



---

**PAKISTAN ECONOMIC POLICY AND ANALYSIS PROJECT**

**Contract No. 391-0492-C-00-0831-00**

**END OF PROJECT REPORT**

**Prepared for:**

**U.S. Agency for International Development  
Islamabad, Pakistan**

**Prepared by:**

**Richard McConnen  
Chief of Party**

**December 1993**

---

## TABLE OF CONTENTS

---

	<u>Page</u>
<b>ACRONYMS</b>	i
<b>SECTION I JUDGING EPA EFFECTIVENESS: A DELAYED PROCESS</b>	1
A. EPA Objective	1
B. EPA Activities	1
C. EPA Outputs	1
D. Effectiveness: Constraints and Conditions	2
<b>SECTION II EPA ACTIVITIES AND THE ECONOMIC WING</b>	4
A. EPA and the Economic Wing	4
B. Major EPA Project Activities	5
<b>SECTION III LEARNING FROM EXPERIENCE</b>	10
A. Tactics: What Could Have Been Done Differently	10
B. Lessons Learned	11

---

## ACRONYMS

---

AGDAT/PC	Agricultural Database for Personal Computers
AGROSTAT	FAO Agricultural Database
AMIS	Agricultural Management Information System (FAO project)
AUF	Agricultural University of Faisalabad
CSG	Consumer surplus estimates
DAP	Directorate of Agricultural Policy
DAS	Directorate of Agricultural Statistics
DER	Directorate of Economic Research
ECD	Enterprise cost data
EPA	USAID/Pakistan Economic Policy Analysis project
EW	Economic Wing of the Ministry of Food and Agriculture
FAO	U.N. Food and Agricultural Organization
FBS	Federal Bureau of Statistics
GOP	Government of Pakistan
I/O	Input/output
IFPRI	International Food Policy Research Institute
MINFA	Ministry of Food and Agriculture
NARC	National Agricultural Research Council
NFI	Net farm income
PAKSTAT	Pakistan Database for Agriculture
PASM	Pakistan Agriculture Sector Model
PS&D	USAID Agricultural Database
PSE	Producer Surplus Estimates
QUA	Quaziatum University of Agriculture
RO	Research officers
USAID	United States Agency for International Development

---

**SECTION I**  
**JUDGING EPA EFFECTIVENESS: A DELAYED PROCESS**

---

**A. EPA Objective**

The primary objective of the Pakistan Economic Policy and Analysis (EPA) project was to assist the development of an effective and sustainable Economic Wing within the Government of Pakistan's Ministry of Food and Agriculture. The Economic Wing (EW) was formally established in July 1990.

To be effective, the EW must provide Ministry of Food and Agriculture (MINFA) officials with information about the benefits and costs of alternative agricultural policies and programs and present such information in a form that can be used by MINFA officials in the decision making process and in their presentations to federal and provincial ministries and other bodies. The EW will be sustainable if these types of analysis and presentations can be performed using internal EW leadership and staff.

**B. EPA Activities**

EPA activities were planned with the purpose of accomplishing this primary project objective. It took some time for the project's expatriate consultants to gain a sufficient understanding of the rules of business and work environment within the EW and MINFA to effectively pursue the primary project objective. Rules of business and the working environment for professional policy analysts within MINFA are not generally favorable to the accomplishment of this objective. This is because of the insufficient resources assigned to the EW to complete file work, and the apparent low priority MINFA gives to estimating the impacts of policy and program alternatives.

**C. EPA Outputs**

The EPA project generated the outputs called for by the project contract and the approved project work plans. Expatriate and local consultants were used extensively to coordinate the work of EW staff on approved work plan activities. A major shift in the efforts of the project occurred in August 1992, when after a retreat involving EW officers, USAID staff, EPA staff, and staff from related projects, it was decided to give greater emphasis to those EPA activities that were most likely to generate useful policy-related information and that had a reasonable chance of being sustained after project closeout. This decision resulted in the tailoring of activities to the existing skills of EW staff and the provision of needed training for these personnel. Activities that satisfied these requirements were incorporated into the 1992-1993 work plan.

