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**FARMING SYSTEMS  
DEVELOPMENT  
PROJECT**

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**Eastern Visayas**

**REPORT  
on the  
PROCESS EVALUATION  
CONDUCTED  
SEPTEMBER-NOVEMBER  
1983**

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**Project Cooperators**

**MINISTRY OF AGRICULTURE, Region VIII  
VISAYAS STATE COLLEGE OF AGRICULTURE  
CORNELL UNIVERSITY  
REGIONAL FARMERS FEDERATION  
NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY  
UNITED STATES AGENCY FOR INTERNATIONAL DEVPT.**



Republic of the Philippines  
**FARMING SYSTEMS DEVELOPMENT PROJECT**  
EASTERN VISAYAS  
OFFICE OF THE PROJECT DIRECTOR  
Magsaysay Blvd., Tacloban City 7101

151-5

PD AAP045

MEMORANDUM

**For:** THE REGIONAL PROJECT MANAGEMENT  
COMMITTEE, FSDP-EV

**From:** THE EVALUATION TEAM

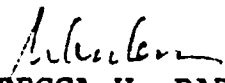
**Subject:** PROCESS EVALUATION REPORT

We are pleased to submit our report on the process evaluation of the project which we undertook upon being commissioned and organized by this Committee on September 1, 1983. The report is organized around five major parts:

- I - Executive Summary
- II - Project Data
- III - Methodology of the Evaluation
- IV - Major Findings/Conclusions
- V - Recommendations

We have observed that the project has achieved a very commendable level of progress in spite of the constraints it had to face upon being started. We feel very strongly that the recommendations contained in the report will contribute in directing the project towards the successful attainment of its goal and purposes.

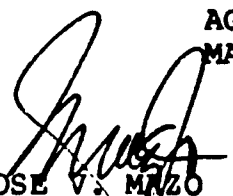
We are grateful and we thank you for this opportunity to be of service to the project.

  
REBECCA V. BARBUSA  
Farmers' Representative

  
JAMES BEEBE  
USAID Representative

EMILIANA N. BERNARDO  
ViSCA Representative

AGAPITO C. TAURO  
MA Representative

  
JOSE V. MAZO  
NEDA Representative  
Chairman

November 25, 1983

## SUMMARY OF MAJOR RECOMMENDATIONS

1. Change the research approach at the SMRU level
  - a. Give much more attention to the existing system with significantly increased farmer participation.
  - b. Emphasize improvements in the existing systems as opposed to changing systems. Limit proposed changes.
  - c. Eliminate use of expensive purchased inputs such as fertilizer, insecticides, etc. until backup research at VISCA and analysis of existing data indicates their use is profitable and feasible for the small farmers of the region.
  - d. Carefully reconsider appropriateness of existing "shelf" technology. Document project experience to date with "shelf" technology paying at least as much attention to failures as to success.
  - e. Clearly define field trials as experiments as opposed to demonstrations.
2. Design and implement a comprehensive training program to communicate revised research approach to all project participants including cooperating farmers.
3. Enable implementation of revised research approach by reducing for the next several years the number of sites (or giving priority to some while redefining the role of others) and drastically reducing the number of research locations (cooperating farmers) per site.
4. Better utilize Cornell provided technical assistance by broader, better defined, and better communicated roles.
5. Change focal point for research management and logistics from VISCA to PDO/MA while retaining a significant technical role for VISCA.
  - a. Addition to the PDO of personnel with combination of academic training, farming systems understanding and experience in implementing research.
  - b. Redefine VISCA's role reflecting research support at all levels from policy determination to field research as part of SMRU.
6. Establish a macroeconomic, policy analysis unit at PDO.
7. Immediately begin preparations for changes in the structure of the project.
  - a. Request commitment from all parties for two-year extension of project.
  - b. Begin to integrate project into MA structure with special attention to problems of extension and technology transfer.
  - c. Request increase and change in USAID funding to provide for operating costs with GRP responsibility for personnel including honoraria.

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## FOREWORD

For the past many years, the focus of agricultural development efforts have been the rice farmers cultivating the irrigated ricefields. This focus has brought the country to the level of self-sufficiency in the staple food crop - rice. In recent years, however, the national leadership has realized that a lot of our development potentials also lie with the small rainfed and upland farmers who comprise the majority of our farming population. Thus, several projects have been started to give attention to this rural resource.

The Farming Systems Development Project - Eastern Visayas is addressed to the plight of the small rainfed and upland farmers of the region. Started in 1981, it has suffered the pangs of a newly started project. There was no money when the core project staff was organized. Funds for the first year could not be carried in that year's annual budget of the government, prompting the Ministry of the Budget to shell out funds from its sources for foreign-assisted projects. Releases of funds were delayed. In fact, a portion of the 1982 funds was released only in 1983.

In spite of all these constraints, the project today has achieved a very commendable level of progress. VISCA and the Ministry of Agriculture Region VIII have demonstrated very strongly their commitment to the project by fielding highly qualified and competent technical people. A strong bond of cooperation has emerged between these two main implementing agencies. The administrative structure for project implementation is already in place. The project itself has



generated a high degree of interest and enthusiasm among all the participants - the project staff, the consultants, and most important, the farmers. Very significantly, the project has brought about the beginning of an understanding of the dynamics of farming systems and the practices and concepts of farming systems research.

This exhaustive evaluation of the project did not aim to measure the success of the project in terms of its goal, purposes, and impact on the target beneficiaries. Rather, the evaluation sought to assess the processes by which the project has been implemented. It desired to look more at how the practices and concepts of farming systems research are understood by all the project participants.

Hopefully, the results of the evaluation will contribute in directing the project towards attainment of its goal and objectives.

The Evaluation Team

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## ACKNOWLEDGMENT

The Evaluation Team acknowledges the cooperation and assistance given by all who were involved in the process<sup>evaluation</sup> of the Farming Systems Development Project-Eastern Visayas conducted from September to November 1983.

To the farmer cooperators at the different sites, who readily made themselves available for the interviews and visits to their fields;

To the SRMU Team Leaders and their staffs for facilitating the interviews with the farmers and the visits to the farmers' fields, and who also willingly submitted themselves to the interviews, even up to late evenings;

To the Project Director and his staff, most particularly Miss Jennylyn Ruiz, for facilitating the travels of the Evaluation Team and accommodations in Tacloban City during the team sessions, and who managed the reproduction of the evaluation report;

To the Technical Coordinator for Research and Development and his staff at VISCA for facilitating the stay of the team during the team sessions held at the College;

To the Steering Committee, PDD staff, TORO Office staff, and the administrative staffs at the MA Regional Office and VISCA, who made themselves available for interviews, and provided the materials and inputs for the assessment and the interview activities;

To Mr. Reigh P. Monreal of VISCA, who willingly acted as the Evaluation Team's recorder during the field visits and interviews, and

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faithfully transcribed all the field notes and edited the manuscript of the evaluation report;

To the RPMC for affording the members of the Evaluation Team the opportunity to be of service to the project and contribute ideas for the successful implementation of the project;

And to all others who have assisted us, we express our gratitude and thanks.

The Evaluation Team

November 25, 1983

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## I. EXECUTIVE SUMMARY

### A. PROJECT DESCRIPTION

The Farming Systems Development Project-Eastern Visayas is a project of the Philippine government which is being implemented by the Ministry of Agriculture, Region VIII and the Visayas State College of Agriculture. The project seeks to improve the livelihood of small farmers in rainfed areas. Specifically, it seeks to establish a mechanism for adapting rainfed agricultural technologies to the resource condition in the region, and disseminate such technologies found appropriate and productive to the intended beneficiaries. It further seeks to improve the capacity of both the MA Regional Office and ViSCA to be involved in farming systems research and development in the region.

With some 360 small farm households as target direct beneficiaries, the project is initially set for five (5) years with a total programmed funding of \$5.813 million coming from the budgetary support from the Philippine government and from a USAID Loan-Grant fund.

### B. EVALUATION METHODOLOGY

The Evaluation Team concentrated on the process by which the project is being implemented. The evaluation work itself consisted of reviewing existing project documents, actual visits and observations of research sites, and interviews of farmer-cooperators, SRMU personnel, PDO and TCRD staff, Steering Committee, the MA-based FSDP-EV administrative staff and ViSCA-based Technical Team.

The Evaluation Team conducted several meetings to discuss strategies for the field visit activities, consolidate findings and observations made during field visits and interviews, and come up with draft report for presentation to the SRMU, PDO and TCRD staffs, the Steering Committee and finally for submission to the Regional Project Management Committee.

## C. MAJOR FINDINGS/CONCLUSIONS

### 1. Research/Program Areas

#### a. Appropriateness of research areas selected for the intended purpose

The chosen sites would appear to have adequately represented the main agroclimatic zones of the region but this should be reviewed. There may be some duplication with two sites with coconut and two with corn as the main crop. At the time of the evaluation, the abaca-based system had not been implemented yet and if not included in the research would represent a major omission.

Most of the farmer-cooperators satisfied the criteria for selection but some did not. This situation may eventually result in the farmer-cooperators not getting the full benefits intended for them by the project, and in difficulty of assessing the benefits derived from the innovations that have been introduced.

Farms chosen for the cropping pattern trials are mostly along the road, or at fairly accessible location. These choices may not all be appropriate since lack of access to roads is one of the major characteristics of rainfed and upland farms in the region.

#### b. Relevance of the research agenda to felt needs of the beneficiaries

Considering the cropping patterns being tried in the six sites, and the problems of inadequate food and income facing the farmers, the modification being tried are relevant to the felt needs of the farmers. However, the team feels that introducing more than one or two major modifications at the same time to the existing farming systems may not be advisable since it is tantamount to the total change in the farming system in the area. Some of the proposed changes are well beyond the financial capability of the farmers in the area and if they are no longer receiving some material help from the project, such introduced changes will not be absorbed into the system.

c. Integration of crops and livestock in the research agenda

The role of livestock in the present farming system of the farmer-cooperators does not seem to be adequately understood. The present livestock activities in the project suggest a misconception that the purpose of the project is to introduce a new livestock system to replace, rather than modify, the existing one of the farmer-cooperator. Thus, the existing livestock activities of the farmer-cooperators and the role of livestock in the family's livelihood should be studied carefully before any modifications are introduced.

d. Implementation of research according to the plan

Some of the cropping patterns being tested and the modifications being introduced to the existing farming system have deviated from the concept, purposes, and goal of the project and its general implementation plan. A number of completed researches were conducted without any approved plans. While ongoing field trials have approved plans of activities, some modifications have been introduced during implementation without clarification as to whether such changes were discussed by appropriate planning groups and approved by proper authorities.

Between the original plan and the trials being implemented, here are some of the inconsistencies observed:

- (1) lack of abaca-based trial in Bontoc where abaca is a primary crop.
- (2) exclusion of tobacco from trials in Villaba where this was identified as a complementary crop and the planting of peanut to replace mungo.
- (3) absence of coconut in the supposedly coconut-based cropping system in Basey.

Documentation of changes made during implementation is largely overlooked. Documentation becomes much more important when the changes are made in the activities planned for an already ongoing field trial. It is important to have records on the reasons why the

modifications have been made, who proposed the modifications, and who approved said modifications before being implemented.

As to planned time frame, the implementation of research activities is behind schedule. The delay is largely caused by the drought. The planning and completion of the back-up research are also delayed. This delay is caused primarily by the change in the role of the ViSCA Technical Team from the one envisioned in the Project Paper to a more active participation at the SRMUs.

In spite of these other problems, the project has attained fairly substantial accomplishments during the last two years. It has generated great interest and commitment among the present staff and among the farmer-cooperators.

e. Site staffs' understanding of the rationale underlying conduct of various field trials

The Evaluation Team was assured that the site teams were fully informed of the reasons for the conduct of the field trials. The site teams themselves assured this. However, some comments noted and several instances observed by the Evaluation Team suggest some degree of inadequacy in the understanding of the reasons for the conduct of the field trials and even in the concept of the farming systems research.

There might therefore be a need for the project staff to undergo more on-the-job orientation on the concepts of farming systems research.

f. Farmer-cooperators' involvement in research activities

The involvement in, awareness of, and appreciation for the project by the farmer-cooperators vary with the sites. Among others, the farmer-cooperators of Villaba seem very interested in the trials and enthusiastic about the results. They seem to understand better the relevance of the changes being introduced. This may be due to the impact of their field trip to Barili, Cebu, to observe hillside farming.

In the other sites, farmer involvement is limited to being asked of their problems, and giving their consent to the conduct of the trials in their fields.

Most cooperators do not feel or act as partners of the site teams in the conduct of the experiments. Some of them are involved only in plowing the field, with all other labor needs provided either by the SRMU or by hired hands. Some said that they are only participating for the free inputs. Consequently, most of them have very minimal understanding of what are being done in the fields.

g. Identification, planning, and implementation of the back-up research

The back-up research program is still being finalized. A draft proposal presented to the Evaluation Team showed proposed individual studies which were not always relevant to the ongoing field trials. It was suggested that such relationship should be considered.

Site personnel had not made any suggestion on specific back-up research to be conducted. They seem not to feel comfortable in doing so.

h. Project staff's understanding of the dynamics of the existing farming systems

Members of the Project Staff seem not to fully comprehend the dynamics of the existing farming systems and the full requirement of the farming systems approach to research, as evidenced by the following observations:

- (1) Failure of farmers to adopt new technology is often attributed to stubbornness or ignorance of scientific farming system.
- (2) It appears that the only data being gathered will be used to prove the relative advantage of improved technology.
- (3) Impact on the market if crop yields will increase tremendously as a result of the project is not being studied.

- (4) Role of the wives in deciding what farm activities to undertake is not being considered adequately.
- (5) Government policies affecting decisions to be made by the farmers are not given much consideration.

These could therefore point to the need for the project staff to have more training in farming systems research.

## 2. Staffing

### a. Adequacy of staffing pattern

The original staffing pattern has been modified several times. The major modifications are:

- (1) creation of a Steering Committee;
- (2) involvement of more ViSCA personnel to the project;
- (3) addition of a Project Monitoring Officer at the PDO;
- (4) addition of economic researcher to the SRMU staff;
- (5) omission of a livestock specialist at the SRMU;
- (6) part-time detail of a Home Management Technician to each site.

The Evaluation Team feels that the assignment of two economists to a site should be reviewed. The assignment of a livestock man to any site should be considered on a justified need basis.

On the administrative staff, the Evaluation Team observed that there might be a need for somebody to take over the administrative jobs of the Project Director and the Technical Coordinator so that they can concentrate on more substantive technical matters.

### b. Appropriateness of staff training and experience

The project staff seemed to have had appropriate training to begin the project. However, almost



everybody articulated the need for more trainings so that they can learn and acquire more technical expertise on research and on the concepts of the farming systems research.

c. Adequacy of salaries and incentives

Almost everybody felt happy with the salaries or incentives. Site leaders, however, asked that their honorarium should be raised to the original proposal of P600.00 per month. The Evaluation Team, however, feels the need to review the entire salary/incentive package to adjust this to the more realistic levels of the MA and ViSCA.

3. Training

Project staff members who had been trained on farming systems research methodologies all agreed that their trainings prepared them for the job they were supposed to do. Yet there were indications that internalization of farming systems research concepts and practices needs to be strengthened by more trainings. In view of this, it might be worthwhile for the project to assess the relative values of the different trainings attended in the Philippines and in the United States.

The farmers in Villaba who were able to observe contour farming in areas similar to their own situation appreciate more the activities of the project and understand better the concepts of the farming systems research than did the other farmers without such exposure. In the future, it would be advisable to expose the farmer-cooperators to areas similar to their own so they can observe what is being done to develop such areas.

4. Involvement of farmers/community organizations

There has been no conscious effort by the project staff to involve farmers and other community organizations in the project. The involvement of noncooperator farmers has been minimal and mostly confined to timid questions about the project. Since these farmers and their organizations are the most likely target of technology transfer in the later

years, efforts should therefore be exerted to involve them now in the project, even on an informal basis.

5. Interagency Linkage

a. Present status of institutional linkages between MA and ViSCA

The present relationship between MA and ViSCA is built on former ad-hoc linkages and is deemed adequate for the implementation of the farming systems project. Both ViSCA and MA have demonstrated their commitment to the project.

Over time, the role of ViSCA has increased and at present some ViSCA personnel are taking major responsibility for almost all technical research decisions. While ViSCA has a critically important role to play in research, linkages need to be modified to provide for a greater leadership role for the PDO.

With participation from senior level personnel of the MA and ViSCA, the present linkage between these agencies is adequate to meet the project's goal. More formalized linkage between MA and ViSCA is not needed at the present time.

b. Linkage between FSDP-EV activities and those of other agencies/organizations in Region VIII including the MA

At present the project does not have any formal linkages with other agencies. Most project personnel feel that it would not be productive to establish formal linkages now. Even informal linkages are minimal.

Little thought has been given to the relationship of the project to the research activities of the divisions or sub-units of the MA, such as its research stations and the RIARS. More importantly, there is no linkage between the project implementation activities and the MA extension delivery system or the Regional Agricultural Development and Planning activities.

Some socioeconomic and technical departments of ViSCA are already involved with the FSDP-EV. However,

there are other departments and centers which could contribute to the project but are not tapped.

6. Technical Assistance

Cornell university has generally met the requirements of the project in its dual role of provider for technical assistance and administrator of the degree and non-degree training programs. ViSCA and MA consider Cornell University as a partner in the implementation of the farming systems research project and would like to see more Cornell involvement. Consequently, Cornell's role in providing technical expertise should be expanded and should include providing technical leadership and expertise at all levels from the PDO to the research sites.

