



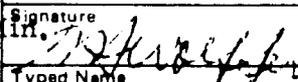
CLASSIFICATION  
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

<b>1. PROJECT TITLE</b>  Improved Crop Estimating	<b>2. PROJECT NUMBER</b> 391-0418	<b>3. MISSION/AID/W OFFICE</b> USAID/Pakistan
<b>4. EVALUATION NUMBER</b> (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) <u>391-79-2</u>		<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION
<b>5. KEY PROJECT IMPLEMENTATION DATES</b> A. First PRO-AG or Equivalent FY <u>TQ</u> B. Final Obligation Expected FY <u>TQ</u> C. Final Input Delivery FY <u>79</u>	<b>6. ESTIMATED PROJECT FUNDING</b> A. Total \$ <u>1,502,930</u> B. U.S. \$ <u>110,000</u>	<b>7. PERIOD COVERED BY EVALUATION</b> From (month/yr.) <u>10/76</u> To (month/yr.) <u>12/78</u> Date of Evaluation Review <u>12/19/78</u>

**8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR**

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
Determine whether to extend project to December 31, 1979, after receipt of formal request and resolution of issues concerning proposed Agriculture Statistics project with GOP.	GOP's Agriculture Ministry, Planning Division and Economic Affairs Division and Director, USAID	2/79

<b>9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS</b> If project extended: <input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Other (Specify) <input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T (Reflect project extension on applicable PIO/C documents) <input type="checkbox"/> Other (Specify) <input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/P <input checked="" type="checkbox"/> Project Agreement	<b>10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT</b> A. <input type="checkbox"/> Continue Project Without Change B. <input checked="" type="checkbox"/> Change Project Design (extend) and/or <input type="checkbox"/> Change Implementation Plan C. <input type="checkbox"/> Discontinue Project
<b>11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)</b> Mr. M. Aslam Jafri, Dept. Director, Agr. Statistics, Ag. Min. Dr. Riaz A. Khan, USAID Project Manager Dr. Raymond W. Hooker, USAID Mr. Thomas J. Worrick, USAID (See attached list for key officials visited) Mr. Anthony H. Wirtz, USAID	<b>12. Mission/AID/W Office Director Approval</b> Signature:  Typed Name: William A. Wolffer Date: January 30, 1979

13. Summary

The Improved Crop Estimating Project is achieving the project purpose (improved wheat estimates in the Punjab) but at a slower pace than scheduled in the Project Paper. The reason for delay is the (slow rate of GOP institutional adjustment to the needs of the project.) A TDY team from the (USDA Economics, Statistics and Cooperatives Service (ESCS) recommended in 1976 that periodic TDY consultancies by specialists in sampling, data processing and frame construction would be more effective than the services of a resident sampling technician. This recommendation was accepted) and although the technicians in the various statistical disciplines were not always made available at the exact time needed, this course of action proved more cost effective than having a full time advisor in one discipline only. It is now believed that much of a resident technicians time would have been wasted as he could not appreciably quicken the rate of institutional growth. The Government of the Punjab gradually developed the institution responsible for crop estimating and an effective Crop Reporting Service capable of making timely and reliable crop estimates for wheat is now in existence. Improvements in the capabilities of the Punjab Crop Reporting Service and the additional benefit of the extension of the technology to other crops and provinces is now in process. The project is scheduled to end December 31, 1979 but the Government of the Punjab has requested an extension. The Mission will consider extending the project for one year, since sufficient obligated funds are available, the work is proceeding according to ~~the~~ project design, and continuing progress in the field of crop estimating is beneficial to Pakistan. Also, project continuation will help in the development of a proposed follow-on project in agriculture statistics.

14. Evaluation Methodology

This is a regular evaluation in accordance with the Mission Evaluation Plan. An evaluation team examined the project's technical aspects, administration, funding and implementation. It also explored alternative courses of action for future assistance in the field of agriculture statistics.

