

A.I.D. EVALUATION SUMMARY PART

(BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS)

ISN = 57117
 PD - AA7 - 042

A. REPORTING A.I.D. UNIT
 (Mission or AID/W Office)

DES # 608-88-01

B. WAS EVALUATION SCHEDULED IN
 CURRENT FY ANNUAL EVALUATION PLAN?

yes slipped ad hoc

C. EVALUATION TIMING

interim final ex post other

D. ACTIVITY OR ACTIVITIES EVALUATED (List the following information for project(s) or program (s) evaluated; if not applicable, list title and date of the evaluation report)

IDENTIFICATION DATA

Project #	Project/Program Title (or title & date of evaluation report)	First PROG or equivalent (FY)	Most recent PACD (mo/yr)	Planned LOP Cost ('000)	Amount Oblig to DA ('00)
608-0182	Planning, Economics, and Statistics for Agriculture	9/83	9/93	12,567	9,356

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

Action(s) Required

Name of officer
responsible for
Action

Date Action
to be
Completed

1. Amend Project documentation to (1) extend tour of resident statistical advisor until August 1, 1990 (2) fund short-term TDYs by senior agricultural economist after FY 1988. (3) limit project investment in remote sensing and documentation center, and (4) provide support for decentralized statistical data entry, and (5) restructure project budget.

Project
Officer

4/30/88

2. Translate evaluation summary and forward it to it to the Minister of Agriculture.

Project
Officer

4/20/88

3. Assess GOM contribution to the project, especially with respect to vehicle procurement.

Project
Officer

4/20/88

4. Install dedicated line between DPAA annex and main MARA building.

MARA

5/30/88

5. Name official(s) authorized to act on behalf of MARA for the Project as a whole.

MARA

4/30/88

6. Recruit two cadres for Service des Etudes.

DPAA

9/30/88

ACTION

F. DATE OF MISSION OR AID/W OFFICE REVIEW OF EVALUATION:

no ___ day ___ year ___ Report Date: no 5 DAY ___ YR 8

G. APPROVALS OF EVALUATION SUMMARY AND ACTION DECISIONS:

Signature
Typed Name
Date

Project/Program
Officer
Paul Crawford
Project Officer

Representative of
Borrower/Guaranteee
Hassan Serghini
NPAF

Evaluation
Officer
Randall Thompson
Kenneth Schofield

Mission or AID/W Office
Charles Johnson,
DPAA

SIGNATURES

The Planning, Economics and Statistics for Agriculture Project (608-0182) is a ten-year project aimed at improving the GOM's ability to "collect data and publish timely agricultural statistics, undertake economic policy analyses, and plan, monitor and evaluate agricultural projects." The project is being implemented by the Directorate of Planning and Economic Affairs (DPAE), within the Ministry of Agriculture and Agrarian Reform (MARA). The Project Agreement was signed in September, 1983. The PACD is September 1993. Technical assistance is provided by the United States Department of Agriculture (USDA).

The U.S. contribution to the project is approximately \$12.5 million and is composed of technical assistance, training, and commodity procurement (e.g. computer equipment and aerial photography) to the DPAE. The GOM contribution is around \$9.8 million. The project has two major areas of focus (1) improving statistical data collection and analysis, and (2) improving economic analysis. The first area involves primarily the Statistics and Documentation Service of the DPAE, the service responsible for carrying out the national-level crop production surveys. A second area of effort is aimed at improving the capacity of the Economic Studies Service and the DPAE's Planning Division to conduct economic analysis.

The first mid-term evaluation of the project was conducted in the first quarter of FY 1988 by a three person team, consisting of an Institutional Development Specialist (Chief of Party), an Economist and a Statistician. The evaluation team made a number of recommendations for improving project implementation. In particular, they examined the DPAE's institutional structure and internal relationships and recommended a number of management improvements. The evaluation team concluded that the Project was an outstanding success, and that the fortunate combination of able technical assistance with competent and dedicated Moroccan staff had led to the attainment of most of the project's required outputs and significant progress toward its overall objectives.

In terms of lessons learned, project implementation to date has demonstrated that a great deal can be accomplished in a relatively short time when the advisors provided by USAID are technically competent and when they are able to establish solid working relationships with their host country counterparts. It is, however, a two-way street. The best efforts of a TA team will founder when counterparts are not receptive.

The project has also demonstrated that an agency's institutional development is, to a large extent, a function of the agency's management structure and of the management style of its senior-level staff. Thus, improving the managerial competence of host country staff is perhaps as important for project success as improving their technical competence. Thus, the design of institution-building projects should explicitly provide management, as well as technical training.

I. EVALUATION COSTS

1. Evaluation Team

Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (US\$)	Source of Funds
Max Goldensohn	- Development Alternatives, Inc	PIO/T 608-0182- 3-60094	\$43,000	Project
Roger Poulin	- Development Alternatives, Inc.			Project
John Fliginger	- Private Consultant	PIO/T 608-0182- 3-70041	\$11,50	Project

2. Mission/Office Professional
Staff Person Days (estimate) - 0 -

3. Borrower/Grantee Professional
Staff Person-Days (estimate) - 0 -

A.I.D. EVALUATION SUMMARY PART

J. SUMMARY OF EVALUATION FINDINGS, CONCLUSIONS AND RECOMMENDATIONS (try not to exceed the 3 pages provided)
Address the following items:

- o Name of mission or office
- o Purpose of activity (ies) evaluated
- o Purpose of the Evaluation and Methodology Used
- o Findings and Conclusions
- o Recommendations
- o Lessons Learned

Morocco needs reliable and timely information about its agricultural sector in order to formulate and implement economic policies which would encourage increased agricultural production while fostering increased equity in rural areas.

In order to meet this need for improved information and policy analysis, USAID and the Ministry of Agriculture and Agrarian Reform (MARA) signed the Planning, Economics and Statistics for Agriculture Project (608-0182) in September, 1983. The Project Assistance Completion Date (PACD) of this ten year project is September 30, 1993. The Project is being implemented by the Directorate of Planning and Economic Affairs (DPAE) within MARA. Technical assistance is provided by two branches of the United States Department of Agriculture (USDA): the National Agricultural Statistics Service (NASS) and the Office of International Cooperation for Development (OICD).

The U.S. contribution to the project is \$12,567,000, and is comprised of technical assistance, training, and the provision of commodities (e.g. computer equipment and aerial photography) to the DPAE. The GOM contribution is \$9,817,000. The overall Goal of the project is "to make available current information and sound policy analysis that will enable GOM officials to make policy decisions that will lead to increased agricultural production." The immediate Purpose of the project is "to improve the GOM's ability to collect data and publish timely agricultural statistics, undertake economic policy analyses, and plan, monitor and evaluate agricultural projects."

A three-person USDA resident advisory team arrived during 1985. Two senior level statisticians are working with the DPAE's Statistics and Documentation Service (SSD). A senior agricultural economist is working with the Economic Studies Service (SE). In October, 1986, the project-funded mini-computer system was installed and became operational. During 1986 and 1987 a total of over 24 million hectares of aerial photography was completed. In addition, an objective yield laboratory and a laboratory to process and enlarge aerial photos have been created. In general, most of the activities funded under this project began one year later than planned. Within this delayed time frame, inputs have been provided on a timely basis.

The resident IA team was originally scheduled to leave in the summer of 1988. In 1987, USAID and the GOM agreed to modify the project goal and purpose and to add a second economics adviser to the IA team (two person-years). The new adviser is scheduled to arrive in early 1988 and will work with the Planning Division (DP).

The first mid-term evaluation of the project was conducted in October and November, 1988. The evaluation team consisted of an Institutional Development Specialist (Chief of Party), an Economist, and a Statistician. The evaluation team made a number of recommendations for improving project implementation. In particular, they examined the DPAE's institutional structure and internal relationships and recommended a number of management improvements. The evaluation team concluded that the project was an outstanding success, due to the fortunate combination of

able technical assistance with competent and dedicated Moroccan staff, which has led to the attainment of most of the project's required outputs and significant progress toward its overall objectives.

The findings of the evaluation show clearly that the DPAE has made significant progress towards developing its capacity to collect and analyze agricultural statistics. Similarly, the DPAE's ability to employ statistical and economic analysis has markedly improved. This has enabled MARA decision makers to more effectively conceive, elaborate, evaluate, and advocate policy decisions which promote growth and equity in Morocco's agricultural sector.

The evaluation team concluded that, if remaining project funds were used effectively and if certain management improvements were implemented, the project would attain its objective of institutionalizing within the DPAE the capacity needed to carry out these data collection and analysis tasks.

Though, as noted above, the evaluation team considered the project successful, they did make a number of recommendations. Some of their principal recommendations are summarized below (in some cases a statement on subsequent actions and decisions is also presented). A summary of the evaluation team's report, prepared by USAID, is attached as Annex 1. The full evaluation report is attached as Annex 2.