#### **D. Effectiveness: Constraints and Conditions**

The effectiveness of EPA depended on two interacting sets of conditions. The first set involves three components of the internal operation of the EW: development of an EW staff that is technically competent to estimate impacts of policy and program alternatives; development of staff with the skills to communicate results in a serviceable manner to MINFA officials; and use of internal EW resources to sustain these actions. The second set of conditions relates to the perceived usefulness by MINFA officials of the information provided by the EW once the first set of conditions is satisfied. Given the hierarchical nature of the Pakistani bureaucracy, it is difficult to satisfy the first set of conditions if MINFA officials do not perceive EW analysis as being useful.

It is too soon to give an empirically based evaluation of the effectiveness of the EPA project in terms of its primary objective, i.e., assisting the development of an effective and sustainable EW. However, indicators of the likelihood of the long-term viability of the EW can be specified and could be empirically verified. A simplified way of presenting such indicators is to use the EW/EPA "Report Card" presented on the following page. This Report Card would be completed in September 1994.

## Economic Wing Report Card, September 1994

Indicator	Weight	Comments a/	Score b/
1. Farm Income a. Final 91/92 b. Prelim 92/93 c. Prelim 94 kharif	.15	a. March 1994 - needs DG/MINFA support to obtain official data b. July 1994 - use best data estimates c. 1994 kharif crops using methods of #8	
2. AGDAT/PC a. 93 update b. Distribution	.15	a. PAKSTAT from AMIS & obtain PS&D & AGROSTAT b. Update existing sites w/ AGDAT/PC ver. 2 & install in at least 6 additional sites. Update w/ AGDAT/PC-93	
3. Commod. Sit. Reports a. Wheat/cotton b. Distribution	.10	a. Timely situation reports for wheat & cotton b. Computer based presentation to at least 6 GOP units, two provincial units and 2 Ag. Universities	
4. Wheat Forecast a. 93/94 crop b. Simplify	.05	a. Stick to schedule w/ formal presentation b. Investigate forecasting model that is less resource hungry	
5. PSE/CSE est. a. Update	.10	a. Update and push excellent work done	
6. Pak Ag Stat a. Publish 92/93	.05	a. Low wt. reflects existing capacity developed under FAO/AMIS project - GOP financing crucial	
7. Enterprise Cost Database a. Index to 93/94 b. Use in file response	.10	a. Indexing to bring data base to current basis. Explore coop. w/ APC, NARC & others. Build NSFP data base b. Learn to use basic resource to generate empirical response to policy related questions - e.g. NFI by farm size	
8. Task Work Team a. Use on at least two MINFA related issues of significant concern	.15	a. Use the task work team approach on at least two highly relevant MINFA policy issues which require rapid response. Effort to cooperate w/ non EW units such as NARC, APC, PERI etc. as appropriate	
9. Presentation Capacity	.10	Help MINFA officials prepare for presentations to other economic ministries by using EW to develop computer graphics for presentations	
10. Computer Capacity a. % operational b. Internal training	.10	a. Operational history of EW computer & related equipment (% down time by type problem, backup, etc.) b. Computer training programs with internal instructors	
TOTAL	1.00		

- a/ The comments presented here are meant to give additional information on the specific indicator. In September 1994, the comments would be used to justify the score given the indicator.
- b/ Use general letter grade, e.g. >89 = A, >79 = B, etc.

---

**SECTION II**  
**EPA ACTIVITIES AND THE ECONOMIC WING**

---

**A. EPA and Changes in the Economic Wing**

A brief comparison of the EW in July 1990 and September 1993 is presented in the table below. Not all the changes are positive. Many factors influencing this outcome were outside the control or even the influence of the EW and EPA.

