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RRDP

AN EVALUATION

for the

Government of the
Republic of the Philippines

and

United States Agency for
International Development
Manila

May 1989

RAINFED RESOURCES DEVELOPMENT PROJECT

AN EVALUATION REPORT

Prepared for

GOVERNMENT OF THE
REPULIC OF THE PHILIPPINES

and

U.S. AGENCY FOR
INTERNATIONAL DEVELOPMENT
MANILA

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An Evaluation:
Rainfed Resources Development Project

Government of the Republic of the Philippines (GOP) and United States Agency for International Development (USAID) Manila, Philippines

The Project

The Rainfed Resources Development Project (RRDP) deals with rainfed crop intensification and diversification.

The purpose of RRDP is to develop both institutional capacity and policy framework to support a community-based approach to land and water resource management in the settled upland forest, rainfed agricultural areas, and coastal zones.

Under the project the Department of Environment and Natural Resources (DENR) and the Department of Agriculture (DA) are the implementing agencies, with the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) providing backstopping research.

The problems addressed include:

- a dangerous rate of erosion in the rainfed uplands and coastal zones;
- resource use patterns incompatible with sustained resource productivity;
- large numbers of rural poor depending heavily on these resources for their livelihood.

Cycle I of the project focused on pilot community development, technology generation and testing, and policy analysis.

Cycle II focused on implementing field activities in extension; small special projects; contract reforestation; and agroforestry; species trials and seedling production; limited new research to address field problems and streamlining the administrative structure.

The Evaluation

The purposes of the evaluation were two-fold: (1) to assess the impact of RRDP; and (2) to make recommendations for future USAID assistance strategies in the rainfed uplands.

The methodology was straight-forward, involving review of project and related documentation; field visits to project operating sites; and extensive interviews with GOP and USAID staff, farmers, and Filipino and expatriate experts. The Proceedings Report from the DENR Pre-Evaluation Workshop was particularly helpful. Nothing comparable was available for Agriculture or Research. USAID/GOP should consider this idea for future evaluations.

The Team's major findings and conclusions are:

- A program focus on rainfed uplands was and is still valid.
- RRDP programs and activities are headed in the right direction and yielding successful results, but too slowly.
- The community-based approach used by both Departments for organizing development activities is an effective tool. Supporting this is the ongoing Departmental decentralization of authority to the Regions and Provinces.
- The virtually inoperable funds flow mechanisms and micro-management by USAID and the GOP have been the major causes of delay in implementation, and it appears impossible now to achieve most project objectives by the project's completion date set for September 1991.
- RRDP is not impacting significantly on farm incomes or the environment. USAID has not committed sufficient funds to the activity to elicit the impact desired.
- Technology seems adequate but needs further innovative development. There is virtually no spread of adoption for reasons which are a mystery.
- Contracting is a major RRDP/DENR implementation tool. Present procedures are inadequate and should be improved.
- The denuded hillsides are identified as a highly productive location for program expansion.

The Team's principal recommendations are:

- Preparation should begin immediately for a new initiative in denuded hillsides that can significantly impact on the rainfed area, with RRDP continuing in the interim.
- Major investments are needed in the research network.
- USAID and the GOP should take creative measures on an urgent basis to deal with funds flov problems. Separately, USAID should review its project management procedures and eliminate all constraining steps that are not statutorily or otherwise required.
- PCARRD should organize the research network to deal at flank speed with the adoption mystery.

Other recommendations deal with market development, research implementation, mapping, staffing, training, communication, and coastal zone management.

Project design lessons relate to: (1) the initial rolling design, (2) inter-departmental coordination, and (3) the community-based approach. Lessons were well-learned on the first two and they were designed out of Cycle II.

The community-based approach to development planning and implementation works well for field-oriented programs. DA has adopted it department-wide; DENR is close to making this decision.

Funds flow and micro-management problems are better solved at the design stage, to prevent their emergence at a later stage.

The Report

The Evaluation Report was published in May 1989. Single copies are available on request from the Office of Rural and Agricultural Development (ORAD), United States Agency for International Development (USAID), Ramon Magsaysay Center, 1680 Roxas Boulevard, Manila, Philippines.

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P R E F A C E

The RRDP Evaluation Report is prepared in four primary pieces -- the Appendices for Agriculture; Natural Resources; and Research; and the text of the Report -- Sections I, II and III, which, for the most part, are condensed from the Appendices. The three Appendices, are the responsibility of their authors except for some editorial license exercised by the Team Leader to weed out inconsistencies in the documents. The Report text was prepared by the Team; edited, and put in final form by the Team Leader.

The Team expresses sincere gratitude for the assistance of all DA, DENR, and PCARRD staff involved with us in the evaluation -- we are particularly indebted to those in the field and from the PMOs -- and the USAID staff, all of whom were helpful with Project information, reports, and valuable insights and guidance. This, and the first class secretarial and word processing services available to the Team, made our assignment possible.

We hope that the four involved agencies will find the Report practical and beneficial to their respective programs.

ACRONYMS

AAC	Annual Allowable Cut
A&D	Alienable and Disposable
ACIPHIL	Philippine Association of Independent Consultants
AAPP	Accelerated Agricultural Production Project
ADB	Asian Development Bank
ANE	Asia/Near East Bureau
APT	Agricultural Production Technician
AR	Artificial Reefs
ARSP	Agrarian Reform Support Program
BAI	Bureau of Animal Industry
BAR	Bureau of Agricultural Research
BFAR	Bureau of Fisheries and Aquatic Resources
BFD	Bureau of Forest Development (now FBM)
BOI	Board of Investments
CARP	Comprehensive Agrarian Reform Program
CENRO	Community Environment and Natural Resources Officer
CLSU	Central Luzon State University
COA	Commission on Audit
CSC	Certificate of Stewardship Contract
CTUP	Community Timber Utilization Permits
CVRP	Central Visayas Regional Project
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DBM	Department of Budget and Management
DENR	Department of Environment and Natural Resources
DF	Department of Finance
DLG	Department of Local Government
DOH	Department of Health
DOST	Department of Science and Technology
DOTI	Department of Trade and Industry
EMB	Environmental Management Bureau
FMB	Forest Management Bureau
FOSA	Forest Stewardship Association
FOT	Field Operation Team
GIA	Grant-in-Aid
GNP	Gross National Product
GOP	Government of the Philippines
HRD	Human Resource Development
IAMSAS	Integrated Area Management Services
IBRD	International Bank for Reconstruction and Development
IBSNAT	International Benchmark Soils Network for Agrotechnology Transfer
IIRTF	Inter-agency Integrated Research Task Force
IPAS	Integrated Protected Areas System
IRRI	International Rice Research Institute
ISF	Integrated Social Forestry
ITWG	Inter-agency Technical Working Group
KIGI	Key Informants Group Interview
LMB	Land Management Bureau
LRMP	Local Resource Management Project

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MAF	Ministry of Agriculture and Food (now DA)
MAO	Municipal Agricultural Officer
MNR	Ministry of Natural Resources (now DENR)
NACIAD	National Council for Integrated Area Development
NAMRIA	National Mapping and Resource Information Authority
NAREA	National Agriculture Research and Extension Authority
NARRDN	National Agriculture and Natural Resources Research and Development Network
NEDA	National Economic Development Authority
NENRRA	National Environment and Natural Resources Research Agenda
NFA	National Food Authority
NGO	Non-Governmental Organization
NIA	National Irrigation Administration
NRDN	National Research and Development Network
ORAD	USAID Office of Rural and Agricultural Development
PCA	Philippine Coconut Authority
PCAMRR	Philippine Council on Aquatic and Marine Resources Research
PCARRD	Philippine Council for Agriculture, Forestry & Natural Resources Research and Development
PDS	Provincial Development Staff
PENRO	Provincial Environment and Natural Resources Officer
PICOP	Paper Industries Corporation of the Philippines
PVO	Private Voluntary Organization
RACO	Regional Applied Communication Office
RCAP	Rapid Community Appraisal for Planning
RDC	Regional Development Council
RRA	Rapid Rural Appraisal
RRDP	Rainfed Resources Development Project
RTD	Regional Technical Director
SALT	Sloping Agriculture Land Technology
SCU	State Colleges and Universities
SR	Site Reconnaissance
TA	Technology Adaptation Trials
TG	Technology Generation Projects
TV	Technology Verification Trials
UDI	Upland Development Institute/University of the Philippines, Los Baños
UNDP	United Nations Development Programme
UP	University of the Philippines
UPLB	University of the Philippines at Los Baños
USAID	United States Agency for International Development
VISCA	Visayas State College of Agriculture

EXECUTIVE SUMMARY

USAID poverty analyses in the late 70's identified lack of employment as the primary cause of poverty. Poverty-group targets were landless agricultural workers, upland farmers, and artisanal fishermen. The program elements identified to deal with increasing employment were: (a) rainfed crop intensification and diversification; (b) rural small scale enterprise development; (c) local institution building; and (d) fertility reduction. These analytical results are still valid today. Including rainfed upland farming brought in considerations of the environment. This is the backdrop for rainfed uplands initiatives by USAID. RRDP deals with (a) above and is an integral part of USAID's employment/poverty strategy.

1. Purpose of the RRDP

The purpose is to develop institutional capacities and policy frameworks to support a community-based approach to land and water resource management in the settled upland forest, rainfed agricultural areas, and coastal zones.

The problems addressed include:

-- a dangerous rate of erosion in the rainfed uplands and coastal zones;

-- resource use patterns incompatible with sustained resource productivity;

-- large numbers of rural poor depending heavily on these resources for their livelihood.

Cycle I solutions were insitution building:

-- DENR and DA carry out resources monitoring and policy analysis;

-- establishing systems for community-planned resource management to test these activities;

-- research backstopping by PCARRD.

Cycle II focused on implementing field activities and streamlining the administrative structure:

-- major extension/dissemination activities;

-- limited support for small special projects;

-- contract reforestation; and agroforestry;

-- species trials and seedling production; and

-- limited new research to address problems identified by field activities.

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2. Purpose and Methodology of Evaluation

The purposes of the evaluation are two-fold: (1) to assess the impact of RRDP; and (2) to make recommendations for USAID assistance strategies.

The Project Agreement was signed in September 1982, not much happened until 1984, the PACD is September 1991 and this is the first formal evaluation of the Project. It is labeled a mid-term evaluation. Technical Specialists are listed in Appendix C.

The methodology was a straight-forward: (1) review of all project documentation; (2) other documentation related to agricultural and natural resources development in the Philippines (Appendix D, Bibliography); (3) field visits to project operating sites; and (4) extensive interviews with GOP and USAID administrative and field staff; farmers; and Filipino and expatriate experts in related activities. The Proceedings Report from the DENR Pre-Evaluation Workshop was particularly helpful. Nothing comparable was available for Agriculture or Research. USAID/GOP should consider this idea for future evaluations.

3. Findings and Conclusions

The Team's analysis concludes that:

(a) A program focus on rainfed uplands was, and still is, valid;

(b) RRDP programs and activities are headed in the right direction and yielding successful results, but too slowly;

(c) Also established is that the community-based approach is an effective tool used by both Departments for organizing development activities. Supporting this is the ongoing Departmental decentralization of authority to the Regions and Provinces;

(d) The virtually inoperable funds flow mechanisms and micro-management by USAID and the GOP have been the major causes of delays in implementation and it currently appears impossible to achieve most project objectives by the PACD;

(e) RRDP is not impacting significantly on farm incomes or the environment. USAID has not committed sufficient funds to the activity to elicit the impact desired.

USAID is faced with the choice of committing blocks of money large enough to impact on the problem or stick to institution building, piloting, and research and assistance would be given GOP in wisely expending other donor funds.

(f) Technology seems adequate but needs further innovative development. There is virtually no spread of adoption. Why not, is a mystery. Because farmers are not adopting, and it is not known why, the research network is at fault. NRDN should know, or be finding out, why farmers are not adopting.

(g) Contracting is a major RRDP/DENR implementation tool. Present procedures are inadequate and should be improved.

(h) The denuded hillsides are identified as a highly productive location for program expansion. Incomes are low, erosion is serious, and the margin of returns of the recommended technology over that presently used by farmers is attractive enough to provide a real stimulus to adoption.

4. Principal Recommendations

Given the above findings and conclusions, the Team's principal recommendations are:

(a) preparation should begin immediately for a new initiative that can significantly impact on the large rainfed area;

(b) RRDP should be continued until a new initiative is in place;

(c) focus should be on the denuded hillsides for RRDP and for any new initiative;

There are three recommendations for urgently addressing existing weaknesses in the Project. These are:

(d) USAID and the GOP should take creative measures on an urgent basis to deal with funds flow problems. Separately, USAID should review its project management procedures and eliminate all constraining steps that are not statutorily or otherwise required.

(e) PCARRD should organize the research network to deal at flank speed with the adoption mystery.

(f) DENR should analyze its contracting procedures -- with assistance from USAID, if needed -- and simplify.

Recommendations for strengthening program support functions include marketing, research implementation, mapping, and staffing.

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Recommendations for institutional strengthening include the research network which is critical, training, communication, and coastal zone management.

5. Lessons Learned

Project design lessons relate to (1) the initial rolling design, (2) inter-departmental coordination, and (3) the community-based approach. Lessons were well-learned on the first two and they were designed out of Cycle II.

The community-based approach to development planning and implementation works well for field oriented programs. DA has adopted it Department-wide.

The primary lesson learned related to the funds flow and micro-management by both USAID and GOP bureaucracies is that there is a heavy responsibility at the program design stage to use the simplest procedures available.

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I. FINDINGS; CONCLUSIONS; AND RECOMMENDATIONS

Our analysis of RRDP leads to the strong conclusion that the identified focus on rainfed resources was and still is valid that preparation should begin immediately for a new initiative that can significantly impact on the large rainfed area; and that RRDP should be continued until a new initiative is in place. To make this happen, we identify 18 essential recommendations. All recommendations are intended to be accomplished during the life of RRDP except for six which also outline projected actions that can be incorporated in the new initiative suggested above.

We have classified the 18 recommendations into five categories, namely: (1) reinforcement of existing program strengths (items 1- 4); (2) "fixing" identified program weakness (items 5 - 8); (3) redirection of current program focus (item 9); (4) strengthening support functions (items 10 - 14); and (5) institutional strengthening (items 15 - 18). Under each category we have arranged the recommendations in the order of their importance.

1. General Assessment

Finding: The initial analytical work by USAID/GOP correctly identified the rainfed uplands problems as over-population, poverty, a continuously degrading physical environment, unproductive agricultural technologies, and lack of employment opportunities.

The RRDP has developed programs and activities to deal with those parts of the problem that reside in the agriculture and natural resources sectors.

Conclusion: These programs and activities are headed in the right direction and yielding highly successful results albeit at a pace that is not fast enough.

Recommendation: The Team recommends that the initial success experienced by RRDP in limited project sites be quickly replicated by DA and DENR to cover the much larger rainfed areas not yet being developed.

2. Community-Based Development

Findings: The community-based approach, pioneered/refined under RRDP and predecessor projects of both DA and DENR, has been an effective tool for entry to the local communities, their organization, and the planning and implementation of development activities.

The community-based approach has contributed commonalty to various DENR upland and coastal zone activities and has been incorporated by DA on a department-wide basis as part of the policy framework to accelerate all aspects of agricultural development.

The only element that distinguishes the Integrated Social Forestry Program from the general community-based thrust of DENR activities is the issuance of the Certificate of Stewardship Contract.

Conclusion: The DENR is coming very close to a general policy of Community Resource Development as DA has already done. When this is in place the justification for maintaining a separate social forestry section and field staff is questionable.

Recommendation: The Team strongly endorses the community approaches that have evolved through DA and DENR special projects and supports the current efforts being made to install this approach to all development operations of the two departments.

3. Decentralization

Finding: There is a major commitment of the Government to decentralize authority including additional discretionary revenue sources made available to the Provinces as well as delegation of authority by the Departments to Regional/Provincial staffs.

The Provinces have been recognized political and administrative units for a long time and have a high degree of cultural and environmental homogeneity.

There has been virtually no formal interchange between the field staff of the DA and DENR, except in research.

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DA and DENR use virtually the same approaches to organizing communities and farmers and promote very similar technology packages when faced with similar bio-physical environments.

Conclusion: The characteristics exhibited by the Provinces make them logical units for planning and priority setting and for cooperation between DENR, DA and other agencies with complementary roles in community resource development.

The selection for and training of Provincial staff becomes critical in successful implementation of DA and DENR community based programs.

Recommendation: The Team strongly endorses the decentralization of planning and program development, funds management, and personnel control now underway in the two Departments. The Team further recommends that USAID assure that financial support is not a limiting factor in the process.

4. Micro projects

Finding: In contrast to the Bicol and Panay regional projects, the micro-project sites, which were selected for the clarity of the problem to be addressed and the fairly small area to be covered, showed a much larger impact on household incomes, i.e. more than three times that for the regional projects. This significantly better performance can be attributed to: (1) the rigorous selection of project site that have high potential for improvement, and (2) the selection of the most competent technician in the region to work on the small pilot site.

However, the planning and development of the micro-projects did reflect the operation of institutional capacities by both communities and staff. Needs were clearly identified by the communities, the MAOs and PAOs responded with flexibility.

Conclusion: The two main factors believed to be the reasons for the higher impact in micro projects are not easy to replicate. That is, highly competent technicians, as well as well-defined opportunities for improvement, become more difficult to find as more barangays are included.

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This highly decentralized successful planning process will be useful in program planning.

Recommendation: DA should use the micro project model, to the extent it is applicable, in expanding RRDP area coverage and in the design of new projects.

5. Funds Flow/Micro-Management

Findings: The lack of a regular, consistent and timely flow of funds to Project end-users has been a major constraint on Project implementation.

A further constraint on Project implementation is the detailed micro-management implemented under USAID procedures, rules and regulations. A nascent hope for mitigating this part of the problem is that the procedures, rules and regulations of an organization are subject to change by that organization. It is never easy but does yield to persistent pressure and a recognition of the extremely high costs of not meeting the organizations objectives.

Conclusion: A Team judgment is that no developmental activities of significant scope can be implemented until the funds flow/micro-management situation is corrected.

Recommendation: That both GOP and USAID consider the funds flow problem to be of crisis proportions and a corresponding effort be expended in finding a solution or solutions.

It is further recommended that ORAD carefully review its RRDP management procedures and identify all of the reviews, checks, approvals, and other direct involvements in project implementation. This list should then be reviewed with GOP counterparts to identify those that can be eliminated.

6. Rate of adoption of new technologies

Finding: Rainfed farmers can significantly increase the productivity and income from their farms by shifting from their existing practice to the more land use intensive technologies. The actual rate of farmer

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adoption of these new technologies, however, is slow even in project sites where technical help is readily available and at times partial subsidy is provided.

Conclusion: There are important constraints that may be discouraging farmers from rapidly adopting the new and more productive technologies. Some of these are: (1) limited access to a market that is perceived to be inadequate to absorb a large volume of new products; (2) high labor and material input required by the new technology which the farmer can not easily provide; (3) the much higher loss that the farmer will incur in case of crop failure; (4) the potential benefit from the new technology, even though it is high, is not high enough; (5) the farmers tenure situation is not conducive to adoption; (6) investment resources, or credit, are not available; and so on. The appplicability of any of these or other, factors on technology adoption in project areas is a mystery.

Recommendation: PCARRD should organize and implement a research program with DA, the SCUs, and others as appropriate to determine, as accurately and as quickly as possible, the actual constraints that prevent rapid farmer adoption of new and more productive technologies. USAID should make special funding available if necessary. Having identified the constraints, project intervention should focus on the removal of these constraints so rapid farmer adoption will ensue and program impact on increasing income and reducing environmental degradation in the upland can improve significantly.

7. Contracting

Findings: There are now on the books 22 projects worth some USD 380 million and one other major project for environment and natural resources for up to USD 200 million to be prepared. The Team concurs with the judgment of donors and DENR officials that contracting will be the major tool for quickly using the resources available to attack the open and denuded land problem.

Under present procedures, the 12 steps to complete a reforestation contract with a corporation takes one and one-half years; payment for work done under community contracts takes more than eleven months; and the volume of paper work to make payments every two weeks to families makes this a high cost alternative.

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There is very little experience within DENR for either decentralized decision-making or for executing contracts at the PENRO and CENRO levels.

Conclusions: Contracting is now too cumbersome to realize the objectives set for the DENR -- particularly in terms of meeting the reforestation targets.

The staff will have to be prepared on a crash basis to administer the volume of contract field work to be done.

Short Term Recommendation: The Team concurs that DENR has little choice but to use contracting procedures for "reforestation" and "agroforestry". However, the Team recommends that the potential administrative simplicities of the contracting procedure be analyzed by DENR in terms of the present contracting procedures and that these procedures be simplified to the maximum extent possible. It is further recommended that the provisions for community contracting be adjusted by DENR to favor community involvement in reforestation work.

Long Term Recommendation: The project design for the recommended new initiative should incorporate the simplest financial management procedures available to local governments.

8. Marketing Assistance

Findings: The project received marketing assistance in the form of up-to-date information on commodity prices and market outlets. Not much work has been done in market development in the form of increasing actual market capacities or guiding production goals to match existing market demand.

Conclusion: For most rainfed areas where access to roads and markets is relatively more difficult, the availability of profitable market outlets is a major consideration for wide scale adoption of new technologies. A farmer will generally produce only for a perceived level of family needs and marketable surplus. This level is usually lower than that which can be potentially produced in his farm. This could be one of the main reasons why farmers in the target sites convert only a small fraction of their farms to the new and more productive technologies. To hasten wide scal-

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adoption of new technologies, therefore, enough assurance must be given to all potential farmer adoptors that there is a reliable and profitable market that can absorb all that they can produce.

Recommendation: The design of projects by USAID/GOP for the rainfed resources must not only include intervention for increasing production but also market assistance that will insure a ready market for new products. This means an added component on marketing that can (1) create new markets to expand existing market capacity and (2) guide the increase in new products so that the existing market demands are not unduly exceeded.

9. The Denuded Hillsides

Findings: Permanent cover, i.e., trees and sod, are required to stabilize hillsides that are exposed and eroding. Farmers in such areas are the most marginal and are reluctant to change from familiar annuals to perennials. This is so because the initial investment is large and several years are required before a full stream of income from the perennials flows to the household.

Conclusion: It is in society's interest to motivate farmers attempting to subsist on open hillsides to convert to permanent crops. Government can assist by sharing the initial investments required and by lending these farmers the resources required to support their households until the full income flow is realized.

Short Term Recommendation: Recommended expansion from now through the PACD should include more emphasis on denuded hillsides. This will assist both DA and DENR to prepare for more extensive programs in denuded areas.

Long Term Recommendation: The Team recommends that USAID and GOP plan a new rainfed uplands initiative of sufficient magnitude to have a significant impact on the environment and on poor farm families, concentrating on homogeneous sites that represent the largest problems in the rainfed uplands.

The Team recommends concentration on the large tracts of denuded sloping land. The technologies required to improve these areas are perennial crops, dominated by fruit trees, and other financially viable

crops that bind the soil.

The benefits from stabilizing upland slopes go to upland farmers and to others down the slope requiring that society share the cost of treatment and make credit available to finance the planting of perennial crops.

10. Research Responsiveness

Finding: A frequent complaint of field staff and managers is that the research system does not provide answers to immediate and pressing problems of field operation. The research system does have some of this capability but it is not being accessed by field staff. PCARRD does maintain a quick response technical assistance team which when requested can travel to the problem site.

Conclusion: Communication between field staff and researchers must be improved.

Recommendation: PCARRD should take the responsibility of seeing that all field staff are aware of its capability to send experts to the field to identify problems and to make recommendations on short notice.

11. The Research Process

Finding: The technology generation, adaptation, and verification model now practiced is very staff intensive, is time consuming, and the technology is very site specific. This is so since data analysis, most specially for the on-farm trials are done separately for each test site so that the results can only be applied to the test site itself. It is, however, possible to analyze data across sites, the results of which may allow for extrapolation so that the "recommendation domain" of promising technologies can be defined to cover even areas outside test sites.

Conclusion: PCARRD needs to determine the adaptive range of the technology being generated in the NRDN.

Recommendation: The Team recommends that a system be developed to determine the general adaptability of technology during the technology adaptation (TA), and

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technology verification (TV) testing periods. To do this, a computerized data management for on-farm trials should be instituted so that data can be analyzed across sites and the recommendation domain of promising technologies specified for an area that is much larger than the actual test sites. In addition, PCARRD should increase its cooperation and training with the International Benchmark Soils Network for Agrotechnology Transfer (IBSNAT), a project that is designed to develop the procedure for across site analysis to determine the adaptive range of new technologies.

12. Research Project Approvals

Finding: The complaints most often heard from the National Research Development Network (NRDN) members is the long period required for Grant-in-Aid (GIA) project approval. The further complaint is that the time needed for research generation (> 3 years), technology adaptation and technology verification trials (> 2 years) usually exceeds project life which breaks up the continuity of the research.

Conclusion: There should be methods to reduce the time it takes to identify researchable field problems, to design the experiments and to approve the GIA packages. The notion that all research must travel the whole gamut -- from generation to dissemination -- of testing should also be revised. For a new variety this would take a minimum of seven years. Therefore research must be a continuous effort, turning out improved technology as opposed to attempting to make it fit into a short term project.

Short Term Recommendation: Reduce the number of approvals for GIA proposals at both the national and regional level. Train researchers in project design, and implementation so that higher quality proposal can pass through the system with fewer revisions.

Long Term Recommendation: The long term goal should be to strengthen the regional consortia, including RIARS and ERDB which contain 78% of the FTE researchers, so that most of the GIA identification, design, and approval can be regionalized. A further goal is to increase the regional capability to maintain their own stable of experts so that PCARRDS's commodity team can be requested as a last resort.

13. Mapping

Finding: The volume of cadastral surveying to be done in support of regular DENR programs, such as fixing on the ground the extent of each Certificate of Stewardship, and clearing the title claims on 1.8 million hectares of ecologically stressed uplands, plus the commitment to survey 10 million hectares of land for the Integrated Agrarian Reform Program is very large.

Monumenting and titling will continue to be a major problem in addressing the issue of upland tenure.

Conclusion: The DENR and the NAMRIA need additional resources to speed up the quantity and quality of mapping, land surveying, and titleing work.

Recommendation: Supply the Bureaus of Land and Operations and the NAMRIA with additional hardware, software, communications links to provide on-the-ground mapping and title information to the PENRO and CENRO levels to facilitate their community based resource development work.

14. Staffing Intensity

Finding: The level of staffing in the DENR RRDP Sites is running at the rate of one staff member for each 36 farmers served. Eighty percent of the staff comes from outside the regular DENR ranks.

Even with this level of staffing it takes about two years to gain sufficient organizational experience in a target barangay to attract a critical mass of 50 farm families as active cooperators.

It takes an additional two years before there is confidence that the organization will represent the entire population and can stand alone as an effective and efficient point for technology transfer and undertaking community projects, such as community reforestation.

Conclusions: The organizing work within RRDP-supported Project Sites is too staff intensive. To replicate this countrywide would require an additional staff that is too large to be realistic. Thus, there is

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a serious conflict between the rate at which reforestation is projected to occur and the manpower needs of community-based approaches so necessary for long term success. The nature of the problems and the commitments made argue for quick action; the lack of qualified people to gain community confidence cause the process to be slow. The dilemma will be difficult to reconcile.

Recommendation: The Team believes that the DENR Secretariat should reassess manpower utilization in the department. Large numbers of very low paying, entry level jobs can be exchanged for fewer, better trained staff to fill the CENRO vacancies and begin to provide staff specialists at the regional and provincial levels. To make up for manpower deficiency at the grassroots, the Team further recommends that DENR proceed with the contracting machinery identified and tested during the RRDP, fully recognizing the serious problems that may be encountered. In the short-term, use of contracting implies additional technical staff (as recommended above), simple completion standards that can be monitored and evaluated, streamlined procedures, and modification of the three-year time frame. It is further recommended that use of those non-DENR persons who are experienced in community development by contractors should be encouraged.

15. The Research Network

Finding: The National Research Development Network (NRDN) is institutionally sound. Linkages among the national and regional agencies allow for farmer relevant research to be identified, approved, funded and implemented. RRDP research is handled by the NRDN with little distortion. However, the proportion of funds to GIA research (67 percent) and Institutional Development (33 percent for training, commodities, and facilities) did not provide satisfactory support to the NRDN . Training funds were particularly limiting. Repair and maintenance funds are also limiting. For the last two years of the project, PCARRD will only have $ 730,000 for GIA and $ 60,000 for training. There will be no funds for technical assistance, commodities and buildings; and only limited funds for research.

Conclusion: There is insufficient time remaining before the PACD (9/91) to begin new off-shore procurement of commodities, or spare parts. Likewise,

new starts in degree training and the construction of needed facilities need a larger window of opportunity than remains in this project. However, additional funds for the research component are needed now. These can be reallocated from other components of the RRDP.

Short Term Recommendation: USAID/GOP should provide additional research funding through transfer of under-utilized Project funds.

Long Term Recommendation: The Team recommends that all levels of National Research and Development Network (NRDN) be strengthened as required. This includes the regional consortia members. Strengthening would include both degree and non-degree training at all levels, repair and maintenance of stations and equipment, and the replacement of needed equipment and facilities. The Team further recommends that this strengthening involve long term funding by the GOP, USAID, and other donors.

16. Field Training

Finding: The approach and conduct of staff and farmer training by the DA and DENR and their technical assistance contractors have been excellent. There is no comparable structure of existing or new institutions being developed to carry out the training on a continuing basis.

There is a gap in preparation for training the new DENR professionals that will be needed.

There has been no interface between the Project and the Agricultural Training Institute (ATI) of DA.

Conclusion: The existing approach by DA and DENR to training for middle management personnel, farmers, and field staff is not institutionalized sufficiently to continue beyond the completion of the RRDP.

The member institutions of the PCARRD consortia are able to provide some of the technical experience and expertise to continue the training and technology transfer support for the field staff but this is not fully orchestrated.

Recommendation: The Team recommends expansion of the current training program to strengthen all levels of agency staff --- FOT, SFT, CENRO, MAO, PENRO, PAO,

RIARS/PTVT, et. al.; farmers/community leaders; researchers in the regions; and the contractors proposed to be involved in program expansion for both DENR and DA.

The Team further recommends that the strengths of the consortia be more fully utilized in this training program and that the ATI become more involved in preparing courses and in planning and implementing the training program.

17. Communications

Finding: The PCARRD - Regional Applied Communication Office (RACO) is developing material in broadcast and print form of mature technologies for imparting information to farmers in all regions. It is funded by the RRDP in six regions.

Conclusion: Funds should be available to support the RACO in all Regions up to the PACD of the RRDP and beyond and assure that RACO services are applied to DENR as well as DA programs. The responsibility of RACO to supply a feedback mechanism
from technology utilization back to the consortia needs support.