Recommendations Concerning the Allocation of Project Resources

1. Extend the tour of the Senior Statistics Advisor for at least one year. This advisor will continue to support SSD's efforts to improve its statistical and survey methodology and to produce reliable and timely statistical reports.

Action. The tour of the statistics advisor is being extended for 2 years.

2. Extend the Senior Resident Economics Advisor for a fourth year.

Action. This advisor will depart in August 1988 for personal reasons. However, arrangements are being made for him to provide substantial short-term technical assistance to the project after that time.

3. Redirect funds for Ph.D. training in both statistics and economics into Masters degree training.

Action. The DPAE and USAID agreed to maintain the Ph.D. programs, provided that the Ph.D. candidates depart for the U.S. no later than September 1989 (to ensure that they will be able to return prior to the PACD).

4. Allocate short-term training funds for management courses in the U.S. for senior and middle managers in the DPAE

Action. Training in management, including systems management, has been programmed into the FY 1988 Workplan.

5. Allocate expertise and resources to begin creating an agro-economic data base. This effort should follow the program proposed by the recent USDA consultant on data base design.

6. Plan a series of tests of decentralized data entry and treatment in selected regional offices (Services Extérieurs).
7. Allocate funds for a modest but useful, centrally located documentation center along the lines recommended by a USDA consultant in 1987. Do not invest in micro-fiche equipment.
8. Reprogram funds for remote sensing to other, higher priority tasks.

Action. USAID has agreed to continue financing a limited effort (approximately \$130,000) in remote sensing. This effort would follow the program developed by the DPAE remote sensing specialist and one of the USDA resident advisors.

9. The GOM should name a Director of the DPAE.

Action. USAID will ask the Ministry to name an official, or officials, authorized to act on behalf of MARA for the project as a whole.

10. The DPAE should prepare a procurement and financing plan for vehicle purchases and operations and maintenance.
11. The DPAE should intensify its search for additional Moroccan staff, especially economists and agricultural economists.

Action. An analysis of DAE staff needs and availabilities done after the evaluation indicated that, with the addition of two cadres in FY 1988, the DAE should have sufficient staff to meet its current responsibilities and keep the training program on schedule. The DPAE has begun recruiting these 2 cadres.

12. The DPAE should clarify the relationships between SSD and the other DPAE services. Establish clear systems for dividing responsibility for collecting different sorts of data, for protecting and affording access to data, for conducting statistical and economic analyses of different types and levels of sophistication, and for using different analytic tools.
13. Install the dedicated telephone line between SSD and the DPAE offices in Agdal.
14. The GOM should permit SSD and the other services of the DPAE to sell products and services for which there is significant demand outside the Directorate (e.g. computer time, aerial photographs, reports). Receipts from such sales would help operate, maintain, and, eventually, replace the sophisticated equipment provided through the project.
15. Raise SSD to Divisional status within the DPAE.

Action. USAID views this as MARA's affair. USAID is skeptical, however, that upgrading SSD, by itself, will substantially improve intradivisional relationships.

16. The DPAE should institute measures to improve efficiency, communications, coordination and job satisfaction. These include: (a) preparing and circulating distribution lists for DPAE publications; (b) preparing terms of reference for administrative/technical units and individuals in the DPAE; and (c) defining the rights and responsibilities of each DPAE unit vis-a-vis other units.

17. The DPAE should undertake a publicity campaign to educate others (e.g. other Directorates in MARA) about what it does and what it hopes to do in the future.
18. Devote more resources to quality control, particularly control of non-sampling error. This should include training in survey methodology.
19. SE must establish formal linkages with sources of data, both within MARA and in other organizations, to supplement the types of data that SSD will provide.
20. The DPAE, USDA team, and USAID should establish concrete performance indicators, or benchmarks, to measure project achievements in building DPAE capacity to carry out surveys, enter and aggregate data, publish timely and accurate reports, and perform useful economic analyses.

K. ATTACHMENTS (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier)

- Annex 1: USAID "Evaluation Summary: Mid-Term Evaluation, Planning, Economics and Statistics for Agriculture Project" (February 22, 1988)
- Annex 2: Development Alternatives, Inc., "Building for Institutional Sustainability; Mid-Term Evaluation of the Planning, Economics and Statistics for Agriculture Project" (November 1987)

L. COMMENTS BY MISSION, AID/W OFFICE AND BORROWER/GRANTEE

XD - AAY - 042 - A
ISIV = 52042

USAID/MOROCCO

EVALUATION SUMMARY: MID-TERM EVALUATION
PLANNING, ECONOMICS AND STATISTICS FOR AGRICULTURE PROJECT
(608-0182)

February 22, 1988

1626M

RECOMMENDATIONS AND CONCLUSIONS

An evaluation team consisting of an Institutional Development Specialist (Chief of Party), an Economist, and a Statistician conducted a mid-term evaluation of the Planning, Economics, and Statistics for Agriculture Project (608-0182) between October 22, 1987 and November 30, 1987. The evaluation team concluded that the Project had made excellent progress toward supplying required inputs, producing desired outputs and achieving the project's goal and purpose level objectives.

The summary descriptions of Project 0182's activities, accomplishments, and problems presented in the following sections of this report. These findings show clearly that the DPAE has made significant progress towards developing its capacity to collect and analyze agricultural statistics. Similarly, the DPAE's ability to employ statistical and economic analysis has improved. This has enabled MARA decision makers to more effectively conceive, elaborate, evaluate, and advocate policy decisions which promote growth and equity in Morocco's agricultural sector.

The evaluation team concluded that, if remaining project funds were used effectively and if certain management improvements were implemented, the project would attain its objective of institutionalizing with the DPAE the capacity needed to carry out these data collection and analysis tasks without external assistance.

Though, as noted above, the evaluation team considered the project successful, they did make a number of recommendations. Their principal recommendations are summarized below (a statement on subsequent actions and decisions is also presented). These recommendations are of two types: (1) recommendations on the future allocation of project resources, and (2) recommendations concerning DPAE organization and management. A summary of the text of the evaluation team's report is attached as Annex 1.

I. Recommendations Concerning the Allocation of Project Resources

1. Extend the tour of the Senior Statistics Advisor for at least one year to continue supporting SSD efforts to improve its statistical and survey methodology and to produce reliable and timely statistical reports. Progress made by SSD to date obviates the continued need for a second statistics adviser.

Action. The assignment of the Senior Statistics Advisor in SSD will be extended for an additional two years - until the June 1990. The second statistical advisor will depart on schedule.

2. Ensure that the current Senior Resident Economics Advisor remains for a fourth year in the DPAE. His technical and training skills offer an excellent opportunity to the DPAE to achieve an independent capacity in economic analysis.

Action. The Senior Resident Economics Advisor will be departing in August 1988, for personal reasons. However, he will return to provide short-term assistance to the project during the coming three years (approximately 18 weeks of assistance has been proposed for FY 1989).

The DPAE and USAID are exploring the possibility of procuring short-term technical assistance from a Moroccan consulting firm to fill in for the USA Economist during his absence. This arrangement should avoid any adverse impact of the Economist's pending departure on the project.

3. Resident Agricultural Economics Advisor is being recruited to assist the DPAE's Division du Plan. The DPAE, the USDA team, and USAID should clearly specify this individual's role and recruit someone with the right mix of skills and experience to effectively fulfill this role.

Action. A qualified candidate has been selected and will arrive in March or April 1988 to begin a two-year assignment.

4. Given the current needs of the DPAE, funds for Ph.D. training in both statistics and economics should be redirected into Masters degree training.

Action. The DPAE and the USDA advisory team have argued that these M.D. programs are justified. USAID agrees, provided that all qualified candidates depart for Ph.D. training not later than September 1989, in order to ensure that their programs are completed before the official Project Activity Completion Date (September 30, 1993).

5. The DPAE and USAID should allocate short-term training funds for management courses in the U.S. for senior and middle managers in the DPAE. This should include systems management training for SSD managers.

Action. Training in management, including systems management, has been programmed into the FY 1988 Workplan. Consideration will be given to building a "management" component into all U.S. short-term training programs.

6. Short-term training in Morocco and the US, including on-the-job training by resident advisers, should emphasize the development of qualitative analytic approaches, as well as quantitative analytic skills. If SE staff are to effectively use the quantitative tools they are now beginning to master, they must understand economic theory and potential policy options and their impacts.

Action. Modifications have been made to the in-country training program to address this recommendation.

7. The DPAE and USAID should allocate expertise and resources to begin creating an agro-economic data base. This effort should follow the program proposed by the recent USDA consultant on data base design.

Action. This activity has been incorporated into the FY 1988 Project Workplan. USAID is concerned, however, that, while project resources will be available, a lack of SSD resources and personnel to develop and manage the data base will constrain its development.

8. The DPAE and USAID should plan a series of tests of decentralized data entry and treatment in selected regional offices (Services Extérieurs). This would include installing microcomputers and providing training and supervision.