**Economic Wing Resources and Capabilities: July 1990 vs. September 1993**

Element	July 1990	September 1993	Major Problems
1. Staff	Professionals - 36 (12 in training QUA)	Professionals - 24 (+ 6 LT training)	W/ work load, Short of staff
2. Leadership	Directors - 3 (1 acting) Dep. Dir. - 5	Dir. - 1 effective, key one vacant; Dep. Dir. - 5 w/one not effective	EW needs adequate mid level mgmt. Crucial!
3. Computer Capability	DAS good capability w/ FAO proj. DER & DAP very limited	All ROs but 1 have trng & cmprts. Not limiting factor	Long-term maint. & trng in question
4. Support Budget	Dependent on projects w/ very limited GOP support	No projects w/ support funds & GOP support diminished	Need for GOP funds & follow-on project
5. Technical Expertise	Good in DAS, limited demo. in DER & DAP	DAS needs tech trnd staff. DER & DAP in good shape	W/out use, ROs skills can not be maintained
6. Perceived Strength	Not regarded as source of policy analysis	Some improv., but still a major issue	EW must demo. its usefulness

The EPA project has had a positive impact on the capacity of EW staff to perform policy analysis. This capacity was recognized during a September 1993 FAO-sponsored policy workshop. On the basis of the performance of EW staff who participated in an earlier workshop, EW staff were judged to be good at applied policy analysis. At the beginning of the September workshop, EW staff were assigned to act as tutors in small groups that included more senior and experienced staff from other agencies. The capacity of at least half of the EW's personnel have shown great improvement during the EPA project.

EPA has had major positive impacts on computer capability and technical expertise within the EW. Computer equipment has been upgraded and computers are available to all ROs. Training commensurate with job needs has been provided, and EW staff have been increasingly involved in providing the training.

Because of retirements, transfers (always with promotions), and long-term training, the EW staffing level has dropped despite increased file work assigned to the Wing. DAS has been hit particularly hard, in part because the retiring director has not been replaced.

Despite efforts to recruit good middle management and the fact that some middle-level managers are highly qualified, average mid-level leadership has shown significant deterioration during the life of EPA. Not only does this make it difficult for directorates to function properly, but inadequate leadership increases the difficulty of using task-oriented work teams when team members are drawn from different directorates.

Initial support budgets were poor and now as project funds dry up, ROs have difficulty obtaining disks, printer paper and even limited travel funds for crucial work.

Improving the perceived capabilities of the EW by outsiders has been a major EPA effort during the last year of the project. The lasting impact of this effort isn't known, but indicators are not encouraging. The technical capabilities of the staff warrant a much better reputation for the EW.

## **B. Major EPA Project Activities**

Detailed lists and descriptions of EPA activities are presented in the work plans and quarterly reports and will not be repeated here. However, brief discussions of some of the more significant sets of activities are presented below.

### **B1. Defining the EW**

Three related activities—purpose statements by unit, job descriptions, and work plans—were used to assist the development of an operational image of the EW. The final effort in this area was the production of a 15-minute video that defined the functions of the Wing. It is hoped that this video will be useful in helping relevant officials (including those in the Wing) understand the purpose and the capabilities of the EW.

### **B2. Computer Capabilities**

The computers passed on to the GOP from USAID's Economic Analysis Network (EAN) project were primarily transferred to the QUA training program. USAID provided computers from other sources and EPA itself purchased 11 computers. While some of these computers were later transferred to agricultural universities and other projects, EW computer capability was significantly upgraded (including a new LAN server). The computer training program was pursued aggressively after a late start, and the expatriate training consultant concluded by April 1993 that relevant EW staff had fully adequate training to perform their

assigned jobs. Of course, continued training on old and new software is required. For example, there is still inadequate use of some computer functions such as routine backup and hard disk management. However, the EW has the computer equipment and staff have the skills needed to develop an effective and sustainable Economic Wing.