Recommendation: The Team recommends that the Agricultural and Resources Regional Technology Information System (ARRTIS), which monitors technology flow and develops a data base on research projects be extended to all regions. The Regional Applied Communications (RACO) program by PCARRD, which packages technology for distribution to farmers should be strengthened by PCARRD.

18. Coastal Zone

Findings: Many aquaculture ponds originally constructed from mangrove flats have become inoperative. Because these former intertidal areas have been classified A&D, they are now in a no-man's land.

There is no continuity between the application of the fishing law 50 M above Mean High Tide, the jurisdiction of the Bureau of Lands in the intertidal zone, the Bureau of Mines and Geology in the substrate,

and the Bureau of Fisheries and Marine Resources in the water column and sea floor in planning for sustainable use of the coastal zone.

The current emphasis in coastal zone management is upon increasing biological production without a corresponding concern for enhancing the natural ecological systems.

Conclusion: The institutional arrangements for the planning and management of the intricately linked bio-physical and socio-economic systems in the coastal zone are badly fractured both in terms of jurisdiction and of objectives.

Recommendation: The planning and management of the coastal zone be unified.

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II. SUMMARY APPRAISAL

A. COUNTRY CONTEXT

The RRDP was initiated as part of a USAID strategy to deal with rural poverty. The extensive poverty analyses conducted identified (1) the target groups, (2) employment generation as the core of program emphasis, and (3) the regions for USAID focus.

The target groups were (1) landless agricultural workers, (2) upland farmers, and (3) artisanal fishermen. Also poor, but not included in the target groups, were the paddy rice farmers and urban informal sector workers.

The poverty analyses clearly identified underemployment as the key problem facing poor people and therefore, employment generation in both agriculture and non-agriculture became the overriding concern of USAID assistance efforts.

Recognizing the magnitude of the poverty problem in relation to expected USAID resources, a regional focus was proposed and was negotiated with the GOP. The resulting Regions of emphasis were V, VI and VIII, with I and II to be included as additional AID/GOP resources were made available.

The objectives set forth to guide development of USAID strategy were to (1) promote more productive agricultural employment in both upland and lowland rainfed areas; (2) to create non-farm employment opportunities; and (3) reduce the rate of population growth. These objectives and the resulting strategy and programs supported similar thrusts of the GOP as reflected in national plan documents.

The resulting program elements were:

(1) Rainfed resources development including (a) ecological stabilization at higher elevations and (b) improved agricultural productivity at lower elevations, with emphasis on "pilot" areas;

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(2) Rural enterprise development involving information dissemination, financing, and market and product development for small and medium scale industry;

(3) Local resource management which included a strategy of decentralized decision making and devolution of authority to local areas and a program emphasis on upgrading local government capabilities, and providing necessary financing; and

(4) Control of population growth through family planning services, research on fertility, and employment opportunities in rural industry for women.

The Project Paper for Cycle I captured most of this guidance but became mired down in contemplating how the GOP might be reorganized for and during project implementation and other organizational and management concerns that plagued Cycle I implementation and were designed out of Cycle II.

The USAID CDSS's following FY 1983 have shifted policy and program emphasis but the RRDP and other poverty initiatives projects have been continued in the USAID portfolio.

From the GOP side, beginning almost from the Project Agreement in September 1982, the implementing agencies have been subjected to extraordinary change. The DA had just finished a major reorganization directed at regionalization and decentralization. It was expected that DENR would go through a similar exercise in 1983.

As is well known, the years 1984 and 1985 were marked by considerable unrest which culminated in the peaceful replacement of the government in 1986. The transition was followed by a provisional government, a constitutional plebiscite, and national elections. Whatever has been accomplished has been done so during great instability, change, and uncertainty. All of which compounded project management difficulties resulting in inordinate delays in implementation of project activities.

B. THE PROJECT

1. Cycle I

The RRDP was initiated in 1982 with the purpose of "developing institutional capacities and policy frameworks" to support "approaches to resource management which emphasize local private initiative by small producers, sustainable increase in the productivity of land and water resources, and the role of the community in resource management decisions." This "approach" is abbreviated to "community-based."

A satisfactory performance under the Project was considered to be the "presence of effective, and expanding regional community-based resources management programs in Regions V, VI, and VIII and active efforts by the GOP to apply the approaches in other regions."

To achieve this purpose the Project was to generate the following outputs: (1) resource monitoring systems in place, policy analysis undertaken and used, and increased institutional capacity to conduct useful policy analysis; (2) improved management systems in DA and DENR; (3) proven effective approaches to community-based management of rainfed resources; (4) increased institutional capacity to expand the program; and (5) new rainfed technologies developed.

The overall program for Cycle I was in three components.

1. Resource Monitoring and Policy Analyses
2. Biotechnical Research
   a. Institutional Grants managed by PCARRD.
3. Community-based Resource Management Programs
   a. Agroforestation

b. Rainfed Farming Systems

i) Farming Systems - Bicol

ii) Management Systems Development

c. Coastal Zone Management

Cycle I target clientele was ultimately to be over half a million poor households in Regions V, VI and VIII. However, only a "relatively small portion" of this group will benefit from the Project, ie., those involved in site-specific pilot activities.

2. Cycle II

Cycle II documentation does not deal with RRDP overall but presents programs for three separate components -- Agriculture, Natural Resources and Research -- with obvious GOP organizational affiliates. It does not appear useful to try to merge the three so they are discussed separately below.

The rhetoric for Cycle II indicates that the Project was to be redirected from institution building to farmer-centered and location specific interventions and will emphasize implementation of field activities based on lessons learned in Cycle I.

a. Agriculture

The Project purposes for agriculture are listed as: (1) promote the adoption/application of alternative farm management options that would increase yield and/or augment income of subsistence farmers and fishermen in rainfed communities.

(2) set-up viable, self-sustaining small-scale rural enterprises utilizing varied rainfed resources.

(3) harness indigenous capabilities of rural residents and mobilize them for collective and responsible participation in agricultural development programs.

(4) initiate, coordinate and assist agricultural institutions in the implementation of site-level activities aimed at ensuring the desired level of development in rainfed communities.

Implementation strategies included, among others: greater emphasis on wider adoption of appropriate mix of tested resource management options for the rainfed areas.

In addition to old and expanded sites in Regions V and VI (Region VIII is dropped), RRDP Assisted Projects (micro projects) were to be developed in five regions. The expected total number of farmer participants in Cycle II was 11,520.

b. Natural Resources

The Project purpose for the natural resources component was to emphasize implementation of field activities based on lessons learned in Cycle I while continuing to experiment with new management systems and technology. The eight objectives identified by DENR are listed in Appendix Table G.2. Activities included agroforestry covering 5,000 ha.; contract reforestration of about 2400 ha.; seven seedling production nurseries; and developing DENR institutional capacity through equipment and technical assistance.

c. Research

The research emphasis under Cycle II was focused on (1) schemes for optimum use of land and water resources for productive crops under resource conserving conditions; (2) developing effective research managers and upgrading research capabilities and support facilities; and (3) continuing development and screening of plant materials for crop diversification, intercropping, crop-livestock integration, agroforestry, and the development of fish capture/culture technologies.

C. PROJECT MANAGEMENT PROBLEMS

1. Project Management Structure

The merging of the separate Project Management Offices into the line operational structure of the two Departments is covered elsewhere in this Report.

The original Project Paper included administrative arrangements that involved an implementation and design strategy that was not fixed, but flexible or "rolling" as the term was used. The PP indicated that this "rolling" strategy was expected to "place complex demands on the project administrative structure." These demands were, in fact, so complex that the system was abandoned and standard project operating procedures adopted. Unfortunately, standard procedures are also complex and convoluted and continue to be a constraint on Project implementation.

A deliberate effort has been expended by the Team to identify ways to reduce USAID direct involvement in Project implementation and management -- to reduce the current micro-management of the Project by USAID. There are a few specific suggestions in the Appendices, but not many. It is recommended that ORAD carefully review its RRDP management procedures and identify all of the specific reviews and approval that are now implemented. This list should then be reviewed with GOP counterparts to see which can be eliminated.

For example, after USAID has reviewed and approved the research plan to be funded under RRDP, there is no real purpose to be served by individual research project approvals. Or, in the case of site selection for field activities, USAID should review and approve site selection criteria, then monitor ongoing activities to determine that sites selected by the GOP are consistent with the criteria.

2. Funds Flow

The delays in the flow of Project funds to the points of use have been a serious constraint to operations of all three components. Interestingly, the Project Paper anticipated funds flow problems but

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arrangements were not made to deal adequately with them. The problems are deep-rooted in both AID and GOP bureaucracies, and both have simpler, more straight forward procedures that could be used, but are not.

There are complex interactions between the GOP and USAID funds management and control procedures that complicate the problem. This complexity is reflected in the fact that there are higher utilization rates of GOP than USAID funds, and simpler GOP procedures for loan than grant funds. Existence of the problems are recognized by both sides and discussions are in progress to deal with them. Implementation of the recommendations in the SGV and Co. report for expediting USAID grant funds through the GOP is underway. USAID has made the proposed changes and GOP changes should be expedited.

The Team has invested considerable time digging into the funds flow problem and feel that it is not one that short term agricultural consultants can solve. The "problem" on the GOP side is a massive set of problems that can only yield to solution when the GOP wants it solved. When that decision is taken, USAID should supply whatever resources are required for external (or internal) assistance to the GOP.

From the USAID side, the decision should be taken that financial procedures will be simplified. When this is done, USAID can mobilize the necessary expertise within the Agency to bring about substantial simplification of procedures properly coordinated, of course, with DBM, DF, and Treasury as well as the action agencies.

One such simplification mechanism is program funding but it is difficult to apply at mid-life of a project. This could have happened at the design stage. Another design stage simplification is arranging for USAID advances of funds for private contractors to use in facilitating program implementation.

3. Program Funding

The Team strongly endorses the move from project to program funding now under discussion within USAID. The biggest problem to overcome with such a move is to change the "head set" of the USAID Project Officers and that of all the USAID "support" offices

involved in project administration who are trained and conditioned to micro-manage to some degree or other. Cooperation and flexibility on the GOP side will also be required.

Since the USAID, including ORAD, is already using the program funding approach and is familiar with its requirements, it leaves the primary tasks as (1) project design for new activities including program funding and (2) innovative investigations into RRDP current processes to look for ways of simplification.

D. ACCOMPLISHMENTS/IMPACT

The accomplishments during Cycles I and II are summarized below for each of the Components, as are the impacts.

1. Agriculture

The accomplishment and impacts in agriculture are presented in two sections. The first deals with the field program and the second with various aspects of institution building.

a. Field Program

Accomplishments and impact of the field program are evaluated by the following factors which are taken from Project objectives.

-- Number of technologies identified to be superior to existing farmer practices;

-- Rate of adoption of these identified technologies;

-- Improvement in income and productivity in the pilot barangays; and

-- Improvement in environmental stability.

(1) New technologies tested and verified

A significant number of technologies involving, primarily, the intensification of land use

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either in open rainfed area or in rainfed areas grown to coconuts were tested and identified as promising.

Of these, the following have been designated as ready for wide scale farmer adoption: (a) growing of legumes, coffee and black pepper under coconut trees, (b) use of contour hedge rows and canals for controlling erosion in sloping hillside, and (c) intercropping and relay cropping of mungbean or peanut with corn or upland rice. All of these were observed by the Team in Regions V and VI.

(2) Rate of technology adoption

The rate of technology adoption, in terms of both the fraction of farmers adopting and the fraction of the adoptor's farm converted to the new technology, is low. Consequently, the rate of adoption is also low, and the estimated impact on farm incomes is small. Based on performance of similar projects in region VIII (ie., FSDP-EV which is also USAID funded) and the Cycle I project sites in Bicol, there is little evidence that the rate of adoption in these pilot sites will significantly increase in the next few years.

For the micro-projects, the impact is higher due to the fact that the sites have been selected for clarity, importance to the community, and limited scope of the problem; and the assignment to the project of the best technicians in the region.

(3) Improvement in productivity and income

There is clear evidence that the new technologies when adopted can result in significant increase in productivity and income. However, since cooperating farmers convert only a fraction of their farm to the new technology, the actual increase in income per year per farmer is only a fraction of the potential and considering non-cooperator farmers the average increase per household in the community is very small. For the micro-projects returns are higher but still far from adequate. Thus, Project impact on the income of rainfed farmers has so far been insignificant.

(4) Improvement in environmental stability

The impact on environmental stability has also been very small. A large portion of the Project Sites, especially in Bicol, is located in coconut areas that are already environmentally stable. If there is to be more impact on the environment, more of the denuded hilly areas which are environmentally fragile should be included in the project.

b. Institutional Development

In spite of the lack of impact of the field program, the RRDP has had significant accomplishments and impact in institutional development areas that were a primary focus of the RRDP. These were:

-- Developing Community-based management systems

-- Training at all levels

-- Decentralized Project management

-- Decision-making at the grassroots

-- Resource assessment and policy analysis

(1) Development of Community Management systems

At the end of Cycle I, two basic systems in resource management had been identified: (a) farming system management and (b) community-based resource management which look, respectively, at the farm and at the community. In Cycle II, these two management systems were put into practice. Community activities included seed nurseries which fostered close cooperation among core farmers, community participation in local enterprises including the artificial reefs and fish shelters of Antique and the "porbaran" way of conducting on-farm trials which puts the focus on farmer-based, and often community-based, decision making.

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(2) Training

Training is one of the major strategies of Cycle II. Short-term local training received heavy emphasis because of the extensive reorganization that DA went through, and the need to develop FOTs for the expansion areas. Several training manuals have been produced which directly bear on the community-based development and have been used effectively in the training program.

The project has been able to finalize arrangements with coalitions of agricultural colleges and universities in Bicol and Panay to help the FOTs in implementing site level farmers training.

(3) Decentralized Project Management

The Phasing of RRDP into the organic DA was incorporated in the project concept paper. As of now the regions have complete supervision over PRAD, BRAD and the Special Projects. This seems to be working well. Special Concerns Office (SCO) has taken a supporting role which will also have to pass on to regular DA, except that SCO may have to continue helping in project planning and human resource development.

The RRDP-Assisted Special Projects have been a major impact of Cycle II institution building objectives. The specific needs to be met in these projects were clearly identified by the communities concerned, and the MAOs and PAOs responded with matching flexibility. The two such projects visited, Hamtik and Pagbilao have exhibited relatively rapid progress to meet their purposes, including healthy community organizations. Reports from many of the other special projects indicate similar progress.

The development of the logic and the requirements for the RRDP Community-based approach reflects a major impact of RRDP and has been incorporated into succeeding DA projects such as AAPP, Cordillera, Antique and Mindanao projects, and the Livelihood Enhancement Agricultural Development (LEAD) project.

(4) Decision-making at the Grassroots

The DA has pilot tested the reorganization of agricultural production technicians

(APTs) into FOTs so that they can adequately and speedily react to the diversity of problems that rainfed farmers may raise. Deliberate effort has been taken to insure that each member of the FOT has a different area of specialization in order to cover a wide range of problems. The common mix of specialization includes agronomy, animal science, and social science.

Supporting the team is a research group, the PTVT, which is responsible for identifying through on-farm trials new technologies that suit the many environments in a province. With the FOT and the PTVT, the farmer comes in to complete the trio. Together they form the team which conducts the trials which would signal adoption or rejection of technology.

(5) Resource Assessment and Policy Analysis

Much of the accomplishment here is the completion of work initiated in a project immediately preceding RRDP. Some of the completed outputs are:

(a) Regional profiles for Regions V, VI and VIII, including the development of a statistical framework to standardize the preparation of regional profiles;

(b) National Statistical Handbook for Agriculture;

(c) Policy Models;

(d) Community Situation and Outlook Reports;

(e) Marine Resources Assessment in Maqueda Bay and a manual on Basic Approaches in Fish Population Analysis.

2. Natural Resources

a. Accomplishments

(1) Field operations have been established and maintained in diverse and representative portions of the country to demonstrate the applicability of community-based resource development.

(a) Formerly suspicious/hostile communities have accepted the presence of DENR staff in their midst.

(b) Settlers are adopting practices to further site stability and are sufficiently enthusiastic that they will train and assist other farmers do the same things.

(c) The cooperating settlers are using traditional groupings to accomplish work on individual holdings.

(d) New community organizations have been formed that have completed large-scale improvement projects.

(e) Local adaptations in technology packages have been made that work for the long-term objective of stabilizing the bio-physical environment.

(f) A widening circle of personnel is being trained in all aspects of the RRDP approach to community resource development and supporting management systems.

(2) Top department management has used the RRDP to test ways and means to attack the very significant environmental problems facing the country. As a result, it has been shown that:

(a) The field approach developed during Cycle I is applicable to resource development activities ranging from protection of national parks to rehabilitation of mangrove flats;

(b) Contracting with families, communities, and corporations is feasible, but existing contracting procedures have to be drastically overhauled in order to be sufficiently effective to stabilize the large areas in need of work;

(c) New GOP initiatives, particularly those being donor-assisted, incorporate the approaches to field operations and contracting developed during the RRDP period.

(d) The DENR Mission Statement for the next 1,000 days guides each employee toward a community approach.

(3) There has been support for the national objectives of regionalization and decentralization.

(4) Four Project Sites were served in Cycle I involving parts of six barangays. Three were administered directly by the project management structure and one through a contract.

(a) The total area in the four Project Sites is 2,660 hectares;

(b) The number of farm units in the Project Sites is 706 and assuming family size to be 5.6 persons, the population is 3,954;

(c) About 55 percent of the total areas is recognized as being part of farm units; the rest is Forest Reserve to be worked on by the communities.

(5) In Cycle II, 16 Project Sites were added to the four Cycle I sites. A distinction is made between "agroforestry" projects and "contract reforestation" projects.

(a) The total area in the 12 new "agroforestry" sites is 9,601 ha making a total of 12,261 ha, plus 2,100 ha in four "contract reforestation" sites or 14,361 ha of upland and mangrove flats being provided with some form of community based resource development service under the RRDP.

(b) The number of farm units now total 2,976 plus the number in the "contract reforestation" project sites for which no estimates are given. At least 16,070 persons are included in RRDP sites.

(c) The ratio of land under cultivation to land to be planted to forest is probably now less than 50 percent.

(6) Graded trail, water supply, and community building projects have been organized and completed by farmer organizations.

(7) The four Cycle I Project Site staffs and farmers received 694 and 2,514 person days of training respectively in 1987 and 1988. Training received by DENR staff from the technical assistance contractor totaled 1895 person days through 31 March 1989.

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b. Impacts

There are no empirical data indicating increases in family or per capita incomes from the roughly three and one-half years of field work. Imprecise statements of production increases, such as 45 kg/ha of corn from 27 kg/ha under SALT and visual observation of cassava plantings, more permanent ground cover, and a tendency to plow across slopes rather than up and down are the only available indicators of socio-economic uplift.

Both the areas under treatment and the number of farmers directly involved are very small in relation to the magnitude of the upland problem.

Institutional accomplishments in terms of contracting procedures development, community organization capability, limited but successful penetration into the uplands, and trained staff have helped prepare the DENR -- organizationally, procedurally, and staff-wise -- to cope with the massive reforestation program they are faced with now and over the next decade.

3. Research

The Research component has had a number of accomplishments but the impact of the research process must be found in the Agricultural and Natural Resources sections.

a. Technology generation, adaptation, and validation trials.

There have been 130 completed and ongoing Grant-in-Aid (GIA) research trials funded by the RRDP through 1988. The trials have been distributed for implementation fairly evenly between DA-RIARS, DENR-ERDB, and SCUs. The majority of the trials have been in variety/breed improvement, resource management, and TA/TV. The quality and relevance of research for upland conditions has improved remarkably under RRDP.

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b. Institutional Development

(1) Manpower

PCARRD-RRDP has provided funds for 20 incountry M.S. and 8 Ph.D. participants for the NRDN. This is not sufficient to maintain the competence of the 2324 full time equivalent (FTE) agricultural research staff in the NRDN.

Non-degree training at workshops and special training sessions for 586 agricultural and biological scientist was accomplished. This amount of training in a five year period is also insufficient when one considers the need just for the 14,000 agricultural extension staff. The limitation on training has been the availability of funds.

(2) Facilities

USAID grant funds were used to build a multipurpose research laboratory for Regional I RIARS in Cycle I. In Cycle II, US grant funds will build three soil/seed water labs for DENR in region I, V, and IX plus upgrade the Information Center at PCARRD. All building plans are progressing satisfactorily. Six buildings are being constructed using GOP-RRDP funds.

(3) Commodities

Progress in ordering, delivery, and installation of equipment has been less than satisfactory. The Team is satisfied that the efforts being made to resolve the problems as they arise will eventually get the commodities to the sites where needed.

(4) Publications

Each year, RRDP supports the publication of relevant material in the PCARRD Technology Services, Philippine Recommends, Book Series, Technoguide, Primer, and Proceedings valued at about ₱400,000.

c. Miscellaneous Accomplishments

(1) Conducted 8 workshops and 30 meetings in 1988 alone in order to:

- packaged Cycle II Agricultural R & D
- packaged the TG research plan
- redefined TA trial design and submission

(2) Developed applied communication system and set up RACO in consortia

(3) Developed the project "Agricultural Resources Regional Technology Information System (ARRTIS) and piloted it in regions V-CSSAC and VIII-VISCA.

E. LESSONS LEARNED

1. Overall Summary

The Team is recommending a new program initiative that will be large enough to impact on the two major aspects of the rainfed uplands "problem" - poor farmers and deteriorating land resources.

A number of lessons have come out of the RRDP experience to help prepare for a large expansion in the program and in the funds to make it happen.

a. Administrative and Financial Management

The first such lesson is that RRDP administrative and financial management procedures are currently incapable of moving rather modest amounts of funds to end users in the field. Such procedures must be changed to handle field activities that will require moving amounts of funds that are orders of magnitude greater than in RRDP.

The second lesson is that the changes needed in administrative and financial management are

not clear-cut. The general problem is easier to identify than are its subsets where specific corrective actions will have to be taken. The problems rest in the operating rules, regulations and style adopted by the two governments. These must change for program expansion; and should change to finish RRDP. The Team is not equipped to detail what these changes should be.

A third lesson is that USAID project management style for the RRDP has been at least as stifling to field progress as has the lack of funds flow and a continuation of this micro-management style will prevent any significant expansion in field program.

However, alternative management and funding styles are available and currently being used by USAID for other projects in the Philippines.

b. Technology Generation and Adoption

The main lesson here is one that has not yet been learned. The technology that has been researched and is presently being offered to farmers "looks and feels" good, but it is not being adopted by non-cooperating farmers, resulting in an absence of significant impact by the Project on either farm income or the environment. The lesson that needs to be learned is, "Why is it that farmers are not adopting?" The Team has presented several hypotheses that need researched but has no answers.

c. Site Selection

The Team believes that lack of adoption and therefore lack of impact may be related to sites selected for developmental activities. The lesson is that more geographic focus would result in simplified programming, a more enticing margin between present and proposed practice, and more impact on farmer income and the environment. The Team believes that denuded, sloping uplands should receive that focus.

d. Project Management

The lessons learned from Cycle I's "rolling" project design/implementation and the interagency coordination attempted through NEDA -- both

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of which were abandoned in Cycle II -- is that new and different ways of doing things -- like program funding (regardless of how beneficial to project implementation) -- will require time and patience on everyone's part to get installed.

Serious technical problems will be faced related to design and measurement of performance criteria; reorienting monitoring and evaluation away from tracking money toward these performance criteria.

Psychologically/institutionally there will be the matter of changing peoples customary work habits away from micro management toward program facilitators.

e. Community-based Approach

The RRDP has demonstrated that the community is an effective and efficient vehicle through which to implement technology transfer and other rural development activities.

f. Marketing Development

Market information on prices and outlets may have been an adequate marketing program for RRDP, given its limited impact on production. The obvious lack of market depth may also have been a factor in low adoption rates. The lesson is that more attention must be paid to marketing and market development in areas anticipating a large production impact.

2. Agriculture

a. Site Selection

From the beginning, RRDP recognized the huge area that rainfed agriculture covers (more than 70% of cropped area) and the wide range of diversity both in the bio-physical environment as well as the socio-economic status of its inhabitants. In response to this diversity, the project opted to work on a large number of sites representing the many environments of the rainfed areas on the premise that this series of small

sites can be expanded to cover all of the rainfed area. Our assessment is that this choice has made the project task very difficult.

Another option for dealing with the diversity of rainfed agriculture is to focus project effort on one or two of the most important subsets of the rainfed environment. This option would greatly reduce diversity, the range of farm problems to deal with, the number of technologies needed to solve these problems, and most likely the amount and complexity of information that the extension technician has to cope with.

The primary bases for selecting priority areas (as the original project aptly argues) are: level of poverty and farm productivity; susceptibility to soil erosion; and area covered by the subset. The denuded sloping rainfed area clearly satisfies these three requirements and the project should seriously consider focusing its effort on these areas.

b. Poverty and Sustainability

Much of the area covered by RRDP, especially those in Bicol, has focused on coconut-based and other permanent crops. These areas are not the least productive, are not cultivated by farmers with the lowest income, and are not the most susceptible to soil erosion. For such favorable areas, it is not easy to design an alternative technology that will substantially improve existing practice, which may be a factor in failure of the technology to spread to non-project sites. However, if the target areas were selected more judiciously in order to satisfy low productivity, low income, and environmental instability, the potential for improvement would have been much higher and the probable rate of adoption of newly introduced technologies could have been much faster.

In the sloping hillsides, permanent crops are the primary tool to (1) provide valuable ground cover and (2) high returns to farmers. The primary constraint to growing of trees is the high initial investment as well as the time required before these trees can provide income. Because of off-site benefits from the growing of permanent crops there should be Government cost sharing of the establishment costs.

c. Market Development

For many upland areas where access to roads and markets is relatively more difficult, the availability of profitable market outlets is a major consideration for wide scale adoption of new technologies. A farmer will generally produce only for a perceived level of family needs and marketable surplus. This level is usually lower than that which can potentially be produced in his farm. This could be one of the main reasons why farmers in the target sites convert only a small fraction of their farms to the new and more productive technologies. To hasten wide scale adoption of new technologies, therefore, enough assurance must be given to all potential farmer adoptors that there is a reliable and profitable market that can absorb all that they can produce.

3. Natural Resources

a. New Ways Take Determination and Patience

The RRDP proposed a radical new way of doing things. The new style did not have goals and targets set from the center; it depended on a so-called "rolling design" to determine outputs and required inputs. The RRDP also proposed to test interagency coordination through NEDA.

None of these modes worked in Cycle I; they were abandoned in Cycle II in favour of more comfortable statements of desired outputs.

Lesson: The shift to a program mode of financing will take determination and patience to succeed. There will be two major problems:

The technical problems will be significant -- design of the performance criteria upon which tranches of money will be released and their measurement by the monitoring and evaluating system in the DENR.

Psychologically, where long time employees have grown accustomed to doing things in a certain way, requiring a major change may not be well received; in fact resisted.

b. Projects Impede Organizational Improvement

The connotation of a project is that it starts and ends at times definite. They are thought of as discrete and staffed for the most part with non-regular personnel. Hence, at the end of the project period, these employees seek other projects and government seeks new donor supported projects.

Projects in the rural development sector seem to move in a fairly regular progression. An approach is postulated, tested, verified, and piloted. By the time the piloting is over and one should know whether to replicate the pilot, the project is over and another project and another set of tests, verifications, and pilots follow.

But in all of this, the basic organization, whose staff are to receive enhanced capability to help rural people and resources, changes very little, if at all.

4. Research

a. Research Sites

The selection of sites on farmers land should consider long term need for sites with perennial crops and select farmers accordingly, so access is assured and improved practices can be demonstrated. RRDP TA and TV research sites are not located within the development sites. The lesson here is that trying to protect precise, replicated trials on farms is very difficult.

b. Project Time Frame

Upland rainfed development, as defined by the ability of the farmers to adopt farming practices that are environmentally sustainable and economically viable, needs a long term commitment by the development agency.

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c. Technology Transfer/Adoption

The Team could not determine the reasons farmers did or did not adopt technology when demonstrated in close proximity to their farms. There is a need for continued research, both in response to problems identified in DA/DENR development sites and in search of new technology. The strongest incentive convincing farmers to change was visits/tours to the coconut-pineapple farms in Cavite, the SALT in Mindanao, and the community based World Neighbors project in Cebu.

d. Institutionalizing Research

Project goals and research agenda should be additive to, and not a substitute for, the long term regional and national priorities of the NARS. In 1988, PCARRD-RRDP conducted workshops to focus on technology generation, the lesson being that the system needed more new technology to feed the TA and TV trials and for farmer adoption.

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III. FUTURE STRATEGIES/PROGRAMS

One of the purposes of the evaluation is "to make recommendations, based on lessons learned and Project experiences, for future directions of USAID assistance strategies for upland and coastal rainfed agriculture and natural resources activities."

This Chapter should be considered as ideas/suggestions to incorporate into GOP/USAID current thinking about future directions for USAID assistance. The following suggestions are based on the Team's findings and conclusions and should be read in the context of the three major appendices. We have arrived at 18 recommended actions by the GOP and USAID. A number of them have substantial programming implications. However, we have focused our attention on the two that we consider most appropriate -- a program to deal with the denuded hillsides and major strengthening of the research network. In fact, however, a number of additional recommendations are subsumed under these.

A. PROGRAM FOCUS

The context for selecting these program areas evolves out of broad considerations of the rainfed uplands problem, a strategy for dealing with the problem, and a general program outline. We are thinking beyond RRDP to new initiatives.

1. The Problem

The basic problem is that there are too many people in the hills and uplands to survive on existing methods of production. Fortunately, the hillsides will heal themselves, not as productively as one would like, but healed, nevertheless, in three or four years if there is no utilization pressure. So, sustaining productive environments in the uplands and coastal zone is directly related to people. The result is an increase in poverty and damage to the natural resource base.

An important point is the sheer magnitude of the problem:

--- 3 to 8 million ha. of cutover, denuded, eroding, and unproductive uplands that are continuing to deteriorate; and

--- 8 million inhabitants (1.5 million farmers) who are poor, undereducated, and existing in isolated circumstances with little hope of improvement.

To date the GOP and USAID have not significantly reduced the magnitude of the problem.

2. Strategy

The basic strategy for dealing with the problem is presented in three parts --- each with its own programmatic content.

Part One: The long run strategy is to remove people-pressure on the uplands. The strategy will be mostly non-agricultural.

Part Two: Make productive repairs to the environment.

Part Three: Help those people who remain in the uplands improve their livelihood in a mode that is consistent with bio-physical sustainability.

3. A Program Outline

a. For removing people-pressure:

Rapidly expand non-agricultural employment generation. This was heavily emphasized by USAID in its 1982/83 CDSS's, by the World Bank more recently, and seems to be an emerging NEDA direction. It is not a direct responsibility of DA, DENR, or ORAD. It is something in which USAID has some experience, but the primary responsibility rests, naturally, with GOP. It is certainly a subject for the GOP/USAID policy dialogue.

