deficient water supply but also due to a host of other adverse conditions generally found in such regions (i.e. poor soils/difficult topography (erosion) and extreme temperatures /high winds, as well as erratic and uneven rainfall distribution). Low rainfall areas are also often remote (long distance to market), have inadequate infrastructures (transportation and input-supply services), high illiteracy rates, poor credit systems. lack of research and

extension support, etc. Thus, there is a wide range of non-technical as well as technical factors other than water, that are equally constraining to the achievement of needed productivity increase in low rainfall (rainfed) agriculture in most LDC's.

3. Water as a Collective Resource

Consequently, it is hoped that where reference is made (in the PID and Summary) to 'rainfed agricultural systems' that are to be studied, better understood and improved, these include not just technological systems but more comprehensive models, which will permit the full range of factors affecting production under the conditions existing to be incorporated. Otherwise, the findings and recommendation arising therefrom will not be realistic nor effective. Moreover, in stating that water (like land) is more a resource than a production input (a view we agree with), the need for a more comprehensive approach takes on another dimension. For it is precisely becuase of this 'resource quality' of water that it must be viewed from a collective as well as individual user prospective.

4. Is a Sub-Sector Approach the Best

Therefore, while calling for not only the study and understanding, but also the development of improved rainfed agricultural systems, both at the production-level and from a more natural resource management (Mocro) point of view, we would stress the need to allow for flexibility that will permit their being tailored to local conditions, which can vary considerable with location, even within small countries. Thus, we would recommend a spatial analysis and development framework rather than sectoral or sub-sectoral one. Well-defined geographic areas, having sufficiently homogenous conditions and possibilities would seem to offer a better way of identifying meaningful systems parameters than through analysis of abstract segments (rainfed sub-sector) of a country's agricultural economy.

Specific Issues

In addition to the broader set of concerns and views expressed above, following are a few more-specific points, regarding the proposed project design and scope, which we seek to raise:

5. Status of Water Resource/Data Base Component

It is clear that the 'Irrigation Water Management' Component (in the original PID) is being deleted and the 'Support and Service' Component modified accordingly.

However, with regards to the 'Water Resource Inventory and Data Base' Component, the situation is both less clear and questionable. Although at the 3/15/79 meeting of the TPCA Sub-Committee it was recommended that this latter Component be omitted, the concerns and need expressed abbve (Points 3 and 4) would cast some doubt upon the wisdom of that decision.

However, this issue may be redundant, as the Summary speaks of compiling data banks, developing assessment methodology and component resource analysis in selected countries. What, then, is the intention with regard to this (third) component; and, what will be its purpose and nature if retained?

6. Goal and Purpose Needs Sharpening

Although in no way disagreeing with them as longer-term (ultimate) project objectives, to be consistent with AID Handbook (No. 3) terminology and meaning, we would rather see some scaling back on what is (claimed) to be achieved by this project. For example -

(i) Goal: To stimulate the development and adoption of improved rainfed agricultural production systems that make effective and efficient use of limited water resources, particular under low-rainfed situations.

(ii) Purpose: To increase the level of awareness and knowledge within AID, of rainfed agricultural production systems, potential and constraints in LDCs; and, to develop/establish the (contract) capability of assisting USAIDs and LDC governments in formulation of development strategies, projects and programs for improving their rainfed agriculture sectors.

7. Some Outputs Questioned

While having no particular problems with regard to the achievability of cited outputs, either individually or collectively, we do question the need of some of them/ or at least the degree of attention in attaining the project purpose. Of particular concern is the 'State of Art' publication; a well-defined and comprehensive methodology; and, a (formal) training course for teaching methodology.

8. Particular Issues Cited in Memo

(i) Does Project Make Development Sense:

a. Yes, in terms of importance of problems

globally (as stated above); however, we question whether it makes any sense to focus on 'Water Management' systems, when these aspects can best be studied in context with the other factors and relationship that in total specify rainfed agricultural production systems.

b. In terms of establishing a contract capability to service USAIDs and LDCs needs in this area, we wonder if it is really necessary. With more and more country projects being developed/implemented under the Collaborative Assistance Mode, does this negate the operation/use of such a service?

(ii) Should We Go to Competitive Bidding

I have no strong feelings about this; it may be considerably easier, with no less in effectiveness, to go with CID under a predominate capability arrangement. However, we should make sure they would be in their proposal the use of Oregon State University and University of California at Riverside's experience in rainfed agriculture.

(iii) Additional Activities to Be Included: Although this time-frame of the project would not allow it, an evaluation of some kind to both test the validity of the approach being used and the effectiveness and correctness of the analysis and recommend solution would be desirable.

Finally, I apologize far these long-winded comments and hope they will be of some use. If you have questions and/or want to discuss any aspect, please let me know.

UNITED STATES GOVERNMENT

memorandum

DATE: March 17, 1980

REPLY TO ATTN OF: PPC/PDPR/RD, Douglas D. Caton

SUBJECT: Water Management Support Services

TO: DS/AGR/TSWM, Mr. G. L. Corey

I wonder about a project that says that it is going to apply worthwhile and usable technical support services and then immediately admits that the U.S. is not well experienced or knowledgeable. Moreover, I never did find out from the proposal what rainfed agriculture is or where it exists and why. My experience tells me, contrary to the implications of the PID, that there is a wealth of knowledge on rainfed agriculture, admittedly, the value of which might be furthered if it were all brought together. What can the U.S. add, given that we are not well informed?