### **B3. Farm Income Estimates**

The development of the EW farm income model was a necessary condition for two important accomplishments: estimation of an historical series of farm income statistics for Pakistan and its provinces, and a method for aggregating the impact of changes in representative enterprise crop budgets. The development of an historical sequence of farm income estimates and the internal EW capacity to continue to update these estimates is a significant achievement. The existence of the EW farm income model was also a necessary condition for the operation of task-oriented work teams.

### **B4. Food and Fiber System Input/Output Model**

An 18-sector model for Pakistan's food and fiber system was developed and updated. This allowed estimates of the secondary impacts of changes in food and fiber system output, as well as estimates of the linkage between production agriculture and agribusiness. The Federal Bureau of Statistics (FBS) produced a new I/O model in 1993 that included a crop and a livestock sector. The crop sector of the FBS model was disaggregated by the EW into sectors for major crops, and FBS indicated this could be a regular component of future updates. While this I/O work was potentially very useful, it cannot be sustained by existing EW staff. In addition, the EW faces a challenge in getting MINFA to use estimates of direct impacts associated with policy and program changes before secondary impacts can be adequately understood by MINFA officials. Once that challenge is met, it would be desirable to pick up the I/O work in collaboration with FBS.

### **B5. Marketing Margins and Marketing Bills**

Estimated marketing margins and the marketing bill for wheat were updated and published. However, due to the loss of all EW staff in the involved section (only the deputy director remains), this work will not be continued.

### **B6. Statistics**

The publication of *Pakistan Agricultural Statistics* and related publications continued under EPA. The system established under the earlier FAO project have worked well. EPA was able to contribute little except funds for publications.

### **B7. Commodity Situation Reports**

Situation reports for wheat, cotton, and rice were developed by EW staff under the guidance of expatriate consultants. The EW staff developed the skills needed to generate such reports, which were used as a basis for estimating the impact of policy changes on

foreign exchange earnings by the task-oriented work team. However, it was never possible to move the situation reports forward in MINFA so that they could be used by ministry officials. The technical capacity to develop such reports was developed within the EW, but this capacity appears to be irrelevant to MINFA at present. Despite good section staff, neither the deputy director nor the responsible director have any understanding of or apparent interest in the purpose of this work.

#### **B8. Producer Surplus Equivalent**

With the assistance of Dr. Ender of USAID, EPA helped the EW develop the capacity to calculate and update PSEs. One of the reasons this has been a particularly effective activity was the keen interest shown by the MINFA secretary. This experience is one reason why it is felt that even greater EPA emphasis should have been placed on demonstrating the importance of EW work. At the same time, the high level of interest in and the degree of comprehension of EW work by the secretary in question was unusual.

#### **B9. Computer-based Agricultural Database: AGDAT/PC**

The development of AGDAT/PC, a computer-based agricultural database that incorporated Pakistani agricultural data (PAKSTAT, which is imbedded in the EW's AMIS) along with FAO's AGROSTAT and USDA's PS&D, was a significant development and has the potential for widespread use in Pakistan. If this were to occur, it would reflect very well on the reputation of the EW. However, without adequate leadership in DAS, it's sustainability is questionable. To be widely used, AGDAT/PC must be marketed and serviced by the EW.

#### **B10. Policy Briefs**

Policy briefs of one or two pages were developed on alternative wheat procurement prices, 1992 flood damages to kharif crops, and the changing composition of the food and fiber sector as a percent of gross domestic product. These were well-done presentations designed for use by MINFA officials. As far as is known, they had no impact whatever and generated no interest in policy briefs on other subjects.

#### **B11. Task-oriented Work Teams**

Task-oriented work teams were established to deal with estimates of 1992 flood damages to kharif crops and of the potential for expanded crop production in Pakistan. The emphasis of the work groups was twofold: developing estimating procedures that could be carried out and continued by EW staff, and establishing effective methods of presenting estimated impacts of policy and program changes to MINFA officials and other interested groups. Based on the results, this approach has great potential. Indeed, it would have been much better if it had begun a year earlier or could have continued for an additional year. The future success of this approach depends to a great extent on the exercise of team-level leadership within the EW.