Action. This activity has been incorporated into the FY 1988 workplan. USAID remains concerned that SSD resources and personnel for training and technical support constrain this effort.

9. In 1987 a USDA consultant analyzed the DPAE's Documentation Center and proposed several options for upgrading it. The DPAE and USAID should review this study and allocate funds for a modest but useful, centrally located library/documentation center. Micro-fiche capacity is not needed at this time.

Action. USAID has indicated that it will limit support in this area to the procurement of reference materials (e.g. books and journal subscriptions) for the Documentation Center and DPAE reference libraries. USAID will not finance the procurement of microfiche equipment for the Documentation Center. Nor will it finance additional participant training in Library Science within the context of the project.

10. The 1983 Project Agreement called for major investments in remote sensing technology to complement the other capacities of SSD. Subsequent research in other countries has cast doubts on the contribution remote sensing could make to the DPAE at this time. While the evaluation team is not opposed to remote sensing activities, we recommend reprogramming funds destined for remote sensing to other, higher priority tasks that will contribute directly to achieving Project outputs, purpose and goal.

Action. USAID has agreed to continue to finance a limited effort (approximately \$130,000 over two years) in remote sensing. This effort would follow the program developed by Mr. Essaji and Mr. Kestle. This agreement does not, however, imply a commitment by USAID to support remote sensing efforts beyond this amount. In general, USAID accepts the recommendation of the evaluation team that remote sensing is not a high priority activity for the project at this time. However, USAID feels that the project should capitalize on Mr. Essaji's project-funded training and that an additional two years' of practical experience with remote sensing would help MARA develop a Ministry-wide strategy for using this tool.

II. Recommendations Concerning DPAE Organization and Management

1. The GOM should name a Director of the DPAE in the near future. A strong, active director would strongly enhance the DPAE's institutional capacity to carry out its statistical and analytical tasks. In particular, given that the DPAE currently has two well qualified division chiefs, the choice of DPAE director is extremely important.

Action. USAID views this as MARA's affair. However, in view of the importance of economic analysis and planning in the project's purpose, USAID recommends that the Ministry name an official, or officials, authorized to act on behalf of MARA for the project as a whole. Specimen signatures for said individual(s) should be furnished to USAID, as provided for in the original Project Agreement.

2. As vehicle shortages have hampered data collection and survey supervision and training in the past, the DPAE should prepare a procurement and financing plan for purchase of vehicles and for operations and maintenance. USAID and the DPAE should consult as soon as possible on possible sources of funds for this procurement.

Action. Procurement of vehicles for field offices is a major component of the GOM contribution to the project (nearly \$2.4 million over the life of the project - or around 15 vehicles per year to maintain the size of the fleet). USAID will request detailed information from the DPAE on the GOM's efforts towards meeting this commitment.

3. The DPAE, supported by MARA authorities, should continue and intensify its search for Moroccan cadres, especially economists and agricultural economists to reinforce the capacity of the Directorate to perform economic analyses. If recruitment is unsuccessful, the departure of cadres for training in the US may be further delayed and hope for developing sustainable institutional capacity before the PACD will be compromised.

Action. USAID initially requested a commitment from the DPAE to recruit, for the DAE, an additional two cadres per year for FY 1988, FY 1989, and FY 1990. A subsequent analysis of DAE staff needs and availabilities over the coming years indicates that, with the addition of two cadres in FY 1988, the DAE should have sufficient staff to meet its current responsibilities and keep the training program on schedule. The DPAE has begun recruiting these two cadres. It is imperative that they be recruited in 1988. USAID remains concerned that, if the responsibilities of these services substantially increase, additional cadre will most certainly be needed. Finally, the USDA resident advisors should be involved early in the process of candidate selection for degree participants.

4. As the roles of the Incentives Service in DAE and of the Prices Bureau in SE are defined, their analytical responsibilities and capacities should be expanded.

Action. USAID will monitor the development of these DPAE units and assess the implications of changes in responsibility on the project.

5. The relationships between SSD and the the other DPAE services need to be clarified. The Division chiefs should establish clear systems for dividing responsibility for the collection of different sorts of data, protecting and affording access to data, conducting statistical and economic analyses of different types and levels of sophistication, and for using different analytic tools.

Action. USAID encourages the DPAE to address this issue. USAID believes that all DPAE services should have access to the data that is collected and used by other DPAE services, and that the DPAE should make it clear that this is the policy.

6. The DPAE should exert an all out effort to install the dedicated telephone line that will link SSD to the DPAE offices in Agdal. Maximum efficiency in computer use depends on the installation of this line. It will also facilitate the access by SE and other services to SSD data. Ultimately, the DPAE should be reuniting into one location, preferably within MARA's main building. The DPAE is a horizontal directorate and serves the needs of the entire ministry. Its current isolation (with the exception of SSD) compromises its ability to fulfill its role.

Action. It is USAID's understanding that the DPAA is doing everything possible to install the dedicated telephone line. USAID strongly supports the recommendation to unite the DPAA in a single location.

7. The DPAA should lead an effort to find legal ways for the SSD (and the other services of the DPAA) to sell products and services for which there is significant demand outside the Directorate. Receipts from such sales would help operate, maintain, and, eventually, replace the sophisticated equipment which the SSD now operates quite efficiently. Fees collected should be used to help defray the costs of providing such services.

Action. USAID supports this recommendation.

8. Although such a change does not fall within the range of competence of USAID or even of the DPAA, the evaluation team strongly recommends that both organizations encourage the GOM to raise SSD to Divisional status within the DPAA. The team argued that this adjustment would confirm a situation which already, de facto, exists. SSD has personnel, commodity and budget resources which go far beyond those usually attributed to a Service. Moreover, SSD currently interacts with other DPAA and MARA units as if it were a division. In addition, the evaluation team felt that confirming SSD as a Division would ease a number of strains which currently inhibit cooperation within the DPAA and, hence, diminish the effectiveness of technical and commodity assistance provided by the Project.

Action. USAID views this as MARA's affair. USAID is skeptical, however, that upgrading SSD, by itself, will substantially reduce current intradivisional tensions.

9. The DPAA, with the help of the USDA team, should institute a number of relatively simple measures to improve efficiency, communications, coordination and job satisfaction with the Directorate. These include: (a) preparing and circulating distribution lists for DPAA publications; (b) preparing terms of reference for administrative/technical units and individuals in the DPAA; (c) defining the rights and responsibilities of each DPAA unit vis-a-vis other units with which it works; (d) establishing responsibilities within each DPAA unit for management and technical supervision and for decision-making in the absence of the unit chief; and (e) holding regular and frequent staff meetings at all levels of the DPAA.

Action. (1) USAID asked the DPAA to assign responsibilities to SSD personnel for each aspect of each survey and to formally notify USAID of who is responsible for what. The SSD Service Chief argued that responsibilities within SSD are already adequately defined. USAID remains unconvinced and still believes that a more formal definition of responsibilities should be made. (2) USAID asked the DPAA to specify target dates for SSD surveys and communicate these dates to USAID. The DPAA did not commit itself to specifying survey target dates (beyond elaborating a "survey calendar" as called for in the FY 1988 workplan). USAID continues to believe, however, that setting target dates would improve the operation of the DPAA's data collection and analysis program. (3) USAID asked the DPAA to prepare a list of available DPAA reports and a distribution list for published DPAA reports. While the DPAA expressed concern that much of the material it produces is somewhat sensitive and not suitable for general distribution, they agreed to

examine their current distribution policies. Moreover, the DPAA agreed to give greater attention in the future to circulating its reports within MARA and to more widely disseminating non-sensitive reports.

10. The project should consider procuring and installing an electronic communications system among all the DPAA Divisions, Services and Bureaus. Such a system would use current hardware and linkages and could greatly facilitate exchanges and communications.

Action. USDA will review communications software packages.

11. SSD should attempt to adjust the size of the sample for the five annual surveys. Savings in time and resources and improvements in the speed of publication of data would compensate for some loss of reliability. Coefficients of variance may currently be better than needed.

Action. This issue will be addressed by the head of the Sampling Bureau of SSD, working with specialists from USDA/NASS in Washington, D.C., during a training visit to the U.S. in April 1988.

12. The DPAA should undertake a publicity campaign to educate the other Directorates of the MARA, as well as parastatal and private entities, about what it does and hopes to do in the future. Knowledge of SE, SSEP, SP and SI activities is scant and appreciation even scantier in other MARA Directorates. The DPAA is a horizontal directorate within MARA which is supposed to serve the economic analysis and statistical needs of the ministry as a whole. As such, its potential clients need to know what they can expect from the DPAA.

Action. USAID supports this recommendation.

13. The Statistics Service (SSD) should devote more resources to quality control, particularly in the domain of non-sampling error.

Action. Actions programmed in the FY 1988 Workplan (e.g. questionnaire redesign, training for field staff in data collection, consistency checking of data input), if carried out as planned, should begin to address this concern.