Build access roads to the upland areas where people now reside so goods and services can get out of and into the uplands. This should receive major attention.

A major GOP effort in family planning. Someone else's program, but critical to helping remove people-pressure. Another candidate for the GOP/USAID policy dialogue.

b. Repairing the environment.

A massive program of reforestation, which DENR is just starting, plus other programs for establishing permanent vegetative cover on deteriorated uplands to be implemented on A & D lands.

c. Helping people who remain in farming

With the overall magnitude of the problem being eight million people, it is necessary to decide where one will start to help. The choice should make possible a program that will enhance the livelihood of poor people residing in the uplands consistent with bio-physical sustainability .

The Team concluded that some focus is required among the wide range of environmental diversity that makes up the rainfed uplands physical problem area. We are recommending that the focus be on the denuded, open, eroded, sloping uplands (denuded hillsides, for short) which cover a significant area of the Philippines. Such a focus would also help repair the environment.

Our findings indicate that there are still many things to be learned about uplands technology and that the primary actor here is the NRDN. We found that the NRDN is not as strong as it needs to be to serve Philippine agriculture now, nor into the next century. The U.S. has a comparative advantage in this kind of assistance and we will make some program suggestions.

B. THE DENUDED HILLSIDES

There are two options here depending on the magnitude of resources that USAID proposes to commit. Option one is a major renovation program to correct the deteriorated land resource and to yield improved incomes to farmers. $100 million would treat 135,000 ha. (assumes $750/ha.). If appropriately concentrated in large contiguous blocks, an impact could be made on a small part of the country-wide bio-physical problem (2 to 4 percent) but a significant part of a region or group of provinces as was the intent under RRDP.

With option two, more modest funding, USAID's comparative advantage is to work at creating and piloting new technology; solving the adoption mystery; design and develop credit procedures; market development and marketing; and staff training -- all of which would facilitate GOP utilization of other donor funds. Some of these factors will have to be dealt with in any case since they are essential components for a major renovation program.

1. Option One

Our original thought was a large program for both A & D and forest lands. However, it would appear prudent to see how the $250 to $500 million already, or being, committed to the latter is managed before adding additional significant amounts of resources. Improving the contracting process, training, and other technical assistance activities would be a productive use of USAID funds. We propose the denuded hillsides in private ownership as an appropriate focus for USAID assistance.

The denuded hillsides are usually characterized by farmers with low income, and land that is eroding very rapidly. The Team believe that there are large tracts of land that fall into this category. The evidence shows that the potential for improvement of these denuded sloping areas both with respect to improved farm income and reduced soil erosion is very high. In addition, the types of technologies that are required to improve these areas are fairly homogeneous and well enough known to start a major program.

It is proposed to plant these areas to perennial crops dominated by trees, including fruits, and other financially viable crops that bind the soil. The program would be designed to assure a rate of adoption that will show substantial impacts/returns in both socio-economic and bio-physical terms.

The benefits from stabilizing upland slopes go to both the upland farmers and to others down the slope. Therefore, equity demands that society share the costs of promoting stability. Currently, society, through the national government, bears the total cost of reforesting public lands. It seems reasonable that similar stabilization of privately-owned/tenanted lands be supported by government cost sharing. Two main activities are proposed for this component, namely: (1) converting the privately-owned denuded hillsides into permanent crop agriculture and (2) assist with the contracting process, training, and other technical assistance for reforestation of the denuded forest lands.

Permanent Crop Agriculture: A program of long-term loans to hillside farmers to finance the planting of perennial cropping systems is a key requirement of the program. Such a long-term loan program should have the following features:

a. Cover all investment required to establish a perennial cropping system, including farmer subsistence during the establishment period.

b. Repayment should commence only when the system begins to generate the full stream of income;

c. Government would pay for the cost of money (interest) as well as the administrative cost of making and managing the loan.

Fortunately, the DA has had long experience in lending to farmers during the Masagana 99 and Masaganang Maisan programs working through the Rural Banks. It is reported to the Team that the mechanics of farmer lending already in place can very well be applied to this approach. If this is not the case, the USAID program would necessarily get involved in the credit program since it is an unconditional requirement for success of the program. One of the criteria for area selection would be the existence of a viable Rural Bank.

The rationale for a credit program rather than Government hand-out is a matter of security of tenure and perceptions of rural dwellers toward their relationship to Government. We have been given to understand that farmers are hesitant to accept developmental resources on a free basis from the Government because this is perceived to give the Government some hold on the land they occupy. If the Government lends them money to be spent on their land, it lends credibility to their occupancy situation, whatever it might be.

2. Market Development

Much of the success of Option One depends upon the initiative of the local dwellers to participate in the replanting/reforestation of the denuded hillside and their willingness to protect and care for these newly planted trees. This will happen only when, in addition to secure tenure, the local dwellers perceive the trees to give them a large enough and continuous enough stream of income to provide for household needs. Such a level of income can be realized only if the new products derived from the new crops can be sold. Considering the large area to be covered by the program and the amount of new products to be generated an intensive effort to develop a market that can absorb the new product is an absolute necessity. Market information on prices and existing outlets is not enough. What is required are: (1) expansion of the existing market, either through processing or export market development, to cope with the large volume of additional products and (2) control over the volume and type of new products to be produced so that available markets are not unduly strained and are given an opportunity to grow with the growth in production. Thus, any program designed to stabilize and make the hillside more productive must include a substantial component on market development.

C. RESEARCH SUPPORT

Research support in the Philippines is very low -- 0.2% of GNP compared to more than 0.7% for many other countries. USAID recognized this deficiency from the early 70's and has invested substantial resources in the

system. However, USAID support for the research system dwindled until the current RRDP when most support was tagged to specific research projects. This type of research support is not as productive as it could be.

USAID has a high comparative advantage in supporting agricultural research systems based on many millions of dollars of experience throughout the world. The institutional backstopping available from AID/W and the USU's and USDA's available expertise bolster USAID's comparative advantage.

The Team is suggesting two lines of funding into the research network. One line would be an Uplands Research Fund grant that would accelerate research on technology for denuded hillsides. A research agenda would be prepared by DA, DENR, PCARRD and others as appropriate; approved by USAID; and implemented by PCARRD. The agenda would contain an appropriate mix of basic and applied research and would give special attention to responding to field problems.

The intent of the Cycle II research project approval process was to assure responsiveness of the research network to field problems. The process was ill-founded in that it is impossible to achieve the objective of research responsiveness by holding a veto over research yet to be initiated. Responsiveness to current problems can only be delivered by a research system that has already worked on the problem. Responsiveness is appropriately dealt with by (a) having a well-funded long term research agenda that will cover anticipated field problems (this is what an Uplands Research Fund grant would finance); and (b) a research management program that can draw out of the knowledge store of the system those scientists most expert on whatever problems the field program is having. This has not been done well. The system appears to exist but accessing it by field staff is not appropriately managed.

This Uplands Research Fund grant would be funded under the simplified procedures that are appropriate when AID is buying into an ongoing program that it likes and wants to accelerate.

The second line of funding into the research network would be an Institutional Development grant for the NRDN. As we said in Chapter I, the NRDN is institutionally sound, but funds limitations were noted for training and other items. It is proposed that these

limitations would be corrected. It is also proposed that more substantial investments would be made in the weaker, less developed state colleges and universities to better equip them to serve the regions in which they are located.

This grant would be managed by PCARRD. USAID funding arrangements would be patterned after the AID institutional development grants to US universities prior to the Title XII program. They required very little involvement by AID. Again, AID would be buying-in to an ongoing program.

PCARRD would develop guidelines for operating the strengthening program for consortium members. After approval of the guidelines by USAID, PCARRD would work with individual consortium members to strengthen them on a case by case basis.

Strengthening could include both degree and non-degree training at all levels, repair and maintenance of stations and equipment, and the replacement of needed equipment and facilities.

Capital outlays for facilities and equipment would generate recurrent costs that are a universal problem in the developing world. As a practical matter, recurrent costs over and above very limited GOP budget amounts could be expected to be paid out of the grant for as long as funds are available. When grant funds are exhausted the GOP would cover as much of the recurrent costs as possible from its budget; and defer as much maintenance and other costs as possible, while seeking additional donor support.

APPENDICES

APPENDIX A. AID EVALUATION SUMMARY

I. ABSTRACT: RAINFED RESOURCES DEVELOPMENT PROJECT EVALUATION

II. EXECUTIVE SUMMARY

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

ABSTRACT: RAINFED RESOURCES DEVELOPMENT PROJECT EVALUATION

RRDP assists the Government of the Philippines (GOP) with rainfed crop intensification and diversification which is an integral part of USAID's employment/poverty strategy. The problems addressed include severe erosion of rainfed land resources; and large numbers of poor upland dwellers.

Cycle I focused on pilot community development, technology generation, and policy analysis. Cycle II focused on implementing field activities and streamlining the administrative structure. The external evaluation Team assessed Project impact and recommended future assistance strategies.

The major findings, conclusions and recommendations of this mid-term evaluation are:

* RRDP programs and activities are headed in the right direction and yielding successful results, but too slowly;
* RRDP is not impacting significantly on farm incomes or the environment, even though technology seems adequate. The lack of spread of adoption is a mystery.
* DENR contracting procedures are inadequate and should be simplified.
* GOP/USAID should prepare immediately for a new initiative in the denuded hillsides that can significantly impact on the large rainfed area;
* Continue RRDP until a new initiative is in place;
* USAID and the GOP should take creative measures on an urgent basis to deal with funds flow problems. Separately, USAID should review and simplify its project management procedures. Delays associated with these problems will prevent attainment of objectives by PACD.
* PCARRD should organize the research network to deal at flank speed with the adoption mystery. Major investments in the research network are needed.

The Evaluation noted the following "lessons":

* The initial "rolling" design, and interdepartmental coordination were both designed out of Cycle II.
* The community-based approach to development planning and implementation works well for field oriented programs. DA has adopted it Department-wide. DENR appears close to this decision.
* Funds flow and USAID micro-management are better dealt with at the design stage.

COSTS

I. Evaluation Costs

1. Evaluation Team

Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. $)	Source of Funds

2. Mission/Office Professional Staff Person-Days (Estimate) _____

3. Borrower/Grantee Professional Staff Person-Days (Estimate) _____

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)
Address the following items:

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office:	Date This Summary Prepared:	Title And Date Of Full Evaluation Report:

EXECUTIVE SUMMARY

USAID poverty analyses in the late 70's identified lack of employment as the primary cause of poverty. Poverty-group targets were landless agricultural workers, upland farmers, and artisanal fishermen. The program elements identified to deal with increasing employment were: (a) rainfed crop intensification and diversifica tion; (b) rural small scale enterprise development; (c) local institution building; and (d) fertility reduction. These analytical results are still valid today. Including rainfed upland farming brought in considerations of the environment. This is the backdrop for rainfed uplands initiatives by USAID. RRDP deals with (a) above and is an integral part of USAID's employment/poverty strategy.

1. Purpose of the RRDP

The purpose is to develop institutional capacities and policy frameworks to support a community-based approach to land and water resource management in the settled upland forest, rainfed agricultural areas, and coastal zones.

The problems addressed include:

-- a dangerous rate of erosion in the rainfed uplands and coastal zones;

-- resource use patterns incompatible with sustained resource productivity;

-- large numbers of rural poor depending heavily on these resources for their livelihood.

Cycle I solutions were insitution building:

-- DENR and DA carry out resources monitoring and policy analysis;

-- establishing systems for community-planned resource management to test these activities;

-- research backstopping by PCARRD.

Cycle II focused on implementing field activities and streamlining the administrative structure:

-- major extension/dissemination activities;

-- limited support for small special projects;

-- contract reforestation; and agroforestry;

-- species trials and seedling production; and

-- limited new research to address problems identified by field activities.

2. Purpose and Methodology of Evaluation

The purposes of the evaluation are two-fold: (1) to assess the impact of RRDP; and (2) to make recommendations for future USAID assistance strategies in the rainfed uplands.

The Project Agreement was signed in September 1982, not much happened until 1984, the PACD is September 1991, and this is the first formal evaluation of the Project. It is labeled a mid-term evaluation. Technical Specialists are listed in Appendix C.

The methodology was a straight-forward: (1) review of all project documentation; (2) other documentation related to agricultural and natural resources development in the Philippines (Appendix D, Bibliography); (3) field visits to project operating sites; and (4) extensive interviews with GOP and USAID administrative and field staff; farmers; and Filipino and expatriate experts in related activities. The Proceedings Report from the DENR Pre-Evaluation Workshop was particularly helpful. Nothing comparable was available for Agriculture or Research. USAID/GOP should consider this idea for future evaluations.

3. Findings and Conclusions

The Team's analysis concludes that:

(a) A program focus on rainfed uplands was, and still is, valid;

(b) RRDP programs and activities are headed in the right direction and yielding successful results, but too slowly;

(c) Also established is that the community-based approach is an effective tool used by both Departments for organizing development activities. Supporting this is the ongoing Departmental decentralization of authority to the Regions and Provinces;

(d) The virtually inoperable funds flow mechanisms and micro-management by USAID and the GOP have been the major causes of delays in implementation and it currently appears impossible to achieve most project objectives by the PACD;

(e) RRDP is not impacting significantly on farm incomes or the environment. USAID has not committed sufficient funds to the activity to elicit the impact desired.

USAID is faced with the choice of committing blocks of money large enough to impact on the problem or stick to institution building, piloting, and research and assistance would be given GOP in wisely expending other donor funds.

(f) Technology seems adequate but needs further innovative development. There is virtually no spread of adoption. Why not, is a mystery. Because farmers are not adopting, and it is not known why, the research network is at fault. NRDN should know, or be finding out, why farmers are not adopting.

(g) Contracting is a major RRDP/DENR implementation tool. Present procedures are inadequate and should be improved.

(h) The denuded hillsides are identified as a highly productive location for program expansion. Incomes are low, erosion is serious, and the margin of returns of the recommended technology over that presently used by farmers is attractive enough to provide a real stimulus to adoption.

4. Principal Recommendations

Given the above findings and conclusions, the Team's principal recommendations are:

(a) preparation should begin immediately for a new initiative that can significantly impact on the large rainfed area;

(b) RRDP should be continued until a new initiative is in place;

(c) focus should be on the denuded hillsides for RRDP and for any new initiative;

There are three recommendations for urgently addressing existing weaknesses in the Project. These are:

(d) USAID and the GOP should take creative measures on an urgent basis to deal with funds flow problems. Separately, USAID should review its project management procedures and eliminate all constraining steps that are not statutorily or otherwise required.

(e) PCARRD should organize the research network to deal at flank speed with the adoption mystery.

(f) DENR should analyze its contracting procedures -- with assistance from USAID, if needed -- and simplify.

Recommendations for strengthening program support functions include marketing, research implementation, mapping, and staffing.

Recommendations for institutional strengthening include the research network which is critical, training, communication, and coastal zone management.

5. Lessons Learned

Project design lessons relate to (1) the initial rolling design, (2) inter-departmental coordination, and (3) the community-based approach. Lessons were well-learned on the first two and they were designed out of Cycle II.

The community-based approach to development planning and implementation works well for field oriented programs. DA has adopted it Department-wide.

The primary lesson learned related to the funds flow and micro-management by both USAID and GOP bureaucracies is that there is a heavy responsibility at the program design stage to use the simplest procedures available.

APPENDIX B. SPECIAL EXECUTIVE SUMMARY

I. PROJECT AND EVALUATION DATA FACESHEET

USAID decided not to include this facesheet

II. SPECIAL EXECUTIVE SUMMARY

SPECIAL EXECUTIVE SUMMARY

RRDP deals with rainfed crop intensification and diversification.

The purpose of RRDP is to develop institutional capacities and policy frameworks to support a community-based approach to land and water resource management.

The problems addressed include:

-- a dangerous rate of erosion in the rainfed uplands and exploitive resource use patterns.

-- large numbers of rural poor depending heavily on these resources for their livelihood.

Cycle I focused on pilot community development, technology generation and testing, and policy analysis.

Cycle II focused on implementing field activities in extension; small special projects; contract reforestation; and agroforestry; species trials and seedling production; limited new research to address field problems and streamlining the administrative structure.

The purposes of the evaluation are two-fold: (1) to assess the impact of RRDP; and (2) to make recommendations for future USAID assistance strategies in the rainfed uplands.

The methodology was straight-forward involving review of project and related documentation (Appendix D, Bibliography); field visits to project operating sites; and extensive interviews with GOP and USAID staff, farmers; and Filipino and expatriate experts.

The Team's major findings and conclusions are:

* A program focus on rainfed uplands was, and still is, valid;

* RRDP activities are headed in the right direction and yielding successful results, but too slowly;

* The community-based approach is an effective tool used by both Departments for organizing development activities. Supporting this is the ongoing Departmental decentralization of authority to the Regions and Provinces;

* The virtually inoperable funds flow mechanisms and micro-management by USAID and the GOP have been the major causes of delays in implementation and it

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currently appears impossible to achieve most project objectives by the PACD;

* RRDP is not impacting significantly on farm incomes or the environment.

* Technology seems adequate but needs further innovative development. There is virtually no spread of adoption. Why not, is a mystery.

* Contracting is a major RRDP/DENR implementation tool. Present procedures must be simplified.

* The denuded hillsides are identified as a highly productive location for program expansion.

The Team's principal recommendations are:

* Preparation should begin immediately for a new initiative in denuded hillsides that can significantly impact on the rainfed area, with RRDP continuing in the interim.

* Major investments are needed in the research network

* USAID and the GOP should take creative measures on an urgent basis to deal with funds flow problems. Separately, USAID should review its project management procedures and eliminate all constraining steps that are not statutorily or otherwise required.

* PCARRD should organize the research network to deal at flank speed with the adoption mystery.

Other recommendations deal with market development, research implementation, mapping, staffing, training, communication, and coastal zone management.

Project design lessons relate to:

(1) the initial rolling design, (2) inter-departmental coordination, and (3) the community-based approach. Lessons were well-learned on the first two and they were designed out of Cycle II.

The community-based approach to development planning and implementation works well for field oriented programs. DA has adopted it Department-wide. DENR is close to making this decision.

Funds flow and micro-management problems are better solved at the design stage, ie., do not have them in the first place.

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APPENDIX C. EVALUATION STATEMENT OF WORK

I. PURPOSE

The purposes of the evaluation are two-fold: (1) to assess the impact of the Rainfed Resources Development Project (RRDP) in the Philippines; and (2) to make recommendations, based on lessons learned and project experiences, for future directions of USAID assistance strategies for upland and coastal rainfed agriculture and natural resources activities.

Users of the evaluation findings and recommendations are the implementors of the RRDP who will adopt the necessary modifications in the project design, and decision makers involved in the planning of strategies for environmental and natural resources management in the 1990's. These are: The Secretary of the Department of Environment and Natural Resources (DENR); the Executive Director of the Philippine Council for Agriculture, Forestry, and Natural Resources Research and Development (PCARRD), the Secretary of the Department of Agriculture (DA); the Director General of National Economic and Development Authority (NEDA); the USAID Project and Program Officers and Senior Management Staff; and Senior Officials of the Departments of Environment and Natural Resources, Agriculture and Science and Technology.

II. BACKGROUND

The long-term goal of the RRDP is achievement by the rural poor of the highest sustainable productivity of the rainfed and coastal resources upon which they depend for their livelihood.

The purpose of the RRDP is to develop institutional capacities and policy frameworks to support a community-based approach to land and water resource management in the settled upland forest, rainfed agricultural areas, and coastal zones. The establishment of vital effective, and expanding regional programs of this type in Regions V, VI and VIII plus active efforts to apply the approaches in other regions

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will indicate that the RRDP purpose has been achieved.

RRDP is an "umbrella" project containing four discrete sub-project components: Agriculture, Natural Resources, Research, and Upland Access Roads. (The Upland Access Roads Component will be evaluated separately and thus will not be referred to in this scope of work). The project addresses problems associated with the Philippines' natural and rainfed resource base, which is being eroded at a dangerous rate, particularly in rainfed upland and coastal areas where resource use patterns are incompatible with sustained resource productivity. The rural poor are particularly threatened by the destruction of soils, forests, and fisheries because they depend heavily on these resources for their livelihood. To reverse these trends, local residents need to use alternative production systems. Such systems must be based upon proven technologies and the availability of low cost inputs. Effective dissemination of these systems depends on an increased role for the private sector and non-government organizations, greater reliance upon local resources, assurance that economic incentives are present, and physical access to markets and government services.

Thus, in September, 1982, USAID and the GOP approved the Rainfed Resources Development Project (Cycle I) which was designed to assist the Philippine Government develop institutional capacities and a policy framework to support community-planned approaches to land and water resource use in the settled upland forests, rainfed agricultural areas and coastal zones. The original design focused on helping DENR and DA carry out resources monitoring and policy analysis, establish systems for community-planned resource management to test these activities, and provide research backstopping by PCARRD. In 1983, the Project was amended to expand the scope of research activities and increase the research budget. In 1984 the Project was further amended to add an Upland Access Roads component, implemented by the Department of Local Government (DLG). In 1985, the Project was amended in order to allow the approval procedure of activities to use annual plans instead of activity plans. In 1986, USAID and the implementing agencies decided to redesign the project (Cycle II) to focus on the implementation of field activities and to streamline the administrative structure which included the conversion of loan funds to grant. Current activities include major extension/dissemination activities, limited support for

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small special projects for rainfed farmers, contract reforestation, agroforestry projects, species trials, seedling production, and limited new research to address problems identified by field activities. From four regions covered in Cycle I, RRDP has expanded coverage to twelve regions in Cycle II. Specific activities under the three components include:

1) Agriculture - through DA, promotes the adoption/application of alternative farm management options through the provision of technical assistance, training and inputs for production to help increase the income and sustain the productivity of at least 20,000 direct farmer beneficiaries. Other implementation strategies include the dissemination of simple household enterprise technologies to increase the value to agricultural products and the development of a marketing system to ensure profits for the commodities being promoted.

2) Natural Resources - through DENR, encourages the adoption of soil conservation techniques by introducing diversified farming systems and by establishing forest production, and protection on a sustainable basis. Participating farmers are being provided with production inputs, tools, training and technical advice. Activities encompass agroforestry and reforestation along with the establishment of regional nurseries with tree species trials. Resources are also being made available to strengthen the institutional capability of the DENR and non-government organizations to manage and implement related development activities.

3) Research - through PCARRD, funds are provided for basic and applied research in agriculture and natural resources and research capability development coordinated by PCARRD, which is carried out by national and regional level Philippine institutions and addresses the needs of small producers in settled forest, rainfed agricultural and coastal zones.

The RRDP implementing agencies have been assisted by technical assistance contract teams in each cycle, consisting of long-term and short-term consultants. Direct and Host Country contracts have been employed to provide technical assistance to DA, DENR, and PCARRD. The teams have been headquartered at DENR and DA, with team members working in several regions within the Philippines. The Joint Career Corps (JCC) Research consultant was based at USAID Manila.

This project was prepared using the "rolling design" model prevalent in the design of USAID projects worldwide in the late 1970's and early 1980's. The evaluation team should look at this process and assess its impact and influence on this project.

The project has never been evaluated, thus, this mid-term evaluation should assess and analyze the overall impact of the project from the beginning of Cycle I up to the present time.

III. ASSESSMENT OF PROJECT COMPONENTS

This detailed assessment will focus on three of the four discrete sub-project components (i.e. research, agriculture and natural resources). The USAID financed inputs for each area component include technical assistance, training, commodities support, infrastructure, and operating expenses.

A) Research:

(1) Are the existing links and administrative arrangements between PCARRD, DA and DENR adequate? Have linkages with other agencies and projects involved with upland rainfed areas in the Philippines been established?

(2) Is the process by which information on target beneficiaries and the local situation is factored into decisions on research priorities at the site level (relevance of research to needs of farmers) adequate? Are rapid rural appraisals effective? How relevant are technologies generated, verified and adapted? How relevant are benchmark surveys?

(3) What has been the extent of upgrading the research capability of individuals and institutions involved in the research implementation and management? How adequate are training programs for researchers at all levels? Are publications such as the state of the art and book series relevant to researchers needs?

(4) What has been the degree of effectiveness of the research management system from the project management office to the region to the site?

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How effective is research evaluation and monitoring? How effective is the Technical Working Group and the Integrated Research Task Force?

(5) How effective has the administrative system for research activities been in facilitating implementation? What are some of the successes and constraints in this area?

(6) To what extent will the participation of the private sector research? How can PCARRD use them effectively?

(7) How adequate is the research-extension linkage within the project areas and to what extent have research results been disseminated? What potential effect can the Applied Communications activity have on information dissemination and technology adaptation among farmer beneficiaries?

(8) What has been the extent of use and distribution of commodities procured in Cycle I? What is the status of Cycle II procurement and what problems if any are being encountered in completing this procurement?

(9) What is the current status of the Bacnotan multi-purpose research building constructed in Cycle I? Are the maintenance and recurrent costs associated with the building being budgeted in the GOP system? Moreso, are GOP funds being provided to maintain and provide for recurrent costs associated with the Bacnotan multi-purpose research building? Are budgets being approved and fully funded to meet project needs?

(10) What are some of the important lessons learned from this component in terms of a research system supporting field activities which are being implemented by other agencies? To what extent might this relationship sustain itself in the absence of specific project support?

(11) Assess the capability of the current research system to support future research needs for upland rainfed agriculture and natural resources development. Does the current system lend itself to adequate collaboration among agencies to ensure appropriate research will be undertaken? How are priorities established and coordinated? How are funded programs coordinated? What is the system for regional

or lower level management of priorities?

(12) Is the importance of extension and the link to the research system sufficiently understood and being incorporated into planning for activities by research agencies so that future activities in upland rainfed agriculture and natural resources will benefit?

B) Agriculture:

(1) Provide an assessment of the overall administration/management/implementation of the project at all levels of the management structure. Are the existing organizational structures and operating systems (which includes the following sub-systems: planning, financial, technical support, monitoring and evaluation) responsive to the needs of the Project? What about the relative merits of decision-making ability of the PMO, its authority vs. responsibility?

(2) Are the implementation strategies, which are listed in the Project Descriptions, being used effectively in meeting the expansion targets of the project?

(3) Has the project made any progress in terms of providing assistance to farmers (i.e. increasing farmers' income, changing farmers' attitudes of accepting government programs and new technologies, redirection of the extension system, and developing farmer organizations)?

(4) To what extent is the project preparing for the eventual institutionalization of sustainability? Under the current organizational system, could DA manage future national rainfed upland development programs based on the RRDP concept and lessons learned? How decentralized could management of this activity be under this system? What kind of external assistance might be required?

(5) How effective have the Special Assisted projects been in terms of their ability to deliver services to farm families in the target areas, especially the decentralized-type system?

(6) How effective was commodity procurement in contributing to project objectives?

(7) To what extent will the participation of the private sector strengthen agriculture? How can DA use them effectively? What type of external assistance might be required to support future private sector involvement in upland rainfed agricultural development?

(8) Is the process by which information on target beneficiaries and the local situation is factored into decisions on agriculture priorities at the site level (relevance of research to needs of farmers) adequate? Are rapid rural appraisals effective? How relevant are technologies generated, verified and adapted? How relevant are benchmark surveys?

C. Natural Resources:

(1) Under the agroforestry projects, the project staff are helping the farmers identify key farm problems, and to design and implement activities accordingly. Has this approach been successful in strengthening the farmers' ability to change, i.e., adopt new technologies and practices? If not, what are the constraints and how can this approach be improved?

(2) What has been the effectiveness of the original four agroforestry projects, (ongoing since 1984/1985) in increasing farmers' incomes, and if there are increases, have they been achieved through the adoption of sustainable production techniques or practices or thru off-farm employment? If the project has not increased incomes or introduced sustainable methods, why, and what changes are recommended?

(3) What is the extent of progress in DENR's Integrated Social Forestry (ISF) program? Should the project modify its present approach?

(4) What has been the effectiveness of planting nurse tree crops (Gmelina arborea, Acacia auriculformis and Piliostigma malabaricum) and encouraging the farmers to plant cacao, fruit trees and coffee under the nurse trees? Considering this approach and others developed by the project, are these viable approaches for rehabilitating low-productivity areas in the uplands? What are the constraints associated with these technologies, i.e., reduced water yield over the short-term from planting faster growing, high water-consuming tree species? How can these approaches be

improved, i.e., planting of leguminous cover crops?

(5) What has been the extent of documenting various implementation approaches, direct DENR-implemented agroforestry projects, contracts with profit-making firms, contracts with non-profit organizations, all of which have different perspectives? Are there ways to improve the documentation process? Are these activities in conflict with each other and how is the project reconciling or coordinating these efforts?

6) What is the effectiveness of the projects' administrative structure? Is the projects' administrative structure in tune with or adjusting to the departments' evolving administrative structure in a manner that facilitates project implementation and also fosters the institutionalization of project activities within DENR?

(7) To what extent has the project strengthened DENR's capability to contract with NGO's? Has the project strengthened DENR's ability to contract with farmers/farmers' groups for implementing upland development activities? If not, why, and how could the project modify its present approach in order to strengthen DENR contracting capability?

(8) To what extent have delays in delivering commodities as planned affected implementation? How can the project streamline its commodity procurement?

(9) What has been the impact of training at all levels (staff, technicians and farmers)? Have the trainees practiced their new skills and/or demonstrated a higher level of productivity? What changes should the project make in implementing its training program? Is there any system for following-up on trainees once they return to their work sites to determine the extent to which they are incorporating what they learned in training to their jobs?

(10) Has the project been able to influence successful innovations in the provision of security of tenure to upland farmers where appropriate?

(11) How can DENR strengthen its ability to support implementation and how can USAID improve its backstopping of the project?

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IV. GENERAL QUESTIONS TO BE ADDRESSED BY THE TEAM

The central issues of this section of the evaluation concern the following:

a. Institutional building and strengthening;

b. Overall project impact; and

c. What adjustments, if any are needed to enhance performance for implementation of activities over the remaining thirty two months of the project. The main issues to be addressed are:

A. Institutional Building/Strengthening

(1) Given the current institutional, economic, policy and other conditions in the Philippines, are the concerned institutions able to effectively fulfill their functions to implement the RRDP? What are some variables, both internal and external (i.e. NEDA, DBM and USAID) that affect the institutions' ability to implement project activities, particularly at the regional, provincial and project site level (community/barangay)? For example, how effective are the current management and administrative systems in supporting decentralized development activities? What suggestions can be made, if necessary, to improve on these systems particularly as they pertain to RRDP activities?

(2) How can the RRDP strengthen DENR, DA and PCARRD support systems in the remaining project time for implementing and decentralizing project activities? What future assistance might be necessary from outside sources?