A list of evaluation participants and key officials visited is attached.

The evaluation received valuable input from a USDA/ESCS team which was in-country to provide technical assistance in crop reporting to the Government of the Punjab and the Sind. The TDY of the ESCS team was scheduled to coincide with the evaluation in order to obtain their observations.

15. External Factors

There is the desire and ability on the part of higher level officials to change agricultural statistics and estimates to fit their political needs. On one occasion early in the project, biased wheat estimates were made which were not corroborated by the available agricultural statistics. Wheat imports were not scheduled at a sufficiently high level, partially because of these biased estimates. There remains the possibility of future biases in statistics based upon short-term political expediency.

16. Inputs

AID obligated \$110,000 to provide technical assistance under a PASA with USDA/ESCS. The decision to furnish technical assistance under periodic TDY visitations rather than a full time resident advisor has resulted in a slower draw-down of the obligated amount than planned and \$72,000 remains for future assistance. By providing technical assistance through a series of TDYs, the needed specialists have been provided but not always at the exact time or for the length of time required. To date, survey frame construction specialists, sampling technicians, and a data processing specialist have provided approximately 4 person months of technical assistance, in lieu of 22 person months services of a sampling technician as originally envisioned.

The Government of the Punjab has provided the necessary professionals, support staff, and logistical and support costs as outlined in the project paper. The only major variance is that 888 Crop Reporting Field Assistants are on the staff rather than the previously estimated 1,013 required. The Government plans to recruit additional Crop Reporting Field Assistants during the GOP fiscal year beginning July 1, 1979.

The Government of the Punjab annual budget for crop estimating indicates more than a threefold increase in the three year period of the project.

<u>GOP Fiscal</u> <u>Year</u>	<u>Amount in</u> <u>Rupees</u>	<u>Dollar</u> <u>Equivalent</u>
1976/77	2,132,000	215,354
1977/78	4,820,000	486,869
1978/79	6,838,000	690,707
Total:	<u>13,790,000</u>	<u>1,392,930</u>

Also worthy of note is that both the Sind and Frontier provinces are considering increases in their agriculture budgets to develop crop reporting systems similar to that under development in the Punjab. If approved, these provinces would desire advisory assistance from the Punjab (some has been provided to date) and the USDA/ESCS technicians, as well as a small rupee grant from USAID. The advisory assistance required initially (perhaps for the first year) would be minimal, as internal organization and funding problems would have to be resolved first.

17. Outputs

All of the outputs listed in the Project Paper were largely achieved as noted below:

- An improved sampling plan.

With assistance from U.S.A./ESCS technicians an improved sampling plan was developed for the estimation of wheat acreage and production. This sampling plan has also been used for acreage and production estimates for rice, cotton, sugarcane and maize. Its replacement with a multi-purpose sampling plan which would improve the estimates for other crops is under development.

- Larger and better trained data collection staff.

The Government of the Punjab created in April 1978 the Directorate of Crop Reporting Service headed by a full-time Director. The staffing is adequate. The newly recruited Crop Reporting

Field Assistants are given on-the-job training ✓-- but this is not a satisfactory arrangement considering their low level of education.) There is a (need to arrange special training for them. Improvement in the training of field staff is being achieved gradually.

- A procedure for making pre-harvesting estimates.

Adequate crop estimation procedures and instructions have been developed and are being used by the field staff.

- More scientific and random selection of fields and samples within fields.

Accomplished for wheat.

- Adequate procedures for cutting, threshing and weighing of harvest samples.

Accomplished for wheat.

- An adequate system of monitoring and supervision of field staff.

Good progress is being made with an assistant statistical officer assigned to each of the five division headquarters to supervise the field work, and adequate transportation is now being made available.

- Improved computational procedures.

The procedures are developed but there is a problem in obtaining ready access to data processing facilities.