14. Short-term training to date has concentrated on data management and computer use. This should be balanced with courses on survey methodology and the control of non-sampling error. This training should not neglect the sociological aspects of data gathering.

Action. This training is programmed in the FY 1988 Workplan.

15. SE is seriously hampered by the lack of reliable data. While there is an urgent need for SE and SSD to agree on the types of data that SSD will provide to SE, SE must also establish formal linkages with other sources of data, both within MARA and in other organizations. The latter effort should be coordinated with the creation of a DPAA agro-economic data base.

Action. The FY 1988 Workplan begins to address this recommendation.

16. The DPAA, USDA team, and USAID should establish concrete performance indicators, or benchmarks, to measure project achievements in building DPAA capacity to carry out surveys, enter and aggregate data, publish timely and accurate reports, and perform useful economic analyses..

Action. USAID will work with the USDA and the DPAA to develop performance indicators. These will be formalized in a Project Implementation Letter.

17. The SE workplan should include a priority listing of the specific issues to be analyzed in each bureau, including mention of the analytical tools employed in each case.

Action. The FY 1988 Workplan addresses this recommendation.

18. USAID should implement measures to improve communications with the DPAA and the USDA Resident Advisors by: (a) coordinating all communications to the USDA team through the team leader; (b) involving DPAA and USDA personnel in discussions of such modifications which might change project direction or content; and (c) instituting formal reviews of each quarterly report submitted by the USDA team. The USDA team can organize these reports around the performance benchmarks agreed to by DPAA and USAID. The USDA should not have to submit bi-weekly progress reports.

Action: USAID accepts and will abide by these recommendations. USAID, the DPAA, and USDA will begin holding formal quarterly reviews of project performance.

19. The DPAA and the USDA team should encourage, to the maximum extent possible, the use of Project 0182 funding to employ Moroccan consultants for in-country training, assessments, and studies. Improved links with the country's university community will prove particularly vital to building sustainable national institutional capacity.

Action. The FY 1988 Workplan provides for increased use of Moroccan consultants for in-country training and other tasks.

20. To ensure maximum benefit to the DPAA, the Directorate and USAID should ensure that the consultants carrying out the Prices and Incentives Study involve DPAA cadres with every phase of their work. This on-the-job training function should be explicitly mentioned in study's terms of reference.

Action. USAID and the USDA advisors will pay particular attention to ensuring that the training aspects of the study are not neglected.

SECTION ONE

PROJECT BACKGROUND AND HISTORY

Morocco needs accurate, reliable, timely information about its agricultural sector, in order to formulate and implement economic policies which would encourage increased agricultural production while fostering increased equity in rural areas.

In order to meet this need for improved information and policy analysis, USAID and the Ministry of Agriculture and Agrarian Reform (MARA) signed the Planning, Economics and Statistics for Agriculture Project (608-0182) on September 22, 1983. This 10 year project began in September 1983. The Project Assistance Completion Date (PACD) is September 30, 1993.

The Project is being implemented by the Directorate of Planning and Economic Affairs (DPAE) within MARA. Technical assistance is provided by two branches of the United States Department of Agriculture (USDA): the National Agricultural Statistics Service (NASS) and the Office of International Cooperation for Development (OICD).

The U.S. contribution to the project is \$12,567,000, that of the GOM is \$10,317,000. The former involves technical assistance, training, and the provision of commodities (e.g. computer equipment and aerial photography) to the DPAE. The overall Goal of the project is "to make available current information and sound policy analysis that will enable GOM officials to make policy decisions that will lead to increased agricultural production." The immediate Purpose of the project is "to improve the GOM's ability to collect data and publish timely agricultural statistics, undertake economic policy analyses, and plan, monitor and evaluate agricultural projects."

A three person USDA resident advisory team arrived during 1985. All three advisors have remained at their posts and were present during the mid-term evaluation. The DPAE has provided experienced, trained personnel to work with each advisor. In October, 1986, the project-funded mini-computer system was installed and became operational. During 1986 and 1987 a total of over 24 million hectares of aerial photography was completed. In addition, an objective yield laboratory and a laboratory to process and enlarge aerial photos have been created. In general, most of the activities financed under this project started about one year later than scheduled. Within this delayed time frame, inputs for this component have been provided on a timely basis.

The resident IA team was originally scheduled to leave in the summer of 1988. In 1987, USAID and the GOM agreed to modify the project goal and purpose and to add a second economics adviser to the IA team for a period of two years. The new adviser should arrive in Morocco in early 1988.

The evaluation team concluded that the Project has been effective and that the DPAE, USDA, and USAID deserve congratulations for their efforts. Nevertheless, the mid-term evaluation made a number of recommendations intended to help the project achieve its goal and purpose in the most cost-effective manner.

SECTION TWO
EVALUATION OF THE STATISTICAL COMPONENT

Objective

The objective of the statistics component of this project is to strengthen the ability of the Statistics and Documentation Service (SSD) to design samples and surveys, collect and process data, analyze and interpret that data, and to provide reliable data and information to user clients.

Inputs

USAID seeks to strengthen SSD by providing it with technical assistance, training, and selected commodities.

Technical Assistance

The USDA's National Agricultural Statistical Service (NASS), has provided two well-qualified resident advisors to the SSD. Initially, these advisors experienced some problems, as SSD and USAID project management operated without adequately consulting them. This made it extremely difficult for them to build good relationships with their counterparts in SSD. The advisors have overcome this handicap, however, and their relations with both USAID and SSD are good at the present time. Both NASS statisticians have acted in a thoroughly professional manner throughout their assignment.

The USDA has also provided timely, appropriate, and well qualified short-term technical assistance to the project whenever such assistance was called for.

Training

The Project is financing 2 Ph.D. and 9 M.S. degree programs at U.S. universities for SSD. However, at the time of the evaluation only three candidates had departed Morocco. The evaluation team expressed hope that future participants would be selected and placed rapidly.

Short-term training has been heavily oriented toward data processing in previous years. A more balanced program, which the evaluation team endorsed, is outlined in the FY 1988 Annual Workplan.

The evaluation team questioned the value of Ph.D. training for SSD. It argued that the highly theoretical orientation of a Ph.D. statistician would not get maximum exercise in SSD. Therefore, the team recommended financing only M.S. programs in statistics and agricultural economics for SSD staff.

The new survey and data systems operated by SSD require very high levels of discipline and management control to produce high quality data. To better control the entire system, the evaluation team suggested that key managers in SSD receive systems management training.

Commodities

USAID has installed the following data processing equipment in SSD:

- 1 four megabyte IBM 4361 mini-computer
- 2 3420-6 tape drives
- 1 3830 controller
- 2 3370-A1 disk drives
- 2 3274 terminal controllers
- 2 consoles
- 16 3178 data entry terminals
- 13 PC ATs
- 2 PC XT'S
- 2 PC Portables
- 2 PC Graphics workstations

This equipment has been in operation for over one year. The system has a large capacity which is currently under-utilized. However, the staff of SSD use the terminals and are learning how to better use the computer's potential. This led the evaluation team to classify the system as adequate and appropriate. However, the team expressed concern that maintenance of the equipment and facilities would be a problem when project financing stops.

Around 24 million hectares of aerial photography has been completed and is being utilized as a basis for stratification and construction of the area frame and sample. The team felt that the quality of the photographs was good and that SSD was making effective and appropriate use of them.

An aerial photography laboratory was installed in early 1987 and is currently producing contact prints and enlargements for the area frame and sample. Since the equipment can provide services much beyond the requirements of SSD, the evaluation team recommended that mechanisms be sought to permit SSD to provide aerial photography services to other users and charge them a fee to help defray operation and maintenance costs.

The upgraded objective yield laboratory is in operation, as is a regional objective yield lab. Other regional labs are planned. The evaluation team felt that these investments were appropriate.

SSD has provided its staff, the computer, and labs with excellent working space. Offices are adequate, clean and pleasant to work in. However, the team noted that lack of vehicles and fuel has had a negative impact on the timeliness and completeness of surveys, and was reported as a constant problem by field staff. The evaluation team therefore recommended that the DPAE develop a vehicle procurement plan and identify financing as rapidly as possible. Shortages of fuel and funds for maintenance of vehicles have a negative impact on surveys as well.

Outputs

Area Frame

The construction of an area sampling frame is a primary output of the project and is fundamental to achieving its goal. At the present time, the frame has been completed in 30 of 56 zones of the country and will be completed

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in all zones by December 1988. Frame construction under the project has been of extremely high quality.

The Area Frame is constructed by dividing each province into land use classifications called strata, which are ultimately subdivided into sample units called segments. The purpose of stratification is to improve sample efficiency, so that relatively few sample units are required to estimate given characteristics of a particular stratum. The primary benefit of an area frame is that it is complete and virtually permanent. Other types of frames, such as a village index or list frame, are usually very incomplete and unstable over time, as villagers move and as land changes hands. In comparison, area frames require much less maintenance from one year to the next.