(3) What is the evaluation team's assessment of this decentralization process and can it be expanded beyond project activities and locations?

(4) Has coordination been sufficient between PCARRD, DA, and DENR RRDP activities and with other projects (i.e. FSDP, ASFP)?

(5) Cycle II used the rapid rural appraisal approach as a tool to determine strategies to use in the planning and implementation of the project and

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identifying researchable areas. How effective was this?

(6) To what extent have project activities influenced the development of viable farmer groups and community organizations at the project sites? What are the major constraints in the community organization process? Evaluate the processes involved in the formation of community organizations?

(7) What are the quantitative and qualitative efforts in the three project components in terms of:

1. defining appropriate strategies;

2. effective implementation of these strategies;

3. useful analysis of the data; and

4. dissemination of findings and/or recommendations to other parts of the agricultural and natural resources system (e.g., through publications and conferences, the state colleges and agricultural universities, through research capability development, government and non-government organization's, extension services and farmers (e.g., through farmer field days, farmer training, and on-farm research)?

(8) Are the feedback systems (i.e. RACO's, extension, etc.) for successfully developed research and technology packages sufficient to help planners and administrators become more informed and supportive of project activities?

(9) What effectiveness has training had on each of the project components? What are the effects of the project on increasing the number of well-trained researchers and extensionists, including women, who can effectively work in upland rainfed areas?

(10) Have delays in budget releases adversely affected project implementation? Has there been any evidence to suggest that reported delays in budget releases to field sites have, instead, encouraged field site managers to generate local resources and to help farmers become more independent rather than dependent upon outside financial assistance? What actions has the project taken to improve its financial management procedures and what were the results? Should

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the project take additional steps to improve its budget procedures?

(11) Is the present monitoring system effective? What areas can be improved to provide for a sound basis for an end-of-project evaluation?

(12) How has this project strengthened the institutional viability and appropriateness of implementing a broad range of activities in support of the broad mandate of the three (3) major implementing agencies?

(13) How effective are the institutional linkages among the implementing agencies, particularly in terms of information flow, decision-making process, fund administration and overall project structure?

B. Project Impact

(1) What is the overall project progress and impact in relation to project objectives and compliance with the annual work and financial plans? What have been the major implementation bottlenecks which have delayed execution? What actions are necessary to address these bottlenecks and the timeframe required for implementing these actions?

(2) What has been the impact of new technologies for agricultural production and household enterprise development on farm family income among project beneficiaries? Have these impacts occured as a result of the initiation of new opportunities for productivity? What about improved access to training opportunities or improved interaction between regional and field station and farming systems research site staff, rural women, and extension workers working with rural women? Has the project made progress in changing farmers attitudes towards government programs, development of farmer's organizations, redirecting of the extension system, adoption or application of technologies?

(3) Have technologies relevant to beneficiary farmer needs been generated by the research process supported by the RRDP and other projects (i.e. SALT)?

(4) To what extent have improved technologies developed under the research process supported by RRDP been adopted by project targeted farmers? How effective have the RRDP supported training programs been in disseminating new and existing technologies to participating farmers? Is there any evidence that non-direct beneficiary farmers have benefited from the dissemination of technologies through project activities?

(5) Are there any successful case studies which would quantify increase in farm income/yields/production in the upland and rainfed conditions where this project has been implemented?

(6) Is there any evidence that environmental quality is improving or that there is a growing awareness of environmental issues in project areas?

(7) Cite specific cases which addresses the development and availability of research, partially or wholly supported by this project that has led to the adoption of improved and sustainable technologies by farmers in the project areas. Are there substantial results in increased resource productivity, increased food output, increased farmer income, and/or resource sustainability?

(8) What has been the overall role played by the technical assistance specialists in facilitating part or all of the above? How effective were the implementing agencies in maximizing technical assistance?

(9) Has the development of a manpower base through in-country and international training programs and personnel policies and procedures ensured that project activities can be continued beyond the Project Assistance Completion Date (PACD)?

(10) What has been RRDP's overall role in communicating agricultural production, research and natural resources management and planning information to regional managers and scientists?

(11) What has been RRDP's overall role in facilities management, commodities procurement and maintenance?

(12) What has been RRDP's overall role and performance in allocating resources provided by the GOP and USAID?

(13) Has the RRDP management systems to coordinate project activities and insure that inputs are provided in a timely fashion been successful?

C. Adjustments to Enhance Project Performance

The evaluation team will assess the project design summary logical framework for each component of the project. Specifically, the team should address the following questions:

(1) Is the project likely to achieve its goal, purpose and output by the end of the project? If not, why, and are there changes that the component should make to achieve these? Are they still reasonable or should they be revised and, if so, how?

(2) Are the project assumptions (contained in the Project Logframe) still valid and, if not, how should they be revised?

(3) What mechanisms have been initiated at the project site level that would contribute to the sustainability of project activities (e.g. farmer trainees, community level nurseries)?

(4) Are the remaining resources in the project adequate to achieve the projects' objectives?

(5) During the remaining project life, what suggestions can be made to enhance and increase gains already made in farmer-beneficiaries production output and the sustainability of newly introduced technologies?

(6) Based on implementation experiences and progress to date, are there any modifications necessary in the overall project design to achieve the stated objective?

(7) Is the RRDP consistent with USAID's interim strategy statement?

V. Suggestions and recommendations for the development of future strategies for Environmental and Natural Resources Management based on lessons learned from the current project.

This assessment should provide inputs for the development of a new environmental and natural resources management strategy for the 1990's. The recommendations will be based on "lessons learned" from the on-going RRDP. Recommendations and "lessons learned" should integrate the findings of the first two parts of the evaluation (implementation and outputs) and clearly specify how these proposed recommendations could further enhance the likelihood of the project achieving its overall objectives and the implications for a new sector strategy. Recommendations should be specific about the appropriate levels of effort and modifications/changes needed for incorporation in the development of new strategies.

The major issues to be addressed in this section are:

1. In what ways can USAID best support the adoption of sound agroforestry/reforestation practices in the uplands and coastal resource management on the coastal shores?

2. What direction should future USAID assistance take in the area of contracting for reforestation and agroforestry development? For instance, contracting at the regional level and/or contracting with individual farmers/groups of farmers? What are the expected benefits/costs of these and other new approaches to contracting?

3. What lessons can be learned from the RRDP experiences that can be incorporated in the process of developing new strategies for rainfed agriculture and natural resources management activities?

4. Are the upland agroforestry and natural resources management activities of other agencies being adequately factored into current and future USAID and GOP planning in terms of their lessons learned and problems encountered? These agencies include the ADB, World Bank, OECF, AID Centrally Funded activities (e.g. F/FRED), and others. 5. In an effort to create a climate in which larger activities can be undertaken, the USAID mission is considering utilizing a sector

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programming mode. In developing future strategies in the natural resources sector, how can AID effectively move from a project mode to a program mode in supporting activities? What might be some of the bureaucratic and administrative obstacles in this approach?

6. In considering future upland agroforestry and natural resources management activities, an important consideration would be the possibility of decentralization and sustainability at the local level.

7. What is the role for DA in upland and coastal areas that USAID can help? (Keep in mind that there needs to be a much different relationship than the present management intensive style. How should DA relate to PCARRD, PCAMRR and DENR? And other agencies? LGU's?)

8. How can DENR multiply the best pilot efforts with less staff intensity? What sould be the role of DENR vis-a-vis DA and PCARRD/PCAMMR for upland and coastal development? In what ways can USAID assist? (Keep in mind that there needs to be a much different relationship than the present management intensive style.)

VI. METHODOLOGY AND PROCEDURES

The evaluation team will combine US and Filipino consultants in a five-member team. The team will be in the Philippines for 48 calendar days, with the exception of the Team Leader, who will extend for one additional work week.

Upon arrival, a team meeting as well as briefings for the team will have been scheduled during the first week, including time to read background materials. Concurrently, the team will schedule their own travel to various sites so that tentative bookings can be made. The team will be expected to coordinate their schedule of activities with DA, DENR, and PCARRD, keeping in mind that a draft document and debriefings should be prepared for the final week or 10-days of their time in-country (exclusive of the team leader's extra week). The team will be expected to schedule a mid-review of their efforts with appropriate Mission staff so that everyone understands the current status of their review.

The team leader, and the team through him, will be under the technical direction of Robert W. Resseguie, the overall Project Officer for the RRDP. Mr. Kevin A. Rushing will serve as the day to day liaison on behalf of Mr. Resseguie with the evaluation team. Ms. Joy Roque, Ms. Precy Rubio and Mr. Ed Queblatin, USAID Program Assist nts for the RRDP, will also be available to the team as resource persons.

The evaluation team will coordinate with the concerned GOP Departments and Agencies through the responsible project directors. These are as follows:

(1) Department of Agriculture:- Ms. Jovit Marasigan

(2) Department of Environment and Natural Resources:-

Ms. Lirio Abuyuan and Mr. Conrad Gulmatico

(3) Philippine Council for Agriculture, Forestry and Natural Resources Research and Development:-

Dr. Dely Gapasin and Ms. Elizabeth Nicolas

A. Mid-Term Evaluation Team Composition and Proposed Timing of Work:

The Evaluation Team composition will consist of the following members:

- An Agricultural Economist (Expatriate) with a broad range of experience in project implementation and evaluation. He/She will also be designated as the Team Leader and will be responsible for preparation of the final report;

- Institutional Development Specialist (Filipino) with project implementation and evaluation experience;

- Research Systems Management Specialist (Expatriate) with project implementation and evaluation experience;

- A Natural Resources Management/Forestry Specialist (Expatriate) with a broad range of experience in natural resources/tropical forestry including project design and evaluation; and

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- Extension/Training Specialist (Filipino) with a broad range of experience in project implementation and evaluation.

All team members are required to have at least five years of experience in implementing, reviewing and/or evaluating agricultural/natural resource/forestry projects and possess excellent writing skills. The consultants are expected to start March 15, 1989.

VII. METHOD OF PAYMENT

AID Manila will contract with a U.S.IQC firm which will provide the three expatriate specialists and the two local consultants. The U.S. firm will consult with the Mission before appointing the consultants. Direct payment will be made by USAID to the Contractor upon submission of its billings and submission of a final and acceptable report. Expenses for travel, per diem and support costs will be reimbursable subject to AID regulations.

VIII. REPORTING REQUIREMENT

The report will contain the following sections:

- Executive Summary (summary should follow AID/Washington guidelines, see attached Form required);

- Statement of Major Findings and Conclusions (short and succinct with topic or subject identified by subhead); (NTE 5 pages - if more, it can be placed into the Annex section);

- Recommendations corresponding to major findings and specifying who or which agency should take the recommended action; (NTE 5 pages - if more, it can be placed into the Annex section);

- Body of the report (NTE 25 pages) will provide the information and an analysis of the information on which

the major findings and recommendations were based and include a description of the country context in which the project was developed. This section will be a synthesis of the individual team member reports to be compiled by the team leader;

- Recommendations for the development of environmental and natural resources management strategies (NTE 5 pages - if more, it can be placed into the Annex section);

- Project and Evaluation Data Facesheet (form to be provided by the Program Office);

- Completed portions of the Evaluation Summary for the project (i.e., section H - evaluation abstract and section J - summary of evaluation findings, conclusions, and recommendations);

- Appendices as necessary (including evaluation scope of work, statement of methodology used, individual team member reports, charts and tables to support findings, and a summary of visits and persons met; and

- A one page, single or double sided abstract of the evaluation with "lessons learned."

Ten copies of the initial draft of the report will be submitted to USAID and ten to the GOP for review and comment six to ten working days prior to the completion date of the evaluation (excluding the additional week allocated to the Team Leader). Twenty copies of the final report, incorporating USAID and GOP comments as appropriate, will be submitted to USAID prior to the Team Leader's departure from the Philippines.

APPENDIX D. THE EVALUATION PROCESS

1. METHODOLOGY 1

2. SCHEDULE OF ACTIVITIES & PERSONS CONTACTED 2

3. BIBLIOGRAPHY 12

APPENDIX D. THE EVALUATION PROCESS

1. METHODOLOGY

a. A detailed review of the SOW was made by the Team. Discussions with ORAD staff determined that answers, specific to each of the very detailed questions in the SOW, were not required. The intent of the SOW is to provide overall guidance as to the complexity of the Project, and to assure that all important aspects of the Project are covered. It is expected by ORAD that the Team's report will address all of the questions and issues raised in the SOW.

b. A schedule of field visits for the Team was worked out with help from DA, DENR, PCARRD, and ORAD staff. The Team traveled as a group to Project sites in the Bicol and Panay areas for about a week each. Other field visits were made by individual Team members as needed or as requested by USAID or the GOP.

c. A detailed outline of the final report was prepared and assignments for drafting individual Appendix sections given to each Team member. The Team will jointly prepare the content of the final report but the Team leader will be responsible for putting it into final shape.

d. A rough draft of the report will be provided to GOP agencies and USAID on May 1, 1989. A review meeting will be held on May 5, 1989. The final report will be completed by May 16, 1989.

2. SCHEDULE OF ACTIVITES & PERSONS CONTACTED

Date: March 20, 1989 **Meeting with USAID & GOP**

Experience, Inc.

(*The Team*)	
Bill Hand	Country Representative
Fletcher Riggs	Team Leader
Bill Hart	Natural Resources
Ed Rice	Agricultural Research
Manuel Lim, Jr.	Inst. Development
Art Gomez	Ext. and Training

PCARRD

Dely Gapasin	Dept. Exec. Dir.
Elizabeth Nicolas	RRDP-PM
Betty P. Del Rosario	Dir. - P&D Division

USAID

Ken Prussner	ORAD Chief
Bob Resseguie	RRDP - PM
Kevin Rushing	PCARRD - PM
Joy Roque	DA - PS
Priscilla Rubio	PCARRD/Program Spec.
Ed Queblatin	Ag/F -Program Spec.

Department of Agriculture

Carlos A. Fernandez	Under Secretary - P/Special
Jovita G. Marasigan	PMO - Head
Henry Lukban	Consultant - DA

Department of Environment & Natural Resources

Lirio Abuyuan	Asst. Secretary
Paula de los Reyes	RRDP - Technical Staff
Conrado V. Gulmatico	RRDP - Coord.
Lisette G. Monteno	RRDP - GPS

Date: March 22, 1989 **Briefing of RRDP External Review Team**

PCAMRD

Cesar Pagdilao	Officer-in-Charge
Eriberto P. Moreno	Marine Fisheries Division

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PCARRD

Dr. Ramon V. Valmayor	Executive Director
Dr. Dely P. Gapasin	Deputy Executive Director for Research and Dev.
Dr. Virgilio A. Fernandez	Deputy Executive Director for Institution Dev. and Financial Management
Dr. Teresa H. Stuart	Director - Applied Comm. Division
Dr. Patricio S. Faylon	Director - Livestock Res. Division
Dr. Aida R. Librero	Director - Socio-Economics Research Division
Ms. Nelia R. Belen	Officer-in-Charge, Finance & Administrative Division
Ms. Conception AE. Magboo	Officer-in-Charge, Tech. Dev. and Regional Coor.
Ms. Cynthia R. Mamon	Director, Management Info. Systems Division

RRDP Project Management Office

Elizabeth S. Nicolas	RRDP Project Manager
Mae Ann Y. Duatin	RRDP
Nora M. Valera	IDD - Manpower
Cristina O. De Leon	ODED - IDFM
Luz C. Firmalino	ODED - IDFM
Lemuel S. Malicay	IDD - Infrastructure
Edgardo N. Paras	IDD - Equipment
Richard P. Burgos	OED - Support to Station

Date: March 27, 1989 **Meeting with USAID**

USAID

John Blackton	Deputy Director
Paul Deuster	Economist
Jean Du Rette	Project Design
(4)	ORAD Members

Date: March 29, 1989 **Meeting with Louis Berger Team**

THE TEAM	Experience, Inc.
Julian Velez	Chief of Party
Richard Hirsch	Training Mgmt Advisor
Hestor Tormo	Admin. Officer & Spec. Tech Advisor

Date: March 29, 1989 **Meeting with DAI Team**

Dr. Percy E. Sajise	RRDP - TA, Agro-forestry Specialist
Mr. Benjamin V. Gaon	Resource Economist
Mr. Tony Babb	DAI Representative
Mr. Carmelo Villacorta	Chief of Party
THE TEAM	Experience, Inc.

Date: March 30, 1989 **Meeting with DA-RRDP Staff**

Carlos Fernandez	Under Secretary/Special Projects
Henry Lukban	DA - Consultant
Richard Hirsch	Louis Berger Training Coord.
Josue Maestrado	DA-RRDP Tech. Staff
Ana E. Defante	-do-
Caspar Bimbao	-do-
Jovit Marasigan	-do-
Lucenia Marquez	-do-
The-Team	Experience, Inc.

Date: March 30, 1989 **Meeting with DENR**

THE TEAM	Experience, Inc.

DENR

Ricardo M. Umali	Under Secretary for Planning Proj. Management
Lirio Abuyuan	A/Secretary - Special Proj.
Jose R. Gapas	DS Control
Rene A. de Rueda	A/Secretary for Field Operations (Visayas)
Roque A. Magno	A/Secy - Planning & Policy
Gregorio Magdaraog	A/Secy - Regional Operations (Luzon)
Rey Bayabos	FMB-DENR, OIC Social For. Div.
Paula C. delos Reyes	RRDP/Proj. Monitoring Officer
Lisette Monteno	RRDP/Proj. Planning D&E -Head
Irene S. Estrada	RRDP/Proj. Monitoring Officer
Vilma R. Santiano	RRDP - Chief, Proj. Dev. Evaluation

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DENR

Arsenia B. Estrella	Proj. Monitoring Officer
Genny O. Austria	PCD - ERS
Conrado V. Gulmatico	RRDP - Coordinator
Percy Sajise	DAI - OIDCI, TA-AGF
Carmelo Villacorta	DAI - Chief of Party
Jesus Villongco	NRDC - Business Dev. Group Head
Roberto de Venecia	NRDC - President

Date: March 31, 1989 Meeting with AAPP

Mr. Don Taylor	AAPP - Chief of Party
THE TEAM	Experience, Inc.

Date: April 3 - 6, 1989 *Team* Visit to Region V

Date: April 4, 1989 Meeting with MASARAGA AF Project Managed by BUDFI,Albay

Project Staff

Alaster Nuyda*	Project Manager/Agronomics
Antonio Payonya*	Deputy Project Manager/Agro.
Celso Rinon	Chief, Devt. Proj. Coord.
Gloria Ibarreta	Supervising Clerk
Jovito Revilla	Second Farm Supervisor
Cesar Pante	Nursery Farm Supervisor
Franklin Barcena	AF Technologist
(9)	Cooperating Farmers

*detailed from BWCA (Bicol Univ. College of Agriculture)

The Team	Experience Inc.

Date: April 6, 1989 Meeting with CSSAC

CSSAC Staff

Dr. Ciriaco Divinagracia	CSSAC President
Dr. Gil Malanyaon	Director, BICARRD

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CSSAC Staff

Belen Caceres	Project Leader, Applied Comm.
Dr. Yolanda Castovende	Study Leader, Legumes Group Model
Minda Ibarrientos	Research Asst. - Project the Role of Women in Upland Devt.
Celerino Llesol	Leader, Soil & Water Conservation
Emily Bordado	Ag. Communication Staff
The Team	Experience, Inc.

Date: April 7, 1989 Briefing - ADB Forestry Project

Mr. Boren Gonguli	ADB, Chief Forester
Dr. Fletcher Riggs	Experience, Inc. Evaluation Team Leader

Date: April 7, 1989 Briefing - ADB Forestry Project

Prahlad K. Manandhar	Chief Techical Advisor, Strengthening Integrated Social Forestry Project
Dionicio Tolentino	Provincial Environment and Natural Resources Officer, Negros Occ.
Bill Hart	Experience, Inc. Natural Res. Consultant

Date: April 10 - 13, 1989 *Team* Visit to Region VI

Date: April 10, 1989 Meeting at Tangalon DA Project Management Office

Chrisnogi Tandog	Mun. Agricultural Oicr./ Team Leader
Noel Tiro	APT/70T - Tamalagon/Crops -Trainor
Lemmel de la Cruz	APT/70T - Tagas Ext./ Documentor
Carlos Nallas	-do- - Jawili/Crops
Rebecca Tuayon	-do- - Afga/Livestock

Godofredo Yacub	-do- - Dumatad/Crops
Nany Legaspi	-do- - Pudiot/Rural Ent. Development
Gelly C. Reston	Provincial Office Planning/ Monitoring & Evaluation
Edgar Mendoza	Research & Extension

Date: April 11, 1989 **Meeting with RRDP-PRAD PMU Office Iloilo City**

Gaspar B. Bimbao	RRDP - DA, Technical Staff
Josue Maestrado	-do-
Lisette Monteno	RRDP/DENR
Irene Estrada	RRDP/DENR
Raoul T. Gollepu	PENRO/Iloilo
Ysmael Palada	RRDP/DENR SPDC
Horacio J. Cosio	ARD - Research
Livino B. Duran	OIC, Regional Coordinator

Date: April 12, 1989 **Meeting with the Magdungao Agroforestry Project Team**

Efren Gerardino	Senior Project Development Officer
Ysmael Palada	Project Manager
Vilma Calunsod	Agriculturist - DH Contract
Connie Espulgar	Agricultural Project Coor.
Tommy Doyola	Detailed Forester, DENR R-VI
Noreno Banda	Farm Mgmt. Technologist II
Pablito Palma	Farm Mgmt. Technologist II

Date: April 13, 1989 **Meeting at Hamtik, Antique RRDP-DA Antique Fry Bank and Demonstration Fish Farm**

Mr. Diosdado Magbanua	Prov. Agricultural Officer
Mr. Silvestre Bacar	Mun. Agricultural Officer
Alma Gorero	Technician, FOT - PRAD
Henry Venegas	-do-
Salvador Cepe	-do-
Antonio Manos	Fishfarm Manager, Antique Fry Bank

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RRDP - AISSFDP

Majella Nolledo	Project Leader
Cecilia Angostura	Staff
Carlito Perido	Fishfarm Caretaker

Fishermen

Antonio Gorero	KASIHA President, Lapaz, Hamtic
(7)	Contact Persons, Tubog
Mr. Virgilio Sanchez	PAFC Chairman

Date: April 14, 1989 Meeting at Region X DENR - Cagayan de Oro City

Belen O. Dabu	DENR - FRAD
Paciana Acampado	DENR - FSF
Pollie C. delos Reyes	DENR - RRDP - CO
Edel C. Matias	- do -
Naomi G. Balanan	- do -
Ermela delos Santos	CENRO
Ed Queblatin	USAID
Pat Dugan	USAID
Percy Sajise	DAI - OIDCI
Apolinario Marquez	DENR - RTO (FMS)
Corazon Galinates	DENR - R 10
Hipolito C. Talavera	- do - (RED)
Bill Hart	*Team* Member

Date: April 14, 1989

Guillermo C. Ferraris	Regional Executive Director DENR, Region VII
Rosalio B. Goze	Regional Technical Director Forest Management DENR, Region VII

Date: April 15, 1989 **Meeting - Region X San Miguel RRDP Project**

Samuel Jumawid	Site Manager

Date: April 17, 1989 **Meeting with PCARRD Directors**

Dr. Art Arganosa	Asst. Dir. Livestock Research Division
Dr. Chris Escano	Dir. - Crops Research Div.
Dr. Ed Rice	*Team* Member, Experience Inc.

Date: April 17, 1989 **Meeting with DA-RRDP**

Jovit Marasigan	RRDP PMO Head
Josue Maestrado	RRDP PMO Tech. Staff
Cen Marquez	RRDP PMO Tech. Staff
Manuel Lim, Jr.	*Team* Member, Experience Inc.

Date: April 19, 1989 **Meeting at DA - BAR**

Prof. M. F. Bonifacio	Consultant Sociologist
Dr. Ed Rice	*Team* Member, Experience Inc.

Date: April 20, 1989 **Meeting with DA Operations**

Jose Mari Gerochi	Asst. Sec. for Operations
Manuel Lim, Jr.	*Team* Member, Experience Inc.

Date: April 20, 1989 **Meeting with DA-RRDP Staff**

Henry Lukban	DA Consultant
Jovit Marasigan	RRDP PMO Head
Josue Maestrado	RRDP PMO Tech. Staff
Ana Depante	RRDP PMO Tech. Staff
Fletcher Riggs	*Team* Leader, Experience Inc.
Arturo Gomez	*Team* Member
Manuel Lim, Jr.	*Team* Member

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Date: April 21, 1989 **Meeting with various GA Officials**

Rex Daly	DA Consultant
Julian Velez	Louis Berger Int'l. LTC
Manuel Lim, Jr.	*Team* Member, Experience Inc.

Date: April 24, 1989 **Meeting with DA Officials**

Carlos A. Fernandez	Under Secretary for Special Concerns
Manuel Lim, Jr.	*Team* Member, Experience Inc.

Date: April 25, 1989 **Meeting on Benchmark & Impact Studies in Region 5 & 6**

Mr. Celestino Olalo	DA-BAS (Bureau of Statistics)
The Team	Experience, Inc.

Date: April 26, 1989 **Meeting with RED Region V**

Mr. Jerry Dolino	Reg. Director, DENR, Reg. V
The Team	Experience, Inc.

Date: April 26, 1989 **Meeting with GA Official**

Apolonio V. Bautista	Under Secretary for Oper.
Manuel Lim, Jr.	*Team* Member, Experience Inc.

Date: May 4, 1989 **Meeting at USAID**

Jane Nandy	USAID/ORAD - Rural Dev. Section
Boy Dulce	- do -
Bill Hart	*Team* Member, Experience Inc.

Date: May 5, 1989

Benjamin D. Malto	Assistant Vice President Planning & Operations Manila Seedling Bank Foundation, Inc.
Bill Hart	*Team* Member, Experience Inc.

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APPENDIX E. THE RAINFED AGRICULTURE OF THE PHILIPPINES

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APPENDIX E. THE RAINFED RESOURCES OF THE PHILIPPINES

Of the 30 million hectares of land in the Philippines, only 1.4 million or 4.6% are irrigated. The rest depend solely on rainfall for water. The breakdown of this 28.6 million hectares of rainfed resources, based mainly on slope and vegetation, is as follows (in thousand hectares)[1/]

Alienable and Disposable Land (less than 18% slope)		12,600
Rice	1195	
Corn	3252	
Sugarcane	431	
Tree Crops	4011	
Mixed extensive	3439	
Others	272	
Forest Land (more than 18% slope)		16,000
Brushland	2045	
Grassland	7495	
Forest trees	6460	

A. THE BIO-PHYSICAL ENVIRONMENT

The bio-physical environment of the rainfed areas is fairly favorable. Rainfall is adequate with most areas receiving more than 1500 mm per year. Rainfall distribution is also quite adequate. More than 80% of the area has less than 4 months of dry season.

The native soil of the Philippines is fairly productive, with more than 90% considered to have adequate fertility and waterholding capacity for crop production. The biggest problem is erosion. With high

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1/ Derived from World Bank IfARM Study, RP German FRI project and ADB Rainfed Agriculture Report.

population density, an alarmingly large area of the sloping hillside is converted from forest to brushland and finally to the cultivation of food crops that is very destructive of the environment, most especially soil productivity. With high rainfall intensity, topsoil erosion can be very high indeed. For example, in cultivated areas grown to annual crops the yearly loss of topsoil can be as high as 1468 tons per hectare (ffarm study). With a conservative estimate of 1.5 million hectares of the hillsides under cultivation and an average loss of one-third the above maximum, soil loss in these areas can amount to 734 million tons/year.

With favorable soil fertility and rainfall, the native vegetative cover of the country is lush and luxuriant. At the start of the 20th century when population was around 15 million, more than 50% of the country was covered with a lush virgin forest. Since then population has more than tripled and the forest cover has shrunk to less than 25% of the land area.

Although production per unit area of agricultural crops is quite low, the potential for improvement is very high. For the annual food crops that take 3 to 4 months to mature, the number of crops harvested per year is near 1.0 whereas rainfall and temperature would easily allow two crops per year. In addition, yield per crop is also very low, 1.0 ton/hectare/crop for cereal grains whereas yield on good farms could easily reach four tons per hectare per crop.

In addition to low productivity, the main problem of the rainfed areas is the growing of annual crops in the hillside. This problem has increased significantly with the increase of population that cannot be accomodated in the densely populated lowlands. Thus, although more than half of the total land area is considered as forest land and is therefore non-alienable, most of these areas are occupied and claimed by private individuals. As a consequence, a significant portion of the forest land as well as the alienable and disposable lands that is sloping and hilly is being plowed and cultivated for the growing of annual food crops that is needed to feed the increasing population. For the whole Philippines, the area of this fragile hillside is conservatively estimated at 4.5 million hectares. It is this area that is most prone to environmental decay and should be given the highest priority for any project in rainfed areas. The need for saving this fragile hillside becomes even more urgent

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since the destruction and erosion of these hillsides affects also the surrounding lowlands where the eroded silt is being deposited and where the cascading waters results in flooding that damages severely both life and property.

B. THE SOCIO-ECONOMIC ENVIRONMENT

Although the rainfed area is very large, its population density is not as high as in the flat lands. (Note that most of the urban centers in the Philippines are in the flat areas near the sea). Nevertheless, the fraction of the total population residing in the rainfed areas is still higher than those in the flat lands. It is estimated that of the total 5 million households that are directly depending on agriculture and forestry for its livelihood, only one-half million is located in the flat irrigated areas while the rest are in the rainfed ares (ADB report).

Although landholding in the rainfed areas is larger than that in the flat areas, land productivity is much higher in irrigated areas. Consequently, the per capita income of the farmers in the rainfed areas is roughly one-half of that of the irrigated farmers (ie. $307 vs. $606).

There are at least two main causes of the low productivity in the rainfed areas. First is the physical environment especially with respect to water availability. With its total dependence on rainfall, water availability is not assured and a significant number of crops can fail when rainfall distribution becomes unfavorable. Another main cause of the low productivity is the low investment on rural development in the rainfed areas. For example, although the rainfed area is several times larger than the irrigated areas, the proportion of projects in this sector is only 35% of all the agricultural sectors. The national program on corn and rice which preoccupied much of the agricultural development in the 70's and early 80's was mainly directed to irrigated rice and corn grown on the flat and gently rolling areas. Clearly, the rainfed farmers and forest dwellers constitute some of the least privileged group. They are the least accessible to government services, the most remotely located and, constitute the lowest income group in the Philippine economy.

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C. ROLE OF PHILIPPINE AGRICULTURE

Although productivity of the rainfed areas is generally lower than that of the irrigated areas, by virtue of its sheer size and area, the contribution of this sector to Philippine economy is quite significant. In the agricultural sector, for example, more than 80% of the population dependent on agriculture is in the rainfed sector. More than 70% of the agricultural produce comes from rainfed agriculture and more than half of the agricultural exports is derived from this sector. On the forestry side, all areas are rainfed and its contribution to the national economy although decreasing through the years is still large. In 1984 it contributed roughly 2.3% of the GNP and 7.3% of exports. Clearly, the rainfed resources of the Philippines are by far the most important sector of both the agriculture and forestry sectors of the Philippines.