The site staffs reported that they have never been consulted in the bringing in of short-term project consultants. This should be remedied immediately by consulting them on their needs for such consultants. Further, a local counterpart should be provided for every short-term consultant brought into the project. This will provide for continuity in project activities started by such consultants.

7. Financial Resources and Management

a. Adequacy of Project Funds

In 1982, actual releases of project funds comprised 71% of the available funds. In 1983, actual releases reached 95% of the funds available from the budget. But funds for the first year were released late. Delayed releases were also experienced in the second year. This delay of releases constitutes a stumbling block to project implementation.

While there were still some unspent 1982 funds at ViSCA when the evaluation was made, the adequacy of project funds cannot be fully determined until the research agenda are completed and formalized.

The present financial situation faced by the government may lead to decreasing releases of GOP funds for the project. Thus, ways and means should now be

explored to provide for project stability in the ensuing years.

b. Fiscal Management Procedures

Project funds are channeled through ViSCA and the MA Regional Office, and the project utilizes the existing administrative machinery of these two agencies for accounting, auditing, and disbursements. Funds at the MA Regional Office are managed by the Project Director, while funds at ViSCA are managed by the Technical Coordinator for Research and Development.

This set-up facilitates financial transactions, such that once funds are released there are no other GOP procedures that obstruct project activities. With this set-up, however, the team observed that the Project Director and the Technical Coordinator are enmeshed in many administrative matters. This takes away much of their time from the more substantive technical matters required by the nature of the project.

c. Accounting Procedures

Present procedures provide sufficient information on the status of funds on a regular quarterly basis. Providing a statement of fund status, more often, such as on a weekly basis, may bring about better fiscal management. There appears to be adequate personnel at the PDO and TCRD office to provide this information.

8. Organization and Responsibilities

a. Efficiency of present organizational structure

The present organizational structure has been effective for the administrative and logistical needs of the project. However, some problems were observed with regard to responsibility for technical research decisions, implementation of research after decisions had been made, and supervision at the SRMU level.

The Project Director has not provided as much leadership in technical matters as required for successful project implementation due in part to his feeling that ViSCA has the technical capabilities to

undertake such responsibility and partly to the job description contained in the Annex E of the Project Paper. Therefore, the PDO/MA must be strengthened to be able to provide more vigorous leadership and participation in the formulation and implementation of actual research both at the sites and at ViSCA. The PDO must also be able to review recommendations, formulate policies, approve plans, and then see to it that policies, instructions, and plans are carried out. This will mean expecting from the PDO technical expertise on research, economics, and management.

Also, there are too many sites and too many research locations per site. There is also a need for capability in the PDO to conduct macroeconomic and policy analysis.

b. Definition/adjustment of roles

The project has internal mechanisms to deal with problems in role definition and adjustment to reflect changes in project needs. The MA/ViSCA Memorandum of Agreement needs to be changed to reflect ViSCA's increased role and responsibilities in the project.

c. Communication flow among project participants

Communication of administrative or logistical nature are adequate. Many, however, feel the need for radio communication link especially between the PDO and ViSCA. Certainly, there is a need to improve communication between the ViSCA technical group, consultants, and the SRMU on substantive issues.

d. Mechanism for project continuity following the end of the foreign assistance

Little consideration has been given to the integration of project functions into existing MA programs when the project terminates. Efforts done to relate FSDP-EV with existing MA research and extension activities are very inadequate.

9. Equipment, Facilities, and Support Services

a. Equipment and facilities

In terms of transportation, office requirements and other physical needs, the available equipment and facilities are adequate to meet the present demands. However, total adequacy for the project cannot be determined until the research agenda are completed.

The microcomputer operators at the PDO and at ViSCA seem inadequately trained to fully utilize the computers. Their skills in microcomputer operation need to be upgraded.

b. Planned purchases of equipment, and constructions

Equipment and facilities have already been purchased as planned.

The duplex at ViSCA is already finished while the duplex in Tacloban City will be finished soon. The training dormitory at ViSCA is scheduled for completion before the end of 1983.

The team however, observed that the intended sites for the SRMU offices may in the future be irrelevant in its centrality in relation to the intended agroclimatic zones to be served. Also, the use of more indigenous nonpermanent materials for said offices should be considered.

c. Adequacy/conduciveness of office facilities/space

The PDO, TCRD, and the SRMUs have adequate office spaces and facilities. In all areas, the offices are conducive for working well.

d. Support services

The support services staff at the PDO and the TCRD office are adequate and performing well.

However, the communication system between PDO/MA and ViSCA, between PDO/MA and SRMUs and between ViSCA and SRMUs relies more on the personnel courier system. This should be examined very closely for possibilities of establishing faster communication flow between the areas.

## D. RECOMMENDATIONS

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### 1. Research/Program Areas

- a. Project should be directed towards finding ways of improving the existing farming systems.
- b. Choice of present sites should be reviewed to ensure that major agroclimatic zones of the region are represented.
- c. Farmer-cooperators should come from the project's target group, and interventions should ensure that they are the beneficiaries.
- d. Changes in the system should not exceed two at a time. Purchase of expensive inputs should be eliminated, and farmer's preferred main crop should be maintained.
- e. Role of livestock in the system should be understood before making any changes.
- f. PDO should have authority to approve site research plans and/or make major changes.
- g. Limits of flexibility for SRMUs should be clearly defined.
- h. Trainings and/or related activities that bring about full understanding among project participants about the research nature of the project should be planned and implemented.
- i. A review and documentation staff should work with the PDO especially when results of site researches are turned in.
- j. Role of women variability in market demand and prices, and changes in pest occurrence should be considered in proposing interventions in the existing farming system.
- k. Strategy should be evolved to understand completely the dynamics of the existing farming systems.

### 2. Staffing

- a. Staff on special hire should be absorbed into the MA or the ViSCA budget.
- b. PDO's capability in research implementation, and economic/policy analysis should be strengthened by experts along these line of work.

- c. Number of economists per site should be reduced by re-deploying some of them to the PDO. Hiring of additional staff should be done only when justified.

3. Training

- a. Farmer-cooperators should also undergo training.
- b. Participants to the US training should first visit all sites and gain experience at the SRMU level.
- c. Relative values of local and international trainings should be assessed.

4. Farmers/Community Organizations

- a. Farmers and community organizations should be informed about the project.

5. Interagency Linkages

- a. PDO should oversee research.
- b. ViSCA-MA Memorandum of Agreement should be revised.
- c. Plans for project extension should include support for personnel sharing between MA and ViSCA, and greater use of AID funds for recurring costs of the project.

6. Technical Assistance

- a. Foreign consultants should have specific work plans, which should be communicated to all project participants.
- b. Each short-term consultants should have a local counterpart.
- c. Cornell University representatives should be more active in their role, and provide expertise and leadership in SRMU level activities.

7. Financial Resources

- a. AID fund should cover greater share of recurring operating costs.
- b. Project Director and Technical Coordinator should be relieved of routine administrative tasks.



- c. The PDO and the TCRD should be provided regularly at short intervals with information on fund status of the project.

8. Organization and Responsibilities

- a. Overall responsibility for research should rest with the PDO.
- b. ViSCA should at the minimum (1) participate in SRMUs; (2) review and advise on research; (3) conduct on-campus back-up research; (4) assist in integrating socioeconomic research into the farming systems research; (5) document results of field trials, and, (6) help establish the macroeconomic unit at PDO.
- c. Number of sites should be reduced or priority for some sites should be indicated; research locations per site should not be more than four.
- d. A monitoring program at PDO should be developed.
- e. A macroeconomic unit at PDO should be established.
- f. Staff responsibilities should be clearly and completely defined.
- g. Feasibility of minimum radio link requirements between MA and ViSCA should be studied.
- h. Integration of FSDP-EV project activities to the MA structure should also be studied and planned.

9. Equipment Facilities and Support Services

- a. Additional PDO and ViSCA staffers should be trained on microcomputer operations.
- b. Construction of SRMU buildings should be based on funds available and should consider increased costs of materials. An SRMU building should be located in an area representative of the agroclimatic zone.

## II. PROJECT DATA

TITLE : FARMING SYSTEMS DEVELOPMENT PROJECT

LOCATION : EASTERN VISAYAS

PROPONENT: GOVERNMENT OF THE PHILIPPINES (GOP)

IMPLEMENTING AGENCY: Ministry of Agriculture  
Region VIII  
Tacloban City

Visayas State College of Agriculture  
Baybay, Leyte

GOAL : To improve the livelihood of the small farmers  
in selected rainfed areas in Region VIII.

### PURPOSES :

1. To establish a proven mechanism for adapting rainfed agricultural technologies to the resource conditions in Region VIII.
2. To disseminate such technologies found appropriate.

### EXPECTED OUTPUTS:

1. Six field research/demonstration sites established and functioning.
2. Increased capacity of the MA Regional Staff to plan, coordinate, and undertake farming systems research and disseminate improved technologies.
3. Improved administrative and research capacity of ViSCA to support farming systems development in Region VIII.

### TARGET BENEFICIARIES:

Estimated direct beneficiaries are some 360 small farm households in Region VIII.

DURATION : Five (5) Years

COST :  
AID Grant \$1.4 M  
AID Loan \$1.6 M



### III. METHODOLOGY OF THE EVALUATION

#### A. COMMISSIONING/ORGANIZING THE EVALUATION TEAM

On September 1, 1982, a team was commissioned by the Regional Project Management Committee to review and evaluate the Farming Systems Development Project - Eastern Visayas. As envisioned by the Steering Committee, the team would be composed of representatives from the USAID, NEDA, VISCA, MA Region VIII, and the regional farmers federation. In the organizational meeting of the team on the same date, Jose Mazo of NEDA Region VIII was elected Chairman. The the team was composed of the following:

Chairman: JOSE V. MAZO  
Chief, Program Coordination Div.  
NEDA, Region VIII

Members: MRS. REBECCA V. BARBUSA  
Representative, Farmer's  
Federation of Eastern Visayas

DR. JAMES BSEBE  
USAID Representative

DR. EMILIANA N. BERNARDO  
Director of Research & Extension  
VISCA

ARDC AGAPITO C. TAURO  
Asst. Reg'l Director for Crops  
MA Region VIII

#### B. DEFINING THE SCOPE OF THE EVALUATION

The scope of work for the evaluation was prepared by the Steering Committee and was reviewed and approved by the CPNC. It was emphasized that the evaluation should concentrate more on the process by which the project was being implemented rather than on the project impact. The areas to be covered included the following: (1) Staffing; (2) Training; (3) Research /Program Areas; (4) Farmers Community Organizations Participation/Involvement; (5)

**Best Available Document**



Emergency Linkages; (6) Technical Assistance; (7) Financial Resources and Management; (8) Organizations and Responsibilities; and, (9) Equipment, Facilities, and Support Services.

The Steering Committee prepared some questions under each area which they felt should guide the team in the evaluation work. These questions were adopted by the team. However, it was agreed that the evaluation should not be closely bound by the questions; i.e. if there was a need for some other items or issues, such would be included to make the evaluation more comprehensive.

### C. REVIEW OF EXISTING PROJECT DOCUMENTS

Before visiting the sites and interviewing concerned individuals, each team member was furnished a copy of the Project Paper, audio report for some sites, and the reports of short-term consultants. In the course of the site visits and interviews, additional documents were furnished to the team. All of these documents were reviewed and were used as bases for the conduct of the interviews and in the preparation of the evaluation report.

### D. FIELD VISITS/INTERVIEWS

The team visited all SRMUs and some research sites. These visits were scheduled with the PDO so that the SRMU personnel would be around to gather the farmer-cooperators available for interviews and possible visits to their fields.

In Villaba, which was the first area visited, the Evaluation Team started by interviewing the SRMU staff following the areas of focus. After the interview, the research site was visited. For Bontoc, Matalom, Basey and Jaro, the team followed the pattern of arriving at the field office, examining the different cropping patterns for that area, then going out to the field research areas or barangays where interviews with the farmers were conducted and then interviewing SRMU personnel at the Team Office. In Gandara, however, the farmers were assembled at the SRMU Office when the Evaluation Team arrived. So, the Evaluation

**Best Available Document**



Team decided to interview the farmers first before visiting two research sites, and then interviewed the SRMU personnel last.

Interviews with farmers concentrated on their involvement in determining the problems being attended to by the project, their understanding of the concept of farming systems research, their understanding of the project itself, how they would react when the project is terminated, and how the other farmers in the area react to the project.

Interviews were also conducted with the Technical Staff based at VISCA, the staff at the Project Director's Office, the Project Director himself, and members of the Steering Committee. The MA-based and VISCA-based administrative staffs were also interviewed.

#### E. TEAM MEETINGS

Team meetings were held to undertake the following:

##### Before the field visits/interviews

1. Organize the initial schedule for the evaluation work.
2. Discuss the areas identified by the Steering Committee to be covered by the evaluation.
3. Clarify other issues/items which could be included in the evaluation.

##### During field visits/interviews

1. Discuss individual findings and observations after each field visit and interview.
2. Synthesize and consolidate these findings and observations into team output.

##### After the field visits/interviews

1. Decide on the report format.
2. Agree on the approach in preparing the team report.
3. Agree to present report draft to the SRMU representatives, PDU and TCRD office staffs, and Steering Committee before being finalized and submitted to the RPMC.
4. Discuss, review the draft, and finalize the team report.

In the pre-finalization session, it was agreed that the Research/Program Areas will be made as the focal point in presenting the report. Thus this area will be treated first, and all other areas shall follow the general pattern set by the Steering Committee.

#### IV. MAJOR FINDINGS/CONCLUSIONS

##### A. RESEARCH/PROGRAMS AREAS

Assessment of the status of the FSDP-EV in the aspects specified for evaluation necessitates recapitulation of the project's main concept, goal, purpose and pertinent guidelines formulated for its implementation. These are clearly reflected in one of the documents provided to the Evaluation Team, the "Implementation Plan: Farming Systems Development Project-Eastern Visayas" (henceforth referred to as the Document).

The Document states that the long term goal of FSDP-EV is to improve the livelihood of small farmers in selected rainfed upland areas of Region VIII. The project's purpose is to establish a proven mechanism for adapting rainfed agricultural technologies for the resource condition found in Region VIII and to disseminate such technologies as appropriate. Conditions indicating that the project purpose has been achieved are that improved farming systems are being tested and selected for region-wide application. . . . The project targets the farmers in rainfed and upland areas of Eastern Visayas and directs its efforts on systematic attack on constraints, taking explicitly into account their resource availabilities, cropping patterns and the variability of agrozones.

The methodology for identification of the project areas within the region is specified in the Document also. It should be "sequential and a successive narrowing of the areas identified. First, from the most promising agroclimatic for the introduction of modified farming systems, then to the municipalities within agroclimatic zones where such modified farming systems would be adopted and finally, to the criteria for the identification of farmer-participants in those barangays". These background information will be used as reference points in evaluating the various aspects of FSDP-EV implementation.

1. Appropriateness of research areas selected for the intended purpose.

Considering the stated primary purpose of the Project, appropriateness of the selected research areas (farms) should be gauged by the degree by which they

represent the predominant farming conditions in the municipality, and the degree by which the six sites represent the predominant agroclimatic zones of Region VIII. As stated in the Document also, variations in the agroclimatic zones may be indicated by the variations in the kind of important agricultural crops grown in the areas considered. Based on the identified primary and complementary crops grown in the six municipalities where the experimental farms are located (Appendix A) it appears that the chosen sites adequately represent the main agroclimatic zones of the region. In fact there are two sites with coconut as the main crop and two also for corn. The reason for having the two crop-based systems duplicated is not given. As will be discussed later, however, the abaca-based system was excluded during implementation.

Appropriateness of sites covers also the choice of the farmer-cooperators. The important criteria for selection mentioned in the Document includes:

- a. experience of the farmer in growing the primary crop that provides the focus for farming systems development;
- b. his current involvement in growing that crop;
- c. his interest and capability (which covers availability of family labor);
- d. ability to provide suitable land; and
- e. willingness to provide additional labor and management time.

It was stated further that these criteria are more important than the farmer's capability to finance the trial enterprise. Moreover, there should be a fair amount of assurance that the benefits of increased production will go to the farmer should the experiment prove productive and profitable. According to the site teams the criteria used in the actual selection of cooperators were:

- a. they are small rainfed or upland farmers;
- b. they are either owner-cultivators with average sized landholdings or tenant/ caretaker working under certain arrangement with the landowner;
- c. their source of income are from their farming activities; and



- d. they are willing to participate in the project and fulfill their share of the labor and other requirements.

Selection was implemented through one or a combination of the following strategies:

- a. individual approach by site team members to prospective cooperators;
- b. group approach in meetings where farmers were told about the project and were asked as to who would be interested to become cooperators; and
- c. through selected cooperators who informed other farmers and convinced them to become cooperators.

The information gathered through interviews of some farmer cooperators and of the site teams indicated that some of the criteria for selection were satisfied but others were not. For example, not one of the farmers interviewed mentioned an arrangement pegging the amount of produce to be given to the landlord to the average share given in the previous years. Thus, depending on the sharing system, it is highly possible that most of the benefits from increased crop production may go to the landlord. One cooperator said he took over the management of his father's area only last year suggesting his inadequate experience in raising the crop. It can be presumed, therefore, that he is still not adequately exposed to the problems in his farm to be able to assess objectively the relevance of the modifications being introduced by the site team to his system of farming and, if successful to appreciate fully the improvements attained. Some cooperators have rather minimal involvement in the experiment and hired labor had to be provided, suggesting insufficient interest of the farmers in the conduct of the trial or his inability to channel family labor to farm production activities to the fullest extent possible.