Current work plans call for re-stratifying some of the provinces completed prior to the start of Project 0182, in order to address recognized weaknesses in the area frames for these provinces and for purposes of general maintenance of the frame. Surveys conducted over the next few years will provide further tests of the frame, and follow-up evaluations will continue to determine needs for changes or modifications.

The evaluation team concluded that the new photography and the photo lab are making a major contribution to the quality of area frame construction, as well as to field enumeration. The photos provide current and precise information for stratification purposes. The ability to make enlargements aids tremendously in locating, identifying, and controlling information.

A Functioning Program of Current Regularly Scheduled Agricultural Statistics Based on the Area Frame

Although the evaluation team visited two field sites, it could by no means effectively evaluate the entire data collection system from questionnaire design to published report. Nor could it identify all its strong and weak elements. However, the team concluded that SSD clearly needs to work at reducing non-sampling error. The 1988 Workplan focuses on these issues. A variety of methods must be used to keep these errors within reasonable bounds, recognizing that they can never be completely eliminated.

The reduction of non-sampling errors is accomplished by quality control and the control of the data entry and analysis processing. These include pilot tests of questionnaires and forms, training schools and workshops for group leaders and enumerators, practice sessions on all aspects of the data collection process, editing and checking procedures to detect data errors and inconsistencies, and providing assistance to answer questions as they arise.

Two things should happen as proficiency in conducting surveys increases. First, improvement in the basic surveys should lead to inclusion of much of the data required for economic analysis in regular on-going surveys. Second, design of additions to regular surveys and design of special surveys could be done with more speed and efficiency to meet user needs.

Expanded Data Processing Capabilities

Much of the equipment and software provided to SSD under the project has been in place for over a year. The system itself is fully operational (the 1987 agriculture survey was being entered at the time of the operation). Both

the subjective and the objective yield surveys were summarized on the computer for the first time in 1987. Nevertheless, progress toward efficient use of the computer has been slow. Data entry is a slow process and the computer is able to handle much more than is currently being demanded of it. Moreover, the volume of data processing will increase dramatically as new surveys are conducted and processed on the machine.

Because of this, the evaluation team strongly supported experimentation with the decentralization of data entry. Ultimately, the team concluded, it is highly probable that data entry will be done at the field office level. An early start would permit a more rapid and smooth transition when the time came to decentralize the major share of survey data entry.

The evaluation team also emphasized that the training of additional programmers is essential to overall development of the Data Processing Bureau.

Strengthened Capacity to Carry Out Objective Yield Analysis

The area frame and sample afford an improved statistical base from which to carry out objective yield surveys. The primary focus has been on estimating final yield using crop cuttings at the time of harvest. Research has been undertaken to determine the feasibility of using objective techniques for forecasting wheat and barley production. The evaluation team concurred with SSD's decision to emphasize final yield measurement and to eliminate research on forecasting. According to the team, forecasting is usually very expensive and may not be sufficiently reliable without a major resource commitment.

Procurement and Use of Satellite Data for Improving Crop and Land Use Estimates and for Area Sampling Frame Maintenance

In 1987, a short-term consultant proposed three options to develop a remote sensing program. Due to budget constraints, decisions about this program were put on hold awaiting the evaluation. In the meantime, a compromise plan was proposed by the technical assistance team (Mr. Kestle) and the SSD remote sensing expert (Mr. Essaji). This proposal identifies areas in which remote sensing could benefit agricultural statistics. The first area is to use remote sensing to measure bias in the estimates from the area frame. A second area is that of interpreting specific crop data from ground truth locations for making small area estimates for specific minor crop categories (again verifying the precision of the area frame). A third area would be to monitor land use over time to maintain the stratification of the area frame, and provide information on deforestation, desertification, etc.

The evaluation team felt that these three activities would not significantly strengthen SSD's survey program during the life of the project. Nor would they improve the quality of the data coming from those surveys. All benefits would be very long term. Further, the team argued that development of a satellite remote sensing capability would divert limited resources from current surveys.

Therefore, the team concluded that, while the original project design called for important investments in remote sensing technologies, current research implied that remote sensing has serious limitations and high recurrent costs. The team suggested that the DPAB had been fortunate to have postponed implementing its remote sensing component until the verdict on the usefulness

of remote sensing was in. The evaluation team recommended reprogramming the remote sensing funds into activities with quicker and higher pay-offs for the project, especially the development of the agro-economic data-base.

The Agro-Economic Data Base

The PP amendment of January 1987 calls on the Project to develop a capacity to computerize the physical and economic data series utilized by the DPAA. This system, integrated into other MARA systems, will allow ready access to current agricultural data. (p. 16).

The evaluation team recommended that the project support a short-term mission to work with the head of SSD to:

- o Survey all GOM, parastatal and private agencies in Morocco currently collecting statistics;
- o Survey all potential users of reports generated from the database; and
- o Establish a set of priorities for introducing non-DPAE data sets into the database.

The evaluation team cautioned that the database should start small, and be programmed so as to permit the easy addition of increments, as determined by the demand-driven plan. The database programming should also be, to the extent possible, compatible with other computerized data sources in Morocco to ease the tasks of data entry. The Project should program the necessary short-term assistance and on- and off-site training to prepare SSD technicians to program and expand the database according to the plans established during the supply and demand survey proposed above. The GOM can demonstrate its commitment to the database by authorizing the DPAA to engage the necessary data entry and programming personnel for SSD.

Summary

In the area of statistics the project has made major strides towards its goal. The area frame and sample are being developed by SSD staff and the quality of work is high. The Bureau Chiefs are becoming more and more familiar with sampling and with the problems of implementing sample surveys. They are discovering the limitations of general purpose samples and, with assistance from the MASS advisors, are looking for alternative means to solve specific sampling problems. Although little has been done to address sample efficiency, non-sampling error, data management systems and adequate quality control, Bureau Chiefs and statisticians throughout SSD are expressing concern over these issues.

In order to assist SSD and especially its Bureau Chiefs in improving survey methods and developing research programs, the evaluation team recommended that the MASS Senior Statistics Advisor continue his work at least through the summer of 1989. He should work primarily with Bureau Chiefs in addressing the activities below, with the approval and support of the Service Chief:

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- o Research on re-allocation of sample units to maximize sampling efficiency;
- o Research and development of multiple frame sampling for estimating livestock;
- o Research on objective measurements for yield forecasts;
- o Research and training on improved survey methods to reduce non-sampling error;
- o Development of a management system to assure quality and efficiency in data flow;
- o Research on the decentralization of data entry to permit faster aggregation of data; and
- o Development of procedures for testing and maintaining the area frame.

This individual would also continue to provide essential management support to the project in: (a) programming short-term technical assistance; (b) programming long- and short-term training; (c) commodity procurement; (Workplan development; and project reporting.

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SECTION THREE

ECONOMIC ANALYSIS, PLANNING AND PROJECT EVALUATION COMPONENT

Objectives

This component of the project has three immediate (Purpose-level) objectives:

- o Increased policy analysis capacity for policy formulation in MARA;
- o Increased capacity to evaluate projects; and
- o Increased capacity to prepare multi-year and annual agricultural plans.

Thus far, project support has been concentrated in the Economic Studies, Prices and Markets Service of the Economic Affairs Division (DAE/SE). The Production Incentives Service (DAE/SI) and, in the Planning Division, the Planning Service (DP/SP) and the Project Evaluation Service (DP/PSE) have also received some assistance.

Inputs

The key inputs in the economic analysis side of this project have been long-term technical assistance in agricultural economics, equipment (micro-computers), and long-term training.

The long-term technical advisor arrived in August 1985 for a three year assignment. He assists SE in the development of economic studies related to agriculture.

The second major input under this component has been micro-computers. Most of these arrived in late 1985. All of the computers have been properly installed and are fully functional. The services of DP/PAE that are involved in economic analysis are to have direct access to the mini-computer provided to DP/PAE under this project. This access has been delayed because the necessary telephone link has not been installed. The evaluation team felt that, if the installation was delayed beyond January 1988, the construction of important data bases would be delayed and DAE/SE access to SSD data would be hampered.

The third major input is training. Thus far, four individuals have left for graduate degrees under this component. One Ph.D. candidate and an M.S. candidate have been nominated and are scheduled to leave in 1988. Two individuals were to have left for M.S. training this year, but they have been rescheduled due to staffing shortages. The evaluation team concluded that staffing constraints are having a regrettable impact on the long-term training program and on the institutional development objectives of this project.

In-country training has consisted of courses by short-term consultants and by the long-term advisor. Five courses have been conducted so far. These structured courses have been supplemented by on-the-job training by the long-term advisor in quantitative model building, spreadsheets, data base

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management and comparative advantage methodology. The staff of all DPAE services have benefitted from the courses.

The final project input has been funding for the Agricultural Pricing and Incentives Study. The study started in May 1984 and was completed in January 1986 at a cost of \$348,000. This study was of high quality and has had an important impact on many of the policy reforms called for under the World Bank Second Agricultural Structural Adjustment Loan.

