

PROJECT EVALUATION SUMMARY

3670114 (4)
PD. AAD-038-A1

1. Mission or AID/W office Name USAID/Hepul			2. Project Number 367-0114 ✓	
3. Project Title Integrated Cereals				
4. Key project dates (fiscal years)			5. Total US funding life of project	
a. Project Agreement Signed 6/30/76	b. Final Obligation (anticipated) 6/10/81	c. Final input delivered 6/10/81	US\$5,000,000	
6. Evaluation number as listed in Eval. Schedule		7. Period covered by this evaluation From 6/75 to 9/77 Month/year Month/year		8. Date of this Evaluation Review Sept. 26-30, 77 Mon/Day/Year
9. Action Decisions Reached at Evaluation Review including items needing further study			10. Officer or unit responsible for follow-up	11. Date action to be completed

On Construction

(1) Not to build second unit for expatriate housing at Rangur	HMG	1/78
(2) Defer for one year construction of XADS expatriate housing at Bhairawa; rent instead	HMG/IADS	9/77
(3) Clear up problem of accountability for old project funds at earliest possible time so construction program is not delayed	HMG	4/30/78
(4) Accelerate construction activity to reschedule all delayed FY 1977 work for 1978 completion	HMG	9/30/78

12. Signatures:

Project Officer		Mission or AID/W Office Director	
Signature	<i>John R. Wilson</i>	Signature	<i>Samuel H. Butterfield</i>
Typed Name	John R. Wilson	Typed Name	Samuel H. Butterfield

Date		Date	
Signature		Evaluation Officer	
<i>Donald L. Long</i>			
Typed Name	Donald L. Long	Date	

9. Action Decisions Reached at Evaluation Review including items needing further study	10.	Officer or unit responsible for follow-up	11. Date action to be completed
(5) Upgrade some hill stations for use as training centers.		HMG	12/79
<u>On Staffing</u>			
(6) Ensure a fulltime wheat consultant is on board by winter planting time or at least a TDY consultant for this year.		IADS	11/77
(7) Appoint a HMG officer to monitor construction and handle financial accountability matters.		HMG	10/77
(8) Appoint a personnel specialist within the Department of Agriculture to oversee recruitment of extension agents and see to their proper support needs, particularly in the hills.		HMG	10/77
(9) Provide a travel schedule for increased presence by the expatriate IADS personnel in hill areas.		IADS	11/77
(10) Provide upgraded housing and other work conditions for personnel working in the hills, but not more incentive pay beyond that already authorized by HMG.		HMG	9/30/78
<u>On Training</u>			
(11) Provide for speedier selection and departure of long term training candidates to ensure project training schedule is met.		HMG/IADS	1/78
(12) Provide an increased training schedule for extension agents located in hill areas and recruit additional personnel, both to support wider and more effective implementation of the research/production kit program.		HMG/IADS	9/30/78
<u>On Commodities</u>			
(13) Accelerate procurement schedule of both rupee and dollar financed commodities.		HMG/IADS	6/30/78

13. Summary

The project was originally approved at the end of June 1975, but it was September 1976 before the contract between IADS and HMG was signed and activity could get under way. At the end of the first full year's activity, the project is proceeding along the design lines given in the Project Paper. Six of the seven programmed IADS slots are filled (The seventh was filled but the wheat agronomist resigned in May.) The four Peace Corps volunteers are in the field and all but five or six of the 49 HMG officer positions in the government for the project are filled. The evaluation team concluded that overall project prospects remain good.

The project is following along the design lines given in the Project Paper. However, the evaluation team decided that several activities need extra attention to ensure that it continues to move ahead in timely and effective fashion. An unresolved accountability problem with some carryover rupee funds (funds from prior years' projects reprogrammed for the ICP) has resulted in delays in the construction program. Specific corrective measures are being taken to resolve this problem and to accelerate construction work to make up lost time before the end of FY 1978. A side consequence of this is that rupee-funded seed plant equipment purchases have been held up to avoid having them arrive prior to completion of the buildings to house them. This lag is also scheduled to be made up in FY 1978.

14. EVALUATION METHODOLOGY:

This evaluation was a regularly scheduled annual exercise and dealt with a specific set of criteria outlined in the Project Paper. It also dealt with management aspects of project operations and logistical support.