APPENDIX F. COUNTRY CONTEXT

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APPENDIX F. COUNTRY CONTEXT

The USAID went through a series of rigorous analyses and studies in the late 1970's to evolve an agricultural development strategy which was presented in January 1980 in the 1982 CDSS. Additional research and analysis was commissioned and the 1983 CDSS (Jan. 1981) refined the strategy and program. Through the 80's the USAID objectives and strategy have adjusted to the country context - the substantive context as well as the bureaucratic.

The following sections are taken directly from the CDSS's or other documents, as indicated. The materials presented are only notes intended to guide the Team's thinking, but presented so that readers will know the Team's base of reference.

I. The 1982 CDSS

A. Analysis

1. The analysis in the CDSS lead to the development of a strategy and program for dealing with rural poverty through employment generation.

2. The Dynamics of Poverty

a. Comparisons of poor households

1. 4 million poor households

2. Analysis presented the great diversity of poor people and their conditions and how they cope with survival.

-- Overriding goal of poor people is to produce or earn enough to eat.

3. Five groups of poor families are indentified and analyzed. These are the upland farmer; paddy rice farmer; landless agricultural workers; artisanal fishermen; and urban informal sector worker.

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b. Employment patterns

Dismal prospects presented for generating the employment needed.

c. Population Dynamics

Guarded optimism about getting below 2.3 - 2.4 (1968 data) population growth rate but GOP programs in fertility control were active and expanding.

d. Environmental Use

Focus primarily on forest destruction, erosion, water, etc.

e. Spatial Distribution of Poverty

Most are rural.

3. GOP Development Plan (78-82)(IBRD/IMF input)

The strategy is aimed at Growth with Equity.

a. Mobilization of rural sector to (a) expand labor intensive agricultural production and (b) labor intensive small and medium scale industry to serve rural demand; and

b. Expansion of labor intensive export industries to earn foreign exchange.

c. Strong emphasis on population fertility control.

d. Growing concern with declining environment.

e. Decentralize industry.

f. Invest in rural infrastructure.

B. USAID Strategy

1. Rationale

Poverty analysis clearly identified underemployment as the key problem of poor people. Therefore, employment generation is the overriding concern both agricultural and non-agricultural.

Broad elements of the Strategy include:

a. Intensified and diversified food production by small producers so as to provide expanded agricultural employment, while raising rural income and demand for domestically produced goods.

b. Labor intensive rural industry to provide off-farm non-agricultural jobs, while producing for domestic consumption.

c. Labor intensive, geographically dispersed manufacturing for export.

d. Rural infrastructure development in support of elements 1 through 3.

e. Decentralized planning, implementation, resource mobilization and allocation to enable achievement of elements 1 through 4.

f. Structural and policy reform for elements 1 through 3.

g. Population/health/nutrition/education as integral parts of elements 1 through 3.

h. Local institutional development to support elements 1 through 5.

2. **Target Groups** - USAID selected three of the five groups listed above: landless agricultural workers, upland farmers, and artisanal fishermen.

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3. **Objectives**

1. Rainfed agricultural employment
2. Off-farm employment

4. **Regional Focus**

Did not select specific regions.

5. **Constraints**

Problems related to 1 and 2 were detailed.

6. **Program Elements**

To bring about expanded employment generation include:

1. Rainfed crop intensification and diversification.

2. Rural small scale enterprise development

3. Development programs for local government.

4. Fertility reduction

5. Improved food distribution and nutrition

II. The 1983 CDSS

A. Analysis

Recognizing magnitude of poverty problems in relation to available AID resources, a regional focus was proposed. Final selection, after some horse-trading with NEDA, was Regions V, VI, and VIII, with I and II to be phased in as more AID resources became available.

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This was a straight forward selection based on 1982 CDSS analysis of the most needy areas in the Philippines.

The 1982 and 1983 CDSS's set forth the objectives to guide USAID strategy:

-- In 1982 --

"1. To promote more productive agricultural employment in rainfed areas (upland as well as lowland)";

"2. To create non-farm employment opportunities for those who are not productively employed in agriculture, including women"; and

-- In 1983 --

3. "To develop a more productive labor force for the future by focussing on the current generation of infants and pre-schoolers", described elsewhere as a fertility reduction element, which is, of course, a fundamental necessity for effectively dealing with rural poverty.

USAID's strategy and regional focus supported efforts of the GOP toward regionalization and decentralization: as well as promotion of small- and medium-scale industry outside of Metro Manila; mobilizing local resources; and improving local government capacities to manage development programs.

B. USAID Strategy

The analysis resulted in a poverty group-oriented employment strategy. There are three strategy objectives:

1. More productive farm employment

2. Expansion of non-farm employment

3. Development of a productive rural labor force.

Four program elements are identified to achieve these objectives:

1. Rainfed resources development

2. Local resources management

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3. Rural enterprise development

4. Fertility (and Infant/Child Mortality) reduction

These are discussed below.

1. Rainfed Resources

Basic approach: (1) pilot testing; (2) close involvement of people.

Two-track approach:

(1) Ecological stabilization at higher elevations with minimum (sic) socio-economic return. (2) Improved agricultural productivity on lower and less steeply sloping areas.

(a) diversified, multi-cropping systems, including livestock;

(b) work on marginal improvements of what already exists.

Emphasis on "pilot" areas.

2. Rural Enterprise Development

1. Approach

a. Short-term

Smaller private enterprises

b. Longer run

Small-and medium scale industry

2. Program

a. develop information

b. rural enterprise finance

c. market and product development

d. mini-industries

3. Local Resource Management

1. Strategy

a. decentralize decision making

b. devolve authority

2. Program

a. improve local govt. capacities

b. make financial resources available

4. Fertility and Infant/Child Mortality Reduction

Control of population growth is critical to any strategy/program intended to alleviate poverty.

The program focus appears to be (1) family planning services delivered to rural families; (2) research on fertility differentials of various groups; and (3) employment for women in rural industry.

III. The RRDP Project Paper

From the Team's Statement of Work:

"Thus, in September 1982, USAID and GOP approved the Rainfed Resources Development Project (Cycle I) which was designed to assist the Philippine Government develop institutional capacities and a policy framework to support community-planned approaches to land and water resource use in the settled upland forests, rainfed agricultural areas and coastal zones. The original design focused on helping DENR and DA carry out resources monitoring anad policy analysis, establish systems for community-planned resource management to test these activities, and provide research backstopping by PCARRD. In 1983, the Project was amended to expand

the scope of research activities and increase the research budget. In 1984, the Project was further amended to add an Upland Access Roads component, implemented by the Department of Local Government (DLG). In 1985, the Project was amended in order to allow the approval procedure of activities to use annual plans instead of activity plans. In 1986, USAID and the implementing agencies decided to redesign the project (Cycle II) to focus on the implementation of field activities and to streamline the administrative structure which included the conversion of loan funds to grant. Current activities include major extension/dissemination activities, limited support for small special projects for rainfed farmers, contract reforestation, agroforestry projects, species trials, seedling production, and limited new research to address problems identified by field activities. From four regions covered in Cycle I, RRDP has expanded coverage to twelve regions in Cycle II."

IV. CDSS's after 1983

The USAID CDSS's following FY 1983 have shifted policy and program emphasis but the RRDP and other poverty initiatives projects have been continued in the USAID portfolio.

V. The GOP Context

From the GOP side, beginning almost from the Project Agreement in September 1982, the implementing agencies have been subjected to extraordinary change. The DA had just finished a major reorganization directed at regionalization and decentralization. It was expected that DENR would go through a similar exercise in 1983.

As is well known, the years 1984 and 1985 were marked by considerable unrest which culminated in the peaceful replacement of the government in 1986. The transition was followed by a provisional government, a constitutional plesbescite, and national elections.

Whatever has been accomplished has been done so during great instability, change, and uncertainty. All of which compounded project management difficulties resulting in inordinate delays in implementation of project activities.

APPENDIX G. NATURAL RESOURCES COMPONENT

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Appendix G: NATURAL RESOURCES COMPONENT

I. INTRODUCTION

The original Project Paper sets out the following purpose for the Rainfed Resources Development Project (RRDP): "....develop institutional capacities and policy frameworks to support a community-based approach to land and water management in the settled upland forest, rainfed agricultural areas, and coastal zones." The RRDP, as originally designed, consisted of two sub-project components: Agriculture and Natural Resources. Research was cast in a support role initially, but later was expanded to a third component. Upland Access was forced into the Project by the Washington Office of the U.S. Agency for International Development (USAID/W), but has never been treated by the Agency's Mission to the Republic of the Philippines (USAID/P) as an integral component of the RRDP.

With the exception of coastal and marine resources, the project components have evolved along jurisdictional lines: Affairs in the zones defined as rainfed agriculture are dealt with by personnel in the Department of Agriculture (DA); affairs in the zones defined as affected by forest settlement are dealt with by personnel in the Department of Environment and Natural Resources (DENR); and affairs dealing with technology development, adaptation, and verification are dealt with by the public and private research institutions that are coordinated by the staff of the Philippine Council for Agriculture, Forestry, and Natural Resources Research and Development (PCARRD). Therefore, an evaluation of the natural resources component is largely an examination of DENR implementation of the project.

The distinctions made between rainfed agricultural areas and agroforestry areas in which community-based approaches are to be applied make evaluation of a single component difficult. This is so because the approaches to basing development on the community employed cross the jurisdictional lines. Lessons learned by the Department of Agriculture (DA) staff in rainfed agriculture areas are often applicable to Department of Environment and Natural Resources (DENR) staff in agroforestry areas. In other words, the jurisdictional distinctions between the components do

not agree with disciplinary distinctions: the same skills are required to work in the upland agriculture and the often adjacent agroforestry zone.

The difficulty is compounded in the coastal zone where jurisdictional lines between agencies have been in a state of flux since the beginning of the RRDP. Both agencies have direct responsibilities for portions of the highly complex sets of interactions that characterize the operation of coastal ecosystems; both advocate community-based approaches to helping fishermen.

A. Observations on Project Design

The beneficiaries of the project are resource poor farmers in the upland forest and rainfed agricultural areas, and the artisanal fishermen in the coastal zone. The target was: 500,000 households (or multiplied by 5.6 persons per household some 2.8 million individuals in regions V, VI, and VIII, and 30,000 tribal minority individuals in Region V and 19,600 tribal minority individuals in Region VI.

What has come to be labelled the "rolling design" was an important concept in the original design of the RRDP. The concept reflected what had been developed in the planning and management sciences in the 1960's and 70's: planning/management is a continuous, cyclical process that starts with available -- usually secondary --data and proceeds through implementation, monitoring and evaluation, mid-course corrections, and goal modification.

The operational style was a departure from the way things had been done both by personnel in the USAID/P and policy-level planners and managers in the affected agencies [including the National Economic Development Authority (NEDA), the Office/Department of Budget and Management (DBM), and the Ministry/Department of Finance (DF)]. The design is often pointed to as a major reason why so little was done during Cycle I. It is not the only reason, and in fact may not be the most important reason. But the fact that it is now perceived a major reason for poor project performance should be indicative of the obstacles that will face new management modes, such as program funding.

Management experience gained between 1982 and 1989 from the RRDP and other projects, most notably the Central Visayas Regional Development Project, makes it quite likely

that the idea of "rolling design" would be both better understood and accepted if it was introduced now.

The project is to develop tested approaches to community-based natural resource management suitable for regional and national application. These approaches are to guide complementary future project(s) under the Rainfed Resources Development Action Program.

B. The Evaluation Format

Nonetheless, it is necessary to establish certain base lines from which conclusions can be drawn. This is necessary if the questions posed by the Scope of Work and by the key personnel affected by the evaluation are to answered.

Most of the questions have to do with whether the procedures developed during the six-year RRDP period are working and if so how they can become part of regular DENR operating structures. To address these questions with any degree of certainty, a picture of current conditions has been sketched from field visits, interviews, and reviews of project documents. Certain conclusions are drawn from the experiences in staffing, training, project management, and the like. The conclusions are then consolidated and discussed as project impacts and lessons learned that seem worthy of being promoted. The recommendations follow from the impacts and lessons learned.

II. DESCRIPTION OF COMPONENT OPERATIONS

A. Project Intentions

One test of the worth of a project is whether the problems that are proposed for solution are valid. The description of problems and proposed approaches to solving upland and coastal problems are found in the Project Paper. The following paragraphs paraphrase some important concepts from the Project Paper.

1. Synthesize Experience to Guide Future Policies

A mechanism must exist at the national level to collect and synthesize the information produced by the many site-specific activities under way or soon to begin, both AID-supported and others, so that experience and data can be utilized in the design and implementation of expanded projects and larger-scale GOP programs. The process is intended to build a consensus on the need for action and what that action should be. The project was to develop a coordinated set of specific actions at the local, regional, and national levels that could be implemented over a period of ten to 15 years.

2. Use Community-Based, Participatory Management

The principle to be followed is community-based, participatory management by individual farmers, fishermen, and other users.

3. Deficiencies Correspond to Project Components

Perceived deficiencies in organizing a community-based attack on poor upland farmers and resource degradation problems were to be addressed during the RRDP. Each of the major components, when done, were to result in operating conditions suitable to meet the general objective of large-scale GOP programs in upland agriculture and artisanal fishing over ten to 15 years. The components and the results expected are:

a. Monitoring and Policy Analysis

Monitor the extent, condition, and productivity of renewable natural resources

Assess present and future demands on these resources

Carry out directly or through contracts analyses of important policy issues

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Establish effective systems to utilize the data generated to develop responsive national policies

b. In-service Training in Farm Budgeting and Team Building

Expanding professional interchange with leading national and regional resource insitutions, e.g., UPLB, Asian Institute of Management, de LaSalle University, Visayas State College of Agriculture, and Central Luzon University.

4. **Use of Activity Proposals**

The central feature of the funding mechanism was to be the Activity Proposal (AP). Each AP was required to address social soundness. In other words, each AP was to include statements on: a) the anticipated impact of the activity on employment; b) the anticipated impact of the activity on income and wealth distribution, women, and minorities; c) the sustainability of the activity after termination; and d) whether the approach proposed will be adopted by other communities/groups.

5. **Conclusions**

a. The idea of using NEDA as a mechanism to develop coordination among the three agencies participating in what was to be developed as a unified attack on upland poverty and resource degradation was a good one. Regionalizing the process was not tried and the turmoil of period did not favor trial and error testing of coordinative mechanisms.

b. The match between the problems identified and the tools that were to be tried to improve the GOP capabilities to deal with them was very good. They were probably too ambitious for accomplishment even if conditions had been more salubrious and there had been no turnover of the USAID/P personnel who designed the project.

c. The AP's required sophisticated analyses which very few natural resource management technicians are equipped to perform The difficulty of drafting AP's to meet these standards may have had as much or more to do with the failure of the Cycle I management system than the inability to have the members of the Technical Coordinating Committee meet.

d. The technical report by Richard Fox, Basic Approach in Fish Population Analysis was done in Cycle I. Other tests to tie resource inventory, monitoring, evaluating, and policy-making together did not have a fair chance to be tried and is still not a part of the DENR modus

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operandi (or DA's).

e. There has been an expansion of professional interchange among the specified institutions, but not at a level that is encouraging. The suggested inquiry into whether it was possible to make the several State Colleges and Universities (SCU) in the Bicol as effective as Western Visayas was never answered.

B. DENR Perceptions of the Rainfed Resources Development Project

A proper starting place is with what DENR personnel considered to be the RRDP.

1. Cycle I

In Cycle I, project personnel in the Ministry said that the actual implementation by DENR1 did not take place until February 1985 even though it is acknowledged that the Project Agreement was signed in September 1982. It can be concluded that no natural resource component activities took place for the first 2 years and six months.

DENR personnel stated the goal of the project as: "Achievement by the rural poor of the highest sustainable productivity of the rainfed and coastal resources upon which they depend ... (for) their livelihood." Three objectives are taken from the goal: 1) Improve production, 2) Improve net income, and 3) improve quality of life of rural poor communities.

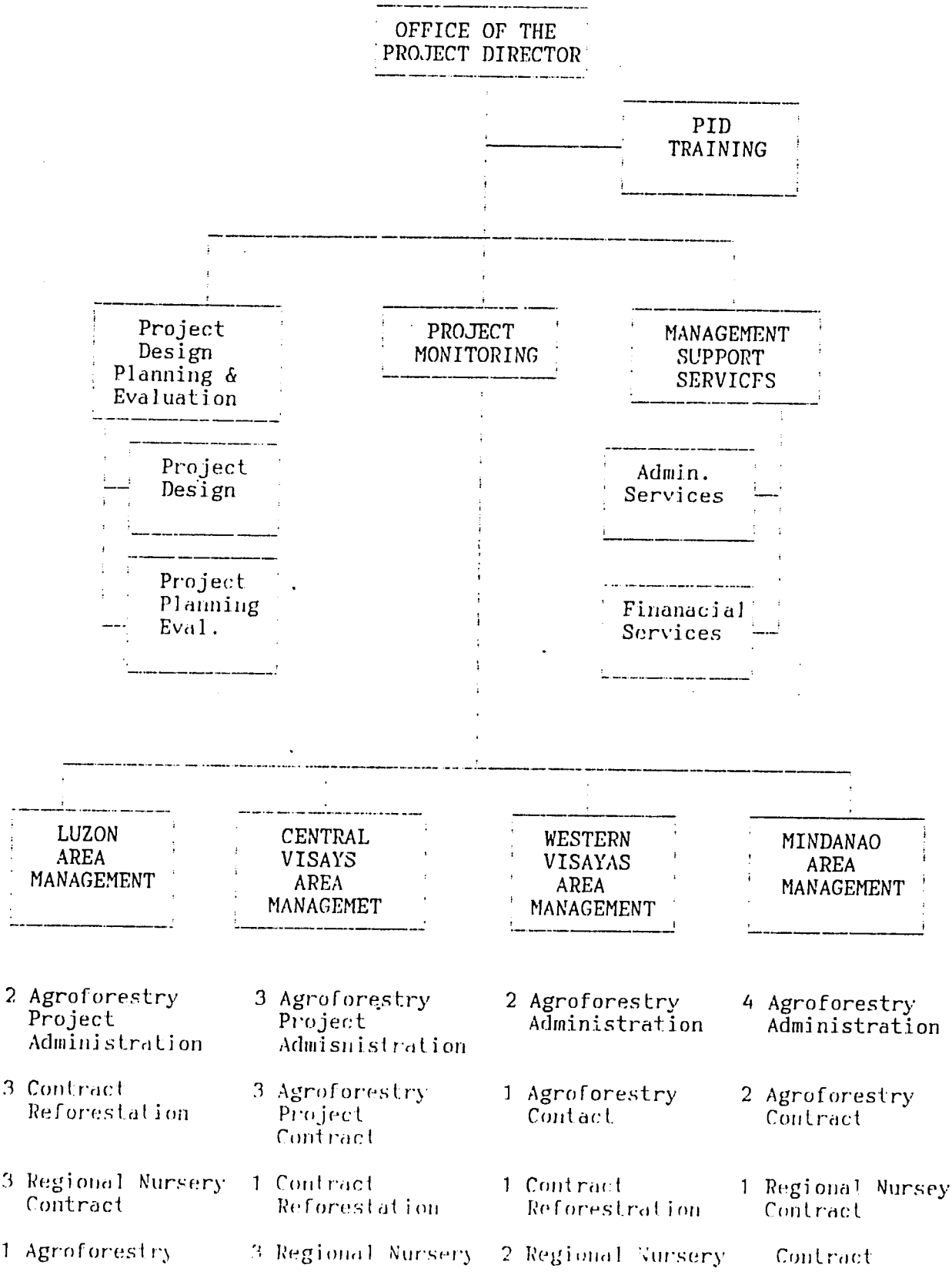
Six project components were described. They are shown in Table G.1. As can be seen, the interpretation of the project objectives differ from the USAID/P Project Paper in the following respects: a) the idea of the monitoring and evaluation are separated from the policy making process; b) there is no mention of the in-service training in farm budgeting and team building.

2. Cycle II

According to DENR write-ups, ".... Cycle 1 focused on pilot testing of agroforestry technologies, strengthening of institutional capability and establishing a policy framework for implementing community-based management of land and water resources, Cycle II will emphasize implementation of broad-based field projects applying lessons learned in Cycle 1. It will also continue to field test and explore with new management systems and technology." Eight specific objectives are given for the four year period. They are shown in Table G.2.

PLATE G.I

DENR CENTRAL PROJECT STRUCTURE



3. Conclusions

a. There was a shift from pilot testing to implemention.

b. There is no mention of the bridging period

c. The Cycle II statements are much more in the traditional project mode with explicit physical targets.

C. Planning and Management

1. Central Project Management Structure

The Central Project Structure (CPS) is a separate entity within the Foreign Assisted and Special Projects Office (FASPO). The FASPO is under the charge of an Assistant Secretary who reports to the Under Secretary for Plans and Policy. The CPS is a staff organization. The staff functions are Project Planning and Evaluation, Monitoring, and Management Support Services. The Monitoring Officer supervises four desk officers. Each of the desk officers is responsible for keeping track of project supported activities within four geographic areas. The Assistant Secretary is the National Project Officer. (The organization is shown in Plate 1.)

The Project Design, Planning and Evaluation Unit evaluates contractors accomplishments, oversees a project benefit evaluation plan; the Project Monitoring Unit plans and designs the project monitoring information system, evaluates financial progress; and the Area Management Units monitor and evaluate physical and financial progress and prepare project status reports. It seems that there is a direct management line between the Undersecretary for Operations through the Assistant Secretaries to the Regional Executive Directors (RED).

There is every reason to have a staff officer with specialized knowledge of the budgeting and reporting requirements of special projects and donors. Their responsibility is to advise the financial and planning

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Even though the Department of Environment and Natural Resources was not created in its present form until 10 June 1987, and there were predecessors known as the Ministry of Natural Resources and the Department of Energy, Environment and Natural Resources, all actions taken by any of the three will be referred to as actions by the Department of Environment and Natural Resources.

Table G.1. Six Cycle I Project Components Described by DENR[a]

COMPONENT	PURPOSE
Management Systems Development	Develop capability of implementing/ agencies to manage community-based projects thru seminars, studies, workshops and trainings.
Policy Analysis and	Focuses on the national policy-making Resource Assessment process and supports the formulation of sound resource management policies by the senior officials of the implementing agencies.
Design and Evaluation	Includes the design of new initiatives and the evaluation of the on-going projects to gauge effectiveness and thereby determine whether continued funding is desirable.
Agroforestration Pilots	Test the various institutional arrangements in an attempt to determine which are best, what approaches are most effective and how families and communities can become meaningfully involved in reforestration and agroforestry programs.
Resource Institutional	Aimed to strengthen institutions that Development contribute significantly to local level development in rainfed areas.
Central Project	Provides support to the RRDP Office Structure which facilitates technical and administrative matters for all agencies involved in the Ministry's program.

a Source: RRDP Natural Resources Component Briefing Materials

Table G.2. Eight Cycle II Objectives Described by DENR[a]

Number	Description
1	Launch fifteen new agroforestry projects and continue development at six projects already started in Cycle I, covering all-in-all approximately 5,030 hectares and 2,908 households.
2	Implement five reforestation contracts on about 2,380 hectares of unsettled denuded area, providing approximately 2,800 person-years of employment for planting and maintenance.
3	Rehabilitate 360 hectares of mangroves under a community-based approach which will provide 480 families with Stewardship Contracts. Install approximately 240 artifical reef clusters in coastal waters adjacent to rehabilitated mangroves in order to increase fish populations.
4	Develop seven clonal nurseries with a yearly capacity of over one million seedlings to supply high quality planting materials for RRDP project sites.
5.	Strengthen the institutional capabilities of DENR, local government units, PVO's and NGO's to design, implement and support community-planned, resource-based, development projects.
6	Strengthen data collection and establish a data base system for agroforestry and mangrove rehabilitation projects to further strengthen policy analysis work.
7	Develop the support functions for all field projects, including the supply of production inputs, farmer training and access to markets. Among others, the project wilol provide approximately 149,256 kg. of seeds, 6,230,250 seedlings, 268 sets of hand tools and 76 head of livestock (draft animals).

8	Prepare a long-term development plan and strategy for rainfed areas based on the experiences gained under RRDP, other development efforts and an analysis of the resource base.

[a] Source: RRDP Natural Resources Component Briefing Materials

staffs and operating personnel of the these specialized requirements. Such staff relationships are common in many Government of the Philippines departments and agencies.

2. Regional Management

In Region X, responsibility for RRDP activities have been assigned to the Integrated Social Forestry (ISF) Section Section of the Forest Development Division which operates under the Regional Technical Director (RTD) for Forest Management. The proposed reporting line is to go from the RRDP Site through a Provincial desk officer to the Section Chief, Division Chief, and the RTD to the RED. In other regions, the RED's have established what is in effect regional management units to report directly to the RED. (An organogram is shown in Plate G.2.) Both situations enable DENR staff to say: "Supervision of RRDP projects is directly under the Regional Executive Director at the regional level and not the CENRO/PENRO concerned." But the communications and supervision lines needed to support RRDP style activities at the regional level, including Region X, are not worked out within the framework of regular DENR operations.

3. Project Site Administration.

Four of the RRDP Sites were visited: Masagara, Jose Panganiban, Magdungao, and San Miguel. Of the four RRDP Sites visited, two (Jose Panganiban and Magdungao) are old sites administered directly by DENR, one (Masaraga) is an old site administered through an NGO contract (Bicol University Development Foundation), and one (San Miguel) is a new site administered directly by DENR.

As noted earlier, three of these are Cycle I sites continued in Cycle II, and one is a site where operations were begun in Cycle II. (The relationship between Cycle I sites and Cycle II sites is shown in Table G.3.)

a. Project staff

The Site Manager of the Jose Panganiban, the Project Manager and Assistant Project Manager at Masagara are agronomists; the new Site Manager at Magdungao is a Forester; and the Project Manager in San Miguel has been trained as a Forest Technician in the now defunct School of Forestry in Bohol.

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PLATE G.2

REGION X ORGANIZATION

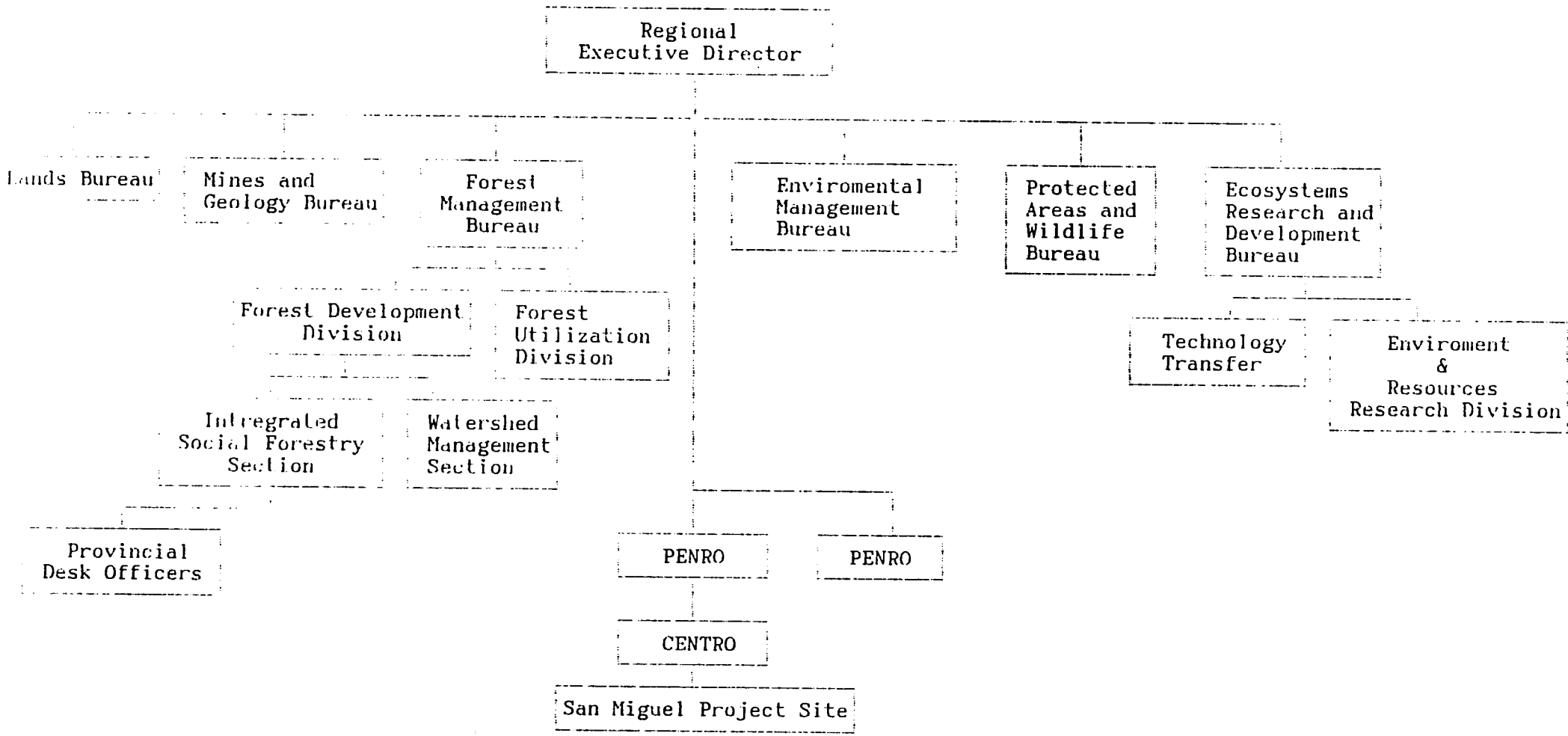

TABLE G.3.a

RRDP SITES

PROJECT	YEAR ESTABLISHED	REGION	LOCATION	NAME OF BARANGAYS	AREA (has.)	NO. OF FARMS	NO. OF FARMERS
A. AGROFORESTRY							
1. By Administration							
1.1 Magdungao Agroforestry Project	1985	VI	Passi, Iloilo	Magdungao	577	224	224
1.2 Jose Panganiban Agroforestry Project	1985	V	Daet, Camarines Norte	San Pedro Sta. Cruz	1,223	190	190
1.3 Visares Agroforestry Project	1985	VIII	Capoocan, Leyte	Visares San Joaquin	360	112	112
2. By Contract :							
2.1 Masaraga Agroforestry Project	1986	V	Oas, Albay	Balogo-Pasina	500	180	180

TABLE G.3.b. RRDP SITES

PROJECT	YEAR ESTABLISHED	REGION	LOCATION	NAME OF BARANGAYS	AREA (has.)	NO. OF FARMS	NO. OF FARMERS
A. AGROFORESTRY							
1. By Administration							
1.1 Tacubong Agroforestry Project	1987	VI	Passi, Iloilo	Dalican Tacubong Salngan	600	200	200
1.2 Babatnoon Agroforestry Project	1987	VII	Babatnoon, Leyte	Baong Silang Pagsulhogan Naga-asan Tacuite Gov. Jaro Uban Malibago	794	200	200
1.3 Mt. Canlaon National Park Buffer Zone and Agroforestry Project	1988	VI	La Castillana, Negros Occidental	Biak-na-Bato	500	100	100
1.4 Ayungon Agroforestry Project	1988	VII	Ayungon, Negros Oriental	Tibyawan Masilua Agong Jandalamanan Gosendoc	1,000	200	200
1.5 San Miguel Agroforestry Project	1987	X	Baungon, Bukidnon	San Miguel	850	180	180
1.6 Cosina Agroforestry Project	1987	X	Talakag Bukidnon	Cosina	975	85	85
1.7 Kiblawan Agroforestry Project	1988	XI	Kiblawan, Davao del Sur	Pasig Balatiao Cogon-Bacaca	1,002	155	155
1.8 Uci Agroforestry Project	1988	XII	Uci, Maguindanao	Pedro C. Dolores	1,000	273	273
2. By Contract :							
2.1 Baciwa Agroforestry Project	1988	VI	Murcia-Talisay, Negros Occidental	Cabatangan Sta. Cruz	500	107	107

The staff size in Masaraga, not counting day laborers and technical assistance from the University's regular staff, is 6.5 person years per year.2 The staff in San Miguel is 12 with only the Project Manager detailed to the RRDP from regular DENR staff; the remaining 11 persons are hired directly with project funds. All staff in the Jose Panganiban site are contract staff. Similarly, all of the staff at the Magdungao site are engaged on contract.3 Total staff sizes for the sites are shown in Table G.4.