The GOM inputs for the project include personnel, vehicles, vehicle operation and maintenance, and office supplies. According to the evaluation team, the main shortfall concerns staffing. DAE/SE should have been adding three positions per year, beginning in 1986. Thus far, three positions have been added (including two in DAE/SI) and two have been approved but not yet filled for this year.

Outputs

Studies

In addition to the Agricultural Pricing and Incentives Study, the project has supported an analysis of the options and problems of foreign trade liberalization and domestic price support in Morocco. This study, prepared by DAE/SE, explored different approaches to trade liberalization in terms of their effectiveness in protecting domestic production and their impact on producer prices and farmer incomes. SE has also done studies of the oilseed cake import sector, animal feed prices, improved seeds impact, and farm modeling with linear programming.

The purpose of these studies has been to develop a better understanding within SE of key economic and agricultural issues and to develop methodologies for addressing those issues in ways that are useful to policy makers.

Reports

At present, SE reports are limited to a monthly Situation and Outlook Report on world markets for agricultural products of interest to Morocco, and an annual report of imports and exports of agricultural products. Although these reports are largely descriptive, they include useful economic analyses that would not have been possible in the absence of Project 0182.

Data Bases

A major output of this component is the design and development of computerized data bases for economic analysis that are useful to policy makers. Thus far, data bases have been set up for the Situation and Outlook Report and for monitoring tractor subsidies. Data bases are currently being designed for exports and imports of agricultural products by product, month, and country of origin or destination; for farm budgets, initially in the Safi region; and for indices of domestic prices of agricultural products and products consumed by agricultural producers.

Institutional Development

The most important output of this component has been to train a small group of computer literate economic analysts in DPAE. All of the professional staff of SE have been trained on spreadsheets and data base management and in the use of these tools to analyze economic issues related to agriculture. Much of SE's work is now analytical, rather than merely descriptive. This transition was the essential first step in generating the capacity within DPAE to carry out economic analysis directly useful to policy makers in MARA.

Key Constraints to Increasing Economic Analysis Capacity in DPAE

A key output target of this component of the Project is that, by FY 1988, the DPAE should be rapidly expanding its capacity to do sound economic analysis in support of multi-year development plans. According to the evaluation team, there are, at present, three major constraints to the attainment of this target:

1. The lack of trained economists in DPAE. Because most of the staff of DPAE have had little or no formal training in economics, most of the analytical work currently underway in SE is highly dependent on inputs and supervision from the long-term technical advisor.
2. The lack of data. Analysts are frequently obliged to depend on hypothetical parameters as a substitute for reliable data, which in turn requires an understanding of basic economic concepts and relationships that, as noted above, is currently lacking in SE.
3. Difficulties related to the generation of new data. SSD and the Service Extérieur enumerators can collect and process data, but are an inappropriate source for much of the data needed by DAE/SE.

The evaluation team concluded that, although the project has succeeded in significantly increasing the economic analysis capacity of SE, the full impact of project interventions will not be achieved until (1) the long-term trainees begin returning from the U.S., and (2) SE can mobilize resources for data collection or establish formal institutional linkages that will provide them with the data necessary to carry out useful economic analyses.

DAE/SE Staff Constraints

At this time, there is a dramatic lack of trained economists in SE. The SE staff consists of one recent graduate in economics from the university in Fez and six agronomists. That considerable economic analysis is being conducted in SE is a credit to the competence, interest, and hard work of the SE staff, and to the exceptional effectiveness of the long-term technical advisor. However, the lack of economic expertise means that the staff cannot carry out economic analysis that is directly useful to policy makers without the close supervision and advice of the long-term advisor.

The Project calls for the addition of three positions per year to SE and SI from 1986 through 1990 (5 years). Currently, these Services have nine cadres working for them. By 1993, they should have nine cadres with U.S. masters degrees (including one Ph.D.) and 12 B.S.-level cadres from Moroccan universities. This staff, combined with increased capacity in DP, will

provide the ministry with the ability to meet its economic analysis needs for policy formulation, although a certain amount of external assistance from Moroccan and international agencies may remain necessary for certain studies.

The Prices Bureau within SE and the Production Incentives Service (SI) do not have analytical responsibilities at this time, although they both deal with matters that have major policy implications. The evaluation team recommended that the staff of both of these units be expanded so that they can carry out analyses of economic policy issues in their respective areas.

According to the evaluation team, this has several important implications for the project. First, local staff recruitment must be given a very high priority, especially in 1988. If staff cannot leave for long-term U.S. training on schedule because of their work-load, the institution building objectives of the project will be seriously compromised. Second the DAE/SE staff will need, in the meantime, strong technical support and considerable in-country training.

Thus, the evaluation team recommended that the tour of the long-term advisor be extended to mid-1989, and that he continue to be actively involved in training and designing studies. In 1988, he should proceed with present plans to teach short courses in welfare economics and applied policy analysis. He should also help each bureau identify policy issues to be addressed in 1988, as recommended above. His training activities should be complemented by short-term consultancies related to the analysis of priority issues being addressed in each of the bureaus.

Data Constraints for Economic Analysis

The evaluation team felt that lack of data has seriously affected all of DAE's economic analysis efforts to date. Data needs include: cost of production, use of factors of production, quantities of agricultural products imported and exported, world prices, monthly domestic prices (farmgate and wholesale), quantities of agricultural crops marketed, etc. Even where data exists, information flows to DAE have not been institutionalized.

The most obvious source of data for SE is SSD, which has considerable resources for data collection and processing. However, SSD collects data using rigorous statistical methods that allow extrapolation with a high degree of reliability. SE's data needs are many and diverse, and are frequently location- and time-specific. Accuracy on a case by case basis is often more important than minimizing sample error. This type of data gathering would require special questionnaire preparation and special training of SSD staff, which may in some cases be detrimental to the ongoing SSD program.

SSD nonetheless has data collection resources that can be valuable to SE. SE should seek to make optimal use of these resources in a manner consistent with SSD's broader responsibilities. Unfortunately, the evaluation team found that there currently exists an adversary relationship which effectively precludes SE from effectively using SSD resources. This has been exemplified by efforts to obtain cost of production data. After considerable discussion between SE and SSD and several false starts, there is as yet no agreement on output tables, questionnaire design, or survey methodology in this domain. The evaluation team felt that this survey must be undertaken as soon as possible. Not only is the survey a condition of the World Bank's

Second Agricultural Sector Adjustment Loan, but the data will generate the crop budgets needed for the farm models and the comparative advantage calculations essential to policy formulation in the NAFA and the GOM.

For SE to increase its access to useful data, according to the evaluation team, two actions are required: (1) formal linkages need to be established between DAE and existing data sources, e.g., universities, development projects, the Project Evaluation Service in DP, and other parts of NARA; and (2) SE will eventually have to develop its own non-statistical data gathering capability. The evaluation team recommended that preparations for developing this capacity begin as soon as possible.

The Usefulness of DAE/SE Studies for Policy Formulation

The two priorities of SE at the present time are to (1) carry out the analysis needed for trade liberalization of agricultural products, and (2) develop the skills, analytical tools, and data bases needed to carry out sound economic analysis. The second task is difficult and extremely long-term. In the meantime, the challenge is to maximize the relevance of the work of SE for policy formulation.

In this regard, the evaluation team recommended that the project set concrete targets for itself. A specific target for the end of 1989 might be for SE to be able to carry out, without technical assistance, economic analyses that would be suitable for distribution within NARA and to other interested organizations. Specifying this and other objectives in the next amendment to the Project Agreement would make clear that concrete outputs are expected from project assistance to SE by the end of 1989. The 1989 target date is particularly important because that is the year when the Senior Economics Advisor is to leave and the first of the long-term trainees are to return.

According to the evaluation team, SE must identify specific policy issues for each of its bureaus and build these explicitly into the annual workplans in order to achieve this 1989 objective. The issues might include the impact of trade liberalization on producer prices; the impact of reduced input subsidies on production, farmer resource allocation, and rural incomes; the impact of the decontrol of domestic prices and markets on producer prices, trader margins and storage practices.

Specifying issues to be analyzed before identifying analytical tools ensures that the latter are issue-specific and immediately useful, rather than learned in the abstract. Also, analyzing the issue then becomes as important as mastering the methodology. Thus, as the mathematical models are developed and refined, SE staff would be applying economic principles to issues that are of current concern to policy makers in NARA.

The Prices and Incentives Study

The major issue with respect to this study, which is to be implemented in 1988, is that of the relative priority to be given to policy analysis as opposed to strengthening SE's analytical capabilities. The only actual training presently planned relates to the domestic resource cost (DRC) methodology used to calculate comparative advantage. In the view of the evaluation team, this is very unlikely to result in any significant transfer of analytical capacity. The DRC methodology is not much more than a mechanical

exercise unless the underlying concepts of comparative advantage are well understood. Although seminars are useful, they are no substitute for active participation in the studies.