Data for this evaluation was provided from Department of Agriculture records and IADS Project files. Data included numbers of personnel assigned to the project, numbers trained or undergoing training in-country and in other countries, variety trials conducted at the three major grain research stations (rice, maize, wheat), farmers field trials conducted, and the number of research/production kits distributed. These data were measured against outputs given in the project paper. Data on production field trials were limited because of the short time frame involved. No extensive effort was made to analyze these in depth. However, preliminary data along these lines was available from Department of Agriculture and IADS records and indicated substantial production increases, particularly in cropping intensity and multiple cropping trials.

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Except for difficulties with the rupee-funded construction and equipment procurement components, essentially all other quantifiable first year targets were met. More importantly, the evaluation team spent considerable time looking forward to second and subsequent year prospects, particularly to the work needed to apply the research findings to on-farm trials and to strengthening the links to hill agriculture. Lengthy discussion on these subjects served to emphasize for both contractor and government project officers, particularly the crop and program (research station) coordinators, the need to shorten the research and testing process by moving it to farmers' fields through the research/production kits. It also provided the project Director (the Director General of Agriculture) the occasion to issue a clear set of directives designed to improve project performance throughout the country, but particularly in the hard to reach and food scarce hill areas.

A list of key participants in the evaluation is as follows:

- FOR IADS: Dr. D. S. Athwal, IADS/NY
Dr. Wayne H. Freeman, Project Supervisor for IADS
- FOR AID: Mr. Samuel H. Butterfield, Director (September 29-30 in Kathmandu)
Mr. Julius E. Coles, Assistant Director (Sept. 26-28 in field)
Mr. John R. Wilson, Chief, Agriculture Division
Mr. Richard Burke, Agriculture Division
Mr. Raymond Potocki, Area Contract Officer
- FOR HMG: Mr. S. B. Nepali, Director General of Agriculture
Mr. H. B. Shrestha, Acting Deputy Director General of AG
Dr. S. N. Lohani, Acting Chief Agronomist, Khumaltar
Mr. M. B. Paudyal, Ministry of Finance, Foreign Aid Division
Mr. P. L. Chitrakar, National Planning Commission
Mr. R. B. Singh, Ministry of Agriculture (only in Kathmandu)
Mr. G. Rajbhandari, Maize Coordinator, Rampur Station
Dr. B. B. Shahi, Rice Coordinator, Parwanipur Station
Mr. A. N. Bhattarai, Wheat Coordinator, Bhairawa Station
Mr. J. R. Baral, Deputy Chief of Extension Service (only in Kathmandu).

15. DOCUMENTS TO BE REVISED: The host country contract between IADS and HMG has been revised to bring some perquisites of IADS personnel closer in line with prevailing USAID practices.
16. External Factors: There have not been any significant changes in project setting. Project assumptions given in the logical framework of the project paper continue to be valid although one assumption (no. 8 in the 'goals' section) is under some pressure. Final data is not yet available, but adverse monsoon and general crop conditions this year seem likely to cause a short term decline in overall grain production. Other available

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statistics indicate per hectare yields on a national basis may be static or possibly declining over the last few years. These data are based on hard-to-verify reports and are subject to considerable questioning and varying interpretations. For now at least they have no direct impact on the project. HMG concern with the welfare of the people in the hills is, if anything, stronger than before. The task is to rapidly improve agricultural conditions in the hills and at the same time support Terai production efforts.

17. Goal: The Project Paper cites the goal as follows: "To increase the average productivity of Nepal's foodgrain cropping systems, particularly on small hill farms, in order to address the national objectives of increasing foodgrain production, improving income distribution and raising the nutritional status.

A number of project outputs can be measured with reasonable certainty. Block 19 gives the status of each of the outputs listed for this project. It is also possible to demonstrate food grain increases in limited localized areas where first year project activity has taken place. However, findings as to national level achievement of food production goals from a study of the project's first year performance can be at best only tentative. Even where there are clear increases, it is difficult to attribute the percent of increase attributable to project influences and that attributable to the myriad of other factors that determine agricultural output. Success or failure to meet the overall foodgrain production goal may begin to be measurable in the last year or two of the project when it is expected that the distribution of the research/production kits will be sufficiently widespread that production results can be tabulated and direct or related production, income, and nutritional improvements assessed more accurately. It is believed that gross foodgrain production increases in recent years have resulted for the most part from expansion of land area under cultivation (one of the major reasons for declining per hectare output has been the increase in farming of marginal lands). While nutritional and income standards of surplus producing farmers in the Terai have clearly improved, no such conclusion can be made as to the output and welfare of the hill and other subsistence farmers. In fact, there is credible data to support a contrary trend among hill farmers, largely due to the rapidly increasing hill population.