The enthusiasm and commitment of the staffs is remarkable. They are for the most part enthusiastic and, in many ways, dedicated. They live within the Site where they are visible to farmers, available to be part of the community, and able to see changes in farmer attitudes and behavior. This same sense of dedication was found in the two early practioners of community-based resource development who are now PENRO's with wider responsibilities.

Two project site managers are foresters and two are agriculturalists. A variety of disciplines, such as communications, training, and nursery/seed, and home economics, are represented by the members of the Site staff, but there is no coverage of the sociologic or economic dimensions of development either in the project line or the support staffs. And there is no forestry support in two Sites unless the responsible CENRO is a forester and is able and willing to make an investment of time in working with the field staff.

It was pointed out that DENR staff are availing themselves of help from Department of Agriculture technical staff through a contract with the Bicol Rural Agriculture Development project.4

2 Does not match total shown in Table G.4 because not all Foundation personnel are assigned to Masaraga full time.

3 It is contended by the DENR that contracting for personnel "....has become a standard operating procedure of an agency to cope ... with the requirements of the Donor Institution and the Government to implement a special project. An incentiuve pay scale, in fact,.has been formulated by the Department of Budget (and Management) (DBM) under DBM Circular No. 53 in hiring contractual staff for special projects. The pay scale under the Circular is higher by 30% to 50% of their counterpart in the regular organization. This has been done to attract qualified persons to government service."

Information provided by Amable Ables, Agricultural Development Specialist, Region V DA, Camarines Sur.

Table G.4. Comparision of Staff Size by Status of Employment for Four DENR Agroforestry Projects[a]

Project	Number of Staff[b]				
	Detailed	DENR	Contract	Hire	Contractor
Jose Panganiban	0	0	12		
Magdungao			8		
Masaraga					9
San Miguel		1	12		

[a] Source: DENR/RRDP staff

[b] DENR staff pointed our during the review meeting on 5 may 1989 that some of the staff are administrative/clerks. Pending final data, it has been assumed that 50 percent of staff in each category are professional.

b. Operating experience

Regardless of the size of the project site -- ranging from 1,223 ha in Jose Panganiban to 500 ha in Masagara -- or number of farmers, the majority of the first year was spent in simply diminishing the level of distrust of government officials, particularly the DENR whose Forest Guards have been historically regarded as enemies. The second year seems to be the critical year in building the number of farmers who wish to be considered part of the community building excercise and cooperate in making plans for their farms, donating land for community use, and developing an organization through which larger community enterprises, including political power, can be carried on. The critical mass here seems to 50 farm households.5

In the third year, the groups become sufficiently committed themselves that they become farmer trainers and the accomplishments of the community become apparent to farmers in adjacent barangays who come to inquire if someone will assist them in farm and community improvement. By the fourth year there is a reasonably stable organization in place that has signs of being self-sustaining.

Two very favorable strategies have assisted in this development. The first is cross-farmer training where farmers are given the opportunity to travel to other Provinces to see what farmers are doing there and to exchange experiences. The second is the recognition and use of natural work groups. While there are different names applied in different places, the Hilo-Hilo is a permanent grouping of five to eight members who always cooperate in the performance of tasks; the benihar is a more transitory grouping that comes together by tradition to do larger jobs. Only in Panganiban has an attempt been made to make the transition from Hilo-Hilo to benihar formal: groups are organized into teams with group leaders and team leaders. The third is the idea of farmer trainers or people who are willing to share their experiences with other farmers. In the Jose Panganiban project site, there are now nine farmer trainers. These individuals have been given some

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5 It was said that the Albay experience indicated that 50 farmers was an essential number for formalizing a community organization.

communications skills and they are willing to conduct sessions in SALT and related topics for their neighbors and farmers from adjacent barangays.

Several of the RRDP Site Managers used some form of a rotating resource bank. It was most evident in Masaraga. The Site staff distributed to participating farmers supplies of seed. The only condition was that the farmer would repay a like amount from his first crop. Thus, the bank was always able to maintain a supply for wider distribution.

4. **Project Administration.**

Several RRDP practices will remain in place to improve DENR field operations.

a. Fifteen-day time limit

One specific example is the process pioneered by the Masagara unit. Warrants for payment are submitted with copies to the center. There is a 15-day time limit for the regional office to make payment whereafter, the central staff initiates payment.

b. Financial Management System

A second example is the installation of the Financial Management System which will be discussed below under "Technical Assistance."

c. Decentralize operating funds

A third example is the decentralized process of depositing operating funds at the operating level rather than have the money filter down from level to level. Formerly it was the practice of each level to withhold a percentage of the money so that perhaps only 60 percent of a proposed allotment arrived in the field.

5. **Distortion of Long-Term Operating Effectiveness**

The present structure distorts true department administrative capabilities under regular GOP program mode and budgets. For example:

a. Not using permanent staff

Shown above (in the Personnel/Staffing section) is the fact that many of the persons at the site, regional, and central levels are not permanent employees of the DENR.

b. Uncertain relationships in the field

The communication/ command line to and from the CENRO and PENRO levels is not completely clear. This is important because in converting the RRDP structure to what is now the Integrated Social Forestry Program (ISF), purok- and barangay-level work done by Social Forestry Technicians (SFT) and Social Forestry Officers (SFO) are to be supervised by the CENRO's.6

6. Trying To Convert From RRDP to ISF

The regions are going through a a great deal of difficulty in securing approval to engage SFT's and SFO's. The experience in Region X, which is confirmed by the Region V RED, is shown in Plate G.3. Region X is currently recruiting 90 SFT's and 18 SFO's. Some of those now being recruited were are residual workers from the ISF.7 It is planned to have ISF Senior Foresters, SFO's, and SFT's work under the supervision of CENRO's. In addition, the ISF Section is being strengthened by the addition of one Social Forestry Desk Officer for each of seven Provinces. (See Plate G.2.) Each Desk Officer will have staff supervision over from one to five municipalities. There is to be an average of five SFT's/SFO's per CENRO. Three difficulties are apparent.

a. Low wage scales for SFT's and SFO's

The entry wage scale for the SFT's and SFO's is P600 per month).

b. There is a shortage of CENRO's

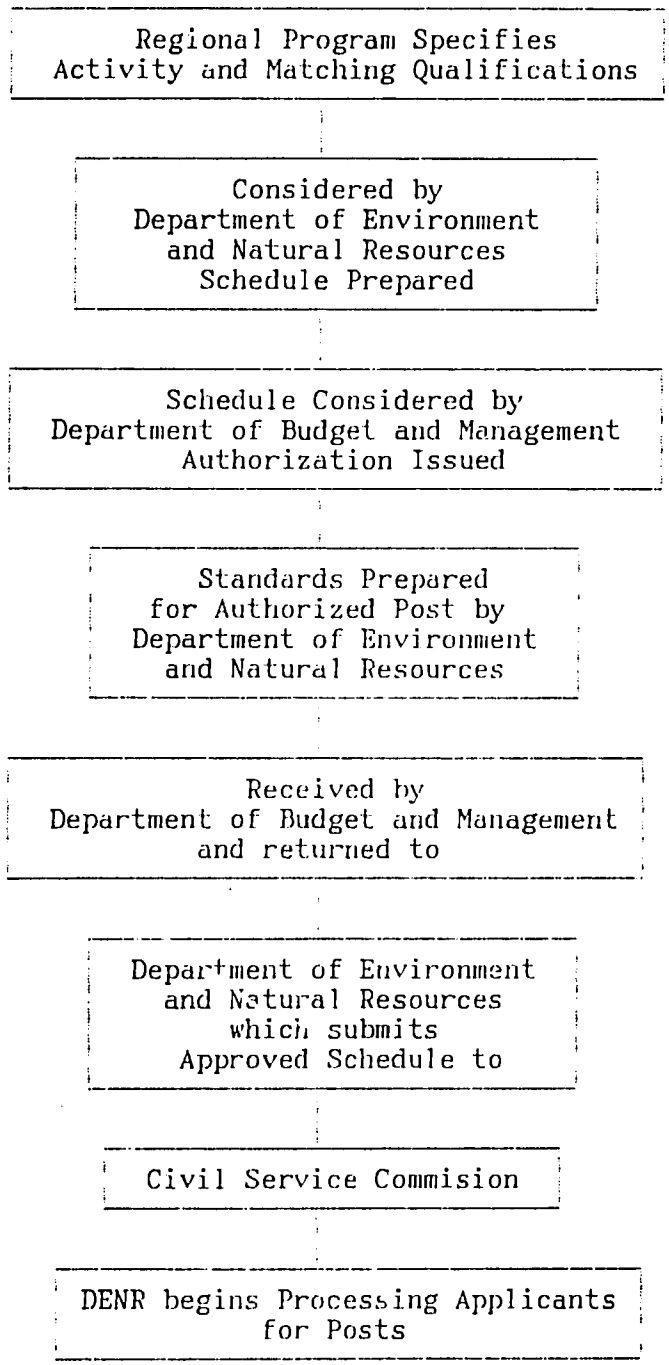
There is a shortage of CENRO's. As originally planned in the reorganization, there was to be one Environment and Natural Resources Officer in each municipality; the number was compomised to one such officer for each Congressional District. The number of slots is still far short of this number. (In Region V, for example, there are only nine CENRO's for 12 Congressional Districts and 70 municipalities.)

Social Forestry Technicians are baccalaureate level agriculturalists; Social Forestry Officers are baccalaureate level foresters. The distinction is a hold over from the pre-reorganization days and flies in the face of the fact that the majority of the RRDP Site Managers are agriculturalists.

Social Forestry Technicians and Social Forestry Officers who were originally recruited to work in the Integrated Social Forestry Program were often held as casual employees on three-month contracts. Some of these persons were found to be not qualified and let go; others have been retained as casuals.

Plate G.2

Process to Engage Integrated Social Forestry Personnel



c. Many of the new staff will be held in the office

The plans seen indicate that there will be a build up of staff numbers within the Regional Office. In addition to sufficient office support for the Division Chief and Section Chief -- the two officers spend part of their time supervising ISF affairs -- at least seven experienced ISF people will be assigned to desk duties in the Region X proposal.

d. Lack of staff diversity

A fourth difficulty is not so apparent: the technical support for the field ISF is largely limited to the Bureau of Forest Management. There is relatively little awareness that any officer practicing community-based resource development in the field will need some support from the staffs of the Lands and Environmental Management Bureaus; there is no awareness that one of the clear RRDP lessons is that organizing for community-based development requires assistance from many disciplines, such as rural sociology, resource economics, ecology, and engineering. According to local personnel, the paper-work flow occupies the majority of the time of the Regional Technical Directors so that their experience and expertise are seldom available to their field staffs.

7. Exit Strategy

a. Considerable thought is being given to what will happen when and if the RRDP ends or when a "project site" reaches some magic level of self-sufficiency that indicates that technical assistance should end. This seems a particularly useless excercise. Top policy-makers in the DENR have made a commitment that the RRDP lessons are to become the model for operating the department. Time and intellect should be focused upon ways to make the RRDP field experience operative department-wide.

b. The purpose of organizing farmer groups and teams is to have an organization for the dissemination of technology. This process is endless: new developments are always taking place and the amount of information about new crop combinations now known and not transmitted to either technicians or farmers is tremendous. The process of developing a sufficiently sophisticated interface between technician and farmer trainers who will further disseminate the new information must be developed. Once started, the department can ill afford to stop.

c. Finding the funds and organizing field personnel is a further argument for reconsidering whether a large number of SFT's and SFO's at the bottom of the experience and salary ladder is the way to go.

8. Conclusions.

a. Something in the order of four reasonably senior persons are required at the beginning of work in a new Site.

b. Regardless of whether it is an old site or a new one, or whether it is administered by DENR or an NGO on contract, the level of staffing averages 10.5 persons per Site. This level averages 18.4 farmers per staff member. This is a large staff per household served. The ratio shown is made worse by the number of support/administrative people working on the Sites: Almost one support staff for every professional engaged in community-based work. Some of the clerical work should probably be done by support staff at the CENRO level.

c. Staffing numbers in the center seemed adequate; there were no complaints from the Field Officers about inadequate support from the Central Project Structure (CPS).

d. There are clear gaps in the skills that the central, regional, and site staffs bring to the practice of community-based resource development. Among them are economics, sociology, and livestock production. Successful monitoring of farm budgets, soil stabilization, and community improvement demands that multi-disciplinary capabilities be available to the staff people who daily interface with people in the uplands and coastal zone.

e. One feature of the Masagara contract has significance to both training and technology transfer. Members of the regular university faculty are available for consultation with the Project Manager and his staff. Thus, both expert advice and possible staff and farmer training on, say, livestock nutrition, is relatively close at hand.

f. A different approach to staff development should be taking place at the regional level. It seems useless to be recruiting low-salaried SFT's and SFO's while the key CENRO posts are vacant. And, as will be detailed later, the bulk of "agroforestry" and "reforestation" work is to be done by contract, there should be a serious question of why the old ISF posts are any longer needed. At the same level, the lessons of RRDP-supported community-based rersource development clearly show that the field operations staff requires the support of many disciplines. Some of these skills should be made available at the regional level and some at the Provincial level.

g. The level of staffing cannot be sustained. But if the number of staff per project site is continued through the life of the RRDP, there will be a pool of approximately 147 persons trained and experienced in conducting community-based resource development projects using RRDP developed techniques and technologies.

h. The length of time it takes to establish a self-sustaining community-based resource development process should be taken into account when contract scopes are developed.

i. What has emerged is a typical rural extension framework. There is a body of farmers willing to practice cultural practices on their land that will stabilize the resource base and an organization of farmers that can carry out a multitude of support functions, such as contract for the provision of community services.

D. Training.

1. DENR Training

Money is included in the budgets of each RRDP Site to pay for training of farmers and cooperators. People in the field reported that groups of farmers had made visits to World Neighbors and Baptist Farm areas to see the contour plowing and hedgerows. The amount of farmer training reported is 2,514 person days. The subject matter and length of training for farmers is shown in Table G.5.

2. Contractor-Assisted Training

The training program is just starting to catch up to field needs and is uneven. The "Regional and Community-Level Modules" shown in the approved RRDP Cycle II Training Program was agreed to as a contract amendment only on 24 August 1988; the training was not begun until September 1988 -- a six-month period. The training reported up to 31 December 1988 is 1,895 person days. The distribution by course (not very satisfactorily done) is shown in Table G.6.

The modules have not been given to everyone. With this sort of training, particularly the administrative aspects for PENRO's and CENRO's and the project orientation for staffs of new sites, several repetitions of the same material over time is often necessary before staff fully empathize with what is expected of them.

Some aspects of the substance to be conveyed in the training, such as the technology to be transferred and the monitoring and evaluation system, will require, as described below, some modifications in the planned modules.

A training module is provided in computer operation. The training is to support the installation of 16 computers in various locations. The implication is that some designated staff will be trained as computer operators rather than making the training available for all levels of personnel, particularly foresters and other technical staff that will be doing planning and management work.

TABLE G.5 TRAININGS CONDUCTED UNDER RRDP CYCLE II

PROJECT SITE	TITLE OF TRAINING	DURATION	NO. OF TRAINEES	
			STAFF	FARMERS
MAGDUMGAO AGROFORESTRY PROJECT	1. Project Managers' Training	March 23 - 26, '87	1	
	2. Trainors Training	May 23 - June 30 '87	1	
	3. Agroforestry Orientation Training	June 7 - 21, '87	2	
	4. Administrative & Finance Training	July 13 - 17, '87	1	
	5. Agroforestry Technical Skills Training	July 18 - 24, '87	3	
	6. Monitoring & Evaluation System Training	July 26 - 31, '87	1	
	7. Echo Training Seminar	Aug. 18 - 21, '87	20	
	8. Assessment of RRDP Trainings	Sept. 13 - 17, '87	4	
	9. Workshop on Work & Financial Planning & Preparation	Nov. 4 - 9, '87	3	
	10. Cross Visit & Observation Trip	Dec. 12 - 13, '87	8	8
	11. Monitoring & Evaluation System	Feb. 11 - 13, '88	10	
	12. Technology Generation	March 12, 1988	5	
	13. Key Farm Problem Identification/Analysis	May 4, 1988	9	
	14. Communication Skills, Conference Leadership and Stress Management	May 3 - 10, '88	2	
	15. Multi-sectoral Approach to Environmental Protection	June 6, 1988	7	
	16. Natural Resources Development Planning	July 8 - 9, '88	5	
	17. Vegetable Production and Management (OJT)	June 25, 1988	9	41
	18. Livestock & Poultry Production (OJT)	July 9, 1989	9	54
	19. Process Documentation Workshop	Aug. 11 - 13, '88	8	
	20. New Fund Disbursement System Workshop	August 25, 1988	15	
	21. Agroforestry Design and Technology Transfer	Oct. 3 - 15, '88	1	
	22. Work & Financial Planning and Project Assessment Workshop	Oct. 10 - 15, '88	3	
	23. Cooperative Management and Organic Farming	June 21 - 22, '88	3	15
	24. Watershed/Agroforestry Management & Income Generating Projects IGPs	June 11 - 12, '88	7	3
	25. Vegetable and Fruit Tree Production	Sept. 29, 1988	5	25
	26. Multi-layer Agroforestry Farming & Bio-Intensive Gardening	Nov. 29 - Dec. 4 '88	5	
	27. Coffee Seeds Production Technologies	Jan. 25 - 27, '88	2	

Table G.6.

SUMMARY OF TRAININGS
CONDUCTED IN 1988
UNDER THE THREE-YEAR TRAINING PROGRAM

Region	Module	No. of Participants	No. of Days	Date
Region 5	A	43	2	October 7 - 8
Region 8	A	40	2	Sept. 2 - 3
	C (Batch 1)	16	1	Sept. 20
	C (Batch 2)	9	1	Sept. 30
	C and E	16	4	Oct. 17 - 20
	B-2 (1st Session)	(19)	7	Oct. 16 - 22
	B-2 (2nd Session)	20	3	Oct. 13 - 15
	B-1 (1st Session)	22	6	Oct. 24 - 30
	B-1 (2nd Session)	(20)	6	Nov. 28 - Dec. 3
	C and E (Batch 3)	32	4	Oct. 20 - 23
	B-3 (1st Session)	22	7	Nov. 20 - 28
	C and E	(57)	3	Nov. 28 - 30
Region 7	A	32	2	Sept. 23 - 24
	D (D-2 & D-3)	(24)	7	Nov. 16 - 22
	D-1	36	1	Dec. 14
	G/PIO	21	5	Nov. 18 - 22
	C and E	28	4	Dec. 7
Region II	A	50	2	Sept. 23 - 24
	D (D-1)	60	1	Oct. 25
	D-2	27	5	Nov. 26 - 30
	D-3 and D-4	(27)	5	Dec. 5 to 9
	B-2 (1st)	30	7	Nov. 20 - 26
	B-1 (1st)	34	6	Nov. 7 - 12
	B-2 (2nd)	(30)	6	Dec. 12 - 17
Total No. of Participants		538 1/		

Note: ( ) Non-add number of participants
1/ Total still to be confirmed

TRAININGS CONDUCTED UNDER RRDP CYCLE II

PROJECT SITE	TITLE OF TRAINING	DURATION	NO. OF TRAINEES	
			STAFF	FARMERS
	28. OJT on Agroforestry & Soil Conservation Structures	Feb. 9 - 10, '88		3
	29. Project Activity Planning and Organization Building	May 6, 1988		25
	30. OJT on Community Organization and Upland Farming Technology	Aug. 26 - 30, 1988		21
	31. OJT on Improvement of Soil and Water Conservation Structures	Dec. 16 - 20 88		55
	32. Training Management	Jan. 30 - Feb. 2 '88	15	
VISARES AGROFORESTRY PROJECT	1. Upland Farming Technology Training	Jan. 20 - 24, '87	35	
	2. Nursery Management	Feb. 11 - 12, '87		57
	3. Upland Farming Technology Training	March 9 - 13, '87		25
	4. Training on Root Crop Processing Utilization and Machine Operations	April 21 - 22, '87		24
	5. Project Management and Leadership	Aug. 10 - 11, '87		20
	6. Upland Package of Farming Technology	Dec. 14 - 18, '87		26
	7. Training on Root Crop-Based Food Products Processing	Feb. 19, 1988		20
	8. OJT on Evaluation of RRDP Visares Implemented Technologies	Jan. 6 - 9, '87		16
	9. OJT on Intensive Vegetable Gardening	Dec. 21 - 26, '88		46
JOSE PANGANIBAN AGROFORESTRY PROJECT	1. Freshwater Fishpond and Management Training	3 days		25
	2. Training on Small Scale Livelihood Projects for Upland Farmers		4	10
	3. SALT	2 days		
	4. Communal Reforestation Training	3 days		41
	5. Integrated Farming Technology	3 days		25
	6. Livestock Management Training	3 days	9	25
	7. Cooperative Business Management	2 days		31
	8. Timber Stand Improvement	3 days		38
	9. Key Farm Problems	2 days		100
	10. Nursery Establishment and Management	5 days		35

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TRAININGS CONDUCTED UNDER RRDP CYCLE II

PROJECT SITE	TITLE OF TRAINING	DURATION	NO. OF TRAINEES	
			STAFF	FARMERS
MASARAGA AGROFORESTRY PROJECT	1. Agroforestry Orientation Training	March 19, 1988	8	35
		Sept. 25, 1988	8	15
	2. Cocowood Utilization Seminar-Training	June 6 - 10, '88	3	2
	3. Farm-records Keeping	July 17, 1988	4	30
		July 24, 1988	4	25
	4. Agroforestry Technologies and Technology Packaging	Oct. 9 - 26, '88	1	
	5. RFP Action Planning Training	Oct. 5 - 6, '88	8	14
	6. Child Care and Environmental Sanitation	Oct. 23, 1988	2	30
	7. Azolla	Dec. 11 - 21, '88	2	
	8. Rapid Technical Appraisal Training	Dec. 6 - 7, '88	3	35
	9. Freshwater Fishpond Management Training	Dec. 6 - 11, '88	1	9

COMPARISON OF DENR CYCLE II BARANGAYS

PROJECT	YEAR ESTABLISHED	REGION	LOCATION	NAME OF BARANGAYS	AREA (has.)	NO. OF FARMS	NO. OF FARMERS
2.2 Candijay Mangrove Rehabilitation Project	1988	VII	Candijay, Bohol	Cootong	1,000	360	360
2.3 Sogod Agroforestry Project	1988	VII	Sogod, Cebu	Ampongol Cabalawan Pansoy Cabangahan	1,000	200	200
2.4 Marilog Agroforestry Project	1988	XI	Marilog, Davao City	Upper Kibalang	380	210	210
B. CONTRACT REFORESTATION							
1. By Administration :							
1.1 Porac Reforestation Project	1988	III	Porac, Pampanga	Dolores Villasaria	300		
2. By Contract :							
2.1 Tarlac Reforestation and Environmental Enterprises, Inc.	1988	III	Bamban, Tarlac	Flora Pibangaman	1,000		
2.2 Calawis-Anticolo Reforestation Project	1988	IV	Montalban, Rizal	Puray	500		
2.3 Ayungon Reforestation Project	1988	VII	Ayungon, Negros Oriental	Tambo	300		
C. CLONAL NURSERY (contracted)							
1. Benguet Regional Clonal Nursery	1989	CAR	Benguet, Baguio, Cordillera Autonomous Region (CAR)	Bosal	‡		
2. Bamban Regional Clonal Nursery	1989	III	Bamban, Tarlac	Lourdes	‡		
3. Sta. Barbara Regional Clonal Nursery	1989	VI	Sta. Barbara, Iloilo	Cadagmayan	15		

COMPARISON OF DENR CYCLE II BARANGAYS

PROJECT	YEAR ESTABLISHED	REGION	LOCATION	NAME OF BARANGAYS	AREA (has.)	NO. OF FARMS	NO. OF FARMERS
4. Basud Regional Clonal Nursery	1989	V	Basud, Camarines Norte		*		
5. Carmen Regional Clonal Nursery	1989	VII	Carmen, Cebu		*		
6. Babatnocn Regional Clonal Nursery	1989	VIII	Babatnocn, Leyte	Nagaasan	*		
7. Malasag Regional Clonal Nursery	1989	X	Malasag, Bukidnon		*		

* Approval from the Regional Executive Director still in process.

3. Training under PCARRD.

a. Degree training

RRDP-supported training opportunities utilized were in Soil Science/Agricultural Engineering, Social Science, and Forestry.

Three Ph.D. programs have been offered in Resource Economics and one each in Forest Biological Science, Forest Resource Management, and Social Forestry. Master's level training was offered in Agricultural Economics (2), Development Communication (8), Rural Sociology (1), and Agribusiness (1).

b. Non-degree training

Ten courses were offered for research personnel which would have been of use to DENR Ecological Research and Development Bureau staff; four courses were offered in the social sciences, two of which would have been of considerable uee to DENR CENRO and Site staffs; five courses, all of which would have been of use to DENR Site staff, were offered in the livestock field; four courses were offered on forestry -- two in agroforestry, one in pest control, and one on mangroves of mixed interest for DENR RRDP staffs; and four courses were offered in farming systems all of which would have been of use to the RRDP staff. No non-degree training was offered in soils analysis.

4. Conclusions

a. The training agenda seems heavily weighted toward subject of more interest to DA than to DENR.

b. The approach to training for the staffs is excellent, but it needs to be institutionalized so it can be readily expanded and continued.

c. Computer training indicates that computers are not being made a part of daily management. Management personnel do not now have sufficient skills to hands the data loads as mapping and land records are transmitted for use in the lower levels of management via computer links.

E. Technical Assistance

Technical assistance is provided by a contractor, Development Alternatives, Inc., under a USAID/P contract. The contractor has been engaged on the RRDP under a host country contract from the beginning of Cycle I (the contract was signed on 16 March 1984). The present contractor's relation with the RRDP has included all of Cycle I with extension and continued through the Bridging Period. The effective date of the current contract is 4 January 1988.

The contract has been modified three times -- twice to provide the scope and manpower to conduct the three year training program and once to authorize DAI to act as a Procurement Service Agent for commodities.

The continuity that this arrangement has brought to the RRDP is remarkable. Some of the staff currently serving have been associated with the project from the beginning and have, in addition, service in at least one other predecessor project, such as the Central Visayas Regional Development Project and the World Neighbors Project near Cebu.[8]

1. The Training Program.

There was very little training during the Cycle I period even though there was a training organization in place within DENR. Reports filed by the consultant indicate that the consultant staff found it difficult to conduct training under a host country arrangement. This is so, it is alleged, because logistical arrangements were poorly done and funds for transport, local facilities and travel were not always available at the appointed times.

The contractor has developed a three-year training plan in consultation with DENR and USAID/P. During 1988, the contractor's staff conducted an Orientation and Planning Workshop in Regions 5, 8, 7, and 11. Also in 1988, 538 staff members participated in 18 training sessions that varied from one day to seven days.

There is no question that senior staff must be included in regular training (even if they are called retreats) when the management systems to be installed from the farm to Manila are given initial approval and in subsequent years when the experience is reviewed. This is the epitome of using experience to shape policy. Similarly, hands-on training for personnel ranging from those who will have to prepare the annual work plans to nursery foremen and farmers is consistent with efficient learning, but is also vital when new systems are being installed.

Finally, the movement toward a technician-farmer-trainer interface is probably the best way to develop a long-term operating relationship between DENR personnel and the clientele individuals/groups. A commendable part of this approach is the so-called cross-training of farmers where groups of farmers are given the opportunity to visit with their peers in other Provinces where they can share experiences.

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[8] In fact several members of the technical assistance group provide a unique service that greatly contributes to RRDP success. They have long experience with natural resource management in the Philippines and they transfer that knowledge plus current happenings and experiences elsewhere in the DENR system to regional staffs from Regional Executive Directors (RED) to project site staff member and farmer.

2. Financial Management.

The contractor modified a manual prepared during the Bridging Period on financial management to suit the reorganized structure of the DENR. In addition, a draft manual on the New Disbursement System, introduced by DBM, was developed and tested by hands-on training methods in Regions 5, 6, 7, 8, 10, and 11.

3. Commodity Procurement.

A Commodity Procurement Plan was completed for DENR in July 1988. The Plan was transmitted to USAID/P by DENR/CPS on 5 August 1988. Formal USAID/P approval to proceed with procurement of the commodities was given four months later on 6 December 1988. The equipment is now under procurement.

The method of procurement was changed by USAID/P twice during Cycles I and II. Initial instructions as understood by DENR contemplated local procurement at the project site level. Subsequently, DENR understood that commodities were to be procured centrally using standard department purchasing procedures. As noted, commodity procurement is now under charge of the Technical Assistance contractor.

4. Capsule Plans.

Capsule Plans[9] were prepared for seven Sites. Preparation of the plans was accomplished by DENR personnel under the tutelage of the contractor's staff -- an exercise in hands-on training. Unfortunately, not all staff yet understand what is a Capsule Plan. Some DENR staff complained that such plans constitute the setting of goals and (more importantly) targets by superior levels of staff. These field people contend that they are being held to the targets contained in the Capsule Plans which are, in their judgment, unrealistic.