## **B12. Pakistan Agriculture Sector Model**

An operational Pakistan Agriculture Sector Model (PASM) model (i.e., a large liner programming model) was developed. However, the empirical basis for the production alternatives used in the model were questionable. In addition, based on the experience in using large-scale linear programming (LP) models in Pakistan and other developing countries, it did not appear that the EW had the capacity to maintain and use the model to answer policy questions. Work on PASM was discontinued after the October 1992 retreat. PASM does have potential for future use, particularly if the model is segmented into provincial LP models and the EW is responsible for pulling the provincial LP work together into a federal model. Even with such an approach, however, a crucial need would be the development of enterprise cost budgets that reflect relevant sections of production functions.

## **B13. Enterprise Cost Data**

The farm income estimates, PASM, and task-oriented work teams would have all benefited from better enterprise cost data (ECD). Cooperation among the EW, EPA, IFPRI, and the Agricultural University of Faisalabad (AUF) permitted the development of an ECD database generated from a AUF survey of farms in Punjab and Northwest Frontier Province. (Unfortunately, survey data for Sind and Baluchistan are suspect.) However, this was not accomplished until August 1993. This new database can be used to do a better job of establishing empirically based ECD in the future. This database was also used to help update a *Farm Management Handbook* (September 1993) that will be useful as a point of departure for future policy work.

## **B14. Communication: Diagnosis and Change**

An expatriate communications specialist working with a local consultant (a retired senior official) examined the pattern of communications within the EW and between the EW and MINFA. Based on this effort, recommendations were made for changes in the methods of communication between the two agencies. The traditional file system is not well suited to communicating information about impacts of policy and program changes. Such information is usually perishable, and the file system is so overloaded that impact information tends to get lost in the crowd. In addition, if anyone in the chain does not regard the impact estimates in a favorable light, it is easy for the information to become pigeon-holed. Most important, though, the file system tends to be passive and policy analysts need feedback from decision makers about alternatives to consider and issues that need special attention. The use of computer "slide shows" with carefully designed graphics seems more suitable for such tasks. Selected EW staff have begun to master the techniques needed for interactive presentations on estimating alternative policies and programs.

### **B15. Economic Wing/EPA Videos**

Two videos were produced by EPA in collaboration with Colorado State University. Both videos had their origins in computer-based "slide shows" developed by EW/EPA and used in numerous presentations to target audiences. While both final versions of the slide shows were effective, the videos were developed to make the information available to a wider audience. The first was a 15-minute presentation entitled, "The Economic Wing," and its objective was to explain the purpose of the Wing. The second was a 25-minute video on, "Pakistan's Opportunity for Increasing Crop Production," that aimed to provide a user-friendly summary of the project's technical report of the same title.

### **B16. Policy Impact Conferences**

Policy Impact Conferences were coordinated by John Mellor Associates of Washington, D.C., and were presented at Peshawar, Lahore, Karachi, Quetta, and Islamabad in September 1993. The video "Pakistan's Opportunity for Increasing Crop Production" served as the basis for the Economic Wing/EPA contribution to these conferences, whose objective was to make material on policy alternatives available to a select group of Pakistanis concerned with agricultural policy. A report on these conferences was presented separately by John Mellor Associates.

### **B17. Economic Wing/EPA Interns**

The intern program began in late August 1992 with six carefully selected interns from the Agricultural Universities at Faisalabad and Peshawar who had just completed M.S. degrees in agricultural economics. The dual objectives of the program were to provide professional work experience for young locally trained agricultural economists (professional employment alternatives were nearly nonexistent) and to provide technical assistance in completing EW work. This work could have been done by experienced local consultants, but history indicates there would have been little team work with EW staff. The effectiveness of EPA would have been much greater if the intern program had started in August 1991.