One farmer cooperator has a teacher wife; another one is a retired mine worker. The income of these two cooperators from outside sources may make analysis of the benefits derived from the introduced innovations difficult. The Evaluation Team does not feel certain if, indeed, a few of the cooperators selected are the targeted marginal farmers.

The Evaluation Team also observed that the farm sites were mostly along the road or at fairly accessible locations despite the fact that lack of access to roads has been identified as one of the characteristics of the farms in the region. It should be pointed out that the varying accessibilities of the farmer's production area may make it logical for him to decide to plant different crops or employ different systems of farming even if the areas are of similar soil types, topography and agroclimatic zone because accessibility influences also ease and cost of marketing farm products and procuring farm supplies, as well as the amount of labor that he and his family can possibly devote to a farm. In fact some of the farmers interviewed said that since they do not have motorcycles that the site teams have, they will find difficulty in procuring production inputs from town when the project terminates even if they may have money for buying the materials.

2. Relevance of research agenda to the felt needs of beneficiaries.

Based on the results of surveys conducted by the SRMU and the Technical Staff, and on farmer interviews and visits to the farm sites by the Evaluation Team, it may be said with confidence that the most important problems faced by farmers are inadequate food and income. Since they are almost entirely dependent on crop produce for their livelihood, the most pressing problem then in all the six sites is low crop yield resulting from:

- a. low inherent fertility of the soil;
- b. erosion of top soil of rolling lands; and
- c. inability of the farmers to produce the needed inputs like good seeds, organic fertilizers and pesticides due to poverty.

Thus research efforts should be geared more towards soil conservation, soil fertility improvement and pest control. Considering then the financial status of the farmer-cooperators, it should be added that the technology to be developed should be the cheapest possible, or one which does not require purchase of expensive inputs.

Appendix B shows the cropping patterns being tried in the six sites. As shown, a legume crop is planted as a rotation or intercrop with the main crop, both for additional income and for soil enrichment purposes. In two sites, ipil-ipil is planted as a hedge crop for erosion control. These introduced modifications, undoubtedly, are addressed to the felt needs of the farmer-cooperators.

Appendix C shows the details of the cropping pattern trials. The introduced modifications, aside from growing legume crop or ipil-ipil, include change of the main crop, introduction of new variety of main crop, change in planting distance, growing of an additional crop (when legume is used as an intercrop or relay crop), change in planting pattern, application of fertilizers and pesticides, and some animal raising activities. There are at least three modifications introduced in any one farm.

The Evaluation Team feels the need to reconsider the advisability of introducing more than one or two modifications at the same time, the introduction of expensive production inputs (commercial fertilizers and pesticides), and change of the main crop. As stated in the Document, an important guideline to observe is that "the existing farming system is the starting point or building block from which any change or improvement must be made". The Evaluation Team, therefore, was surprised why even the main crop being grown by some farmers during the past years in more than one site is changed. This may be viewed as tantamount to a total change of the existing farming system itself. The use of expensive production inputs, on the other hand, seems not in keeping with a number of guidelines for setting research priorities presented in Appendix D. Thus, the Team was surprised again to know that even sweet potato is being protected from pest damage by expensive insecticides.

The nature and magnitude of modification introduced in most farms suggest that the project staff responsible for their introduction may be thinking incorrectly that the goal of farming systems research is to introduce an entirely new farming system and the role of the researcher-managed verification trials is

to demonstrate to farmers the superiority of said new system.

3. Integration of Crop<sup>in the</sup> and Livestock Research Agenda

The role of livestock in the farming systems of the farmer-cooperators seems to be not understood adequately. In Basey and Jaro, studies on Mallard ducks are being conducted but apparently not linked with the crop production activities. In both sites, the farmer-cooperators were not engaged in duck raising before. In Basey, an ongoing goat experiment following the "cut and carry" system of feeding is also unrelated with crop production activities. Deworming native swine using expensive drug is introduced even if this technology may not be within the reach of the farmer when the project terminates. In Jaro, a goat experiment was initiated also but the farmer-cooperator withdrew from the project later such that the SRMU staff had to take care of the animals. This unpleasant experience may be suggesting that:

- a. No consideration had been given to the reasons why the farmer traditionally did not have large herds of goat which may be related to labor availability, space limitations, and risk of damage to his crop or to his neighbor's crop, among others.
- b. Little recognition of the fact that in the Philippines, goats traditionally are sold by the head and that there is little premium for high quality meat.
- c. Hardly any appreciation of the fact that for the farmer, the "self-supporting" goats that takes longer to mature but requires little or no time of the farmer may represent a better investment than the faster growing goats raised under a system that requires a large investment of labor.

The nature of ongoing livestock projects or livestock activities in Basey and Jaro suggests a seemingly widespread misconception that the purpose of FSDP-EV is to introduce a new livestock system to replace, rather than modify, the existing systems of the farmer-cooperators. The suggestion of one of the researchers to have separate cooperators for livestock

further displays a serious misunderstanding of what is meant by integration of crops and livestock under a farming systems approach to research.

4. Implementation of Research According to Plan.

The previous discussions mentioned already some deviations from the concept, purpose and goal of FSDP-EV and from the general plan of implementation as specified in the Document, particularly with regard to the cropping patterns to be tested or modifications of the existing farming systems of the farmer cooperators to be introduced. It was learned from the SRMU teams also that a number of completed field trials were conducted without approved plans. They were initiated upon suggestions of some consultants or officials from the PDO. In this connection, mention was made also of some amount of confusion as to whose suggestions to follow in the sites.

According to the site teams all the ongoing field trials have approved plans of activities prepared jointly by the SRMUs and the ViSCA Technical Staff and concurred with the RPMC. However, it was also learned that some modifications were introduced during implementation. For example, the application of fertilizers was not included in the original plan for some farms. Whether said modifications were discussed critically by the appropriate planning groups was not made clear.

The Evaluation Team noticed some inconsistencies between the original plan (as reflected in Appendix A) and what is being implemented (Appendix B). One such inconsistency which may be of great importance is the absence of abaca in the cropping patterns being tried in all the fields visited, even in Bontoc where this has been identified as primary crop. Thus, an important agroclimatic zone of the region has been excluded.

For the complementary crops, tobacco was identified for Villaba but excluded again in the cropping patterns being tried. Banana, on the other hand, which is included in and considered appropriate for the cropping system in Jaro, may not be a typical

representative of fruits identified as complementary crop because it is grown all over the region.

Basey was selected to represent a coconut-based cropping system, yet, coconut trees in the farms visited, if at all present, are too few to be noticed. Jaro is another site representing coconut-based system but may not be considered a duplication of Basey if fruit trees were used as complementary crop. As implemented, however, both sites use root crops as complementary crops. There may be a need to explain the reason for this decision. Matalom and Villaba are both corn sites but the original plan was to use different complementary crops - root crops for Matalom, and tobacco and mungo for Villaba. However, peanut was used in Villaba instead. The Evaluation Team speculates that a possible reason for the choice of two sites for corn-based system was to represent both rolling (Vilaba) and flat farm terrains (Matalom) which appears justified.

The Evaluation Team is aware of the possible need to introduce some modifications in the original plan during project implementation. However, it is important to keep on record the reasons of the proponent and approving officers/body for said modifications for documentation purposes. Based on the information gathered from the site teams it appears that this aspect is largely overlooked. Furthermore, with the introduced modifications in the trials being conducted and considering the existing conditions in the fields visited, the Evaluation Team doubts if the system being tried in the six sites indeed are different as identified during site selection.

In relation to the planned time frame (Appendix E) it appears that implementation of research activities is a bit behind schedule. Delay in the implementation of the field trials was caused largely by the past drought. For back-up research, delay in planning was due primarily to the change in the envisioned role of the ViSCA Technical Team as discussed in greater detail in the later part of this report.

Considering the two constraints mentioned, the organizational difficulties normally encountered during the initial phase of implementation of the project with

multiagency involvement (ViSCA, MA, NEDA, USAID, Phil. Gov't., Cornell University) particularly in aspects related to fund release and personnel selection/recruitment, the fact that the MA personnel in the sites have had no or only minimal research experience to start with, and the more experienced project staff have other special assignments, it may be viewed still that the project has been able to attain fairly substantial accomplishments during the past two years. The Evaluation Team should not fail to mention also the great interest, and commitment shown by the project staff as a whole, and their apparent desire to accomplish so much within the time frame of project implementation. This could have been the strong driving force behind the decision to introduce drastic changes in the existing systems of the farmer cooperators in most sites, as mentioned earlier.

5. Site staff's understanding of the rationale underlying conduct of the various field experiments/trials.

The ViSCA Technical Team assured the Evaluation Team that the SRMUs were fully informed of the reasons for the conduct of field trials. Same opinion was expressed by all site teams. However, the following comments/instances suggest some degree of inadequacy of understanding by both the SRMUs and some members of the ViSCA Technical Team not only of the reasons for the conduct of the various field studies but seemingly even of the concept of farming systems research as well:

- a. A ViSCA Technical staff indicated that one reason for the use of commercial fertilizer was to insure success in the trials, with success being implicitly defined as visibly higher yield. Similarly, a site researcher said that fertilizers had to be applied because, due to drought, they were not able to plant a legume crop prior to corn cropping as planned. He said that after soil fertility shall have been improved next year through legume cropping, fertilizer application shall be discontinued. This implies the belief of both the technical staff member and site team member concerned that field trials are being conducted for demonstration purposes. This is suggested further by the choice of experimental

fields which as mentioned earlier, are located mostly along roads and the actual putting up of a demonstration farm on multistorey cropping in Basey. Even the signs in the field suggest a technology demonstration activity rather than an experimental undertaking. When a technical staff member was asked why the group decided to introduce a number of modifications in the existing systems of farming in the sites, he said that it was because they feel that there have been enough studies done on these aspects and therefore said technology components are safe for introduction to the farmers already.

Incidentally, there are indications observed by the Evaluation Team or information given by some of the farmers interviewed which suggest that caution should be exercised in deciding to introduce supposedly "proven" or "sharif" technology claimed to be ready for widespread introduction to upland rainfed farmers. These are:

- (1) In some farms it appears that the local traditional varieties will outyield the varieties introduced by the project despite the use of fertilizers, pesticides and additional labor input for weeding and other farm operations.
- (2) In many cases where the introduced varieties may outyield the local traditional varieties, it appears that the expected increase in yield will be not be enough to cover the costs of the inputs.
- (3) Even where increase in yield of the introduced varieties will pay for the increase costs of inputs, increased return will not be sufficient to compensate the farmer for the increased task exposure.
- (4) Even if the new technology works, purchased inputs are either not available locally or cannot be afforded by the farmers.

In several occasions, on the other hand, the Evaluation Team was told that certain issues or aspects were not being considered yet because research has not been done or completed in these



areas. This implies that some Project Staff members feel that formalized research is necessary before information can be factored into project activities when in fact one of the rationals for beginning FSR with surveys of existing literatures and indigenous technologies of farmers is to be able to build upon what is already common knowlegde and to identify areas where additional data and information are necessary for making decisions. Thus, the decision to disregard some farmers' apprehension on the problems likely to be encountered (such as severe pest damage) when Site Team decided to plant crops off season after the drought may be a significant oversight. There has been no formal study conducted on the seasonal abundance of pests in the sites but the farmers claim that they already know this through experience. True enough, some crops were severely damaged in spite of the pesticides applied.

The site team agreed to the observation that in the Philippines the wife of the farmer is a major player in making decisions concerning investment of resources and often, even according to the case studies collected by the project, play a role in the choice of crop and variety. Yet this aspect appeared to have been ignored in the design of procedures of gaining the cooperation of the farmer for identifying constraints and problems. The Evaluation Team was told that this would make a good topic for research.

Apparently some decisions on cropping patterns like the choice and timing of planting of individual crops, are being made based on agronomic considerations but without reference to seasonal variability in market demands and prices. The response to the query from the Evaluation Team whether this was being done was that the data on the market prices being collected for the project are not yet complete. At the same time any of the farmers and probably most of the research team members could when certain crops traditionally demand the highest price in the market. While data being collected by the project may be useful in refining decisions, there may not be valid

reasons for hesitancy to make use of the existing knowledge, unless yields as opposed to the overall well-being of the farmers is the goal of both the field trials and the project.

- b. A site team was not able to explain adequately the advantage of strip cropping wherein the field was divided into 4 strips, each strip was planted to either mungo or corn in an alternating manner, and with the plan to exchange crop assignments to the strips next year, as compared to dividing the area into two only, planting one to corn and the other to mungo, then swapping crop assignments next year also.
- c. A site team was not able to explain the reason for determining soil pH of the experimental farms.
- d. Generally, all the home management technicians do not understand fully the relevance of some of their activities (periodic weighing of the farmer cooperators' children, recording of the kind of food served to the family, etc.) to the FSDP-EV.

6. Farmer-cooperators' involvement in research activities

- a. Participation in problem identification and planning field trials.

The Evaluation Team found that the degree of involvement, awareness and appreciation of farmer-cooperators varies with sites. Those in Villaba in general seem very interested in the field experiments and enthusiastic about the outcome of the studies presumably as a result of adequate participation in planning the trials. Compared with farmers in other sites, they seem\* introduced into the system (like planting of ipil-ipil and legume) to soil conservation and fertility improvement, most likely because of their frequent dialogues with the site staff and their educational trip to Barili, Cebu where they saw hillside farms terraced with ipil-ipil. In practically all other sites, however, farmer participation appears limited to their being asked of their problems and their giving of consent to the conduct of experiments in their fields.

\*  
Insert: ... to understand better the relevance of the modification ...

Farming systems research demands participation of farmers not only in the identification of their problems but also in the decisions on possible solutions to these problems. The farmer becomes a partner to the researcher in seeking solutions that fit his needs. Unfortunately, the Evaluation Team noted many cases wherein a farmer-cooperator appears to have had little control over the choice of the cropping pattern for the verification trials thereby suggesting that farmers have had little say about the proposed solutions. The following instances support this contention:

- (1) In two cases, crops were grown on fields where farmers indicated another crop as the traditional crop. The project has planted corn in fields that are traditionally planted to rice and rice in fields that are traditionally planted to corn.
- (2) Crops were planted in spite of the farmers' warning that timing was wrong which may bring about severe pest infestation. In at least two cases, the farmer was told by the team that insecticides would be applied thus timing would not be an important factor.
- (3) Rice was planted on a farmer's field even after the farmer had informed the team that he preferred to eat corn and would have to buy it.
- (4) The project has failed to respond to specific requests for the inclusion of some crops in the trials, even the inclusion of ipil-ipil at two sites and sweet potato at another.
- (5) The project failed to consider the preferred eating qualities possessed by the commonly grown traditional rice as well as the information given by the farmer that the variety commands a price almost twice that of the variety the project is trying to introduce.

b. Participation in the conduct of field trials.

Having disregarded farmers' opinions in the situations presented, it is not surprising that these cooperators do not seem to feel or act as partners of the site teams in the conduct of the experiments. A number of them have been involved

only in plowing the field and, in many cases, all other labor was either provided by SRMU or by hired hands. Some farmers said that they are participating in the experiment because of the free inputs which include fertilizers, planting materials, animals and labor.

It may be possible also that another reason why the farmers were unable to render greater participation in the conduct of the experiment is other demands for their labor which the site team failed to consider in designing the cropping patterns. Also, having learned that some farmers were paid for their labor, it was possible that even those who had more time to spend in their farms were tempted to take advantage of the situation. Payment of farmers for labor likely complicates evaluation of their participation in the research trials and makes it difficult to determine why they participated in the project.

c. Understanding of the rationale underlying the conduct of various field trials.

With the minimal participation of the farmer-cooperators mentioned earlier, coupled with their apparent perception that they are not partners of the site teams, one can expect their equally minimal understanding of what is being done in their fields. Like some members of the technical team mentioned before, all but two of the farmers interviewed by the Evaluation Team believed that the trials are demonstrations of new technology that is already proven and that they are expected to adopt them. There is almost no appreciation of farmers for the notion that the trials represented experiments to test and to compare different approaches under farm conditions and that they are the very targets of the system being tried.

Some indications that the farmers have inadequate understanding of what is going on in their fields are:

- (1) Like what the project staff members mentioned before, farmers could not explain the reason for strip cropping.

- (2) Very few of the farmers could provide the rationale for rotating leguminous crops with the grain crops. One farmer said he would rotate mungbean with peanut and will plant corn where it is planted now as part of the rotation scheme.
- (3) Some farmers know neither what varieties of crops <sup>are</sup> planted in their areas nor where they <sup>would</sup> be able to purchase similar planting materials on their own.
- (4) Farmers have not been kept posted on the cost of inputs applied to their fields and thus would have a difficult time evaluating the advantages, if any, of the proposed system.

7. Identification, planning and implementation of the back-up research.

The Evaluation Team was informed that preparation of the back-up research program is still being finalized. Draft of the proposal was shown by the VISCA Technical Team and upon scrutiny it was found that the individual studies proposed were not tied up with the ongoing trials being supported or with specific problems in each site. The Evaluation team suggested verbally that this research relationship be considered.