Other outputs accomplished which are not mentioned in the Project Paper and not required to achieve the project purpose (limited to adequate wheat estimates in the Punjab) are:

- Growers opinion surveys for planning crop production and needed inputs were carried out for rice, sugarcane and cotton.
- Cotton pest scouting survey was carried out.

- First acreage estimates for rice, sugarcane and cotton were prepared within the prescribed time schedule and submitted to the Federal Government for release to the public. ✓
- Improved Crop Estimating planning document was prepared by Sind Department of Agriculture and submitted to Planning and Development Department for approval. It was based on technical assistance provided by the USAID, ESCS, and the Punjab Government. ✓
- The subcommittee appointed by the Government of Sind for suggesting a new sampling plan met to consider the TDY report of the ESCS team that visited Pakistan during March, 1978.

18. Purpose

in 1976

The APAC Review (State 218349) recommended that the project be limited to timeliness and reliability of wheat crop estimates in the Punjab. As stated in the Project Paper, the project is designed initially and primarily to develop the capability of the statistical wing (now the Crop Reporting Service) of the Punjab Department of Agriculture to provide timely and accurate wheat production estimates. The Project Paper also states that after techniques and staffing are developed for wheat forecasts in the Punjab, it is expected that these approaches will be adapted by the GOP to other crops and provinces.

The Punjab Crop reporting Service is using the improved sampling plan to get estimates for wheat, rice, cotton, sugarcane and maize and would like to use the sampling plan to gather data for other crops including vegetables. The sampling plan is used first to produce indications on acreages of the crop, then from the acreage survey a sub-sample is selected to be observed for an indication of yield.

The only statistical indication of accuracy has been calculated for wheat. The relative error of the indication that can be attributed to the sample has been computed for the direct expansion method of summarizing. Other indications are available and should be used but each method must have the sampling error associated with it to properly evaluate the indication. The procedures to do this have been supplied

to the Punjab statisticians and they can now implement the procedures. The (acreage survey has a relative error of 7 to 10 percent at the district level and 4 percent at the province level.) The yield plots exhibited a relative error performed by the statisticians. It is believed the relative error will be more in the 2 to 4 percent error range when proper procedures are followed for analyzing the data.

There has been a direct causal linkage between the outputs in the Project Paper and the project purpose. The Project Paper was also correct in assessing that the techniques developed for wheat forecasting would be adapted to other crops and provinces.

#### 19. Goal

The goal as stated in the Project Paper is more adequate and stable supplies of basic foods. (Crop estimating can give the GOP warning of poor crop years which could enable them to make the necessary provisions for import of foodstuffs. Since the Punjab is the leading producer of wheat in Pakistan, a crop failure there would seriously affect Pakistan's food reserves. This did happen in the 1974/75 crop year and without timely warning, Pakistan experienced a food shortage.

The wheat crop was far below normal in the Punjab in 1978 due primarily to the rapid spread of wheat rust. This project can be given partial credit (there were other estimates, too) for alerting authorities. The warning was given in time to arrange for wheat imports and to schedule the big rail and truck logistics movement required to transport the imported wheat from the port of Karachi. Of course, national crop estimating is required to more fully contribute to goal accomplishment.

#### 20. Beneficiaries

The direct beneficiaries of stable food supplies are all members of the consuming public, but the ones most affected by inadequate food supplies are the poorer elements of the population who are unable to afford higher food costs. The beneficiaries most helped are the subsistence farmers without cash to buy food to substitute for their failing crops, and without ready access to the welfare benefits available in urban areas.

Also assisted by this project are the government planners and international food donors who require timely and adequately crop estimates to enable them to plan affectively

21. Unplanned Effects

The crop estimating procedures developed in the Punjab have provided district production estimates which have helped provincial authorities control the movement of wheat between districts. This is counterproductive to national wheat growing policy as it limits the incentive to grow more wheat.