---

## SECTION III LEARNING FROM EXPERIENCE

---

### A. Tactics: What Could Have Been Done Differently

It is said that hindsight is 20/20; something that can not be claimed for timely perception of problems and opportunities. The purpose of asking the question, "What could have been done differently?" is not to trigger remorse, but rather to initiate the process of determining what lessons for the future can be learned from the newly finished EPA project.

The design of EPA and the structure of the EW was in large part determined by the experience of the project's predecessor, the Economic Analysis Network (EAN) project. EAN operated with a sizeable and well-trained local staff, and the intent was that a significant portion of this staff would be hired by the GOP and incorporated with the existing EW staff of the newly organized EW/MINFA. However, because of a GOP hiring freeze, not a single member of the EAN local staff was hired, and the catalyst of using the training and experience gained by local professionals under EAN was not incorporated into the EW as planned. In addition, EAN computer equipment was stored rather than immediately integrated into EW operations. Thus, when EPA was initiated, operational conditions were very different from those envisioned when EPA was designed. In retrospect, a major error was made in not making the appropriate adjustments in EPA to account for the fact that the EW's capacity to do applied policy analysis was not as strong as planned for in the project design. This situation should have triggered modifications in the operation of EPA as early as late 1990.

#### A1. EPA Supervised Staff

With a three-year time horizon, EPA needed to help EW staff work on applied policy and program problems and delivery of useful information to MINFA by early 1991. Because of the need to train EW staff, this process was delayed and both the analysis and delivery of information was always uneven. One alternative would have been to start the EW/EPA intern program at least one year earlier.

#### A2. Computer Equipment and Training

By the end of EPA, the EW's computer equipment and staff computer training was at least adequate and perhaps good. However, the effectiveness of the EW and EPA would have been greater if this state of affairs had occurred earlier in the project. Delays in the approval of an expatriate computer consultant were also a factor. One of the expatriate consultants should have had greater computer expertise, or a fully competent computer specialist should have been added to the EPA local staff at the beginning of the project. If

some EAN local staff (who had good applied computer skills) had been hired by the EW as planned, this problem would have been less serious.

### **A3. Teamwork**

A major initial effort of EPA was to help establish the purpose of subunits within the EW. While this was needed, practice in team building to deal with applied policy and program analysis was delayed. Work on task-oriented work groups should have begun earlier in the project.

### **A4. Effective Communication**

The long-term expatriate consultants did not have a grasp of this problem until midway through the project. When the expatriate communications consultant came on board, he said, "We'll do what we can, but you should have started on this at the beginning of the project." In the case of EPA and the EW, hindsight illuminates the wisdom of that statement.

### **A5. Effective Actions**

The support staff carried over from EAN was first rate. They knew USAID, Chemonics, and many of the staff in the EW, and they were hard working. All in all, it would have been difficult to find better people. The USAID project and contract officers were supportive of actions that aided achievement of project objectives.

## **B. Lessons Learned**

Lessons learned are in part answers to "What should have been done differently?" However, the purpose of recording lessons learned is not to evaluate the old project, but to find basic actions that have a reasonably good chance of being useful in new and different situations. The list of lessons learned below contains five items judged most significant in terms of the experience gained from EPA.

### **B1. Earlier and Greater Emphasis on Computer Systems**

Most applied policy and program work will involve some degree of quantitative analysis, write-up of results, establishment of individual and institutional databases, and development of information delivery systems. All four of these elements can be more effective with the judicious use of computer systems including hardware, software, and training. While changes always have to be made as new alternatives become available and experience is gained, the requirements for an effective computer system need to be established early in the life of a project. Outside consultants with firsthand experience with effective computer systems in other organizations should be involved in a regular review of the operation of the system. This review should be done early and often enough so that needed changes can be made during the course of the project.