The MA site personnel informed the Evaluation team that they have not made any suggestions to the VISCA Technical Team on the specific back-up research to be conducted, and they seem not to feel comfortable to do so. This may be an indication that, aside from feeling inadequate in research background, they might still be under the usually inhibiting influence of a "professor-student relationship" which they might have experienced during their college days in VISCA. As mentioned in another section of this report, most of the MA personnel are VISCA graduates and had been students of the VISCA Technical Staff. Efforts should be exerted, therefore, to make the site researchers realize that such inhibited feelings are not conducive to the development of an effective partnership with the VISCA Technical group in accomplishing project activities. On the other hand, since the site researchers have limited experience, expectations of the VISCA Technical

Team and of the higher bodies regarding the input of the site personnel in the identification and planning of the back-up research program should be adjusted to a realistic level.

8. Project staff's understanding of the dynamics of existing farming systems.

Basing on the kind of socioeconomic data already gathered as well as <sup>being</sup> being collected by the site team at present, it appears that said information are intended largely for proving the relative advantage of the improved technology and for explaining the cultural reasons why the farmers do not, or will not, accept new technology. For proving superiority of the technology introduced, a good amount of data are being gathered from the "economic cooperators" who are using the technology that the farmer cooperators were adopting before. Data related to culture include superstition (Ex.: MCN content of cassava tubers is influenced by the method of planting used) as reason why farmers stick to their farming practices.

The Evaluation Team feels that information that will help explain the dynamics of the existing farming systems, particularly the scientific or more logical reasons behind the farmer's decision to stick to a system or belief through the years, is equally important. Quite often, failure to follow practices that are viewed as desirable, such as keeping crop fields relatively weed-free, is attributed to the stubbornness of a farmer or to his ignorance of scientific farming. The situation is hardly looked at from the farmer's side, giving the consideration to opportunity cost for his labor or that of his family members, or to his perceptions on returns to labor. A question that should be answered first is whether the additional income that he will be getting from the expected increase in crop yield as consequence of reduced competition between the crop plants and weeds will be higher than what he will get if instead of weeding he used his time gathering tuba, fishing, or working with an employer for a daily wage.

The Evaluation Team got the impression also that the role of wives in decision making in the farm is not

being looked into adequately. As the "budget officers" in most Filipino homes, it is not uncommon for wives to have a greater say than their husbands as to how much of the limited farm produce will be sold and how to apportion the resulting meager income among the numerous household needs, including purchase of farm production inputs. A wife may also help decide which alternative to take concerning investment of family labor on income-generating activities. This points to the need of involving housewives also in planning field trials.

The Evaluation Team learned that prices of commodities in local markets are being monitored. However, it appears that no one in the project staff is looking into the possible impact on the market if tremendous increases in yield of crops introduced (like peanuts and mungo) into the cropping patterns, achieved, and if more farmers will pick up the technology. Similarly, the Project does not seem to consider the impact of government policies (identified in the document as exogenous factors) that bear on decisions made by the farmers such as government set prices, access to markets, access to inputs, etc. There appears to be no mechanism for identifying needed policy reforms or for communicating these reforms to policymakers.

## B. STAFFING

### 1. Adequacy of Staffing Pattern

The original staffing pattern as envisioned in the Project Paper has undergone several modifications. There are indications of more modifications as the project moves along.

Notably, the Steering Committee was created to serve as a clearing house to review important proposals and technical matters before the RPMC acts on them. The committee is composed of VISCA- and MA-based technical personnel, a USAID representative, and the consultants from Cornell University. It was observed that this set-up lacks the macroeconomic policy input

as there is no representative from the senior staff of the NEDA regional office which is also a member of the RPMC.

At the PDO, a Project Monitoring Officer and a livestock expert have been hired. The PDO is seemingly overloaded with technical personnel on livestock as the Monitoring Officer is a veterinarian.

Also at the PDO, two technical personnel are on long-term study at Cornell University. There have been no replacements to their slots at the PDO. If their slots are filled, the project will be faced with the problem of where to put the replacements when the former will return from their studies.

At ViSCA, more technical personnel than were envisioned by the Project Paper have been assigned to the project. This is an indication of the enthusiasm and commitment of the college to the project and to the concept of farming systems research.

At the SRMU, several modifications have been instituted. The original pattern provided for a livestockman at each site but the Evaluation Team observed that there is no livestockman in all sites. Also, while the original pattern provided for only one site economist, there are now two economists with the addition of an economic researcher in each site. Two research aides are also in each SRMU, one paid from ViSCA-based project funds and the other by the PDO/MA funds. A more recent addition is an MA Home Management Technician on partial detail to the project. A site clerk is employed in every SRMU.

The Evaluation Team raised the question of whether there is a need for two economists at each site, based on the following:

- a. One site economist feels that the work can be done even without the assistance of the economic researcher;
- b. Some site economists feel the need for an economic researcher in view of the many economic data being gathered in addition to case studies and surveys;
- c. In some sites, the economic researcher and site economist go together when they visit the farmers



- to gather data and conduct surveys in the town markets, which gives the impression that each serves only as companion of the other;
- d. Voluminous economic data have been gathered but no analysis has been done on these data.

The Evaluation Team therefore feels the need to review the assignment of two economists per site. The team observed that it might be more beneficial for the project if some of the economists are pooled together at the PDO to compose a unit for macro-economic and policy studies which could be more meaningful in terms of project impact in the region.

On the issue of a livestockman for each site, the Evaluation Team observed that while there may be a need to further modify the SRMU staff, this should be done on a site-need basis. The priority need of each site should be identified. If there is a need for a livestock expert because livestock is a component of the farming systems of the cooperators, then a livestockman should be added. But if the farmer-cooperators are purely crop growers, then there might be no need for a livestockman for that site. Any such addition should only be made when it is fully justified.

Administratively however, the Evaluation Team observed that the PDO and the TCRD office need to be augmented with someone who could handle routine administrative tasks. Both the Project Director and the Technical Coordinator for Research and Development were observed to be enmeshed in routine administrative matters which could be delegated to other personnel with lesser technical matters to attend to. Thus, the pattern may be further modified to provide for someone to handle the purely administrative tasks at the PDO and TCRD office. This will also provide more time for the project Director and the Technical Coordinator to attend to the more substantive technical matters of the project.

On the whole, however, the proposed staffing pattern, which has been modified as the need arises, is deemed adequate. It identifies the basic personnel requirements of the project. In its flexibility, it

allows the addition of personnel to the structure as the project demands.

2. Appropriateness of Staff Training and Experience

At the PDO and at the technical group level, the project staff have appropriate training and experience for their respective assignments. However, at the SRMU, considering that the project is a research undertaking, all Site Team Leaders and Site Researchers are MA personnel whose trainings and major experience are on extension. This, however, has been justified by the fact that the project also calls for dissemination of such technologies that may be found appropriate, productive and acceptable to the farmers.

Nevertheless, many of the project staff at the SRMU feel the need to be exposed to more trainings related to their assignments in the project. The Site Leaders and researchers feel they need more trainings on field plot techniques, experimental design, statistical analysis, and manuscript writing. Site economists and economic researchers, who are mostly fresh college graduates, articulated on their need for more training on case studies, surveys, and conduct of socioeconomic researches. Even the administrative staff at the PDO and the SRMU feel that they could use trainings to update their knowledge on administrative matters.

3. Adequacy of salaries/incentives

Except for the site leaders, everybody felt contented with their salaries and/or incentives. The Site Leaders feel that since their salaries cannot be increased, their honorarium should be raised to P600.00 per month, which was the proposed rate considering their role and responsibility at the site.

It was observed that research aides paid from the VISCA project funds receive P700.00 per month, while those paid from the PDO/MA funds are paid only P10.00 per day. Site clerks are paid a low daily rate of P15.00. While the PDO/MA paid researchers and site clerks did not complain about this, the Evaluation Team observed the salary gap between that of the PDO/MA-paid researcher and of the VISCA paid researcher, and the low rate being paid to the site

clerk. It should be mentioned also that they do not receive any other privileges.

Those on detail to the project are receiving honoraria which those outside the project consider to be high. In some instances at ViSCA and MA, this has generated some unfavorable attitude among the non-project personnel.

In view of this situation, there might be a need to review the entire compensation scheme with the following considerations:

- a. the discrepancy in rates between the PDO/MA- and ViSCA-paid researchers should be corrected.
- b. salaries and other compensations of staff on special hire and personnel detailed to the project should be placed within the levels of the regular MA and ViSCA budget so that absorption of such personnel into the regular agency budget and plantilla can be more easily accomplished when the project's foreign assistance is terminated and the project continuance will be handled by MA and ViSCA on their own regular budgets.

### C. TRAINING

It was observed that focus on the needs of the project greatly improved after a series of trainings. Technical personnel who were trained at UPLB considered such training as broad. When this was followed by another training at ViSCA, those who had attended the UPLB training considered the ViSCA experience as a review. For the personnel who attended both UPLB and ViSCA trainings, and were later sent to Cornell University, they considered their US experience as focused more on the needs of the project.

The Evaluation Team, however, noted that this assessment could have come about because of a build-up of knowledge on farming systems research from the series of experiences undergone through the three training sessions. It was also suspected that the exposure of the staff to the research site after their first two trainings, together with the exposure to the same research sites of some consultants

who handled trainings at Cornell University, enabled them to appreciate more the training at Cornell University as more focused to the needs of the project.

It was articulated by some, however, that the personnel who visited Guatemala were more appreciative of how the concept of farming systems research is being implemented there than those who visited Costa Rica.

Majority of the trained <sup>staff</sup> feel that they are more prepared to perform their jobs. According to them, their training clarified the concepts of the farming systems research. However, the Evaluation Team observed that the internalization and assimilation of the concepts as implemented in the different sites show that there may be a need for more trainings for the staff to fully comprehend and internalize the concepts of a farming systems research and apply these concepts into their implementation activities. This can be discerned from the following findings:

"One farmer-cooperator suggested that they should not plant corn in July because he knows that severe borer infestation will occur. This was ignored by the site staff; corn was planted in July, and true enough, there were plenty of corn borers in the field when the Evaluation Team visited the area."

In this case, the staff forgot <sup>that</sup> the concept of farming systems research to start where the farmer is and gradually build up his capabilities depending on his resources and shortcomings.

In view of the above situation, the project might need to identify and evaluate in more detail the relative values and impact of the different trainings attended by the project participants both here in the Philippines and in the US.

It was also noted by the Evaluation Team that among others, the farmer-cooperators at Villaba seem to understand most the rationale of what they are doing in the field. The Evaluation Team felt that this could be the offshoot of their training/field trip to Barili, Cebu where they were able to observe hillside farming in a situation similar to their own areas in Villaba.

The project therefore could make the farmer-cooperators more knowledgeable and would consider the concepts of farming systems research as of utmost importance to them. Furthermore, they will appreciate their roles in the system if they are exposed to some trainings both on the theoretical aspects and field observations of similar related projects before exposing them to the farming systems research project.

#### D. FARMER/COMMUNITY ORGANIZATIONS INVOLVEMENT

##### 1. Involvement of other organizations

The Evaluation Team was not able to observe any effort to involve farmer organizations or any other community organizations in the project. Group involvement came only in the group meetings organized for the purpose of briefing the farmers of the project, but all dealings between the project and the farmers are on individual farmer basis.

##### 2. Involvement of non-cooperator farmers

Interviews <sup>revealed</sup> that reactions of farmers who are not cooperators in the project are limited to plain inquiries about the activities that are being done in the field. In Villaba, however, it was observed that there are a few farmers in the area who appreciated the practices being done in the research fields and they have copied these practices in their own areas.

The role of farmer organizations and other community organizations in the area should be examined and given more attention in the light of the desire of the project to disseminate whatever technologies are found to be appropriate, acceptable, and productive. Other farmers in the area will most likely be the target of future efforts\* for the best of the project that at this early point in time they should already know the purposes and goals of the project.

\*Insert: ... to disseminate such technologies. It is  
therefore

## E. INTERAGENCY LINKAGE

### 1. The present status of institutional linkage between MA and ViSCA

For the implementation of the project, linkage between MA and ViSCA appears adequate. The present relationship is built on former ad hoc linkages, such as ViSCA's commitment to provide planting materials to the MA and to conduct specific research in response to request from MA, and the fact that many of the personnel of the Ministry are graduates of ViSCA. There is a high personal commitment on the part of both MA and ViSCA personnel to make the cooperative arrangement for the FSDP-EV.

The Ministry of Agriculture has manifested its commitment to the project by assigning highly qualified personnel to the project and by willingly making available to the project some of its funds even before the FSDP-EV funds were available.

On the other hand ViSCA's commitment to FSDP-EV is truly impressive. With more than eight instructors and researchers assigned to the project on an almost full-time basis, the amount of technical experts that ViSCA had made available to the project is highly appreciated. Furthermore, the college has recognized the relevance of a farming systems approach to research and has included this area in its research activities which will continue even when the project ends.

Over time, the role of ViSCA had increased and at present, ViSCA personnel are taking the major responsibility for almost all technical research decisions as well as playing a much greater role in the SRMU than was originally envisioned. The Project Paper identifies the role of the Project Director as covering general supervision of the project including supervision of research development at ViSCA. The Project Paper indicates that the ViSCA-based Technical Coordinator for Research and Development will assume a leadership role in formulating the total research program for the project to include on-campus as well as project site researches. But a leadership role in formulating research design is far short of the full

responsibility for formulation and almost full responsibility for the supervision of research implementation that is now acknowledged as the responsibility of ViSCA. Both the MA Regional Director and the Project Director acknowledge the presence in ViSCA of technical experts in the areas of research lacking among the PDO staff, and the Project Director indicated this as the reason why the PDO delegates to ViSCA all research decisions. One adjustment implemented to deal with the reduced role and corresponding lack of availability of technical expertise in research on the part of the PDO was the creation of a Steering Committee to review the research program prepared by the MA-ViSCA site teams. Even with a Steering Committee, responsibility appears to remain with ViSCA for almost everything relating to research.

The present administrative set-up which facilitates allocation of both financial and human resources is based on overall planning, coordination and control resting with the PDO and field implementation resting with the SRMU. The PDO is expected to provide limited administrative and technical support to the ViSCA technical team as well as to the SRMU. The Evaluation Team found very little evidence that the PDO is in fact meeting its responsibility in its area. At the same time the ViSCA Technical Team has not met and given the existing administrative set-up probably could not meet the project needs in this area. This situation is reflected in the comments the Evaluation Team got from the SRMU personnel about confusion over whether they were to follow suggestions from the PDO or from the ViSCA Technical Team. The team also heard comments of members of the Technical Team on their frustration resulting from the hesitancy of some site researchers to follow their suggestions and their failure to acknowledge involvement of ViSCA personnel in the conduct of field trials in some areas.

The decisions made by ViSCA to bias the Technical Team in favor of economists and social scientists, as a response to the often voiced complaint that research too often ignores these concerns, has also contributed to the limited ability of ViSCA under the present arrangement to assume greater responsibility for the entire research program. The apparent absence of an organizational system to feed economic and social data

into decision on field trials has, however, limited the effectiveness of the team in this area as well.

One solution considered but rejected by the Evaluation Team would have strengthened the role, responsibility and authority of ViSCA over the research process. Given the existence at ViSCA of experts in this area, this solution would have been implemented earlier, but would not have been consistent with the project purpose of establishing within MA line agencies the institutional capability of carrying out farming systems research and of linking research to capabilities. Specific strategies on how to strengthen the ability of the PDO, and thus the MA, to meet its responsibility found under the section on "Efficiency of Present Organization Structure".

Even with a stronger PDO taking more responsibility in research, the role of ViSCA will, and, in the opinion of the Evaluation Team, should be greater than that envisioned in the Project Paper. ViSCA's participation in the Technical Team and the assignment of ViSCA professionals to SRMUs are highly desirable in the sense that the college makes available to the project the needed technical knowledge and expertise. However, there is a need to carefully and explicitly define this role as advisory, with responsibility for final decisions, and corresponding responsibility for blame on credit with the PDO and the SRMUs. The Memorandum of Agreement between ViSCA and MA should be revised to reflect both the expanded role and the more limited responsibility of ViSCA in these areas. Attention should also be given to changes in the composition of the ViSCA Technical Team necessary to implement the different roles.

2. The need for a more formalized linkage between MA and ViSCA

The present structure with continued participation of senior MA and ViSCA personnel would appear adequate for project implementation and at present there does not appear a need for a more formalized linkage. Without the funding and administrative problems resulting from the project there may be little need for a formal interagency arrangement beyond project termination.



Dicussion on the possibility of part-time appointments to ViSCA faculty for senior MA personnel positions may provide a more formalized linkage between the MA and ViSCA that could facilitate the continued communication between the two agencies even after the project is completed. The extent to which project resources could facilitate this arrangement should be used.

3. Linkage between FSDP-EV activities and those of other agencies/organizations of Region VIII including the MA

The project document makes numerous reference to the integration of a farming systems approach to research into existing administrative structure and into the functions of other agencies. Effective project implementation as well as building institutional capability that will outline project funding demands (1) better integration of project activities into the MA, (2) better access to and cooperation with ViSCA, and (3) improved informal linkages with other agencies such as MAR, PCA and FiDA that are directly relevant to the project and in a position to provide services critical for the project.