I gather from the PID that it is not quite sure of its grounds as to what rainfed means. Not supplemented with other water, perhaps? I would think a more rigorous classification procedure would be helpful. Moisture systems are amenable to two-way, X_{ij} classification with a particular pattern of use which will maintain productivity over time predesignated for each cell. Each cell can be assigned a beta multiplier designating plus or minus trend (from 100) to account for uncontrollable factors, plus a random variance factor. Irrigation, e.g., supplemental water, then raises the water in the cell by "Y" (pre-determined).

I now turn to page 6 of your proposal and ask if we need all, some, or none of the specified activities. I must admit; I don't know. All the same, I do know that farmers will not change behavior on the basis of more advice, or pay for it. They will only pay for what they can see actually will happen. This circumstance means that unless you are prepared to show or can demonstrate what will happen, no amount of information you gather will do anyone any good except, perhaps, a modicum of self education. Finally, in endeavoring to understand what you have in mind, I saw no problem being addressed. I must confess that unless you can describe the areas to go under investigation by saying whats out there now and what the history has been; and unless you can say whats wrong with present usage, your proposal doesn't have much of an arguable leg to stand on.

I react to the proposal, what you have is a formulation of a general concern about non-irrigated agriculture and something about a questionnaire which will yield information that would go into various publications. The training part of the proposal is a misnomer because, in my opinion, if we don't know, we can't train anyone, including ourselves.

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OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

UNITED STATES GOVERNMENT

memorandum

DATE: January 18, 1980

REPLY TO ATTN OF: DS/AGR, Floyd Williams

SUBJECT: My notes as I read your PP on Water Management Support Service - Rainfed

TO: DS/AGR, Gil Corey

Do you need to get more specific on the rainfall belt to be dealt with, to enhance learning across projects? i.e., will there be much in common between a 15 - 25 in. and a 4 - 8 in. project area?

P. 4 - The initial assessment can probably be done in 3 months (before a strategy is defined), but each project will need to include a continuing sensitivity to existing conditions and response to intervention. By the way, Pete Hildebrand says a big team can do the initial assessment in a week or so.

P. 4 - Do you need to apply the methodology in more than a few places - to find good improvement program sites? There will be essentially two models being tested.

1. How to find out how the present management system works, and why; and how to identify points of potential change.

2. How to test interventions, get feedback, and diffuse new ways of doing things.

The success of Model 2 is highly dependent on the completeness (adequacy) of Model 1. The adequacy of Model 1 cannot be known without Model 2 being applied. Across project learning is most important, and argues for 5 or 6 sites for Model 1 testing and 3 or 4 sites for testing Model 2.

It is very important for (1) the contractor to understand what they are doing and (2) that AID understand that we are going to need at least 10 years to get this done. Stability of people is important.

After Model 1 has been developed and tested in 3 or 4 places, other assistance agencies and implementors can use it.

While I agree that testing Model 1 should take place in one country at a time, I think we should plan on testing Model 1 in 5 or 6 places and testing Model 2 in at least 3 places. The second and later tests of Model 2 could be different projects, as could the 4th and later tests of Model 1.

This is a sound approach, and I hope we have the courage to see it through. It is just the kind of research this office should be doing.

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(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

UNITED STATES GOVERNMENT

memorandum

DATE: February 4, 1980

REPLY TO ATTN OF: DS/AGR/TSWM, Tejpal S. Gill

SUBJECT: P.P - Water Management Support Service (WMSS)-Rainfed Agriculture

TO: DS/AGR/TSWM, Gilbert L. Corey

The subject project is very timely and I strongly support it.

As I understand broadly speaking the project will have two components: A) develop a SOTA; a study model; a test of the model in LDC; and programming the model utilization in LDC, and B) TDY technical assistance to USAIDs and LDCs. I believe the internalization of the rainfed agricultural technology will be greatly facititated if the following two items are considered in the project design:

1. The project should develop a clear-cut relationship with ICRISAT and its program. As you know the Center directs its attention to the dryland farmers of the semi-arid tropics.

2. The project should form the "Benchmark Soil Project" (BSP) concept as its base in its effort to transfer rainfed agriculture technology. The BSP concept suggests that crop/soil management practices are transferable among similar agro-climatic (soil/climate) regions. These regions can be classified according to Soil Taxonomy. Even initially, Soil Taxonomy can help select a suitable site for the WMSS project. The Soil Management Support Service (SMSS) can provide assistance to the project in selecting the site. Another big advantage of using the BSP concept will be its potential tie with International Benchmark Soils Network that is under consideration in the Office of Agriculture. A network of national and international agriculture centers (60 to 80) is envisioned. The network will operate through an experimental "Data Bank". Soil/climate/crop data will be fed into the bank, and the LDCs will be able to retrieve the information as needed.

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-112

Memorandum

February 25, 1980

TO : DS/AGR, Gil Corey

FROM : DS/PO, Arthur Silver

SUBJECT: Project Proposal, Water Management Support Service

As we discussed, your summary description portrays a very attractive project, and just the sort of activity DSB should be doing. A few points might be helpful as you complete PP development:

1.) The end-of -project status concept needs clarification; that host country governments understand the problem and know some solutions is too fuzzy an indicator to signal project completion.

2.) Water managememnt problem linkages upwards (government policies) and downwards (social science dimensions) should be discussed and integrated into the project concept.

3.) A better cost-sharing formula should be found for this Cooperative Agreement. As with the Pesticides project, a person-month free to Missions may be too much, and may mean more life-of-project and annual cost than the Office of Agriculture can or should afford. Missions should be willing and able to pay more.

cc: DS/AGR, R. Solem
DS/N, T. Babb