## **B2. Enterprise Cost Budgets**

Enterprise cost budgets (ECBs) are the building blocks of much descriptive and analytical work on agricultural policy and program alternatives. This is because much of the work is based on the Marshallian idea of "representative firms," and the aggregation of this micro-level analysis to the macro level is the key to estimating impacts. In the case of farm income estimates, official statistics for area, production, and total fertilizer and pesticide use permitted calculation of representative coefficients for these variables in the associated ECBs. However, because other ECB coefficients were not based on representative surveys, their values were always open to question and challenge (a not uncommon occurrence). Some survey data existed, but it was not openly available, and local agricultural economists had little or no experience in the need to aggregate micro analysis when evaluating policy and program alternatives. The project should have launched an educational and information collecting activity with regards to ECBs. Collection of all ECBs into a widely accessible computer database would have been a positive first step.

## **B3. Effective Communication**

To be effective, organizations such as the EW must communicate results to people such as MINFA officials in a form that those officials find easy and helpful to use. As stated earlier, when the expatriate communications consultant started work on EPA, he said, "We'll do what we can, but you should have started on this at the beginning of the project." This is a conclusion that everyone should know, but it is easy to neglect early in the life of a project. Most professional analysts are trained (and perhaps inclined by their nature) to tell everything they know. MINFA-level officials are almost always extremely busy and seldom trained in economics. While some officials may learn to separate the "wheat from the chaff" in long technical economic reports, that trait is unusual.

It would be much better to face the issue of effective communication with your principle client groups at the start of a project. This process should involve expatriate consultants with experience in such matters working in tandem with local consultants. These local consultants need not be communications specialists, but they must know the local system and be open-minded about new approaches. Efforts to educate officials in the use of policy information could be helpful, but their time in relevant positions is often limited. The emphasis of the communications program should be to demonstrate the usefulness of the information being produced. This must involve a two-pronged approach. First, analysts such as EW staff must recognize the need for and be trained in effective communications with their principle client groups, including being responsive to the needs of those groups. Second, expatriate consultants must work with EW senior staff and MINFA officials to help establish the importance of this type of process, including its interactive character.

#### **B4. Intern Programs and Project Staff**

Good staff in an organization such as the EW will nearly always be busy with existing work. As the quality and skills of the staff improves with training, the increased ability of the organization to get work done is recognized. More work is assigned even if that work is not related to the purpose of the unit. It is therefore increasingly difficult to get the staff resources needed to demonstrate the potential usefulness of internally analyzing policy and program alternatives. A project may use local staff as was the case for EAN, but neither MINFA officials nor the local project staff tend to regard themselves as integral parts of an organization such as the EW.

One solution to this type of problem is to use an intern program for local entry-level professionals such as that used during the last year of EPA. Usually such a program can accomplish three objectives, all of which have merit in their own right. First, interns offer staff resources that can collaborate with regular staff on relevant problems. Such interns are often well-trained and tend to be more flexible in their approach to how work can be done and communicated. They can also use new technology, particularly that which can result in more effective communication. Second, such young professionals often tend to have limited employment opportunities, and they gain a great deal from working in an environment that stresses completing applied work in a timely fashion. While they are usually not expensive to hire, they should be paid what is regarded as a good professional wage, in part to bolster their self image. If all else fails, the training and experience these young professionals receive will have a long-term positive effect. Third, an intern program provides a natural bridge for future cooperation between local universities and government agencies. It may prove helpful to have a local intern advisory group composed at least in part of faculty of these universities.

#### **B5. Agricultural Database**

AGDAT/PC took some time to develop, but in the process it became clear how a useful agricultural database could be generated in a relatively short period of time. In addition, the initial database would be easy to expand. The lesson learned is to obtain FAO's AGROSTAT and USDA's PS&D databases and add these to a computer database of locally generated, country-specific (hopefully with provincial or regional breakdowns) agricultural data on crop production, area, yield, and livestock. The FAO and USDA databases are user-friendly and excellent sources of comparative data on yields, production, imports, exports, etc., on a commodity basis. A usable version of an AGDAT/PC-style database could be put together and distributed during the first six months of a project, with improvement continuing throughout implementation.