There is only one other donor effort along lines similar to this project and it is fairly recent in origin and limited in scope (potatoes) and size of area covered. Data on production and welfare impact from this project is correspondingly limited.

18. Purpose: The Project Paper cites the purpose as follows: "To assist in strengthening the Ministry of Food, Agriculture, and Irrigation's (MFAI) capacity to (a) generate improved production technology and inputs for the major foodgrain crops and related cropping systems, and (b) transfer that technology to farmers in such a way that it is readily accepted."

Progress toward each of the End-of-Project Status (EOPS) statements cited in the Project Paper is commensurate with what could be expected from the first year of activity. Several of the EOPS are further ahead than had been anticipated, i.e. research, research/production kit distribution, and on-the-job training. Key to Project Purpose achievement is the success of the early research efforts and the forging of stronger and more appropriate research and extension links to hill agriculture. Suggestions for additional steps to reinforce the research/extension activities are being developed under the farming systems part of the program and were applauded by the evaluation team. Research application and extension methods for use in part of this activity have not previously been tested; thus, as noted, the most critical evaluations of this work all lie in the future.

19. Outputs and Inputs

A. General Comments

The amount of in-service training and the number of on-farm trials utilizing research/production kits have been substantially in excess of planned target levels for the first year. This is partly a result of overlap between the old Food Grain Technology project and activities under related Department of Agriculture programs. On the problem side, the lag in construction and equipment procurement has already been mentioned and is expected to be corrected soon. There had also been a lag in selecting a few long term trainees, but this has been resolved and the training schedule from the second year forward should be met and all training completed before the end of the project.

Cooperation between the Department of Agriculture and the contractor, IADS, has been close and effective. The Peace Corps input is working out very well. The four volunteers in conjunction with Nepali counterparts have conducted an impressive number of farmer field trials and farming systems research involving major cereals and other crops.

As a result of the lengthy discussion of hill agriculture and the difficulties in forging stronger research extension links for hill agriculture, the evaluation team believes additional inputs to support these activities after the second year may be necessary. If so, such inputs will take the form of more Nepalese extension personnel and more funds to cover (1) intensified training specifically for hill agriculture, (2) an expanded research/production kit program, (3) upgrading some hill research extension facilities, and (4) extension

agent maintenance and per diem costs. These preliminary conclusions will be checked out more thoroughly during second year activities and reviewed again during next year's evaluation. But, for the time being the current input level appears to be adequate.

B. Specific Comments on Outputs listed in Project Paper

1. "A system to combine research and extension functions at the regional level is designed and operational."

At the end of year one of the project such a system was fully functional. Research is being conducted on farmers fields by farmers themselves with regional extension service assistance. Findings are being moved to other areas within the regions by the Agricultural Assistants and other extension personnel and in some cases by farmers themselves.

2. "First diagnostic team studies and reports on farming systems' pressure points and research priorities."

Baseline and other surveys have been conducted at three sites during the first year and three other sites in the Hills were identified for inclusion in second and subsequent years activity.

3. "Catalogue of hill farming system models including complete description."

This is on track and it is expected six models will be completed by the end of year two of the project.

4. "Regional directorate training programs for Crop Production Specialists. (Note: Three groups of six each in maize/wheat, rice and multiple cropping to be trained at International Agriculture Research Institutes. Returned trainees will form nucleus of in-country training programs.)" The pace of training is running head of schedule. Production specialists already trained include four for maize, four for rice, two for wheat and four for multiple cropping. These specialists are either in the field already or will be deployed at the beginning of the 1978 monsoon season.

5. "Department of Agriculture and Regional Directorate in-country training programs for crop-specific JT/JTAs."