22. Lessons Learned

- A. There can be a desire to bias statistics for short term political expediency. (Means of insulating the statistical organization from outside pressure are recommended whenever feasible.) ✓
- B. Inflated estimates are sometimes made public in order to avoid hoarding and rising prices. This should not matter to the donor as long as accurate statistics are recorded and used for planning purposes. ✓
- C. The possibility of providing host country technical assistance should not be overlooked. Upon the encouragement of the USAID Project Manager there was increased province utilization of province personnel with statisticians from the Punjab appointed to committees by the Government of the Sind to help prepare a sampling plan. Also a statistician from the Punjab helped statisticians in the Northwest Frontier Province prepare a crop estimating plan and budget request. This cross-fertilization created a fuller realization of the need for improved crop estimating on the part of the other provinces. L
- D. Local currency support can be very helpful in a project concerned with institution-building. Small amounts of available procurement funds often can help overcome implementation problems, but ready access to such funds is not routine in a developing organization.

- E. Timely access to data processing facilities is very important to crop estimating and is a valid reason for placing project management at the level of government where such facilities are available. This is the national level in the case of Pakistan.

### 23. Special Comments

The institution-building required by this project is being accomplished at a slow but continuing pace and the expectation in the Project Paper that the techniques developed for wheat forecasting would be adapted for other crops and provinces is holding true.

Under Item # 22, lesson learned 'A' refers to the pressure to bias statistics sometimes found in the provincial departments of agriculture, and lesson learned 'E' refers to the need for timely data processing. These are solid reasons for placing agriculture statistics under the control of an unbiased national statistical organization. Also, the real need in Pakistan is for national crop estimates rather than provincial or district estimates.

An argument for having crop estimates made solely under provincial auspices and then amalgamated at the national level is that agriculture is a provincial responsibility as far as direct government planning and involvement is concerned. As such, there is a strong bureaucratic bias to keep control of all agriculture statistics at the province level, even though the agriculture and livestock census is now done at the national level.

Decisions on the scope and direction and feasibility of the proposed agriculture statistics project will be made in the course of project development this coming year. The Improved Crop Estimating evaluation team and review panel are inclined to think at this point in time that an agriculture statistics project should be controlled at the national level, insulated from provincial biases, and close to existing data processing facilities.

ATTACHMENT TO IMPROVE CROP ESTIMATING PES (391-79-2)

Key Officials Visited

Peshawar, November 1

Mr. Mati-Ullah Khan, Statistician, Department of Agriculture

Mr. Sheikh, Chief, Agriculture Section, Planning and Development Department

(Unable to see Secretary and Additional Secretary of Agriculture due to holiday called on occasion of Pakistan Cricket Victory.)

Lahore, November 14-16

Ch. M. Afzal Khan, Director of Crop Reporting Services (CRS) Department of Agriculture

Mr. Rana, Statistician, CRS

Ch. M. Siddiq, Deputy Secretary, Agriculture Statistics Department of Agriculture

Mr. Abdul Wahid, Statistician, Agriculture Statistics Department of Agriculture

Mr. Raja M. Aslam, Deputy Director, Bureau of Statistics

Karachi, November 19-20

Mr. S.M. Ishaque, Deputy Director General, Central Statistical Organization (Federal)

Mr. Kamal-ud-Din Qureshi, Additional Secretary Department of Agriculture

Mr. A.G. Pirzada, Chief, Agriculture Section, Planning and Development Department.

Resource Persons

Mr. Howard Holden, USDA/ESCS, Statistician

Mr. Benjamin Klugh, USDA/ESCS, Statistician

Review Team Members

Mr. M. Aslam Jafri, Deputy Director, Agriculture  
Statistics, Ministry of Agriculture and Nutrition

Dr. Riaz A. Khan, USAID Project Manager

Dr. Raymond W. Hooker, USAID

Mr. Thomas J. Worrick, USAID

Mr. Anthony H. Wirtz, USAID