The Evaluation Team found that the "Special Project" status of the FSDP-EV had isolated the project from the rest of the MA. Middle and lower level MA staff who are not part of the project indicated a pervasive feeling that the project is not part of MA. The Evaluation Team discovered that there has been little thought given to the relationship of the project to the RIARS. Despite the statement that in the future project activities would be taken over by the RIARS, there has been no attempt at examining the implications of staffing patterns, qualification, salaries, etc. for eventual integration, nor has there been any consideration of a possible RIARS role in the management of administrative control of the project. Other MA research activities including the operation of research stations are not being directly involved in project actions and ways have not been explored for using project resources to strengthen these research activities. Of more concern to the Evaluation Team is the lack of reference in project implementation to

either the MA extension delivery system or the Regional Agricultural Development Programming activities.

Some MA personnel who are not in any way connected with the FSDP-EV commented that the project staff are overcompensated and that activities are provided with all the resources needed for implementation while other MA activities receive almost nothing. Several others commented on the high honorarium, the very high salaries of the research aides of the SRMU with some receiving less than half of what others are receiving depending upon how they were hired.

At ViSCA, other departments and units that could make a significant contribution to the project are not tapped. While part of the problem has been the failure on the part of the project to identify and use appropriate administrative channels for making requests, a potentially more serious problem has been the preparation on the part of the non-project personnel that those directly connected with the project receive extra compensation for project-related work while others are asked to do work for the project without additional compensation. Several ViSCA individuals commented that ViSCA staff working with the FSDP-EV receive very high honoraria supposedly for the part-time work, while in fact their work with the FSDP-EV is minimal and their regular work, especially teaching, must be done by non-project staff who receive nothing extra.

Most project personnel interviewed on the relationship of the project with other agencies (IAR, PCA, FiDA, etc.) argued that the project is already so complex that it would not be productive to establish formal linkages with these agencies. Instead they admitted that nonformal linkage should be relied upon. While the Evaluation Team found several sites, and some individuals in the PDO make use of informal linkage, generally there is hardly any linkage at all.

One problem that was <sup>identified as</sup> lack of knowledge about what services are available and how and who to contact for them.

**Best Available Document**

## F. TECHNICAL ASSISTANCE

### 1. Technical Assistance from Cornell University

Cornell University is expected to provide technical assistance by:

- a. providing long-term consultants in the area of agricultural economics and farm management;
- b. providing short-term consultants for the project; and
- c. administering the degree and non-degree training programs.

So far, the technical assistance provided by Cornell University has fairly met what is outlined in the project document.

There was, however, considerable confusion among project participants regarding the role of the consultants. Members of the project staff are aware that the presence of a Field Representative has helped in the degree and non-degree training programs, as well as in the arrangement for short-term consultants. However, they feel that the Field Representative, being an agricultural economics specialist, could have spearheaded the socioeconomic researches in the different sites to reinforce the technical services of the site economists. Also, the site staff voiced out the sentiment that they have not been consulted in the selection of short-term consultants. According to them, they are not aware of any recommendations of short term consultants being discussed with them. However, the Evaluation Team observed that each site had copies of the reports of short-term consultants to the project but it seemed that nobody cared to read these reports, much more pick up any recommendation applicable to their sites.

### 2. Appropriate Function of Cornell University

More than just providing short-term consultants and administering the degree and non-degree training programs, MA and ViSCA perceive Cornell University as an active partner in the farming systems research project. Therefore, the Field Representatives of

Cornell University are expected to be active in the research sites, providing the technical leadership and expertise where the project needs their assistance. The project staff feels that Cornell University can best serve the project by working very closely with them in the project to provide the expertise on the practice and concepts of farming systems research.

Toward this end, one of the immediate needs would be to provide for continuity in the work and recommendations of short-term consultants. Two things could be done on this aspect, which are:

- a. The site staffs and other project staffs should be consulted <sup>in the</sup> needs for short-term consultants; and
- b. The Field Representative, in consultation with the PDO, should identify a local counterpart for each short term consultant brought into the project.

Hopefully, these will provide the project with consultants who will be very relevant to the problems and needs of the sites, and also pave the way for the continuous involvement of the short term consultants even when they have returned to Cornell University. Locally, there will be individuals who can continue working on the recommendations prepared by the consultants.

### G. FINANCIAL RESOURCES AND MANAGEMENT

#### 1. Adequacy of Project Funds

The following data will provide salient information on the funds made available for the project:

- a. Year 1 (Appendices F, G, T, J)
  - (1) Programmed Funds P13,059,200.00
  - (2) Available from Budget 7,214,000.00
  - (3) Actual Releases 5,106,721.00

Funds for the first year were not carried in the GOP budget for 1982 but the amounts were made available by the Ministry of the Budget from other sources July

allocated in the annual budget. The amount made available was only 55% of the programmed funds. Actual releases reached only 71% of the available funds which turned out to be only 39% of the programmed funds.

- b. Year 2 (Appendices F, H, I, J)
- |                           |                |
|---------------------------|----------------|
| (1) Programmed Funds      | P 8,485,000.00 |
| (2) Available from Budget | 5,611,000.00   |
| (3) Actual Releases       | 5,347,000.00   |

Budgetary allocation for 1983 comprised some 66% of the programmed funds. Actual releases reached 95% of the budgetary allocation which turned out to be 63% of the programmed funds.

While the percentage between the programmed funds and the budgetary allocation increased between 1982 and 1983, the absolute amount actually decreased by some P1.6 million. Actual releases, however, increased in absolute amount by P240,792.00.

Up to evaluation time, releases to ViSCA for 1983 came only from the foreign assistance funds. No GOP funds have been released yet even up to the first week of November 1983. This is an indication of the tight budgetary situation being experienced by the government at this point in time. National leadership has made several public pronouncements to effect savings and minimize budgetary deficit through budgetary cuts. It is very likely that the present economic situation arising out of the devaluation of the peso will trigger off a decreasing trend in releases of GOP funds for the project in the ensuing years.

In view of this likely situation, it might be beneficial for the project management to examine the present expenditure patterns of the project. Greater project stability might be attained in the ensuing years if the more recurrent costs for project operations, such as vehicular maintenance, gasoline, and other operating expenditures, can be channeled to the loan/grant funds, while the GOP funds are allocated for salaries and other compensation packages of the project staff.

While project operations were started in 1982, release of funds was delayed by the Ministry of Budget.

It was revealed during the interviews that supplies and materials had to be borrowed from other projects and funds to provide a start for the project. At the time of the evaluation, the Technical Coordinator for Research and Development revealed that they were operating on funds for 1982 which were only released in 1983. Thus, one problem arising out of the GOP procedures is the delayed releases of funds which constrain the project operations.

But at time of the evaluation, available funds seemed to be adequate. Even with the delayed 1982 funds, however, was due to the inability of the project staff to come up with the back-up researches duly approved for funding. A tentatively drawn-up research agenda indicated that the research funds may not be enough.

Considering, therefore, that the total research agenda have not been completed, forthcoming funds may not really be enough when all requirements of the different sites shall have been provided.

Considering further the aforementioned budgetary pinch that may likely affect the project, it might be necessary for the project staff to establish priorities, particularly in the research agenda, which will eat up most of the project funds.

## 2. Fiscal Management Procedures

Funds for the project are channeled from the national government to the Ministry of Agriculture, Region VIII and the Visayas State College of Agriculture (ViSCA).

MA funds are managed by the Project Director using the existing procedures of the MA regional office for accounting, auditing, and disbursements. Thus, disbursements are approved by the MA Regional Director, or in his absence, by the Officer-in-charge. This arrangement does not delay the transactions involved.

ViSCA funds are managed by the Technical Coordinator for Research and Development utilizing the existing College machinery for accounting, auditing, and disbursements. All transactions are approved by

\*Insert: ... there were still some unspent amounts at ViSCA. This balance, ...



the College President or his officer-in-charge when he is absent or out. Thus, delays in the transactions for the execution of the project activities are prevented.

The problem of delayed payments of salaries of the field personnel was brought out during the interviews at the sites. It was learned that the delay was more due to the time lag between the submission of the required documents for payment from the sites to the PDO and ViSCA, rather than to the financial management procedures.

At both ViSCA and MA regional office, the procedures for fiscal management are adequately understood by those who are responsible for the funds. Thus, it can be concluded that as soon as project funds are released to the MA regional office and ViSCA, there are no GOP procedures which constrain the implementation of project activities.

However, the research team leaders at ViSCA and the SRMUs are not aware of how much funds are set aside for their particular researches and areas. This lack of information hinders the team leaders from planning and programming for particular research activities in their areas of responsibility. This could very well be a vital factor in success or failure of the farming systems research project.

The Evaluation Team observed that both the Project Director and the Technical Coordinator for Research and Development have to attend to the research and field aspects of the project, while at the same time paying attention to the administrative aspects of the project. Thus, it appears that both areas are not getting the degree of attention from the Project Director and the TCRD which would make the project run more smoothly. Consequently, the PDO has to relinquish his participation in making decisions regarding technical matters of research to the TCRD and the Technical Committee, admitting that they are more prepared to handle this end. This has subsequently burdened the TCRD with more technical matters to make decisions on.

Thus, the team feels that there is a need for an administrative assistant, both at the PDO and TCRD's office, to handle the administrative aspects of the

project, particularly financial management. However, in order not to put additional financial burden on the project, staff who may have been observed to be good in management and administration, should be first examined before any hiring of new personnel is done. This will provide the project with a more viable administrative back-up staff and allow the PD and TCRD to provide more substantive participation and leadership in the technical aspects of the project.

### 3. Accounting Procedures

The present accounting procedures provide sufficient information on the current status of project funds, including expenditures, to facilitate financial management. However, accounting reports come in a regular quarterly basis. On any day before they receive the regular report, if they desire to look into the status of funds, they have to call the concerned accounting personnel by telephone or through the intercom. Both the Project Director and the Technical Coordinator for Research and Development do not have a monitoring system which will provide them the information on project fund status at a more frequent period, say on a weekly basis.

But there is adequate staffing at both the PDO and the TCRD office to provide such timely information for better financial management. When asked if such a weekly status report on funds could be made, both the MA and the ViSCA staffs readily answered that this could be done.

## H. ORGANIZATION AND RESPONSIBILITIES

### 1. Efficiency of present organizational structure

The present organizational structure appears to be efficient in carrying out the administrative activities and managing the logistical needs of the project. However, it has not been effective in the substantive areas as it has been in the administrative areas. The Evaluation Team found problems with regard to

*\*Insert: ... the alternative of designating one of the project...*



responsibility for technical research decisions and supervision at the SRMU.

As outlined in the section on the present status of institutional linkage between MA and ViSCA, the direct role of the PDO, and thus the MA, in the formulation and implementation of the actual research both at sites and at ViSCA must be strengthened. The PDO must be given access to technical expertise while plans are carried out for providing additional expertise, possibly through long-term participant training. The PDO must be in a position to review recommendations coming from the sites, the Technical Team, and/or the consultants, formulate policies, and then see to it that the policies and instructions are implemented. This will require one or more people in the office of the Project Director with a combination of academic training, understanding in farming systems, and experience in carrying out research. The proposed administrative structure would have many of the present duties of the Technical Coordinator for Research and Development, and possibly the title of the position shifted from ViSCA to MA. There would however still be a need for a ViSCA provided research leader with general advisory responsibility and specific implementation responsibilities. Ideally such personnel should come from the existing staff of the MA and should be detailed on a full-time basis to the project. If this arrangement proves impossible, employment by the FSDP-EV of personnel from outside the MA should be considered. If neither of the above proves possible the project should consider the addition of a long-term consultant. Regardless of which arrangement is chosen, plans should be implemented immediately to identify one or more candidates for long-term training to be funded by the project. Once expertise is available at the PDO, this office must be expected to take responsibility for approval of plans and then provide sufficient supervision to ensure that plans are being implemented.

Shifting responsibility from ViSCA to the PDO in these areas would not diminish from ViSCA its critical roles in project implementation which still exceeds what is identified for ViSCA in the document.

Such roles are identified as the following:

**Best Available Document**

- 1) ViSCA, through its participation on the staff of the SRMU, would continue to make technical expertise available to the sites, but the role would be advisory, with responsibilities for decision<sup>making</sup> with the PDO and the SRMU. Direct participation of ViSCA in the SRMU also provides an important communication channel between the farmers and the College and will serve to enrich the information needed by ViSCA in carrying out its other research and instructional activities.
- 2) ViSCA, through its Research Leader (possibly with a change in title from "Technical Coordinator for Research and Development" to "Research Advisor") as well as through its participation in the Steering Committee will still be responsible for providing advice on the entire range of project-related research.
- 3) ViSCA will still maintain responsibility for carrying out, based on the request of the PDO, on-campus back-up research.
- 4) Because of its expertise in the research management, ViSCA will assume responsibility for advising the project on the integration of socioeconomics into the farming systems research for:
  - a) understanding the existing farming systems;
  - b) designing trials;
  - c) interpreting the results of these trials
- 5) With PDO assistance, ViSCA should be given prime responsibility of documenting and evaluating the result of all field trials;
- 6) ViSCA will help establish a macroeconomic unit to support the project.

With six sites and an average of 12 farms per site for the field trials, there are approximately 72 separate locations where trials are being conducted. There is a general observation that there are too many sites to begin with too many locations. Given the geographic distribution of the six sites and the problems with transportation including travel time, the six sites are more than can be adequately supervised and visited regularly by the Project Director, the ViSCA Technical Team and the Cornell consultants. Even with the arrangement of assigning each ViSCA Technical

Team members to not more than two sites, staff and participants in the sites still claim that the technical people cannot visit the sites as often as necessary.

With the lack of experience of the FSD'-EV components (PDO, Technical Team and SRMU) in implementing and managing a farming systems research, a more practical approach would have been to concentrate initially in fewer sites and then include the others later. With the experience gained in the pioneer sites, the project staff would be able to expand to additional sites. Even at this point in time it may be useful to consider reducing the number of sites for the next two years. If this is impossible, priority should be given to two or three sites and the role of the other sites should be limited possibly to understanding the microeconomic environment of the farm and local marketing systems, and farmers' problems.

As pointed out in the section on research, the existing farming systems of the farmers are neither understood nor appreciated by the majority of the staff involved in the project. The generally large number of locations at each site where field tests are underway may have prevented the SRMU staff from spending time to fully understand the existing systems and how these should affect the proposed intervention. It is possible that the maximum number of research locations per site, including economic cooperators who provide a control, should not for the first several years exceed four and may be as few as two; one cooperator who experiments with one change in his system, and a second economic cooperator with a similar farm but not using the innovation. The SRMU can then devote sufficient time talking to the farmers and his family and observe their mode of action. In this way, the project staff cannot only predict the behavior of the farmer with a high degree of accuracy but also provide explanations for such action.

An apparent lack of knowledge on what actually transpires between the SRMU staff and the farmers indicates the absence at the PDO of an effective internal monitoring system. Such system should document any development when a PDO personnel visits the SRMU rather than how often sites are visited.

To deal effectively with the macroeconomic issues relevant to farming systems research, including providing a focus for policy analysis and the identification of policy area requiring reform, there is a need for an economic unit at the PDO level. Such a unit might be composed of MA personnel detailed to the project and backed up by a staff formed from the transfer to the PDO of two or three of the best site economists. NEDA, ViSCA and the long-term consultants will also play major roles in organizing and providing back up to this unit.

2. Definition/Adjustment of Roles

Problems regarding <sup>definition</sup> and adjustment of roles to changes, in project-related needs of individuals/groups/institutions are widely recognized and several efforts are underway to resolve them. The project appears to have the internal mechanism to deal with these problems but should properly manage this.

There is a need to modify the Project Document including the Memorandum of Agreement to reflect the increased role and responsibility of ViSCA in the project.

3. Communication Flow Among the Project Participants

With the involvement of the two agencies on opposite sides of Leyte and six sites widely scattered over Leyte and Western Samar, communication of an administrative or logistical nature appears adequate. There were however numerous reference to the need for improved radio communication to link all sites and the PDO and ViSCA. It was noted that it is possible to link the MA with ViSCA by modifying the existing radio systems. Other systems, such as the "hand carry" <sup>communication</sup> between research sites may make it easier to integrate the project into existing MA programs after termination of the project. On the other hand the communication between ViSCA and the consultants as well as SRMUs on substantive issues must be improved. Communication has been lacking especially in explaining the rationale for decisions and the relevance to FSR methodology of requests for data collection and preparation of research proposals.

4. Mechanisms for project continuity following the end of foreign assistance

To date, there appears to have little attention to integrate project functions into existing MA programs beyond project termination. In fact, there is hardly any consideration as to how existing MA research activities relate to the project, or how the project in the SRMU might strengthen these activities. Even with the participation of MA staff from its extension service, there is little or negligible degree of relationship between the project and the existing extension service despite the presence in all sites of an MA extension unit. The Evaluation Team observed that the economics of project implementation, with special attention to recurring cost for salaries, transportation, etc., were not considered. There is a need to review the economics of project strategy vis-a-vis the number of research sites, the size of SRMU staff and activities for extension of technologies.

I. EQUIPMENT, FACILITIES, AND SUPPORT SERVICES

1. Equipment and Facilities

There are adequate equipment and facilities to meet the present demands of the project at the PDO, TCRD, and the SRMUs, in terms of transportation, office requirements, and other physical needs. However, the adequacy of and the needs for facilities and equipment for research cannot be determined yet because the reserch agenda have not been finalized.

The personnel assigned to handle the computer at ViSCA and the PDO feel that they are inadequately trained to handle the equipment. While there are some materials that need to be fed into the computer, both feel that they are not yet ready to perform the required task. There is therefore a need to train the concerned personnel in the proper handling of the computer hardware and software. It would still be better to train another personnel to serve as back-up staff just in case the regular personnel is absent.