The evaluation team suggested that a staff member of each SE bureau concerned, e.g., BCE for the devaluation analysis, be given responsibility for monitoring the different studies. These individuals would be expected to familiarize themselves with the issues being addressed and the analytical tools being used. The contractor should provide regular briefings on the progress of the study and the methodologies used. According to the evaluation, the transfer of economic concepts and analytical skills should be the top priority of the Agriculture Prices and Incentives Study. If SE staff cannot be directly involved in the analysis, they should be given direct responsibility for monitoring the studies on behalf of DAE.

Proposed Assistance to the Planning Division (DPAE/DP)

The Present Situation

Project 0182 is providing assistance to two DP services, the Planning Service (SP) and the Project Evaluation Service (SEP). The objectives of this assistance are to: increase the capacity for economic analysis related to the multi-year plans; improve the annual planning process; and improve the capacity to evaluate the implementation and impact of agricultural projects. The inputs for achieving these objectives consist of long- and short-term technical assistance, long-term training in the U.S., and micro-computers for DP. From a design standpoint, the key issue raised by the evaluation team is that there is no explicit relationship between proposed project activities and the stated objectives.

Proposed Project Objectives and Activities

The needs of SEP are clearest and require the least project resources. SEP needs increased capacity in: (1) project design methodology, (2) cost benefit analysis, and (3) impact evaluation methodology. The first need will be addressed by consultants from FAO. The second need falls within the purview of this project and is best addressed through short-term technical assistance. The third need requires short-term technical assistance as well as training in agricultural economics with an emphasis on farm management. The evaluation team felt that there was no need for Ph.D. training. One Ph.D. candidate had already been accepted, but the team suggested that the second Ph.D. training position could be changed to the Master's level.

The purpose-level objective of project assistance to DP/SP should be to assure the economic soundness of the GOM's five-year agricultural plans and the policy framework accompanying these plans. This involves increasing the capacity of the Sector Analysis Bureau in the Planning Service to: analyze macro-economic policies and their impact on the agricultural sector; use sector models and other analytical tools; apply economic principles to the formulation of goals, priorities, and strategies for the multi-year development plans; and analyze the Moroccan agricultural sector in relation to world markets.

Since the objective of the technical assistance advisor should be to help increase the economic analysis capacity of DP (as proposed in the previous paragraph), the evaluation team concluded that the focus of this

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advisor should be in SP and, more specifically, in SP/BAS. The specific tasks of the advisor would be to:

- o Provide training in the application of economic principles to policy analysis, especially to SP/BAS staff but also to the other bureaus in SP.
- o Provide training in sector modelling including the economic principles underlying the models.
- o Design and supervise studies and analyses required for the preparation of the five-year plans and investment programs.
- o Provide economic advice to the heads of DP, DAE, and DP/SP.

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SECTION FOUR
INSTITUTIONAL ISSUES

The DPAA in the MARA

The DPAA is one of ten directorates of MARA. All are under the direct supervision of the MARA Secretary General, who reports directly to the Minister. Five years ago, the GOM considered MARA a technical ministry, one which merely implemented policies and programs conceived elsewhere. The DPAA contributed little to MARA's participation in policy dialogue within the government or between the GOM and donors. Today, MARA's voice in formulating agricultural policies has increased substantially, and the DPAA has become one of the most important MARA directorates. The Minister depends heavily on the two DPAA Division Chiefs and on the Head of the Statistics Service to provide him with data and policy options. The evaluation team concluded that much of the change in MARA's status as a whole can be laid to the success of the Project (0182), which has helped the DPAA become the premier policy advice organ within the MARA.

One remaining problem is that the links between DPAA and the rest of MARA are weak, especially in the case of SE. The other Directorates in MARA feel that they can benefit from and contribute to SSD, but they are not clear on how the work of SE relates to their programs.

The Structure of The DPAA

Each of the Directorates in the MARA is divided into two or more Divisions. These Divisions are, in turn, divided into two or more Services. The official organigram of the MARA does not go below this level, but the Chiefs of each Service have assigned responsibilities within their units by dividing their personnel into Bureaus. These latter have no official standing, but help with internal efficiency and management.

The DPAA has not had a Director for more than two years. In the view of the evaluation team, this lacuna has not inhibited the effectiveness of the Directorate, nor its ability to take advantage of the presence of project technical assistance, training, and equipment. The two Division Chiefs cooperate remarkably well. However, this situation has the potential to lead to many problems. Both Division Chiefs agree that they share tasks in a very ad hoc way. When a request for services comes in, the Division that has available resources takes on the task at hand. The evaluation expressed concern, however, at the high potential for overlap, conflict, and waste of resources inherent in this situation. For example, both SSD and SE currently have Price Bureaus. Similarly, the differences between the activities of SSD and SE and between SE and SP are insufficiently clear, both in theory and in practice. These problems and many others will have to be worked out if the DPAA is to fulfill optimally its role in MARA.

SSD

SSD is the largest and most complex service within the DPAA. It consumes approximately 70 percent of the DPAA's budget and controls nearly 90 percent of its personnel (including those in the Services Extérieurs). SSD

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has also received the lion's share of the resources of the Project, including two resident technical advisors, the mini-computer, and the aerial photography laboratory, a majority of the micro-computer terminals, and much of the long- and short-term training in the U.S.

The Chief of SSD is a Rural Economist from the IAV Hassan II. He has headed SSD since 1974 and has overseen its growth and development most effectively. However, the Service Chief of SSD is not as effective a manager as he is an administrator. SSD has successfully obtained the resources it needs to do its job. It has also generated a good deal of respect and prestige within the MARA and the GOM. But, in the opinion of the evaluation team, SSD has not used its personnel or its equipment as effectively as possible.

While many of the cadres of SSD seem capable and well motivated, some malaise results from the way in which the Service is managed. The Service Chief regularly takes personnel from one bureau to help out in another, sometimes without checking with the Bureau Chief. He may assign tasks within a Bureau to subordinates without informing their Chief. The bureaus never really know what the other SSD units are doing at any given time. The responsibilities of each Bureau change without warning and without consistency.

The evaluators felt that this situation adversely affected the extent to which the resident technical advisors have been able to assist the DPAE and SSD. The two NASS technicians assigned to the Project are technically competent and have worked hard to help SSD make significant improvements in its ability to collect good data and to use automated equipment to aggregate and disseminate that data. But they have not been able to contribute to solving management problems within SSD.

The Team Leader has cordial, friendly relations with the head of SSD but has never been able to advise him effectively on managerial issues. He feels that such advice falls on deaf ears. This has effected the quality of the work being done by SSD. The Service Chief, in turn, feels that the team leader does not understand the realities of working in Morocco, with limited personnel and limited skills and equipment. The resident advisors have worked with Bureau Chiefs on an irregular basis to provide specific help with specific problems. They also occasionally work alone - operationally - instead of using their considerable training skills to transmit knowledge and experience to Moroccans.

In spite of the problems mentioned above, the evaluation team emphasized that the Chief of SSD and his advisors have done a praiseworthy job of improving the quality of statistics available to policy makers in the GOM and of publishing timely reports of their surveys. The evaluation team expressed hope that their suggestions (below) would help them continue to improve their good work.

SEE and the Rest of the DPAE

Until recently, SE benefitted from all Project resources that did not go to SSD. These included one senior resident advisor in economics, micro-computers, long- and short-term training in the U.S., and in country training. SE is quite small, relative to SSD. The Chief of SE is an agronomist, who has considerable analytic skills but, in the view of the evaluation team, has proven less effective as a manager.

The Chief of the DAE acts as the de facto head of SE and works closely with the resident advisor. He is a remarkably effective administrator and manager. He understands policy issues and makes excellent use of his staff. However, his Bureau Chiefs are agronomists with only on-the-job training in economics. The resident advisor works very closely with the Bureau Chiefs and hopes to bring them up to acceptable levels of economic comprehension and competence before his departure.

Although SE and SSD are both under the orders of the DAE, their relationship with the Division Chief differs dramatically. SSD operates autonomously in the main MARA building three kilometers from the rest of the DPAE and produces acceptable statistical reports without interference. SSD prefers this autonomy and encourages it.

On the other hand, SE is in the same building with the principal DP services, SP and SSEP. The two Division Chiefs work closely and well together. Since both travel frequently, the DP and the DAE are managed, to a certain extent, concurrently, and coordination is quite effective. The Division chiefs maintain close control over the operations of the Services of SE, SP, SI and SSEP.

Conclusions Concerning Institutional Issues

In the opinion of the evaluation team, the Project is a success. The happy combination of competent technical assistance with competent and dedicated Moroccans has led to the production of most of the project's required outputs and significant progress toward goal and purpose level objectives. The evaluation team felt, however, that changes in four domains would make further progress easier and will contribute to increased efficiency in the use of project resources, including technical assistance.