Thirty two of the projected 40 trainees for the 77-78 maize program have been trained and no problem is anticipated with training at least the remaining eight before the 77-78 maize plantings in late March and April, 1978.

6. "In-service retraining for all JTs and JTAs (about four weeks duration.)"

The FY 77 JT/JTA retraining goal of 150 was met and the FY 78 program is on track.

7. "On-farm trials of newly adapted varieties and technologies conducted and successful innovations demonstrated."

The FY 77 target of 1,500 research/production trial plots was greatly exceeded. 3,500 research/production kits were distributed and the conduct of on-farm trials with these kits were assisted by Department of Agriculture trained personnel.

8. "Collection and testing program for existing varieties of minor crops."

This program was initiated and conducted at two multiple cropping sites during '77. Two others were selected for addition to the program in FY 78. At least one more is expected to be selected for FY 1978 activity.

9. "Economic and technical analyses and evaluations of on-farm trials."

Plans have been made to carry out these analyses during FY 78 as scheduled in the Project Paper.

10. "Development of technology packages for irrigated and dry land conditions to complement new varieties."

Teral trials actually began in year one instead of year two and it is anticipated hill trials will get underway in year two instead of year three.

11. "Small quantities of seed of newly developed, selected, and tested varieties of rice, maize, and wheat (as well as minor food crops) that outperform traditional varieties in hills as well as Teral and for small farmers as well as large farmers."

Improved maize seed was used in more than 500 FY 77 on-farm trails and new wheat and rice varieties were distributed with the research/production kits for use in 6 minor field trails.

12. "Interim system designed for development of quality seed production, processing, and distribution of newly released seed varieties."

The system was designed in FY 77. In addition to the physical construction involved it includes use of the research stations as breeders and foundation seed source. The Agricultural Inputs Corporation is to be the certifying seed agent. The primary means of varietal spread is to be farmer-to-farmer.

13. "Temporary, experimental seed production and processing plant set up in Far Western Development Region with permanent storage nearby".

Plans are on track for this construction. It is included in the FY 1978 construction program, but delays in the FY 77 construction program may push completion of the plant into FY 79.

14. "Trained personnel."

Five M.Sc. participants are currently in training. Five others have been selected for FY 78 departure. After an initial delay of six months, two Ph.D candidates have been selected for FY 78 departure. In FY 77 seventeen participants received a total of 89 man months of short term international training. Long term seed candidates (2) and long term research farm management and operations candidates (5) will be selected in years two and three of the project. Short term seed training has begun for one candidate.

15. "Upgraded Crop Coordinators Stations."

Construction began in FY 77, but experienced some delays. Completion of the FY 77 construction program at Rampur, Bhairawa and Parwanipur is expected late FY 78 or early FY 79.

16. "Upgraded outreach stations in hills."

Plans have been developed for construction of storage buildings at six outreach stations.

17. "Research on environmental, economic and social aspects of project."

The Social Science Research staff is scheduled for set up in FY 78 with work plans and budget to be developed in the second quarter of FY 78. This research work will deal specifically with environmental, economic and social aspects of the project and with target population acceptance of constraints to changed and/or new technology promoted by the project.

20. UNPLANNED EFFECTS. None noted.

21. CHANGES IN DESIGN OR EXECUTION

No changes in project design or execution are needed at present. As noted in paragraph 19, there is likely to be an eventual need for increased funds and/or personnel by USAID, HMG or both as a result of intensified attention to hill agriculture and the greater than anticipated difficulties of forging the appropriate extension links for hill agriculture. Such additional inputs would probably be called for from the third year of the project forward.

22. LESSONS LEARNED

It is still too early in the life of this project to be able to say much to others as to how best to conduct a project. We may be able to say more on this point next year.

23. SPECIAL COMMENTS

This project is attempting to carry out a new approach (developed largely by a Rockefeller Foundation team) to the challenge of making research results more relevant and more readily available to small farmers by conducting research directly in the farmers' fields. Although quick response is a specific goal of this project, the high-risk aversion tendencies of subsistence farmers makes it imperative that field trials be based on the soundest possible preliminary research work. Thus, while strenuous efforts are directed toward preparation and distribution of the research/production kits, the importance of a continuing strong push at the research/stations to develop improved varieties and techniques to be used cannot be overlooked and has constituted the core of first year activities.