2. Planned Purchases of Equipment and Construction

The required equipment facilities for the project have been purchased as planned.

The construction of the duplex for the consultants at ViSCA has already been completed. The training dormitory also at ViSCA had been awarded to a private contractor and is scheduled to be finished within 1983.

In Tacloban City, the duplex for the consultants is also expected to be finished very soon.

In the case of the SRMU offices, the team raised the relevance of such constructions to the future of the project. The team observed that the intended sites, in the cases of Bontoc and Matalom, and the site in Gandara where building is already finished, may not be very central in relation to the other barangays of the municipality to be representative of the intended agroclimatic zone. The team noted that it might be better if non-permanent but more indigenous materials are used for the construction of such offices. It has been said that such buildings will be turned over to the RIARS of the Ministry of Agriculture when the project terminates. Up to now, however, there is no linkages of the project to the RIARS.

1. Adequacy/Conduciveness of Office Facilities/ Space

The PDO and the TCRD occupy adequate office space which are conducive for working well. At SRMU level, all units have well-established office spaces. Except for Gandara, and Villaba, team offices are in residential houses rented and spruced up for the purpose. Gandara team is already occupying the SRMU building, and the team at Villaba is based at the old Municipal building. The Villaba team voiced out the need for electricity so that they could have lights when they do overtime work in the evenings.

4. Support Services

The support services staff at the PDO and the TCRD are adequate, including those who are detail on part-time basis to the project from the regular MA and ViSCA administrative staffs. All are happy and

contended with the financial remuneration from the project. They, however, felt that in view of the present financial pinch, there might be a need to consider raising their wages or incentives.

Communication, however, is one area where the present facilities or system are inadequate. Communication between ViSCA and the PDO or MA regional office in Tacloban has to be done through personal couriers, or through the radio of ViSCA calling to ViSCA office in Manila, which calls MA central office by telephone, which in turn relays the messages from the PDO/MA regional office to ViSCA. Obviously, there is a need to improve the communication system between ViSCA and the PDO/MA regional office in Tacloban City.

Communication to the SRMUs is done by hand-carried messages through personnel couriers. This is referred to the regular mail service which take longer for messages to reach the destinations. Ways and means to improve this system must be explored.

V. RECOMMENDATIONS

A. RESEARCH/PROGRAM AREAS

1. Specific activities should be identified and implemented by the PDO to ensure that:
  - a. much more attention is given to understanding the existing systems of farmers in the region; and,
  - b. the direction of the project is changed from trying to replace totally the existing systems with a new system to trying to find incremental ways of improving the existing system.
2. Relevance of the present sites should be reviewed in terms of their relationship to different agroclimatic zones with:
  - a. reduction in the number of sites so that each site represents a significantly different agroclimatic zone;
  - b. relocation of sites as needed to ensure that all major agroclimatic zones, such as abaca areas, are covered; and
  - c. relocation of at least one site to a much more inaccessible location where more attention can be given to transportation problems.
3. Project should continue and efforts already begun should be intensified to ensure that farmer cooperators are typical of the intended target group of limited resource farmers.
4. All plans for intervention in an existing system should be reviewed in terms of whether the farmer or the landlord is likely to be the beneficiary.
5. The number of changes being introduced at any location should not exceed two at a time.
6. For the time being, expensive inputs, such as fertilizer, should be eliminated from the proposed changes.



7. The main preferred crop of a farmer-cooperator should not be changed in a trial.
8. An explicit program should be developed for fully understanding the role of livestock in the existing system before attempting any major changes. Proposed changes relating to livestock should modify rather than replace the existing system, and cooperators for the crop trials should be the same cooperators for livestock.
9. Proposed changes relating to livestock should modify rather than replace the existing system.
10. Final decisions on approval for site research plans should rest with the PDO. Only the PDO should have the authority to approve and/or make major changes within the parameters set by the Regional Project Management Committee.
11. The extent of flexibility of the SRMU in implementing PDO approved plans should be made explicit.
12. A plan for using seminars, short trainings, printed media, discussion groups, and/or on-the-job trainings should be formulated and implemented for ensuring that all project participants fully understand the nature of the project with special attention to:
  - a. increased farmer participation;
  - b. use of trials as experimental undertakings as opposed to technology demonstration;
  - c. the rationale for proposed changes;
  - d. the rationale for the collection and analysis of data by the project; and,
  - e. consideration of the costs of changes, including purchase price, transportation costs, labor costs, and opportunity labor costs.
13. ViSCA should be given the responsibility for carefully reviewing and documenting the results of all trials (including trials during the drought) paying as much attention to the failure as to the success.
14. All project actions and proposed system interventions should be reviewed in terms of what is already known about:

- a. the role of women as decision-makers and bankers;
  - b. seasonal variability in market demand and prices; and,
  - c. seasonal variability in insect and other pests.
15. A specific strategy that identifies methodologies for data collection, analysis, reporting, and factoring results into decisions concerning proposed results into decisions concerning proposed interventions must be formulated for getting the entire SRMU personnel involved in understanding the dynamics of the farming system.

#### B. STAFFING

1. Starting immediately, the staff on special hire by the project should be screened, and absorbed into the MA or ViSCA plantilla and budget as new positions are created or vacancies occur.
2. Persons with expertise in research and implementation and economic/policy analysis should be assigned to the PDO, and other changes made as necessitated by the shift in responsibility for research to PDO.
3. Changes in the staffing pattern of the SRMU from that proposed in the Project Paper need to be justified with serious consideration given to reducing the number of economists, as well as other changes such as:
  - a. making staffing more site-specific;
  - b. redeploying expertise to the PDO in the economic areas; and,
  - c. adding staff, such as livestock specialist, in areas where it can be justified.

### C. TRAINING

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1. The training program to be formulated as per Recommendation No. 12 under Research/Program Areas should be implemented as soon as possible.
2. Increased opportunities for formal trainings and observational visits must be explored for farmer-cooperators.
3. Before any participant is allowed to attend a training program in the US, he should first have adequate experience with the work of the SRMU, including visits to all sites.
4. The project should evaluate the relative values of trainings provided at different sites in the Philippines, and under different programs in the US.

### D. FARMER/COMMUNITY ORGANIZATIONS

1. Farmers and community organizations should be made the targets of a special program designed to provide them with information on the project and farming systems research.

### E. INTERAGENCY LINKAGES

1. The responsibility for overseeing research should shift from ViSCA to the PDO. (See "H. Organization and Responsibility".)
2. The Memorandum of Agreement between ViSCA and MA concerning areas of responsibility should be revised.
3. If the project is extended, plans should <sup>be</sup> included to support personnel sharing between MA and ViSCA.
4. As part of the planning for a project extension, immediate planning should begin by reviewing the entire compensation package for project staff with particular attention to restructuring the honorarium scale.

- a. Special hired staff should <sup>be</sup> absorbed by MA or VISCA and seconded to the project, or other positions should be found for them outside the project.
- b. Responsibility for honorarium should be shifted from AID funds to GOP funds with the greater use of AID funds to cover recurring costs.

#### F. TECHNICAL ASSISTANCE

1. The role of the foreign consultants need to be better defined with specific work plans covering at least a six-month period; and this should be communicated to all project participants. Specific responsibilities for the long-term consultants in areas supporting project activities relating to the social sciences, economics, and policy analysis should be identified.
2. Consultants should be added to the organizational chart of the project.
3. A counterpart for each short-term consultant should be identified at the time planning begins for bringing out the consultant.
4. The Cornell University representatives should be encouraged to take an active role in coordinating the planning for short-term consultants, and in working with the consultant counterpart on follow-up<sup>activities</sup> in the project and continued involvement of the consultant, and providing expertise and leadership at SRMU level activities.

#### G. FINANCIAL RESOURCES AND MANAGEMENT

1. Funding for the project should be restructured with AID funding to cover greater share of the recurring operating costs and not covering salaries and/or honorarium.

2. Individuals in the PDO and at ViSCA who can assume greater responsibility for handling the administrative aspects of the project particularly in financial management to relieve the Project Director and the Technical Coordinator for Research and Development of the routinary administrative responsibilities should be identified.
3. Both the Project Director and Technical Coordinator for Research and Development should establish a monitoring system which will provide them with information on project fund status on a shorter period but regular basis.

#### H. ORGANIZATION AND RESPONSIBILITIES

1. Shift from ViSCA to PDO of some duties, and possibly the title of the Technical Coordinator for R & D with staffing for the position by someone with a combination of academic training, farming systems understanding, and experience in carrying out research. Clear and explicit overall responsibility for research should rest with the PDO.
2. Clear, explicit overall responsibility for research to rest with the PDO.
3. ViSCA responsibilities to support research should be defined and should include at a minimum:
  - a. participation at the SRMU level;
  - b. over-all review and advise on research;
  - c. on-campus back-up research;
  - d. role of integrating socio-economic unit in the PDO;
  - e. responsibility for documenting results of field trials ; and
  - f. helping establish the macro-economic unit in the PDO.
4. For at least the next two years, consider the reduction in the number of sites, or give priority to some sites while limiting and redefining the role of the others.
5. Limiting the number of research locations per site to not more than four for the next year.

6. Development by the PDO of a monitoring program including specific monitoring activities to be carried out during site visits.
7. Establishing a macroeconomic unit at the PDO.
8. Immediate completion of definition of staff responsibilities.
9. Identification of minimal requirements necessary to link the PDO and ViSCA by radio.
10. Planning as soon as possible to fully integrate project activities into the existing structure of the MA, especially to link project activities to MA extension activities, including farmer trainings with special attention to project support that can improve the effectiveness of the system for reaching the farmers who are the target of the project.

#### I. EQUIPMENT, FACILITIES, AND SUPPORT SERVICES

1. Training for at least two members of the PDO staff in the use of the micro-computer.
2. Planning for the construction of offices for the remaining sites based on reduced funds to be made available, increased costs for imported materials, and on the need to ensure that sites are located in areas representative of the agroclimatic zones they are supposed to represent.

**Appendix A. THE SIX FSIP-EV SITES REPRESENTING MAJOR AGROCLIMATIC ZONES IN EASTERN VISAYAS.**

<u>Municipality</u>	<u>Primary Crop (s)</u>	<u>Major Complementary Crop (s)</u>
Rontoc, So. Leyte	Abaca	Coconut
Basey, Samar	Coconut	Rootcrops
Jaro, Leyte	Coconut	Fruit Tree/Root Crops
Gandara, Samar	Upland Rice	Corn
Matalom, Leyte	Corn	Rootcrops
Villaba, Leyte	Corn	Tobacco and Mungo

## APPENDIX B. CROPPING PATTERNS FOR THE SIX SITES

### 1. BASEY

C.P. No. 1. Mungo - Upland Gabi + Upland Rice - Upland Gabi + Corn

C.P. No. 2. Mungo - Upland Rice - Sweet Potato

Ipil-ipil based; on sloping land

C.P. No. 3. Gabi/Gabi (Dolongan Soil)

(Relay Cropping)

### 2. BONTOC

C.P. No. 1. Corn + Peanut - Mungo + Corn

(Strip Cropping)

C.P. No. 2. Upland Rice/Sweet Potato - Mungo

(Ipil-ipil-based)

### 3. GANDARA

C.P. No. 1. Corn + Peanut - Upland Rice

C.P. No. 2. Mungo - Corn - Upland Rice

C.P. No. 3. Mungo - Upland Rice/Sweet Potato

### 4. JARO - All Cropping Pattern Trials are Coconut-based

C.P. No. 1. Banana + Mungo - Corn - Upland Rice

C.P. No. 2. Banana + Pineapple + Peanut - Sweet Potato

C.P. No. 3. Corn + Mungo - Upland Rice

C.P. No. 4. Banana + Peanut/Cassava



## 5. MATALOM

C.P. No. 1. Corn + Peanut - Corn/Sweet Potato

C.P. No. 2. Corn + Peanut - Upland Rice - Mungo

(Sweet potato between rows of corn and rice)

C.P. No. 3. Upland Rice - Corn + Peanut

## 6. VILLABA

C.P. No. 1. Corn + Peanut - Peanut + Corn

C.P. No. 2. Corn + Peanut - Sweet Potato

C.P. No. 3. Corn + Peanut - Upland Rice - Mungo

Appendix C. CROPPING PATTERN TRIALS IN THE SIX SITES

JARO, LEYTE

I. Corn - Mungbean - Upland Rice (This trial is already ongoing)

A. Corn

- a.1. Variety : DMR #2
- a.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- a.3. Fertilizer : 40-20-0 kg per hectare  
Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-0-0 per hectare sidedressed prior to  
second hilling up
- a.4. Weeding : 2 hilling up  
Ist hilling up = 14 DAE  
2nd hilling up = 28 DAE
- a.5. Insecticide : As prescribed by the entomologist

B. Mungbean

- b.1. Variety : Pag-asa 1 (Green)
- b.2. Spacing : 50 cm between rows, drill method  
at the rate of 15-20 seeds per linear  
meter
- b.3. Fertilizer : Inoculant
- b.4. Weeding : Mechanical weeding at 10-15 DAF

C. Upland Rice

- c.1. Variety : UPL Ri-5
- c.2. Spacing : 25 cm between rows; drill method  
with a density of 1 kg per 100 square  
meters
- c.3. Fertilizer : 40-20-0 kg per hectare
- c.4. Weeding : Mechanical weeding at 15-20 DAE
- c.5. Insecticide : As prescribed by the entomologist

II. Cassava and Corn - Cassava and Upland Rice (Ipil-ipil based)

- NOTE: 1. Same cassava plant for the 2 croppings.  
2. This trial is already ongoing.  
3. The area for cassava is separated from corn and upland rice.

A. Ipil-ipil

- a.1. Variety : Peruvian
- a.2. Spacing : 50 cm between rows  
: 50 cm between hills  
: 3 staggered rows of ipil-ipil
- a.3. Fertilizer :
- a.4. Pruning : First pruning will be done when  
one-inch trunk diameter is attained.  
: Cut or prune  $\frac{1}{2}$  meter above the ground  
: Interval of pruning is 45 days  
: Herbage is mulched or spread at the  
base of the plant

C. Upland Rice

- c.1. Variety : UPL Ri-5
- c.2. Spacing : 25 cm between rows; drill method  
with a density of 1 kg per 100 square  
meters
- c.3. Fertilizer : 40-20-0 kg per hectare
- c.4. Weeding : Mechanical weeding at 15-20 DAE
- c.5. Insecticide : As prescribed by the entomologist

II. Cassava and Corn - Cassava and Upland Rice (Ipil-ipil based)

NOTE: 1. Same cassava plant for the 2 croppings.

2. This trial is already ongoing.

3. The area for cassava is separated from corn and upland rice.

A. Ipil-ipil

- a.1. Variety : Peruvian
- a.2. Spacing : 50 cm between rows  
: 50 cm between hills  
: 3 staggered rows of ipil-ipil
- a.3. Fertilizer :
- a.4. Pruning : First pruning will be done when  
one-inch trunk diameter is attained.  
: Cut or prune  $\frac{1}{2}$  meter above the ground  
: Interval of pruning is 45 days  
: Herbage is mulched or spread at the  
base of the plant

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B. Corn

- b.1. Variety : Improved Tiniguib
- b.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
maintain 2 plants per hill
- b.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-20-0 per hectare sidedressed prior to  
second hilling up

- b.4. Weeding : 2 hilling up  
Ist hilling up = 14 DAE  
2nd hilling up = 28 DAE
- b.5. Insecticide : As prescribed by the entomologist

C. Cassava

- c.1. Variety : Macan (local)
- c.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2 seedpieces per hill
- c.3. Fertilizer : 30-30-30 kg per hectare
- c.4. Weeding : 2 hilling up  
Ist hilling up = 14 DAE  
2nd hilling up = 28 DAE
- c.5. Insecticide : As prescribed by the entomologist

D. Upland Rice

- d.1. Variety : UPL Ri-5
- d.2. Spacing : 25 cm between rows; drilled at a density of 1 kg per 100 square meters
- d.3. Fertilizer : 2 bags of urea per hectare  
1 basal  
1 bag topdressed at 50-60 DAE
- d.4. Weeding : Mechanical weeding at 15-20 DAE
- d.5. Insecticide : As prescribed by the entomologist

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MATALOM, LEYTE

I. Corn + Peanut - Corn/Sweet Potato

A. Corn

- a.1. Variety : Improved Tiniguib
- a.2. Spacing : 1.5 m between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- a.3. Fertilizer : 40-20-0 kg per hectare  
Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-20-0 per hectare sidedressed at 28-30 DAE
- a.4. Weeding : Mechanical weeding at 15-20 DAE  
and whenever necessary
- a.5. Insecticide : As prescribed by the entomologist

B. Peanut

- b.1. Variety : Meket
- b.2. Spacing : 40 cm between rows  
: 20 cm between hills  
: 2 seeds per hill
- b.3. Fertilizer : Inoculant
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

C.2.b.

C. Corn

- c.1. Variety : Improved Tiniguib
- c.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- c.3. Fertilizer : 40-20-0 kg per hectare rate
- c.4. Weeding : 2 hilling up  
Ist hilling up = 14 DAE  
2nd hilling up = 28 DAE
- c.5. Insecticide : As prescribed by the entomologist

D. Sweet Potato

NOTE: Sweet potato will be planted one month before the harvest  
of corn.