The Need for Management Improvements

The evaluation team concluded that all of the units of the DPAE (Divisions, Services and Bureaus) suffer from a lack of precise descriptions of their responsibilities and, therefore, of the relationships that should operate among them. This problem is particularly serious in SSD. They recommended a series of simple measures to help remedy this situation and increase efficiency and job satisfaction.

The measures suggested include:

- o Precise assignments of responsibilities and activities for the DPAE Divisions, for the Services within those Divisions, and for the Bureaus within those Services;
- o Formal statements of the relationships among those DPAE entities which should often work together;
- o Clear definitions of responsibilities when the head of a unit is absent;

- o Regular staff meetings at all organizational levels;
- o The installation of the dedicated line linking the DPAA to SSD in the main NARA building;
- o Specialized training in "Management for Development" for key DPAA managers; and
- o Standard distribution lists for the Directorate's documents.

The evaluation team did not conduct a thorough management audit of the DPAA, nor did it seek to generate an exhaustive list of managerial improvements for its constituent units. Furthermore, the evaluation team cautioned, the suggestions above should be taken in context: the DPAA functions very well. The improvements suggested are intended to refine DPAA practices, not to introduce revolutionary changes.

Recurrent Costs and Demand Driven Statistics

Recurrent costs are less of a concern for the Project than for many other institution building projects in developing countries. The Project has hired no personnel with its own funds, rents no buildings, pays for no electricity or other utilities for project facilities. However, the project has procured and installed modern, expensive computer and aerial photography processing equipment. This equipment will require maintenance, supplies and eventual replacement once the project ends. Current projected demand for these facilities indicates potential excess capacity, especially in the photography laboratory.

The DPAA seems to be a classic example of "supply side statistics", where those gathering the data decide what their clients need and then give it to them. To play the decisive role in policy formation to which the DPAA aspires, SSD and SE will have to switch to demand-driven data gathering and analysis. Setting up formal feedback mechanisms and regular meetings with consumers of statistics and of economic analysis will help establish the DPAA at the heart of agricultural policy dialogue in the GOM. It will also constitute a first step toward creating the potential to generate revenues needed to sustain the achievements of the Project over the long haul.

If the DPAA could work out a legal way to sell its services beyond NARA, just as USDA sells services to USAID and other clients, it could generate revenues to help defray the costs of operating, maintaining and eventually replacing the modern equipment which it is now using, and on which its institutional capacity is dependent. Current GOM regulations make this difficult.

The evaluation team suggested that NARA study the potential for selling DPAA products and services outside of the Ministry. This study could to examine: potential markets for different products and services; control mechanisms to account for all revenues; mechanisms to set priorities among competing demands for DPAA products and services; etc. Services and products which the DPAA could sell outside of the NARA might include:

- o Aerial photography developing and enlarging;
- o Mapping and digitizing services;
- o Studies and access to selected, non-sensitive data sets;
- o Publications;
- o Computer time;
- o Special surveys and studies; and
- o Access to the agro-economic data base.

The Need for Structural Changes

The evaluation team concluded that the DPAA suffers from a structural disequilibrium. SSD is too big, too powerful, too well-equipped to be a Service. The team argued that the DPAA would function far more effectively, and personal relationships within the Directorate would be much eased, if SSD were to become a Division of Surveys and Statistics.

In justifying this position, the evaluation team noted that SSD currently commands more resources, personnel and equipment than most Divisions in MARA. SSD interacts with the DPAA Divisions as an equal and manages its affairs in nearly complete autonomy. SSD Bureau Chiefs command more personnel, resources and equipment than do most MARA Service Chiefs. Many of them are excellent managers as well as competent technicians. The transformation of selected Bureaus of SSD into Services would contribute to improved management of the daily activities of the Statistics Service and would better permit the SSD Service Chief and his subordinate managers to exercise their remarkable talents for the good of the DPAA.

The evaluation team argued that upgrading SSD to a division would confirm de jure a situation that already has de facto existence. People within the DPAA and in other Directorates of the MARA, as well as the Minister and the Secretary General, are accustomed to dealing directly with SSD, as if it were already a Division.

Second, the evaluation team argued that giving SSD Divisional status would:

- o Ease relations within the DPAA. The DPAA Division Chiefs already deal with SSD as an independent entity with status equal to DAE and DP. But now they have an obligation to supervise SSD and bear responsibility for any of its failures. This creates strain.
- o Encourage better collaboration and coordination within the DPAA. The SSD completely overshadows the other Services of the DPAA. The Chiefs of these other services do not even try to deal with SSD as equals. If SSD, DAE and DP interacted as equals, and the current DPAA service chiefs could in turn meet with the current SSD Bureau Chiefs as equals, the evaluation team feels that cooperation would be enhanced and many of the petty problems of access to data and definition of "terrain" would disappear quite quickly.

- o Promote the coordination of statistics gathering and processing within the GOM. Someone in NARA has to contact all the agencies in Morocco who are gathering information that should enter the data-base. SSD, with its extensive computer equipment is the natural agency for such an undertaking and would carry far more weight in the outside world as a Division, than as a Service.

SSD has, among its Bureau Chiefs, a number of potentially excellent managers who, with training, could take over the operations of specific sectors of SSD with little trouble. Services of the new Division of Surveys and Statistics might include: sampling and area frame; surveys; computer operations and programming; and database management.

Spatial Considerations

The DPAE is divided. SSD sits in the main NARA offices, while the Division Chiefs and the other Services are three kilometers away in Agdal. If it is to fulfil its role optimally, the entire Directorate should be under one roof. The evaluation team recommends that the DPAE find office space in the NARA complex, even if another directorate has to take over the Agdal building. The DPAE's role as data collector and economic analyst to NARA requires central location.

The Need for Continued Technical Assistance

The DPAE requires additional long-term technical assistance to achieve the institutional capacity expected by the GOM and by USAID. First, the Senior Statistics Advisor should be extended for at least one additional year, mainly to assist in improving survey methods, increasing the efficiency of data processing, and setting up procedures for maintaining the area frames. Second, the Senior Economics Advisor should remain until mid-1989 to supervise the economic analysis activities in SE and continue training SE staff until long-term trainees begin returning from the U.S. Finally, DPAE/DP needs a long-term advisor to (1) continue the development of a sector analysis methodology that has been started by FAO, and (2) develop an economic analysis capacity in DP and help apply it to planning and resource allocation issues.

USDA and USAID Support

The evaluation team concluded that USDA/MASS and USDA/OICD, as well as USAID/Morocco have generally provided adequate support for the Project.

USDA Support

MASS nominated for the two resident advisor positions in SSD members of its own staff with no previous overseas experience. However, the high level of technical competence of these individuals has compensated in large measure for their inexperience as resident advisors.

OICD went outside its own ranks and recruited an experienced and extremely able senior economist, who has done very well in the DPAE.

Both MASS and OICD have provided good short-term technical assistance to the Project and have done a good job coordinating both short- and long-term training in the U.S. The OICD training office has been particularly effective in arranging short courses in the U.S. for DPAA staff.

Finally, one of the objectives of the PASA agreement was to establish and nurture a sister-institution relationship between the USDA and the DPAA. In the opinion of the evaluation team, this relationship does not seem to have developed as hoped.

USAID Support

USAID/Morocco has provided consistent support for the Project and has built an integrated country program in which a number of projects contribute to each others' ability to attain their objectives.

USAID has established and maintained friendly contact with the Moroccan leaders of the DPAA and has arranged for good continuity in project officers. The current project officer has followed the project since August 1986. He is an agricultural economist who has taken a serious interest in project activities.

The project has generally had sufficient resources and, once initial misunderstandings with the USDA were ironed out (unfortunately, this took over a year), relationships with the contractor have gone smoothly.

One exception to this overall positive relationship occurred during the last modification of the project. The DPAA and the TA team saw the 1986-87 project modification exercise which resulted in the PP Amendment of January 1987 as a unilateral USAID intrusion. They feel that USAID took only minimal interest in, and consideration of, their views on the project's future and the allocation of remaining resources.

USAID has effectively encouraged the use of Moroccan consultants by the Project. These consultants have provided excellent service, with their knowledge of the GOM and the country and have also saved the project a good deal of money.

SECTION FOUR

CONCLUSIONS

The evaluation team concluded that the Project had made excellent progress toward supplying required inputs, producing desired outputs and achieving the project's goal and purpose level objectives.

The findings of the evaluation show clearly that the DPAE has made significant progress towards developing its capacity to collect and analyze agricultural statistics. Similarly, the DPAE's ability to employ statistical and economic analysis has improved. This has enabled NARA decision makers to more effectively conceive, elaborate, evaluate, and advocate policy decisions which promote growth and equity in Morocco's agricultural sector.

The evaluation team concluded that, if remaining project funds were used effectively and if certain management improvements were implemented, the project would attain its objective of institutionalizing with the DPAE the capacity needed to carry out these data collection and analysis tasks without external assistance.