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[9] The Capsule Plan is remarkably like the Action Proposals which proved to be so troublesome in Cycle I. Barangays with significant problems or conditions are examined by Rapid Rural Appraisal methods and a general approach is formulated. The inputs required to implement the approach and the expected outputs are estimated. By approving a Capsule Plan, the level of input is used as a blanket authorization to make expenditures to carry out the approach. Since the Capsule Plan is a first approximation, actual funding levels will depend on experience gained during implementation: a rolling design.

5. Conclusions.

a. In general, the technical assistance contractor has performed valuable service to the GOP. It is particularly heartening to note that the contractor considers his client to be the Central Project Structure. The consultant assistance has been offered in four areas: commodity procurement; management advice, training, and technology transfer.

b. The concepts advanced in the approved Training Program are excellent. Training has been viewed as a part of installing and/or improving a management system as well as facilitating technology transfer. Most major hierarchical organizations, particularly those with widespread operations, now recognize that a training system is a very effective means of affecting internal communications in both directions.

c. The DENR cannot continue to rely upon a contractor to conceive, program, and conduct training.[10] Nor, given the enormous size of the training job to be accomplished in the next decade, can DENR management expect to build sufficient in-house capacity to do the job. A major opportunity exists to take advantage of the training institutions in Luzon, Visayas, and Mindanao. This would build on the experience of Bicol University as a center for both technology transfer and for training of staff in the art and science of community resource development.

d. All of the training manuals developed during the bridging period will have to undergo review and revision as did the Financial Management System Manual. This is so because the basis for the management systems that are to be taught focus on THE Project. The revisions will be directed at orienting management in community resource development for all programs and in implementing financial and accounting systems that facilitate disbursement at regional, Provincial, and municipal levels.

e. There will be several management systems that will be central to the bulk of DENR's field operations.. One

[10] This is not to argue that consultants should not be engaged to advise policy-makers at the center and regional levels. Management consultants play important roles in crystallizing questions, identifying problems, and synthesizing management solutions. Also, training contractors are in general use, but they are used for specific modules, such as Team Building, and not responsible for agency training policy.

will be methods that facilitate decisions for setting priority areas in which to extend community resource development programs. Another will be setting the characteristics of the data base to be started by the field workers to not only detect "entry points" but to gauge success and failure. And there should be an evaluation path that presents policy choices at appropriate levels. The success of these management systems will depend heavily on the correctly identifying the trainees and indoctrinating them with the required attitudes and skills.

F. Technology Transfer

The agroforestry technologies that are being introduced to farmers are strikingly similar both between sites and between DENR and DA. There are two major technological situations: install Sloping Agricultural Land Technology (SALT) on sloping land and create multi-storied cropping where possible.

1. Sloping Agricultural Land Technology.

One of the characteristics of hill agriculture is the tendency of the farmer to plow in the easiest direction: up and down the hill. Such practices hasten the movement of soil down the slope by gravity which is accelerated by the unbroken force of rain. The result is massive sheet erosion and gully formation.

The objective of Sloping Agricultual Land Technology (SALT) is to hold soil on the slopes and enable the farmer to enjoy increased productivity from the stabilized slope. The methods employed call for the establishment of terraces following the contours of the slope. The usual first step is to mark out the contours by means of a simple A-frame device. Once the line of the contour is marked on the ground, nitrogen-fixing tree species are planted close together. The most frequently used species have been Ipil ipil (Leucaena leucocephla) and Kakawate (Glyricidea sepium). The spacing between the rows of trees is directly proportional to the steepness of the slope: the steeper the slope the closer together are the contour lines.

After the planting, the farmer plows a channel along the uphill side of the row and a cut on the downhill side. Subsequent plowing along the contours begins the process of cutting below the plants and deposition above the next row downhill. Within a very short time there is a dramatic leveling of the area between the rows.

In addition, the Nitrogen fixing species can be regularly pruned back to form a hedgerow; the prunings of fine twigs and leaves are laid between the rows and plowed in as Nitrogen rich green manure. Crops of the farmer's chosing, including annuals, can be grown between the rows. The yields per hectare of SALT treated hillside are demonstably higher than the yields from up and down plowing.

There are many variations on the basic theme. Rows can be made wide enough to accomodate two or more rows of crops -- some of which may yield returns in the first year and assist in arresting the downhill movement of soil; sometimes farmers plow channels before planting the trees; and other species of trees are used to meet whatever are the farmer's needs.

It is encouraging to see in the RRDP Sites that many farmers have begun to plow across the slope even if the hedgerows are not exactly located on the contours. This is an indication that the field staff is reaching farmers with the principles of SALT.

Field staff consistently point to the installation by farmers of SALT. There seems to be a belief that stabilization of upland areas will follow a sequence where the first intervention is SALT followed by progressive establishment of more permanent, perennial crops.

In at least three instances, farmers are going more directly to perennial crops. In one case, the farmer had driven Kakawate (Glyricidea sepium) stakes on the contours, but had planted bananas before plowing. The understory consisted of grass with coffee interplanted under the banana trees. On the slope below the bananas, there were two bands across the slope, one of Kogon (Imperata cylindrica) and one of leguminous pidgeon peas. At the top of the slope, following local practice, as a grove of trees dominated by Large-leafed Mahogany (Swietenia macrophylla). In another case, Ipil ipil (Leucaena leucocephla) had been planted on a ridge top with coffee in the understory. In the third case, a farmer stated categorically that it was his intent to convert entirely to perennial crops and others in the same area (Magdungao) had begun the process by planting jack fruit. If the Key Farm Problem analysis is to be taken seriously, field staff may find that they can by-pass SALT and go directly to perennial cover.

The single Kakawate hedgerow may not be sufficient to hold and begin the process of terrace formation. Work should be done on the efficacy of establishing multiple rows on the contour. In some places a single row of pineapple has been planted as a hedgerow; it fails to hold the terrace.

In the field sites visited, the farmers interviewed understood the principle of the A-frame and said they could use it to lay out contour lines.

2. Understory crops.

Coffee and pepper are the major crops that farmers are being encouraged to plant in the understory. This is followed by cacao. Given the very large range of indigenous plants for which there are specialized markets -- Passion fruit and rubber are examples -- it is strange that the RRDP Site staffs are not prescribing unique combinations suited to both the site and the available markets.

3. Overstory planting.

Very little variety was noted in the species of trees planted for overstory. Only two examples of the use of Acacia auriculformis as a nurse crop was noted. In one case, the understory crop is coffee; in the other case, the species was planted as a community forest with the intent of planting coffee in the understory. Considerable quantities of Gmelina arborea were seen in hedgerows and and woodlots. A. auriculformis was observed to be somewhat brittle, at least there was considerable branch breakage. No one has investigated whether the roots are nodulating. (This was also true of the Ipil Ipil planting.) Thus, it is not possible to know whether nitrogen fixation is in progress. Flamenga congesta and Albizia falcataria, among other species, are being raised in farmer nurseries as a nurse tree for coffee.

The techniques for using one or more nitrogen fixing trees as overstory for fruiting bushes or other crops are generally successful. The silvicultural practices should be adjusted to meet specific needs. For example, most trees are being planted in the final spacing rather than at closer intervals to anticipate thinning for fuelwood and green manure. Similarly, pollarding of Kakawate was noticed in Magdungao where the annual increments and the pruning from A. auriculformis are converted to charcoal for transport to the roadside. Given that 70 percent of the wood cut in the Philippines is use for fuel (as cut wood or as charcoal), fuelwood production could be given more emphasis in the multi-storied agricultural systems in the hills. Bundles of 20 sticks are selling for P2.60; charcoal is selling for P20.00 per sack.

There are many other species that have characteristics that are valuable to farmers in given situations.[11] Field officers should know which species and which silvicultural practices to prescribe to meet the goals set by the farmer. They do not now seem to be able to do so. For example, farmers said they were raising Big-leaf mahogany in their nurseries to serve as wind breaks, yet the planting practice is single rows along the property lines. Such practices do very little to mitigate the effects of persistent winds. Also, farmers in coastal Aklan have planted Agoho near their gardens because of its salt tolerance. No technician offered this species for propagation and incorporation in the farming system.

Another specific case in point was an inquiry about the commercial value of oil from E. cameldulensis leaves. There may or may not be a market for the oils from this species, but there is usually one for the oils derived from E. citriodora. If farmers are interested in combinations of marketable power poles and oil, one prescription might be Lemon-scented gum.[12]

4. Nurseries

Farmer operated nurseries in both DA and DENR project sites are similarly operated. It was encouraging to find that individual farmers have established nurseries and were producing seedlings for their own use and the use of neighbors. The locations, potting mixtures, and techniques for filling bags, germinating seedlings, pricking out, and standing out seem adequate. No nurseries designed to support community forests or, more importantly, reforestation were observed.

There seems insufficient concern for the provenance of the seed sources. It is generally true that seed collected from desirable specimens in the immediate vicinity perform better than seeds brought in from outside. Therefore, some technical time should be devoted to developing good local sources of planting stock, particularly for use in community reforestation work.

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[11] A few for which seeds are or could be readily available are: *Eucalyptus citriodora (Lemon-scented gum)*, *Alphitonia philippinensis* (Tulo), *Casuarina equisetifolia* (Agoho), *C. nodiflora* (Mountain agoho), *Calliandra calothyrsus* (Calliandra), *Shorea polysperma* (Tanquile), and *Pentacme contorta* (White luan).

[12] A considerable body of work has been done on the financial requirements and returns for *E. cameldulensis* oil by the ADB supported Sagarnatha Forestry Project in Nepal.

Further, there seems to be an over-dependence on the potted plant technique. There are other, often much less expensive, ways to produce seedlings ready for planting. Propagation by cutting and by stumps are inexpensive techniques worthy of investigation.

None of the clonal nurseries being established under contract was visited.13

5. Effects of stable slopes.

In two locations small springs have been boxed for nursery and community use. In both cases the farmers reported that rehabilitation of the hillsides above the spring had resulted in returning them to a perennial condition from an intermittent condition. At one, Magdungao, scattered individual specimens of Eucalyptus cameldulensis is being blamed for a decrease in the volume of water. The judgment was based upon general stories about E. cameldulensis coming from Thailand and Gujerat State, India. In both those cases, the effect on water tables came from thousands of hectares of plantations. It is unlikely that a few dozen specimens, planted with the intent to sell them to the power company for poles, will effect water yields in the spring.

There has been concern about the effects of pure G. arborea plantations above shallow calcareous limestone formations. It is likely that extensive plantations of most deep rooted species -- which is a characteristic of most fast-growing species -- will result in reductions of sub-surface water supplies. Intelligent choice of species and locations for plantations is required to minimize these effects. Where there is a shallow limestone formation that is relied on for water supply, pure plantations should be avoided; mixed species that combine shallow and deep rooted and narrow and wide-spread canopies characteristics should be used.

The sequence reported at the springs is what should be expected. There may be some further reductions in yield in the spring boxes as the bio-mass increases evapotranspiration. A perennial yielding spring is preferable to an intermittent one, and the evapotranspiration can be somewhat controlled by utilization of the bio-mass, e.g., cutting and carrying fodder and thinning and pruning trees. And these practices are generally financially beneficial.

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13 It was reported by qualified observers that the nursery being established in Cagayan de Oro was not very satisfactory.

6. Soils.

Acidic soils and nutrient poor soils are referred to regularly in the project documents. Yet very poor soil analyses seem to have been done. This is indicated by the fact that the fertilizer combinations given to farmers did not match requirements.

7. Roads and graded trails.

No roads constructed under the project were observed. Two graded trails were seen. Both use very very poor technology. Vertical grade is only part of the objectives in improving trails. Control of water that will either run off or collect in the trail is most important within the context of activities that aim to stabilize uplands and promote sustainability. In both cases, water is allowed to run off the outside edges of the trail with no check and gully erosion is starting in one case and well advanced in the other.

Second, good local technologies are not employed. For example, there are low places where water collects. Nearby construction, not supported by RRDP, bamboo is used for cross drainage. There is no reason why the field teams cannot work with farmers to construct the trail so water drains inward, in conducted to the low place, puddled, and drained off under the surface of the trail by bamboo or box culvert.

Third, there is no surfacing being applied to the trails to ease their use in the wet seasons.

When roads are to be built for access, the construction standards should be tailored to take into account the generally adverse hydrological effects of road construction in steep terrain. The access required to serve the needs of relatively dispersed hill populations need not be of high standard width, grade, and surfacing. They simply need to provide all-weather surfaces suitable for light, two-wheel drive vehicles, i.e., well drained and surfaced with gravel.

In every instance where roads had been constructed into unpopulated areas -- logging roads for extraction and reforestation roads for access -- population promptly moved along the roadway.

8. Fish ponds and paddy development.

The farmers have learned to use a recycling process for the production of fish. With the improved permanent supply of water, some farmers, particularly in Jose Panganiban, have begun to construct small, inexpensive dams to impound water. Animal manure is being used to increase the fertility of the water. A final stage of pond construction is a level, bunded area suitable for the production of rice and other crops. The construction of ponds is now appearing in annual work programs.

9. Local modifications of existing technologies.

Several examples were observed where farmers had taken the technology proposed and made minor modifications to make it more useful for them to install and maintain. The modifications are encouraged by the staff and they are transmitted to other farmers in the cross-farmer training sessions.

10. Conclusions.

a. The theory of the technologies to be transferred is sound. By and large the practices installed on the ground conform to the theory. Farmers are picking up SALT, but there is still an adoption problem. Many farmers have visited the World Neighbors and Baptist Farm demonstrations. The success of the two demonstrations is unquestioned; but even with the enthusiastic endorsement of the practicing farmers, adoption is not spreading rapidly without encouragement.

b. Precise knowledge of the farm enterprises is lacking. Field officers must have a broad knowledge of the farmer's condition, the growing environment, and the end use of the products grown before he/she can work out prescriptions for the farm unit. Recommendations for new crops should be based upon local market information as well as the growing environment. If every farmer cooperator plants coffee, it will not be long before coffee prices become depressed. In short, not every farmer in every barangay served should be advised to plant the same combination of either as overstory or understory. To make the distinctions necessary, the technicians must keep abreast of market conditions from outside sources as well as from consultation with the farming community.

c. Even on community lands and on public lands designated for community plantations, the species selected and the silvicultural practices employed must match what is desired with what the site can produce on a physically and economically sustainable basis.

d. The field staffs now have only the rudiments of what technology packages to employ in individual situations. They and their successors must be brought up to location specific speed as quickly as possible.

e. The technology for graded trails and access roads to support upland development should be refined and the technology transmitted to the field staffs.

G. Rapid Rural Appraisal.

It is said that the Rapid Rural Appraisals (RRA) and Key Farm Problem Analysis (KFPA) were devised to correct early problems in Jose Panganiban operations. According to recollections, the first staff in Jose Panganiban immediately began to instruct farmers on ways to plant trees rather than determining what farmers were interested in doing.[1]

1. Rapid Rural System Appraisals

With technical and training advice from the technical assistance contractor, DENR is conducting Rapid Rural System Appraisals (RRSA). The definition, objectives, and protocol of the RRSA contends that the methods employed are a combination of the original Rapid Rural Appraisal described in the literature and Agroecosystem Analysis.[2] The actual content is not as important as the use of the instrument. The fact is that there is confusion about what the RRA is intended to do. For example, there are some who think that the RRA is a benchmark to be repeated to determine project/program impact. That is simply not so. Others think that the RRA should be used for Site selection, and that is not its purpose either.

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[1] This is interesting when compared to the description of RRDP goals and objectives for Cycle I as shown by DENR and reported in Section II. Even though the clear department thrust was to conduct activities to improve the socio-economic condition of poor farmers, the field staff's knee-jerk reaction was to employ the traditional Bureau of Forest Development approach to all problems: plant trees.

[2] The Department of Agriculture has chosen to make other modifications and utilize what is called the Rapid Community Appraisal for Planning (RCAP). Why it is that everyone can"t get together to choose one method to attack common community-based resource development problems is an interesting question.

For the most part -- and as recently as San Miguel, a Cycle II Site -- RRA's have not been carried out until well after work in an RRDP Site has been started. It is recognized that this is improper: the DENR Guidelines clearly indicate that the RRSA should be carried out once a Site has been identified.

But the Guidelines do not address who is to conduct the RRSA other than reference to a "team." And the emphasis is more upon the bio-physical setting than upon the formal and informal socio-economic and institutional settings. The current practioners have correctly realized that there is very little learned in the RRSA about the characteristics of individual farmers.

2. Key Farm Problem Analysis

To rectify the situation, Key Farm Problem Analysis has been introduced. KFPA is a device that forces field staff to sit with clients for a sufficient time to agree upon what are key problems perceived by the client and which are within the capability of the field technician to help solve. The mutually agreed upon points are dubbed "entry points." This is, of course, very useful as far as it goes.

At no place were we shown anything that resembled a comprehensive resource inventory of the site on which the farmers are to assisted. This is the source of one of the shortcomings discussed above under technology transfer: improper soils prescriptions. It would seem that good resource information and a map are important ingredients for the preparation of a farm plan.[3]

Also, very little information is being collected on the farming system employed by the client. The information ought to consist of the location and timing of crops planted, the amount of time household members spend in various activities, such as wood gathering, water hauling, plowing, weeding, planting, and wo on, and the sources of income by commodity sold or from off-farm employment. These data are important to a) understand the dimensions of the problems posed by the client, b) the significance of the first interventions proposed, and as a base against which progress can be measured, e.g., if a client objective is to have more time available to accept off-farm employment, did the interventions provide the free time at the proper time and was the off-farm income comensurate with client expectations.

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[3] This is not an argument to have work stop until a sophisticated map is prepared. A workable map prepared by simple compass/clinometer methods that delineates the different classes of land, slopes, water courses, and the like as well as the extent of the area claimed as the farm will be sufficient until formal cadastral surveying is done.

3. Conclusions.

a. The RRA is a good concept designed to avoid exactly the false start experienced in Jose Panganiban. It has so far not been generally understood nor applied. With the advent of the KFPA, it is probably not necessary to resurrect it for on-farm use.

b. The KFPA should be expanded along farming systems information lines to become an even more useful tool in promoting a beneficial interface between technician and client.

c. What is needed is a redirection of the RRA in the direction of the DA's RCAP.

G. Expansion and Area-Wide Planning

To be effective, the RRA process, under whatever name, must be preceeded by two things: a municipal level planning system and a resource inventory.

The number and extent of the problems should then be matched at the Provincial level with the resources that are expected to be available from all funding sources. Thereafter an annual work plan and time-phased financial plan for all of the expected sources of support would be evolved by barangay.

1. Current Site Selection Criteria

Very little time has been spent in reconciling the often protracted negotiations over "expansion site selection criteria" with the need to have a system for orderly expansion of the coverage of community-based resource programs. The RRSA Guidelines referred to above include a list of nine guides for appropriate site identification.[4]

[4] The criteria are: 1) lands classified as forest lands; 2) accessibility and visibility, 3) number of participants involved or directly benefited, 4) area coverge and potential for expansion of area, 5) site where there is high probability for major productivity increases, 6) degree of environmental degradation, 7) presence of effective NGS's, 8) no bad social forestry program experience in the past that has embittered the residents, and 9) supportive local and provincial leadership.

2. Municipal and Provincial Plans

The PENRO and the CENRO's in each Province must have the ability to lay out a schedule of barangays that will be given community-based resource development service over a five-year period. In good planning practice, in each year the schedule for four years may be adjusted and one more year would be added. The schedule should NOT be looked at as a schedule of projects. The process should involve consideration of the best available resource information to identify the barangays with the most serious problems of soil instability and to assign to them appropriate priorities for action.

Such a process can provide for as much interplay between the elected Provincial and municipal officials as will be satisfactory to both the DENR and the local governments. (The importance of including this step will be discussed in the section on Institutional Development.)

Whenever the work plans and financial plans are approved at whatever level is deemed appropriate, the first step would be refinement of the resource inventory in the barangay. This would seem to be the most appropriate place to use the RRA since the objective is to locate strategies for community development. Within the community strategy will be the sequence of meeting with individual clients and beginning the process of working with cooperators and organizing the community. The KFPA would come into play in planning the operating units of the individual cooperators although the activity has been in the field for too short a time to make a definitive judgement on its effectiveness.

3. Conclusion

What is needed is a rapid appraisal method for use at the municipal level which can be used, with staff assistance from other levels, by the CENRO's. There may be such a mechanism for mid-term planning, but if there is it was not made evident during the evaluation.

H. Commodities

1. Policy Changes.

During the one and one-half years of Cycle II, there have been two major changes in commodity policy. At the outset DENR was to procure necessary commodities locally. This policy was then changed to a process under which DENR would purchase commodities under existing GOP purchasing procedures. The final policy change placed procurement under a PSA as described in the Technical Assistance section above.

Further policy changes have taken place to exacerbate the delays caused by the major policy shifts. The first one changed the procurement of 16 personal computers (PC) from in-country to off-shore (U.S. source and origin). The second is contained in a Department of Finance circular stating that Customs fees will be paid by the receiving department on all imported equipment. Motor vehicles purchased by the PSA are being held at the docks and demurrage charges are being accrued.

2. Improper Equipment.

Some equipment has been acquired off-shore and distributed to Project Sites. Some of it is not suited for use at the sites. A property management team inspected the condition and use of equipment delivered to the Jose Panganiban site. The team members found that the plow was stored unused because it was not suitable for the soils and slopes at the site.

3. Conclusions.

The policy changes and the long delay by USAID/P in approving the Commodity Procurement Plan (detailed in the Technical Assistance section) means that not all of the commodities expected to support Cycle I have been delivered and very few of the commodities expected to support Cycle II have been delivered. In addition, the changes have been costly. Unless the matter of Customs payments is resolved, the cost of imported equipment will be considerably higher than expected. Also, the change from local to of-shore procurement of PC's will result in acquiring a lesser number of machines for the budgeted figure or raising the budget to buy the 16 originally contemplated. It is also commonly alleged that maintenance of off-shore equipment is more difficult than for equipment readily available locally.

The system clearly needs to be improved. A process that would minimize both the matter of appropriateness and timely delivery can be devised. One possibility would be to have the formulation of equipment needs begin at the project site level and be consolidated as a Procurement Plan at the

national level. Once the plan was agreed upon by DENR and USAID/P, DENR would be free to begin acquisition through use of standard GOP purchasing procedures but with the notices of award sent to USAID/P for direct payment to the vendor.

I. Contracting

One of the objectives of Cycle II is to strengthen the capacity of the DENR to contract with Non-Governmental Organizations (NGO) for reforestation activities. Several contract types have been attempted within the RRDP framework. One is the long-standing contract with the Bicol University Foundation for the operation of the Masagara Project Site; another was the contract with the UPLB to establish seven clone nurseries within the regions included in the RRDP; a third contract type was the reforestation contracts negotiated with farmer organizations in the Project; and corporate contracts have been negotiated for reforestation work.

RRDP contracting has not been the only experience available to the DENR. The department once used the family contract approach for labor intensive reforestation work and there was the experience of the Central Visayas Regional Development Project in contracting for communal reforestation. And there is an active USAID/P-supported community-based contract reforestation project with the Dole Company in Region VII.

The funding for the National Reforestation Program is premised on the ability of the DENR to contract out the majority of the reforestation work. Faced with the necessity to codify the contract approach, the department has issued Memorandum No.11 which establishes three classes of contract for reforestation work: the family contract for small plots (one to three hectares), community contracts, and corporate contracts.

1. Family Contracting

There has been no family contracting experience gained in the RRDP. However, other experience indicates that there is a very large volume of paper work involved. Once complaint is that families expect to be paid promptly once every two weeks.

2. NGO/Community Contracting

The Magdungao RRDP Site experience with farmer organization contracting has been used as a model for drafting procedures for this class of contract. The Magdungao association was contracted to reforest a community forest site that had been donated by one of the farmers. As the first contract of its kind, it did not innovate, but followed standard reforestation procedures: a) clear the

site, b) prepare the site, c) plant the trees. Each stage of the work was to be inspected by an auditor who would certify that the work had been done.

Several difficulties are quickly discernible: requiring auditors to visit a multitude of remote sites three time for each reforestation effort is simply ludicrous; any hold up in certification of one phase would hold up the succeeding phase, but weather conditions temper the planting season and even short delays can cause postpone planting for a year when the work is started over again; and it is probably not within the technical competence of an auditor to determine if such work has been satisfactorily performed. The net result of this trial and error process has resulted in a farmers' organization clearing and preparing the site and planting it, but not being paid for 11 months -- not particularly good public relations in an RRDP Site to which farmers from all over Region VI and elsewhere are brought for training. DENR officials claim that new guidelines obviate these shortcomings.

3. Corporate Contracting

Corporate reforestation contracts have also been pioneered in the RRDP. It has been found that 12 steps requiring two and one-half years to complete are necessary to execute such a contract for a 1,000 ha job. Clearly, this is not an acceptable time frame given the magnitude of the job that is to be done in a relatively short period of time. Work is now in process to have issued by the DENR, the DBM, and the COA a joint circular reducing the cumbersome procedure so that such contracts can be expedited.[1]

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[1] It is expected that the circular will have three parts. Part one will deal with the streamlining of the flow of funds to the PENRO, and CENRO levels. DENR representatives will be able to deposit in the bank nearest to the work site the full price of the awarded contract. The contractor will be able to draw against the account upon DENR certification that work has been satisfactorily completed. It is expected that the additional reserves on deposit will enable the bank to service credit needs of persons holding CSC's. Under part two, COA will waive the pre-audit inspection of the project site. Part three will formalize the current arrangement wherein the contractor is able to withdraw an initial 15 percent of the contract face value as a mobilization fee prior to beginning work. USAID/P is actively supporting this work through the provision of a consultant, Rey Crystal.

Contracting Problems

Even when the quirks of the contracting processes are straightened out, several problems will remain. The scopes of work for the contracts will have to be drawn. In areas where there are forest residents or ancestral land claims, there will have to be close working relationships between contractor personnel and PENRO staff empowered to issue Certificates of Stewardship Contracts. And the contracts -- both community and corporate -- will have to be monitored, hopefully by someone technically competent.[2]

The size of the problem is enormous both in terms of the area to be served and in terms of the amount of activity that is to be mounted in a very short time. The data in Table G. show that there are 23 foreign assisted and special projects in DENR. Most of them are for the support of reforestation and upland agriculture work. It has been shown that the salary scales and other constraints on the existing 23,000 person DENR staff makes it mandatory that the bulk of the work be done by contract.

a. There will be people

Even in those areas where pure reforestation is planned, make no mistake: ALL REFORESTATION CONTRACTORS WILL HAVE TO DEAL WITH RESIDENT POPULATIONS OF SOME KIND. There are tribal people with ancestral claims, wood cutters and minor product gatherers, and potential squatters along the edges. All that is needed is an access road and they will enter the area whether it year one or year three.

b. Shortage of qualified personnel

There are now 48 entities that have been qualified to conduct reforestation work for the DENR. Several things are clear from the RRDP: a) it takes time to deal with anything resembling and organized community -- even if it is only a seven-family traditional group, b) the number of people with experience to handle the human relations problems with the settlers is very limited, and c) personnel with skills in upland reforestation are in short supply. This point is especially significant in the light of the RRDP experience which, as noted above, shows that organizing client communities to a point where there is sufficient internal momentum to continue development activities takes four years.

[2] One PENRO has suggested that he will issue a contract to draft scopes of work, another contract to do the work, and another contract to monitor the work of the contractor.

Therefore, there will be a question of contractor ability to perform the community development services that have been so ably demonstrated in RRDP.

c. Protection must be given to the areas planted

There will be problems with illegal loggers crossing reforestation sites to gain access to natural forest, with people who will cut material for firewood as soon as it reaches useable size, and contract employees who will damage young growth in order to be re-employed for re-planting or enrichment planting.

d. The contract period is too short

The corporate contract let to Tarlac Reforestation and Environmental Enterprise (TREE) is for a three year period. DENR senior staff assert that this is the time span that will govern both community and corporate contracts. No one has provided any rationale for the three-year term for everything. It is not at all clear what will happen to the sites and the residents at the end of the contract period. In some areas planted without community involvement, the return to DENR administration at the end of three years has meant the uncontrolled cutting of the plantation. Even if Community Woodlot Leases for existing second growth and planted forests are granted and contracts given to residents' organizations for continued community reforestation, there will remain a staff need to continue the technical interface described above either by DENR -- which claims to not have the resources -- or the contractor.

5. Conclusions.

a. The RRDP has provided the DENR with some very valuable experience in contracting. The department leadership seems committed to using the lessons constructively and are determined to make the contracting system work.

b. Whether the guidelines in place and proposed will be adequate remain to be seen. One thing is clear, however: There must be an adequate government staff technically qualified to inspect and certify the satisfactory completion of the reforestation work.

c. All of the contracting experience, especially from the Central Visayas Project and from the Mount Canaloan National Park clearly shows that there will be very little difference between

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what are called agroforestry and reforestation projects. Agroforestry is simply a combination of agronomy and silviculture that can, as with any biological system, be directed toward some end. There is no reason why agroforestry cannot result in an even spaced, even aged plantation with a 60 year rotation. And the experience shows that corporate contractors will have to deal with people.

d. A partial solution to the personnel problem would be to weight the contractor selection process in favor of those who employed members of the 80 to 90 member pool of manpower trained and experienced during RRDP.

e. Once the initial push for corporate contracting has abated, the use of community/NGO contracting, and the traditional intergovernmental contracts (with Provinces and the Electric Power Corporation) should be thoroughly re-evaluated in terms of size of area, and sustainability of plantations/natural forest.

f. Contract planning for communities -- particularly those emenating from community-based activities of DENR personnel, should be long-term: at least one rotation. Community Woodlot Leases or similar mechanisms could be used. In the case of corporate contracts, clear possibilities for varying rotations to assure reasonable returns from the plantation in the short-run as well as in the long run should be included in forest management plans so that there will be incentives for the corporation to remain as a responsible resource manager over the long-run.

g. It would appear form the limited experience with family contracts, that only the CENRO should be involved: negotiating scope of work, inspecting performance, and paying claims.

h. No matter how streamlined funding becomes, the sheer volume of contracting will become daunting. The Management Information System concepts developed during the RRDP should be reviewed with a view to incorporating a contract information sub-system. It also seems logical that a computerized system should be available at the Provincial level.

J. The Coastal Zone

1. Mangrove management.

A single contract has been let for mangrove rehabilitation in Bohol. The site was not visited and the activity is too recent to have established a meaningful track record although all reports indicate a very successful initiation by the contractor.

It is intended that a mangrove estuary be rehabilitated with mangrove and nipa palm; that the activity be community-based -- in fact it is to follow the ISF model including the issuance of CSC's; and to set a series of off-shore artificial reefs.