- d.1. Variety : ENAS-51
- d.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2 cuttings per hill
- d.3. Fertilizer : None
- d.4. Weeding : None
- d.5. Insecticide : None

II. Corn + Peanut - Corn + Mungbean

A. Corn

- a.1. Variety : Improved Tiniguib

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C.2.c.

a.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0 per hectare applied as basal

1 bag of 46-0-0 per hectare sidedressed at 28-30 DAE

a.4. Weeding : Mechanical weeding at 10-15 DAE

a.5. Insecticide : As prescribed by the entomologist

B. Peanut

b.1. Variety : Meket

b.2. Spacing : 40 cm between rows

: 20 cm between hills

: 2 seeds per hill

b.3. Fertilizer : Inoculant

b.4. Weeding : Mechanical weeding at 15-20 DAE

b.5. Insecticide : As prescribed by the entomologist

C. Corn

c.1. Variety : Improved Tiniguib

c.2. Spacing : 1.5 m between rows

: 50 cm between hills

: 2-3 seeds per hill with thinning

to maintain 2 plants per hill

c.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0 per hectare applied as basal

1 bag of 46-0-0 per hectare sidedressed at 28-30 DAE

c.4. Weeding : Mechanical weeding at 15-20 DAE and  
whenever necessary

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C.2.d.

D. Mungbean

- d.1. Variety : Pag-asa 1 (Green)
- d.2. Spacing : 50 cm between rows  
: Drilled at 15-20 seeds per  
linear meter
- d.3. Fertilizer : Inoculant
- d.4. Weeding : Mechanical weeding at 15-20 DAE
- d.5. Insecticide : As prescribed by the entomologist

III. Upland Rice - Corn + Peanut

A. Upland Rice

- a.1. Variety : UPL Ri-5
- a.2. Spacing : 25 cm between rows at the density of  
1 kg per square meter
- a.3. Fertilizer : 2 bags of urea per hectare  
1 bag topdressed at 50-60 DAE
- a.4. Weeding : Mechanical weeding at 15-20 DAE
- a.5. Insecticide : As prescribed by the entomologist

B. Corn

- b.1. Variety : Improved Tiniguib
- b.2. Spacing : 1.5 m between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- b.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0 per hectare applied as basal

1 bag of 46-0-0 per hectare sidedressed 20-30 DAE

C.2.e.

- 1.4. Weeding : Mechanical weeding at 15-20 DAE
  - b.5. Insecticide : As prescribed by the entomologist
- Peanut
- c.1. Variety : Mket
  - c.2. Spacing : 40 cm between rows  
: 20 cm between hills  
: 2 seeds per hill
  - c.3. Fertilizer : Inoculant
  - c.4. Weeding : Mechanical weeding at 15-20 DAE
  - c.5. Insecticide : As prescribed by the entomologist

**Best Available Document**

VILLASA, LEYTE

I. Corn + Peanut - Upland Rice (Ipil-ipil based)

A. Ipil-ipil

- a.1. Variety : Peruvian
- a.2. Spacing : 50 cm between rows  
: 50 cm between hills  
: 3 staggered rows of ipil-ipil seedlings
- a.3. Fertilizer : Lime (Dolomite: 2 tons per hectare)  
: Inoculant (CB-81)
- a.4. Pruning : First pruning will be when trunk diameter is one inch  
: Cut/prune  $\frac{1}{2}$  meter above the ground  
: Interval of pruning is 45 days  
: Herbage is mulched or spread at the base of the plant

B. Corn

- b.1. Variety : Improved Tiniguib
- b.2. Spacing : 1.5 m between rows  
: 50 cm between hills

C. 3. b.

- : 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- b.3. Fertilizer rate : 40-20-0 kg per hectare  
Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-0-0 per hectare sidedressed at 28-30 DAE
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

C. Peanut

- c.1. Variety : Meket
- c.2. Spacing : 25 cm between hills  
: 3 rows between rows of corn
- c.3. Fertilizer : Inoculant
- c.4. Weeding : Mechanical weeding at 15-20 DAE

D. Upland Rice

- d.1. Variety : UPL Ri-5
- d.2. Spacing : 25 cm between rows; drilled at  
1 kg per 100 square meters
- d.3. Fertilizer : 2 bags of urea per hectare  
: 1 bag basal  
: 1 bag topdressed at 50-50 DAE
- d.4. Weeding : Mechanical weeding at 15-20 DAE

d.5. Insecticide : As prescribed by the entomologist

11. Corn + Peanut - Corn + Peanut ; specifications for ipil-ipil are the same as in C.1 No.1

A. Corn

- a.1. Variety : Improved Tiniguib
- a.2. Spacing : 1.5 m between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning to maintain 2 plants per hill
- a.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0- per hectare applied as basal

1 bag of 46-0-0 per hectare sidedressed at 28-30-DAE

- a.4. Weeding : Mechanical weeding at 15-20 DAE
- a.5. Insecticide : As prescribed by the entomologist

B. Peanut

- b.1. Variety : Meket
- b.2. Spacing : 25 cm between rows  
: 25 cm between hills  
: 3 rows between rows of corn
- b.3. Fertilizer : Inoculant
- b.4. Weeding : Mechanical weeding at 15-20-DAE
- b.5. Insecticide : As prescribed by the entomologist

11. Corn - Sweet Potato (Ipil-ipil-based)

A. Corn (with ipil-ipil)

- a.1. Variety : Improved Tiniguib
- a.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- a.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-0-0 per hectare sidedressed prior to  
second hilling up

- a.4. Weeding : 2 hilling up  
: 1st hilling up = 14 DAE  
: 2nd hilling up = 28 DAE

- a.4. Insecticide : As prescribed by the entomologist

B. Sweet Potato (with ipil-ipil)

- b.1. Variety : BNAS-51
- b.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2 cuttings per hill
- b.3. Fertilizer : none
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

IV. Corn + Mungbean - Upland Rice

**Best Available Document**



## A. Corn

- a.1. Variety : Improved Tinguib
- a.2. Spacing : 1.5 m between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning to maintain 2 plants per hill
- a.3. Fertilizer : 40-20-0 kg per hectare  
: 2 bags of urea (40-10-0) per hectare applied as basal  
: 1 kg of urea per hectare sidedressed at 28-30-DAE
- a.4. Weeding : Mechanical weeding at 15-20-DAE
- a.5. Insecticide : As prescribed by the entomologist

## B. Mungbean

- b.1. Variety : Pag-asa I (Green)
- b.2. Spacing : 50 cm between rows; drilled at 15-20 seeds per linear meter
- b.3. Fertilizer : Inoculant
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

## C. Upland Rice

- c.1. Variety : UPL Ri-5
- c.2. Spacing : 25 cm between rows, drilled at 1 kg per 100 square meters
- c.3. Fertilizer : 2 bags of urea per hectare  
: 1 bag basal  
: 1 bag topdressed at 50-60 DAE



## II. Mungbean - Corn + Peanut - Upland Rice

### A. Mungbean

- a.1. Variety : Pag-asa 1 (Green)
- a.2. Spacing : 50 cm between rows; seeds drilled  
at 15-20 seeds per linear meter
- a.3. Fertilizer : Inculant (Superimposed fertilizer:  
30-30-30 kg/ha)
- a.4. Weeding : Mechanical weeding at 10-15 DAE
- a.5. Insecticide : As prescribed by the entomologist

### B. Corn

- b.1. Variety : Improved Tiniguib
- b.2. Spacing : 1.5 m between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning to  
maintain to 2 plants per hill
- b.3. Fertilizer : 40-20-0 kg per hectare  
Where: 2 bags of 15-20-0 per hectare applied as basal  
1 bag of 46-0-0 per hectare sidedressed at 28-30 DAE
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

**Best Available Document**



- c.3. Variety : 90 (Superimposed variety; Market)
- c.4. Spacing : 25 cm between hills
- c.5. Rows between rows of corn : 3 rows between rows of corn
- c.6. Inoculant : Inoculant
- c.7. Weeding : Mechanical weeding
- c.8. Insecticide : As prescribed by the entomologist
- D. Upland Rice
- d.1. Variety : UPL Ri-5 (Superimposed varieties: Calinayan and Makarato)
- d.2. Spacing : 25 cm between rows; drilled at 1 kg per 100 square meters
- d.3. Fertilizer : 2 bags of urea per hectare  
1 bag basal  
1 bag topdressed at 50-60 DAE
- d.4. Weeding : Mechanical weeding at 15-20 DAE
- d.5. Insecticide : As prescribed by the entomologist

Best Available Document

C.4.d.

III. Mungbean - Rice - Sweet Potato

A. Mungbean

- a.1. Variety : Pag-asa 1 (Green)
- a.2. Spacing : 50 cm between rows; seeds drilled at  
15-20 seeds per linear meter
- a.3. Fertilizer : Inoculant
- a.4. Weeding : Mechanical weeding at 10-15 DAE
- a.5. Insecticide : As prescribed by the entomologist

B. Upland Rice

- b.1. Variety : UPL Ri-5
- b.2. Spacing : 25 cm between rows; drilled at  
1 kg per 100 square meters
- b.3. Fertilizer : 2 bags of urea per hectare  
1 bag basal  
1 bag topdressed at 50-6- DAE
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

C. Sweet Potato

- c.1. Variety : ENAS-51
- c.2. Spacing : 75 cm between rows  
50 cm between hills  
2 cuttings per hill

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C.4.e.

- c.3. Fertilizer : 30-30-30 kg per hectare
- c.4. Weeding : Hilling up at 2-3 weeks after  
planting  
: Spot weeding whenever necessary
- c.5. Insecticide : As prescribed by the entomologist

## BASEY, SAMAR

## I. Mungbean - Gabi + Upland Rice - Gabi + Corn (Corn will be intercropped with Gabi after rice)

## A. Mungbean

- a.1. Variety : Pag-asa 1 (Green)
- a.2. Spacing : 50 cm between rows; seeds drilled at 15-20 seeds per linear meter
- a.3. Fertilizer : Inoculant (Superimposed Fertilizer: 30-30-30 kg/ha)
- a.4. Weeding : Mechanical weeding at 10-15 DAE
- a.5. Insecticide : As prescribed by the entomologist

## B. Gabi

- b.1. Variety : Pilit
- b.2. Spacing : 2 m between rows  
: 2 m between hills
- b.3. Fertilizer : 10 g. 14-14-14 per hill applied as basal (rate: 30-30-30 kg/ha)
- b.4. Weeding : Mechanical weeding at 15-20 DAE

C.5.b.

- b.5. Insecticide : As prescribed by the entomologist
- C. Upland Rice
- c.1. Variety : UPL Ri-5
- c.2. Spacing : 25 cm between rows; drilled at 1 kg  
per square meter
- c.3. Fertilizer : 2 bags of urea per hectare  
1 bag basal  
1 bag topdressed at 50-60 DAE
- c.4. Weeding : Mechanical weeding at 15-20 DAE
- c.5. Insecticide : As prescribed by the entomologist
- D. Corn
- d.1. Variety : Improved Tiniguib
- d.2. Spacing : 75 cm between rows  
50 cm between hills  
2-3 seeds per hill with thinning  
whenever necessary
- d.3. Fertilizer : 40-20-0 kg per hectare  
Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-0-0 per hectare sidedressed at 28-30 DAE
- d.4. Weeding : Mechanical weeding at 15-20 DAE
- d.5. Insecticide : As prescribed by the entomologist

II. Mungbean - Upland Rice - Sweet Potato (Ipil-ipil-based)

A. Ipil-ipil

- a.1. Variety : K-28
- a.2. Spacing : 50 cm between rows  
: 15 cm between hills  
3 staggered rows of ipil-ipil seedlings  
planted along the contour; space  
between hedge rows of ipil-ipil is  
3 meters
- a.3. Fertilizer : Lime (Dolomite: 2 tons per hectare;  
liming is only applicable to acidic soils;  
application should be during planting  
of ipil-ipil.)  
Inoculant: CB-81
- a.4. Pruning : First pruning will be when trunk  
diameter is one inch  
: Cut or prune  $\frac{1}{2}$  meter above the ground.  
: Interval of pruning is 45 days  
: Herbage is mulched or spread at the  
base of the plant.

B. Mungbean

- b.1. Variety : Pag-asa 1
- b.2. Spacing : 50 cm between rows; seeds drilled at  
15-20 seeds per linear meter
- b.3. Fertilizer : Inoculant

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C.5.d.

- b.4. Weeding : Mechanical weeding at 10-15 DAE
- b.5. Insecticide : As prescribed by the entomologist
- C. Upland Rice (Superimposed varieties: UPL Ri-5 and Calinayan)
  - c.1 Variety : Karimon (Local)
  - c.2. Spacing : 25 cm between rows; drilled at  
1 kg per 100 square meters
  - c.3. Fertilizers : 1 bag urea per hectare  
 $\frac{1}{2}$  bag basal  
 $\frac{1}{2}$  bag topdressed at 50-50 DAE
  - c.4. Weeding : Mechanical weeding at 15-20 DAE
  - c.5. Insecticide : As prescribed by the entomologist
- D. Sweet Potato
  - d.1. Variety : BNAS-51
  - d.2. Spacing : 75 cm between rows  
50 cm between hills  
2 cuttings per hill
  - d.3. Fertilizer : None
  - d.4. Weeding : Mechanical weeding at 15-20 DAE
  - D. . Insecticide : As prescribed by the entomologist

III. Relay Planting of Gabi (Dolongan Soil)



C.5.e.

- a.1. Variety : Marondon
- a.2. Spacing : 75 cm between rows  
75 cm between hills
- a.3. Fertilizer : None
- a.4. Weeding : Mechanical weeding at 15-20 DAE  
and spot weeding whenever necessary
- a.5. Insecticide : As prescribed by the entomologist

B. Gabi (Relay Crop)

- b.1. Variety : Hinongot
- b.2. Spacing : 75 cm between rows  
75 cm between hills
- b.3. Fertilizer : 30-60-60 kg per hectare (Superimposed)
- b.4. Weeding : Mechanical weeding whenever necessary

IV. Effects of Vaccination on the Incidence of Fowl and Hog Cholera

- a.1. Dosage : As instructed by the product label
- a.2. Number of Application : Once (Start of the trial)

V. The Effect of Deworming on the Growth of Native Hogs

- a.1. Treatment : 6 weanlings
- a.2. Dewormer : Pyperix powder
- a.3. Dosage : As instructed by the product label
- a.4. Number of application : Twice (Start of trial and one month  
after)

C.6.a.

BONTOC, SOUTHERN LEYTE

1. Corn + Mungbean - Corn + Peanut (Stripcropping: 10 rows per strip at  
7.5 meters)

A. Corn

- a.1. Variety : DMR #2
- a.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2-3 seeds per hill with thinning  
to maintain 2 plants per hill
- a.3. Fertilizer : 40-20-0 kg per hectare

Where: 2 bags of 16-20-0 per hectare applied as basal  
1 bag of 46-0-0 per hectare sidedressed prior to  
second hilling up

- a.4. Weeding : 2 hilling up  
1st hilling up = 14 DAE  
2nd hilling up = 28 DAE
- a.5. Insecticide : As prescribed by the entomologist

B. Mungbean

- b.1. Variety : Pag-asa 1 (Green)

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C.6.c.

- d.4. Weeding : Mechanical weeding: 10-15 DAE
- d.5. Insecticide : As prescribed by the entomologist

II. Upland Rice - Sweet Potato (Ipil-ipil-base, in areas of not more than 45% slope which is equivalent to 22°)

A. Ipil-ipil

- a.1. Variety : K-28
- a.2. Spacing : 50 cm between rows  
: 15 cm between hills  
: 3 staggered rows of ipil-ipil seedlings planted along the contour  
: Space between hedge rows of ipil-ipil is 3 m
- a.3. Fertilizer : Lime (Dolomite: 2 tons per hectare; liming is only done in acidic soils; application should be during planting of ipil-ipil.)
- a.4. Pruning : First pruning will be done when trunk diameter is one inch  
: Cut or prune  $\frac{1}{4}$  meter above the ground  
: Interval of pruning is 45 days  
: The herbage is mulched or spread at the base of the plant

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C.6.d.

B. Upland Rice

- b.1. Variety : UPL Ri-5
- b.2. Spacing : 25 cm between rows; drilled at 1 kg per 100 square meters
- b.3. Fertilizer : 2 bags urea per hectare  
1 bag basal  
1 bag topdressed at 50-60 DAE
- b.4. Weeding : Mechanical weeding at 15-20 DAE
- b.5. Insecticide : As prescribed by the entomologist

NOTE: 1. No fertilizer application on rice after the first year.

2. To maintain the amount of ipil-ipil herbage, sundried yield from one linear meter is taken.

C. Sweet Potato

- c.1. Variety : ENAS-51
- c.2. Spacing : 75 cm between rows  
: 50 cm between hills  
: 2 cuttings per hill
- c.3. Fertilizer : 30-30-30 kg per hectare (Basal application at planting time)
- c.4. Weeding : Hilling up 2-3 weeks after planting  
: Spot handweeding as whenever necessary

C.6.e.

c.5. Insecticide : As prescribed by the entomologist

(II). Abaca Rejuvenation Study

IV. A. The Effect of Deworming on the Growth of Native Hogs (Weanlings)

- a.1 Treatments : With vs without deworming
- a.2 Number of hogs : 6 weanlings
- a.3 Dewormer : Pyperix powder
- a.4 Dosage : As instructed by the product label
- a.5 Number of application : Twice (start of trial and one month after)

B. Vaccination for Hog Cholera

- b.1 Dosage : As instructed by product label
- b.2 Number of Application : Once (start of trial)

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## Appendix D. GUIDELINES FOR SETTING RESEARCH PRIORITIES

### 1. Seriousness of the Problem

- a. Is the problem requiring urgent solution?
- b. Is the problem requiring attention frequently?

### 2. Potential for solving the problem

#### a. Biological Potential

- 1) Are the physical and biological conditions in the sites provide opportunities to solve the problem?
- 2) What information on potential solution is available from experiment stations, farmers in sites and in other areas, and from technical literature?
- 3) Do the proposed technologies fit into the farmers' existing systems?

#### b. Resource Availability

- 1) Are available resources adequate to meet the resource requirements?
- 2) Do potential solutions reduce the employment of scarce resources?
- 3) Does employment of underutilized resources increase?
- 4) Are farmers able to apply the new technology?

#### c. Economic and Financial Feasibility

- 1) Do benefits of potential improvements in the farmers' systems offer sufficient incentives to interest family members?
- 2) Do potential solutions increase or decrease the stability of farmers' production and earnings?
- 3) Do farmers have sufficient cash or credit to pay for any increase in purchase?
- 4) Do potential solutions change the farmer's perception of risk through changes in the stability of production and requirements to obtain credit?

D.b.

d. Sociocultural Acceptability

- 1) Do social and cultural values, norms, and customs of the community help or hinder the acceptance of proposed solutions?
- 2) Do farmer's perceptions, beliefs, knowledge and attitudes and aspirations facilitate or make difficult the acceptance of proposed solutions?
- 3) Do site staffs have social or cultural values that hamper their working with certain groups or types of farmers?
- 4) Are farm family goals served or altered if the proposed solutions are successful?

3. Importance of the problem in the research strategy

- a. Is the problem important in relation to the overall research strategy?

MEMORANDUM OF AGREEMENT

between

MINISTRY OF AGRICULTURE (Region VIII)

and

VISAYAS STATE COLLEGE OF AGRICULTURE

for

IMPLEMENTATION OF PROJECT ACTIVITIES OF  
THE FARMING SYSTEMS DEVELOPMENT PROJECT-  
EASTERN VISAYAS

as provided in

PROJECT LOAN AND GRANT AGREEMENT BETWEEN THE  
GOVERNMENT OF THE PHILIPPINES (GOP) AND THE  
UNITED STATES OF AMERICA (AID LOAN NO. 492-T-066;  
AID PROJECT NO. 492-0356) dated September 30, 1981

I. SCOPE:

This Memorandum of Agreement between the Ministry of Agriculture (MA Region VIII), Tacloban and the Visayas State College of Agriculture (ViSCA), Baybay, Leyte relates to the implementation of project activities of the Farming Systems Development Project-Eastern Visayas (FSDP-EV) as provided in Project Loan and Grant Agreement between the Government of the Philippines (GOP) and the USA (AID Loan No. 492-T-066; AID Project No. 492-0356). Project activities covered include those designed to establish a proven mechanism for adopting rainfed, agricultural technologies to the resource conditions found in Region VIII and to disseminate such technologies as appropriate.



E.b.

The project intends to:

Increase the capacity of the MA Region VIII staff to plan, coordinate and undertake farming systems research and disseminate the improved technologies;

Improve administrative and research capacity of the leading agricultural college in Leyte, ViSCA, to support farming systems development in Region VIII; and

Establish six (6) field research/demonstration sites with farmer cooperators participating in the research in conjunction with an interdisciplinary team located at each site, and conduct research/farmer managed trials resulting in improved farming systems which can be disseminated to other farmers in Region VIII.

## II. ORGANIZATIONAL RELATIONSHIPS:

A Regional Project Management Committee (RPMC) shall be created, with the MA Regional Director as Chairman and the ViSCA President, NEDA Regional Executive Director, Agricultural Research Office (ARO) Director (Manila), MA Financial Management Service Chief, Project Director and Region VIII farmer representative as members.

The RPMC formulates overall policies, rules and guidelines for the coordination and implementation of farming systems project activities.

A Project Director shall be designated by the MA Regional Director, as Chairman of the RPMC and will have general supervision of project activities including those in Research Development at ViSCA. Overall project management and field operations will be the responsibility of the Project

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E.g.

Director who will be under the supervision of the RPMC. All official project communications will be channeled through the Project Director's Office for appropriate action.

The Technical Coordinator for Research and Development shall be designated by the ViSCA President and will have immediate administrative responsibility for all on-campus farming systems research activities funded by the project. He shall coordinate the activities of consultants and/or contractors providing agricultural technical assistance.

MA shall provide an interdisciplinary team for each of the six (6) Site Research Management Units (SRMU) which will undertake the verification/evaluation of recommended farming systems components thereof.

Technical support to the SRMUs will be provided by another interdisciplinary team in ViSCA either directly or through project-financed on-campus researches in farming systems structured in such a way to contribute directly to supporting the SRMU.

ViSCA will make available, through proper arrangements, the facilities of the Regional Training Center for Rural Development (RTC-RD) for the purpose of conducting project-related trainings.

### III. MA STAFF INPUTS:

MA staff inputs to the project shall include the following on a full-time basis:

#### A. Detailed Staff:

- 1) Project Director
- 2) 3 Senior Staff

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- 3) Research Assistant
- 4) 6 Agronomists
- 5) 6 Extensionists

B. New Hire

- 1) 6 Economic Researchers II
- 2) 6 Economists
- 3) 4 Drivers
- 4) 1 Clerk

IV. VISCA STAFF INPUTS:

VISCA staff inputs to the project shall include the following on full time basis:

A. Detailed Staff:

- 1) Technical Coordinator
- 2) Asst. Technical Coordinator
- 3) Animal Scientist
- 4) Agronomist/Soil Scientist
- 5) Agricultural Economist
- 6) Plant Protection Scientist
- 7) Horticulturist
- 8) Agricultural Engineer
- 9) Rural Sociologist

B. New Hire:

- 1) 2 Clerk typists
- 2) 3 Drivers
- 3) 1 Utilityman

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All MA and ViSCA Staff detailed or assigned to the Farmton Systems Development Project - Eastern Visayas are to be treated as staff members of the project and are therefore primarily responsible to their supervisors in the project.

V. LOGISTICAL SUPPORT TO PROJECT ACTIVITIES:

Budget formulation and planning will be done cooperatively between ViSCA and MA. Disbursements will be decentralized and managed separately by MA and ViSCA.

A. MA Support:

From funds provided for this purpose under the project Loan Grant Agreement, AID Project No. 492-0356, MA will provide logistical support services for the project in Region VIII especially to the identified research sites. These support services include office space, communication, transportation and barrio office facilities as well as inputs in the research sites, and other logistical support.

B. ViSCA Support:

From funds provided for this purpose under the Project Loan and Grant Agreement, AID Project No. 492-0356, ViSCA will provide full logistical support to researchers of the project conducted on campus as well as supporting services including office space, transportation and other logistical support.

ViSCA will also provide temporary staffhousing for the technical consultants as well as dormitory and other facilities for project-coordinated trainings.

## VI. EQUIPMENT, BOOKS, STAFF HOUSES, SITE OFFICES AND OTHER FACILITIES.

During the life of the project, all equipment and other facilities procured and/or constructed by the project remains the accountability of the project. Unit/component heads will be accountable to the project for equipment and other facilities used in their respective unit/components. The component head will also be responsible for the proper maintenance of these equipment and facilities.

Upon termination of the project, all equipment and facilities will be turned over to MA or ViSCA wherever the equipment are used and where the facilities are located or constructed.

## VII. TECHNICAL ASSISTANCE:

All technical consultants shall be responsible to the Project Director for overall project coordination and the Technical Coordinator for Research and Development for adoptive research on technical matters. The long-term technical consultants shall be based at ViSCA but their technical services shall be made available to MA Region VIII. The short-term consultants shall be based where their technical services are needed.

Local support to the technical consultants such as local travel per diem shall be provided by the MA Region VIII.

## VIII. REPORTING, EVALUATION AND SPECIAL STUDIES:

a) ViSCA will conduct an in-depth socioeconomic study of each target area to gather baseline data so that impact of beneficiaries could be evaluated.

b) MA will maintain project records and reports in sufficient details to support effective evaluation of progress towards goals and to make records and reports available for review by officials of ViSCA and USAID.

E.g.

c) ViSCA and MA shall provide the Project Director's Office with complete quarterly financial reports regarding disbursements and funds utilization.

d) Periodic reports and other information will be submitted by ViSCA to the Project Director's Office in the format and content required for project evaluation.

IX. DURATION OF THIS MEMORANDUM:

This Memorandum of Agreement shall remain in force as long as Project Loan and Grant Agreement, AID Project No. 492-0356 remains in force. However, it is understood that the said memorandum may be revised from time to time in whole or part by mutual agreement between parties hereto.

MINISTRY OF AGRICULTURE  
By:

VISAYAS STATE COLLEGE OF AGRICULTURE  
By:

\_\_\_\_\_

\_\_\_\_\_

In witness hereto:

U.S. Agency for International Development/Philippines  
By:

\_\_\_\_\_

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ANNEX F. FUNDS PROGRAMMED FOR FSDP-EV

<u>SOURCES OF FUNDS</u>	<u>YEAR 1</u>		<u>Year 2</u>	
	<u>\$</u>	<u>P</u>	<u>\$</u>	<u>P</u>
1. AID Grant	237	1,824.9	252	1,940.4
2. AID Loan	798	6,144.6	373	2,872.1
<u>AID Total</u>	<u>1,035</u>	<u>7,969.5</u>	<u>625</u>	<u>4,812.5</u>
3. MA	324	2,494.8	268	2,063.6
4. VISCA	200	1,540.0	169	1,301.3
5. NELA	137	1,054.9	40	308.0
<u>GOP Total</u>	<u>661</u>	<u>5,089.7</u>	<u>477</u>	<u>3,672.9</u>
<u>GRAND TOTAL</u>	<u>1,696</u>	<u>13,059.2</u>	<u>1,102</u>	<u>8,485.4</u>

NOTE:

1. In thousand \$/P
2. Exchange Rate: \$1 = P7.70
3. Source: Project Paper

F.b.

TABLE 1

		<u>\$</u>	<u>₱</u>
1. AID Grant	LT & ST Technical Assistance	236,555	1,821,473.50
2. AID Loan	PDO	87,497	673,726.90
	TCRD	229,043	1,763,631.10
	Technical Training Support	271,309	2,089,079.30
	SRMU	43,332	333,656.40
	Participant Training	166,980	1,285,746.00
<u>Total AID Fund</u>		<u>1,034,716</u>	<u>7,967,313.20</u>
3. GGP Budget:	PDO		642,620.00
	TCRD		817,696.00
	Technical Training Support		614,892.00
	SRMU		1,301,078.00
	Participant Training Support		521,180.00
	LT & Technical Assistance		1,190,153.00
<u>GGP Total</u>			<u>5,087,619.00</u>
<u>GRAND TOTAL</u>			<u>13,054,932.20</u>

Exchange Rate: \$1 = ₱7.70



F.c.

ZIPAR 2

		<u>\$</u>	<u>₱</u>
1. AID Grant	LT & ST Technical Assistance	251,767	1,938,605.90
2. AID Loan	PDO	22,074	169,969.80
	TCRD	157,554	1,213,165.80
	Technical Training Support	909	6,999.30
	SRMJ	17,689	136,205.30
	Participant Training	174,629	1,344,697.20
<u>AID Fund Total</u>		<u>624,629</u>	<u>4,809,643.30</u>
3. GOP Budget	PDO		412,432.00
	TCRD		727,213.00
	Technical Training Support		212,590.00
	SRMJ		966,785.00
	Participant Training Support		1,087,110.00
	LT & ST Technical Assistance		264,120.00
<u>GOP Total</u>			<u>3,670,250.00</u>
<u>GRAND TOTAL</u>			<u>8,479,893.30</u>

Source: Project Paper

Appendix G. FSUP-EV FUNDS AVAILABLE FOR 1982.

<b>A. <u>MINISTRY OF AGRICULTURE</u></b>	
1. GOP Counterpart Fund	₱2,655,000.00
2. USAID Loan Fund	<u>825,000.00</u>
Total	3,480,000.00
<b>B. <u>VISCA</u></b>	
1. GOP Counterpart	₱1,823,000.00
2. USAID Loan Fund	<u>1,911,000.00</u>
Total	3,734,000.00
<u>GRAND TOTAL</u>	<u>₱7,214,000.00</u>

Source: Annex 15, Salient Features of Foreign Ongoing/Loan-Assisted Projects of the National Government: Budget of Receipts and Expenditures Pursuant to the Programs of Government as Approved by the President of the Republic of the Philippines for 1983; pp. 53;57

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**Appendix H. FSIP-EV FUNDS AVAILABLE FOR 1983.**

**A. MINISTRY OF AGRICULTURE**

P/P/A

3.3.11	- Support to the Eastern Visayas Farming Systems Development Project (Peso Counterpart, USAID Loan No. 492-T-066 and AID Project No. 492-0356)	₱1,000,000.00
3.3.12	- Support to the Eastern Visayas Farming Systems Development Project (Loan Proceeds, USAID Loan No. 492-T-066 and AID Project No. 492-0356)	306,000.00
5.1.19	- Construction of Permanent Improvements under the Eastern Visayas Farming Systems Development Project (Peso Counterpart, USAID Loan No. 492-T-066 and AID Project No. 492-0356)	212,000.00
<u>Total for MA</u>		<u>1,518,000.00</u>

**B. VISAYAS STATE COLLEGE OF AGRICULTURE**

1.4.4.	- Support to the Eastern Visayas Farming Systems Development Project (USAID Loan No. 492-T-066 and Grant No. 492-0356)	3,062,000.00
1.4.5.	- Support to the Eastern Visayas Farming Systems Development Project (USAID Loan No. 492-T-066 and Grant No. 492-0356)-14	1,031,000.00
<u>Total for VisCA</u>		<u>4,093,000.00</u>
<u>GRAND TOTAL</u>		<u>5,611,000.00</u>

Source: General Appropriations Act  
January 1-31, 1983

H.b.

BUDGETARY PROVISIONS, 1983

A. MINISTRY OF AGRICULTURE

1. PESO COUNTERPART

Current Operating Expenditures (COE) 1,000,000

Capital Outlay (CO) 212,000

2. LOAN PROCEEDS

Current Operating Expenditures (COE) 306,000

Total for MA 1,518,000

B. VISAYAS STATE COLLEGE OF AGRICULTURE

1. PESO COUNTERPART

Current Operating Expenditures (COE) 1,031,000

2. LOAN PROCEEDS

Current Operating Expenditures (COE) 3,062,000

Total for ViSCA 4,093,000

GRAND TOTAL

5,611,000

Appendix I. RECORD OF RELEASES OF MA - BASED FSDP-EV FUNDS, CY 1982-83

P/P/A Code	KBI	FUND	EXPENSES CLASS					T O T A L	
				1st QTR	2nd QTR	3rd QTR	4th QTR	1982	1983
3.3.11	14	102	100-10	62,500	62,500	62,500	62,500	63,315	250,000
			200	201,000	167,500	167,500	134,000	1,502,735	670,000
3.3.12	15	102	100-10	76,500	76,500	76,500	76,500	77,385	306,000
5.1.19	14	102	300-32	-	159,000	-	-	200,000	159,000
5.2.6	14		300-33	-	-	-	-	129,000	-
SUB-TOTAL . . . . .				340,000	465,500	306,500	273,000	1,972,435	1,385,000
NEDA TRUST FUND . . . . .				-	-	600,000	300,000	1,139,460	900,000
GRAND TOTAL . . . . .				340,000	465,500	906,000	573,000	3,111,895	2,285,000

PREPARED BY:

ANTONIA O. SANTIAGO  
Budget Examiner II

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Appendix J. RECORD OF RELEASES OF VISCA - BASED FSDP- EV FUNDS, CY 1982.

<u>P/P/A Code</u>	<u>EXPENSE Class</u>		<u>AMOUNT</u>
1.4.3 (FOREX)	100-10	Personal Service	208,326.00
1.4.4 (GOP)	200	A. Technical Coordinator for Research and Development Support Component	614,850.00
		B. Technical Training Office Support Component	137,900.00
2.3.3 (GOP)	300	Equipment	79,200.00
2.2.9 (FOREX)	300	Structure	954,550.00
			<u>1,994,826.00</u>

Note: Recorded under 8-29-110 under Fund 102

PREPARED BY:

BEARTIZ P. MORALES  
Chief Accountant I

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J. b.

<u>P/P/A</u> <u>Code</u>	<u>KBI</u>	<u>FUND</u>	<u>EXPENSE</u> <u>CLASS</u>	<u>1st</u> <u>QUARTER</u>	<u>2nd</u> <u>QUARTER</u>	<u>3rd</u> <u>QUARTER</u>	<u>4th</u> <u>QUARTER</u>	<u>TOTAL</u>
1.4.4	15	102	100-10	485,500.00	485,500.00	485,500.00	485,500.00	1,942,000.00
		200	200	280,000.00	280,000.00	280,000.00	280,000.00	1,120,000.00
<b>TOTAL</b>				<u>765,500.00</u>	<u>765,500.00</u>	<u>765,500.00</u>	<u>765,500.00</u>	<u>3,062,000.00</u>

PREPARED BY:

BERTRIZ P. MODINA  
Chief Accountant I

NOTE: 3rd and 4th Quarter Obligational no CDC.

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