2. Other coastal work.

Nearly all of the barangays visited in Aklan were coastal in character. One of them contained serious work in oyster culture. The visit to Antique was specifically oriented toward what is typical coastal development work.

In both the description of the contract work in Bohol and what was seen in Region VI, the key ingredient is a community-based approach. The only difference is in the government agency carrying out the work.

The other major focus seems to be on production. There is not a similar concern for the near-shore habitat. The surface evidence is that placing man-made structures in the water will provide shelter for fish and that the catches taken by municipal licensed fishermen increase dramatically almost immediately after installation of the structures. It is therefore concluded that when more structures are placed, catches will increase proportionately with the increase in number of structures. These activities are proceeding rapidly and without very much consideration of the long-term effects on the marine environment.

It is known, for example, that coral reefs were once much more plentiful than is now the case. The reefs built up in specific places in response to bio-physical conditions. Not very much is known about the forces that controlled the location and extent of the original reefs or whether it would be desirable policy to set new reefs so as to replicate the effects of the original ones. Similarly, if small modules produce production increases, serious thought ought to be given creating more extensive reefs, perhaps by sinking lines of vessels on old reef sites. Also, not much is know about necessary actions to foster the growth of coral.

3. An inter-tidal gap exists.

Present law places the inter-tidal zone (the strip between mean high tide (MHT) and mean low tide (MLT) within the DENR jurisdiction. It is in this zone that occur the most productive biological conditions for marine flora and fauna. The current aquaculture technology focuses on this zone for the construction of ponds controlled by tide gates. The choice sites have in the past been mangrove flats. Once a potential aquaculturist selects a site, a joint determination of feasibility is conducted by the Bureau of Fisheries and Aquatic Resources (BFAR) in the DA and the Bureau of Lands in the DENR. If agreement is reached, the site is declared Alienable and Disposable by DENR and the responsibility for production shifts to BFAR.

The gap exists when mangrove and other intertidal sites are found, for one reason or another, to be incapable of holding water when the gates are closed. In those cases, the patent holder abandons the site. Since no production is involved, BFAR is no longer concerned and there is no mechanism for the site to revert to DENR management.

Pressure to convert to aquaculture natural intertidal areas will continue until rising aquaculture prices enable owners to pay the costs of constructing ponds in areas that are not now part of the natural intertidal zone.[3]

4. The zone from MHT seaward is a continuum.

The land from the MHT line and the continually moving water column above it is a naturally occurring system. Headlands are eroded and sediments are carried into the zone from the uplands. Sand and other material are moved along the bottom and deposited according to currents which are affected by regular tidal action and by storms. Nutrients to support marine life are generated in the intertidal areas and circulated as detritus in the near shore area where the spawn of many fish species seek shelter from predators until they are ready to migrate to deeper water.[4]

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3 Very little has been said about the effect on near-shore water quality by the cultural practices in the aquaculture ponds. Once a crop is harvested, the pond is open to the sea and allowed to drain with the ebb tide, the gates closed, and the bottom and sides of the pond treated with lime and herbicides. The residues will flush to the sea with next draining of the pond.

4 Continued work on the life cycle of important fish species that use the estuaries for nurse grounds should be pursued as well as the energy generation of the mangrove estuaries similar to the studies in *Spartina spp.* marshes elsewhere.

Man seeks to utilize and modify this system. Artisanal fishermen fish the near-shore and collect fry; commercial fishermen operate beyond the 15km limit of municipal control; private owners and the Department of Public Works and Highways construct seawalls, groins, and other structures that interfere with the normal movement of water and transport of sediments. The long-run effects of these actions -- particularly on sustainable fish production -- are unknown.

5. Mining Wastes.

The IBRD *ffASM* study report states, and observation both from the air and on the ground tend to confirm, that mining wastes from tailings and from initial processing are being discharged into the coastal zone. This blankets the natural bottom with fine material that suffocates marine life, blocks sunlight penetration of the estuarine water (the main engine driving nutrient production), and contributes heavy metals and other pollutants to both the water and the substrate.

Volumes of silt coming from agricultural lands is significant, but non-point sources are difficult to control. The silt contributions from former and present mining operations, most notably the open pit and dredging varieties, are identifiable and amenable to public action in the public interest. Technologies are available to attack the problem and the contracting techniques being developed are well suited to mobilizing an effort to stabilize spoil and tailings areas.

6. Conclusions.

a. The zone from MHT seaward should be considered a single management unit. The resources are common property resources that should be managed in the national interest. To facilitate such management, accountability for sustainable practices should be vested in a single agency. The present system is divided among agencies and jurisdictions and may lead to serious deleterious conditions in the future.

b. DA experience in coastal communities indicates that community based resource development approaches used by DENR in upland situations -- and being tested in the mangrove rehabilitation project -- are appropriate for the coastal zone. The management responsibility should be shared with the municipalities with a system fees and fines installed to offset the cost of policing the management plans developed.

c. If the situation in Hamtic is indicative, DENR management would be appropriate since 75 percent of the fishermen in the communities being served with coastal zone activities are solely fishermen and not fishermen/farmers.

d. A substantial effort should be mounted to reduce the amount of siltation entering the coastal systems from mining tailings and other wastes. This is one situation that is not amenable to community-based solutions.

K. Land Tenure

1. Land Tenure Is An issue

There are several aspects to the issue.

The first is the matter of Ancestral rights within the forest reserve. This is a complicated affair that is being dealt with at the policy level within the DENR and by the Congress. The ancestral rights transcend the CSC program.

The second aspect is determining whether some A&D land should be returned to the forest reserve and whether some forest reserve lands should be classified as A&D.

A final aspect is improving the CSC program. They should not be issued indiscriminately. That is, no CSC should be issued before a farm plan is approved and the steward begins to implement the provisions of the plan.

2. Surveying of Claimed Lands

All of these aspects will be benefited by two major activities being carried on by the DENR: the contract cadastral surveying of 1.8 million hectares of forest reserve as part of the 10 million hectares that are to be surveyed under agreement with the Department of Agrarian Reform and the census of forest dwellers that is to be completed by June 1989 as part of the National Reforestation Program.

3. Conclusions.

a. Contractors and DENR personnel will have to move carefully in the reforestation areas that have tribal populations until the Congress resolves the ancestral title issue. It is clear that the census of forest dwellers currently being conducted by the DENR and the proposed cadastral surveying for classification and titling will be material aids in resolving land tenure issues.

b. A corollary of decision-making about which lands are to be disposed of or to be returned to public management is an understanding of what is desired. If the objective is to establish a tree cover and stabilize the land, the record for public land management is not very good. The criteria should hinge on two things: establishing better management units and whether the land can be more effectively stabilized under private ownership.

c. As the pace of agrarian reform and community-based resource development increases, the rapid availability of accurate land records and maps for field use will be imperative. Computerization of records is proceeding within regions; it will be necessary to expand the local networks to include the PENRO. But more important, there will be, as with contract information, a need for rapid communication between the regions and the center. In the case of land records, the communication link must have the capacity to transmit digital graphic information.

Table 6.7. Donor Assisted Natural Resource and Environment Sector Investments Managed by the Department of Environment and Natural Resources

Donor	Project Name	Amount Donor $ million	Amount GOP $ million	Major Features
ASEAN/US	ASEAN-US Watershed	8.200	1.200	Combination of agroforestry and reforestation
Asian Development Bank	Forestry Development Project in Ilocos Norte	32.225		Major reforestation project
	Lake Bato Watershed Management and Rehabilitiation	0.998		Support ADB-assisted irrigation
	Muleta-Manupali Development	3.938		
	Forestry Sector Loan b	120.000		
	Third Davao Del Norte Irrigation	1.701		
	Allah Valley Watershed Development	7.696		
Australia	Improvement of Titling Infrastructure	10.000		Nationwide grid of reference monuments needed to conduct accurate surveys; improvement of titling and registration procedures
European Economic Community	Palawan Integrated Area Development and Land Classification	5.000		Technical assistance in preparation of Strategic Environmental Plan for Palawan; land classification surveys and titling
Federal Republic of Germany	Forest Resources Inventory	1.055	1.305	Timber resources inventory
	Timber Stand Improvement	0.164	0.223	Timber stand improvement and training
	Cebu Upland	2.441		
Food & Agriculture Organization of UN	Forest Fire Management	0.100	0.060	
Japan	Crocodile Farming Institute	2.200		
	Forestry Development/ Watershed Management	4.659		

	Reforestation c	120.000		Major reforestation project
New Zealand	Bukidnon Industrial Tree Plantation	3.505		Two large-scale reforestation projects
UN Development Program	Bamboo Research and Development	0.395	0.381	Technical assistance in establishing bamboo plantations
	Strengthening of the Integrated Social Forest Program	0.879	0.323	
United States	Rainfed Resources Development	6.888	2.333	
World Bank	MAGAT Smallholder Agro-forestry Pilot	3.676		
	Integrated Forest Protection Pilot	3.985		
	Central Visayas Regional	35.400		
TOTALS		375.105	5.825	

Source: DENR Foreign Assisted and Special Projects Office
USAID Summary Report (P. Dugan)

a Does not include Assessment of Concentrations and Trends of Non-Oil Pollutants and Their Affects on the Marine Environment

b Does not include five direct grant technical assistance projects administered by the ADB staff: Forestry Sector Master Plan
Monitoring and Evaluation
Industrial Forest Plantations
Social Forestry
Rattan Culture

c Due to begin ope n in June 1989

III. ACCOMPLISHMENTS/IMPACTS

A. Accomplishments

1. RRDP Operations Given a Fair Test

Field operations have been established and maintained in diverse and representative portions of the country. By mid-1989 there will be at least one RRDP Site in each Region. Not only is there good geographic distribution, but many of the Sites, if fully documented, will shed considerable light on some specific problems, such as national park and natural forest protection, which weren't mentioned in the Project Paper. This diversity adequately demonstrates the applicability of community based resource development throughout the country.

a. Formerly suspicious/hostile communities have accepted the presence of DENR staff in their midst. As is usual with the poor, they are surprised to find government offering them anything except abuse. This is a very positive impact for the GOP.

b. Settlers are adopting practices to further site stability and are sufficiently enthusiastic that they will train and assist other farmers to do the same things. The use of farmer groups, teams, and organizations resembling cooperatives has led to cohesiveness on the part of the forest dwellers and opened new ways for DENR to accomplish technology transfer with fewer field people.

c. The field staffs have learned to make use of the traditional social groupings found in most rural communities. While they have not recognized fully the impediment to adoption of technologies on the farms posed by the groups of four to eight extended families, they have found that the permanent groups *hilo hilo* and *benihar* will band together to accomplish communal work. Of course, once the group has accepted a technology, the members of the group cooperate to install it on each member's farm.

d. New community organizations have been formed that have completed large-scale improvement projects.

e. Local adaptations in technology packages have been made that work for the long-term objective of stabilizing the bio-physical environment.

f. A widening circle of personnel is being trained in all aspects of the RRDP approach to community resource development and supporting management systems.

2. RRDP Used by DENR as Testing Ground

Top department management has used the RRDP to test ways and means to attack the very significant environmental problems facing the country. As a result, it has been shown that:

a. The field approach developed during Cycle I is applicable to resource development activities ranging from protection of national parks to rehabilitation of mangrove flats;

b. Contracting with families, communities, and corporations is feasible, but that existing contracting procedures were/are in need of drastic overhauling if the promise of contracting is to be realized and the method becomes and effective way to stabilize the large areas in need of work;

c. New GOP initiatives, involving many millions of Pesos, particularly those being donor-assisted, incorporate the approaches to field operations and contracting developed by those associated with the RRDP.

d. The DENR Mission Statement for the next 1,000 days guides each employee toward a community approach.

3. Support Has Been Given to Devolving Decision-Making

There has been support for the national objectives of regionalization and decentralization. Through the work of the CPS, project activities have been placed under Regional supervision. It is not perfect, but it is better than it was.

4. The RRDP Has Contributed to A Change In Attitude

While it is not possible to determine the precise contribution of RRDP among many other factors, the fact is that the DENR in the RRDP period has undergone an amazing transformation

Impacts

1. Four Project Sites were served in Cycle I involving parts of six barangays. Three were administered directly by the project management structure and one through a contract.

a. The total area in the four Project Sites is 2,660 hectares;

b. The number of farm units in the Project Sites is 706 and assuming family size to be 5.6 persons, the population is 3,954;

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c. About 55 percent of the total area is recognized a being part of farm units; the rest is Forest Reserve to be worked on by the communities.

2. In Cycle II, 16 Project Sites were added to the four Cycle I sites. A distinction is made between "agroforestry" projects and "contract reforestation" projects.

a. The total area in the 12 new "agroforestry" sites is 9,601 ha making a total of 12,261 has, plus 2,100 has in four "contract reforestation" sites or 14,361 has of upland and mangrove flat being provided with some form of community based resource development service under the RRDP.

b. The number of farm units now total 2,976 plus the number in the "contract reforestation" projects sites for which no estimates are given. At least 16,070 persons are included in RRDP sites.

c. The ratio of land under cultivation to land to be planted to forest is probably now less than 50 percent.

3. Graded trail, water supply, and community building projects have been organized and completed by farmer organizations.

4. There are no empirical data indicating increases in family or per capita incomes from the roughly three and one-half years of field work. Imprecise statements of production increases, such to 45 kg/ha of corn from 27 kg/ha under SALT and visual observation of casava plantings, more permanent ground cover, and a tendency to plow across slopes rather than up and down are the only available indicators of socio-economic uplift.

5. The four Cycle I Project Site staffs and farmers received 694 and 2,514 person days of training respectively in 1987 and 1988. Training by received by DENR staff from the technical assistance contractor totaled 1,895 person days through 31 December 1988

6. Three-year targets have been set for each of the RRDP Sites. Table G. indicates the range of activities to be undertaken and the amount of progress reported through the monitoring unit of the CPS. It shows that 20 km of trails have been improved, only 35 has of community forest has been planted, and 381 has of on-farm development [soil conservation (A-frame hedgerows) and trees with an understory] has taken place.

IV. LESSONS LEARNED

A. New Ways of Doing Things Takes Determination

The RRDP proposed a radical new way of doing things. The new style did not have goals and targets set from the center at the beginning; it depended on a so-called "rolling design" to trigger first approximations of budget requirements.

The RRDP also proposed to test interagency coordination through NEDA and to determine whether a multi-university arrangement in the Bicol could be as effective as the single university in Visayas. This later question is indicative of the policy questions that were to be addressed through the medium of data provided by a monitoring and evaluating system.

None of these different RRDP modes worked in Cycle I; they were abandoned in Cycle II in favor of more comfortable statements of desired outputs.

Lesson: The shift to a program mode of financing activities will be take determination and patience to succeed. There will be two major problems:

1. Technical

The technical problems will be significant. The most difficult will be the design and measurement of the units of performance upon which tranches of money will be released. This determination will be one of the most important tasks of installing a single monitoring and evaluating system in the DENR.

All of this will be new. Monitoring now is conceived, in response to the kinds of financial monitoring demanded in the past by the donors -- particularly USAID/P -- as a way of tracking money through the system. Evaluation consists of determining why the money does not flow. In a program mode, these questions pale besides the emphasis on accurately knowing what has happened at the end of the pipeline.

2. Psychological

In agencies where long time employees have grown accustomed to doing things in a certain way, requiring a major change may not be well received; in fact resisted.

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People on the USAID side used to acting like project managers, controllers, and inspectors will find it difficult to stop digging into the details of the programs they are to assist. On the GOP side the problem may be as bad or worse. The SVG report made clear the preoccupation with double and triple checks on each transaction. If major amounts of new money is to be moved through the system to mount the attack on degraded land that will be recommended, the GOP managers will have to change they way auditors and accountants control substantive decisions.

B. A Project Mentality Impedes Organizational Improvement

The connotation of a project is that it starts and ends at times definite. They are thought of as discrete. Hence, project personnel receive allowances and other perquisites in excess of those given to regular employees. At the end of the project period, these employees seek other projects. There is little continuity from the personnel or the government which also seeks new donor money from a new project.

Projects in the rural development sector seem to progress in a fairly regular progression. An approach is postulated, tested, verified, and piloted. By the time the piloting is over and one should know whether to replicate the pilot, the project is over and another set of tests, verifications, and pilots follow.

But in all of this, the basic organization, whose people are to have enhanced capability to help rural people and resources, changes very little and the administrative agencies improve not at all.

V. INSTITUTIONAL DEVELOPMENT

The experience gained from the RRDP and other similarly oriented projects suggests a number of institutional developments. Many important initiatives can be accomplished during the remaining life of the RRDP; other actions will have to await development of complementary support programs by USAID/P.

A. Continuing Community-Based Resource Development

1. Successful Programs Involve Communities.

The RRDP Sites, the contract reforestation sites, the community forest management contracts, the preliminary results from the Mount Canlaon National Park, the management of coastal zone resources, the successes and failures of the ISF Program, and DA activities in upland barangays all demonstrate the wisdom of working through individual farmers and their communities. It was stated that some elements of the community approach would be incorporated in Timber Lease Agreements. This commonalty has significance for DENR planning and managing.

The first is that the concept of Integrated Social Forestry can no longer be confined to a single block in an organization chart. The only thing that distinguishes ISF from the management approach of any other DENR activity is the ability to award CSC's. Therefore, the regional and Provincial offices might well have a staff unit titled "Conservation Stewardship" that looks after the procedural awards of the contracts using the recommendations of DENR staff and contractors and the information on titling from the Bureau of Lands.

Otherwise, the organization of the regional and Provincial offices should concentrate on providing the technical help needed by CENRO's, field staff, and contractors to conduct sound community-based resource management programs. These skills could include, in addition to the much needed silvicultural techniques, livestock, and the social sciences of sociology and economics.

The DENR Training Offices should also be examined in the light of the training experience of the technical assistance contractor. There should be a training responsibility at the CENRO level if the farmer trainer, farmer cross-training, and transmission of new technology to field staff is to be continued.

These steps would be taken to emphasize the DENR commitment to community based natural resource development

across the board.

2. Sustainability Is Related to Stability of Soil.

No empirical evidence showing a correlation between depleted soil and poverty was uncovered. However, in many countries there is empirical evidence that a direct relationship exists between soil quality and income.

Questions have been asked about the sustainability of the practices begun under the RRDP. The practices are sustainable only if the soil is stable, i.e., degradation reversed.

The correlations between income and soil and between sustainability and stability should become the basis for both goals and operating objectives. To be consistent with the Mission of the DENR, the community-based resource development program should emphasize stability of the slopes. With this goal in mind, strategies can be evolved to enlist the cooperation of the communities. At least the lessons of the past show that trying to carry out reforestation projects -- and even management of existing forest, as the Bicol National Park exemplifies --without community support results in failure. The ways to gain community support is through making the clientele groups better off through cooperation. The very sketchy data available indicate that incomes rise as stability is achieved either through mechanical means, such as use of hedgerows, or by planting trees under an agroforestry regime.

USAID/P should support the fine tuning of the ongoing DENR reorganization by providing even larger amounts of technical assistance for training at all levels in all regions.

3. Monitoring and Evaluating.

It is clear that the present monitoring and evaluating systems are not working well. Some of the trouble may rest in the purposes for which the monitoring takes place. Providing for an external evaluation by a sister agency, it would seem, is directed at certifying that the money, manpower, and material were properly used. It has little to do with identifying policy issues to be addressed by management. Similarly, project monitoring systems are usually installed to track the flow of operational money, manpower, and material to the field location. The reporting to management identifies bottlenecks.

a. Evaluation is tied to policy

What is needed is a monitoring and evaluating process that is concerned with both process and policy substance and refers issues to appropriate levels for resolution.

If the KFPA and the RRA are modified and vigorously applied, the basic building blocks for a monitoring system will be put in place. It is fundamental that knowledge of what happens in each field location represents how well department programs are working. Success of contractor work will be measured in the barangay. Problems can and should be tracked upward when performance falters. Some of the units of measure have been listed in the discussion of the RRA and KFPA above. Central to the DENR mission will be measurements of the degree of stability achieved as a result of the investments made.

Problems that slow or block progress at the municipal level should be the responsibility of the CENRO to resolve; if the problem is at the Provincial level, the PENRO should be responsible for resolving the policy or operational matter; only if the blockage or issues involve regional or national matters should the evaluation system present problems at these levels. This sorting out of data requires evaluation that is more than a comparison of how much is done with what is targeted. It means that definitive analysis of problems and statements of alternative solutions with the consequences of each have to be presented at appropriate levels. The alternatives may have to do with corrections in the manner in which things are being done. But the system may indicate errors in assumptions and therefore errors in objectives. This is simply a part of good management practice.

b. Monitoring and Evaluation Units

To perform this vital function, monitoring and evaluation units should be established in the Office of the Under Secretary for Planning and Policy, in the Offices of the PENRO's, and smaller units in the Offices of the RED's. The first level of monitoring is the financial plan and accounting reports; the second level is examination of the work in the field on a statistically reasonable basis, and the third level is examination of the changes in the monitoring indices. More emphasis is placed on the Provincial level for reasons stated below.

B. Pivotal Role of the Provinces

Most of the effort of the CPS has been to ensure the performance of specific activities on the ground by a national agency acting at the local level. All of the deci-

sion-making is made at the several levels of a vertical line agency. While regionalization has forced decision-making further down the bureaucratic ladder, decentralization has been confined to moving the national resources as close to point of application as possible.

But decentralization applies to more than processes within what has been a traditional tops-down line agency. What is happening is a conscious government movement of decision-making to popularly elected governments at the lower levels. This movement is being supported by proposals to make tax revenues available that can be applied and used at the discretion of the Provincial governments. This is in addition to the return of blocks of national revenues to the Provincial governments for their use. It seems that the Province is a very important unit for community-based natural resource planning and management.

1. Historic Boundaries

Provincial boundaries have been in existence for a long time. As is common with old administrative boundaries, they represent a high degree of homogeneity of both culture and resources. People generally identify with the Province from which their family comes. It is easier to plan and manage programs within areas that are not likely to change in dimensions. For one thing, historic data series always apply to the same area and can be used without disaggregation and reaggregation.

2. Chances for Interagency Interaction.

It has been frequently pointed out that the problems and approaches of the DA and the DENR are very similar. There are those who contend that the similarities are so strong that the agencies should be merged. The disciplinary bases and missions of the two agencies simply are not amenable to merger; the jurisdictional divisions would remain and whether they are manifested internally or externally is not particularly important. What is important is that the resources of the two agencies be brought to bear on common problems in service to people. Thus, the planning information base of the two agencies ought to be the same and the steps taken to gain entry to an agriculture community should be similar. It should also be possible for the DA livestock expertise to be used in DENR forest areas; conversely, DENR forestry expertise should be available to farmers served by the DA. These interchanges can be specified in a Provincial work plan that is brought together under the direction of the Provincial Governor. Both agencies have comparable staff (PENRO and PAO) in each Provincial capital, there exists Provincial Agriculture and Fisheries Councils that can incorporate private enterprise and NGO interests.

The PENRO would go to the annual Provincial work plan sessions armed with the priorities established by the

CENRO's. From that base, the interactions with the DA and other agencies concerned with the management of natural resources would result in a Provincial Work Plan with the actions of the agencies specified by type of action and location, i.e., which municipalities and barangays. Such working relationships would also greatly enhance the cross-fertilization between farmers.

Institutionalizing interactions between the Provincial staffs of two major agencies employing similar approaches to attack similar problems will give substance to the intent of Executive Order 803. The Executive Order, together with the existing Agriculture and Fisheries Councils and strengthened Provincial Planning and Development agencies [1] provide ready-made mechanisms to facilitate community-based resource development programs for the open and degraded uplands and coastal areas.

3. The Province is a Convenient Size.

The number of Provinces in a region is manageable and the amount of territory covered is not so large as to be unwieldy nor so small that planning becomes bogged down in detail. From the DENR standpoint, reliance on the municipal level for coordination would place an unmanageable load on the CENRO's. There may be special circumstances in coastal areas where close work with the elected municipal governments will be necessary for the management of the coastal zone.

C. Regional Training and Technical Assistance

There is a serious breakdown in the training network available to support community-based resource development programs. It starts with the need to train what has been called "the new breed of forester" and extends downward to training support and applied research.

1. Community-Based Forestry in UPLB.

The College of Forestry has long set the pace for natural resource education in the Philippines. Unfortunately, the College's administration has chosen to isolate the practice of community-based resource development in a Social Forestry Division. The curriculum of the Division has been tailored to meet what the faculty perceives as the needs of the ISF; very little of the curriculum has penetrated the traditional curricula of the other divisions.

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[1] Some of the strengthening was accomplished under the USAID/P-supported Local Resource Development Project.

It has also been observed that a considerable time has gone by since any substantial training assistance has been given to the College and that a considerable number of faculty have left to assume prestigious international posts.

Teaching and research in community-based resource development in the College of Forestry should be strengthened. The strengthening should take three dimensions.

a. Revamp all curricula

Select international resource educators would gather to collaborate with Philippine faculty to revamp the College curricula and begin teaching the revised courses. The objective would be to blend the social sciences necessary for the practice of community-based resource development with the bio-physical course work. The time is past when the Philippines can afford to train foresters with little or no understanding of the social sciences. Additional emphasis should be placed on graduate level instruction.

b. Support advanced degree study

Overseas training to the Ph.D. level in resource economics, rural sociology, land use planning, community planning, as well as farming systems research and the management sciences should be provided for present and potential faculty.

c. Research in silviculture

New research thrusts in the silviculture and management of second growth forests and fast-growing plantations should be sponsored through the PCARRD system.

2. Regional Centers of Excellence in Resource Management.

Many more foresters with the skills required to manage community-based resource development programs will be needed both in government service and in the contracting companies that will plant and manage the forests of the future. A minimum of three institutions distributed in Luzon, Visayas, and Mindanao should be assisted in becoming centers for the teaching of community-based resource development. Curricula, training, and facilities will be needed. The faculties will be expected to teach courses leading to the award of the baccalaureate degree, help organize and teach in the DENR and DA in-service training programs for staff and farmers, and serve as contact points between the field staffs and the resources of the regional research consortia.

The model for such an institution is illustrated by the existing relationship between DENR and Bicol University. If included as a center of resource excellence, the University would offer education to the baccalaureate level in a community-based resource development curriculum, have staff available to trouble shoot anywhere in the area served, and support in-service training for staff, contractors, and farmers.

Very strong links should be built between the regional centers and the College of Forestry, perhaps extending to faculty exchange. It would also seem logical for the research staffs of the Ecological Systems Research Division to be housed on the campuses of the centers. One advantage would be inclusion in the PCARRD research information networks.

D. Communications Link

The DENR is rapidly becoming computerized. The RRDP will assist in this process when the PC's are delivered. It has been argued above that computerization should be further expanded at the regional and Provincial levels if the staff are to keep abreast of the rapidly expanding management loads implied by the volume of contract community-based reforestation that is expected.

It has also been pointed out that the hardware and the software systems of the Bureau of Lands and the National Mapping and Resource Inventory Authority (NAMRIA) will have available vast quantities of information vital to the DENR's land tenure programs. The information will only be of value if it is quickly available to the staff in the field.

Presently the land line links between the center and the regional headquarters will not carry digital communications loads. Such capacity is necessary if the computers are to transmit and receive graphic and text data. A microwave network will link the center with the Provinces through the regions. Funds to accelerate the work of the Long Distance Lines Division and to have adequate capacity to dedicate lines to DENR seem very appropriate.

Such an expanded natural resources network plus the outputs from NAMRIA would probably justify a main frame computer to operate the network.

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E. Reorganizing to Manage the Coastal Zone

Unified management of the coastal zone will mean institutional realignments of the agencies with jurisdiction in the coastal zone. One possible alignment would be to leave the upland fisheries and fish product sections of the BFAR with the DA. The marine fisheries segments of BFAR would be transferred to the DENR.

As in the case of the upland jurisdictions of the DENR, the coastal jurisdiction would proceed to prepare five-year action plans specifying the orderly progression of community based coastal zone resource development to all the municipalities of the country. As indicated earlier, the traditional role of the municipal governments as regulators of the fisheries will be essential to the success of improved management and to improve the access and equity positions of the fishing communities that depend upon them. Resource development technologies, including estuary rehabilitation, mariculture, and aquaculture will be considered for inclusion in plans after investigations resembling environmental impact assessments. This would be so to ensure that the right bio-physical and socio-economic questions are asked.

1. Add Estuarine Reserves to the IPAS.

One of the unique features of any seacoast is the estuary system. The physiography of the Philippines demands that the criteria of national significance be applied to the estuarine environment and that the best of the naturally operating systems be considered for inclusion in the IPAS.

2. Regional Centers of Excellence.

As in the case of teaching, research, technical support, and in-service training for terrestrial systems, similar institutional support is needed for the marine systems. The process would be similar to that proposed above for the terrestrial environment. It is understood, however, that in addition to a State College of Fisheries in Panay that a considerable reserve of talent and experience is available in several private colleges. These institutions should be given consideration when strengthening programs are designed.

F. Strengthen the Protected Area and Wildlife Bureau

The examples of using the community-based approach developed under the RRDP to protect some of the remaining one million hectares of Dipterocarp forest in Mount Canloan and Ayungon represent one last great opportunity to successfully set a side representative examples of the great

biological diversity found in the Philippines. The fact that more than 250 species of plants can be found in the remaining Ayungon forests indicates the extent of the diversity. The value to mankind of such richness in medicinal plants is incalculable.

There are many activities that can be undertaken to strengthen the Bureau and the Integrated Protected Area System. Among them are, of course, training in the defining of ecologically viable management units, management of natural ecological systems, and interpretation of the cultural and natural phenomena for the edification and education of Filipinos.

Another strengthening activity might be the examination of the degree to which parts of the cultural heritage could or should be included in the administration of the IPAS. A third activity might be the financing of interpretive facilities that include museum capability and administrative buildings and patrol and enforcement equipment particularly for the marine and estuarine units of the system.

VI. RECOMMENDATIONS

A. Short-Term

1. Continue RRDP Support for Natural Resources Programs

Project and field administration were among the things that were to be tested in the first two RRDP cycles. They have been thoroughly tested by the RRDP and other projects. Minor perfecting adjustments should be made to further accommodate the movement toward decentralization and regionalization being pursued by the Government of the Philippines and to focus attention on the degraded sites where public investment is most needed. USAID should vigorously assist the DENR and DA in this work.

2. Begin To Extend Operations Nationwide

The mode of field operation has been demonstrated to be sound; it should now become operational and extended nationwide. To do so, it is recommended that:

a. Social forestry to be practiced by all units

The concerns for the social and economic dimensions that have been shown to be essential for the bio-physical aspects of resource management should be expanded to all parts of DENR field operations and not be limited to the personnel in a single "Section:" everyone will be practicing some form of social forestry. The thrust could be the "Community Resource Development Program" in which all units participate, particularly Forest Management, Lands, and Environmental Management.

b. Focus on sustainable field system

Efforts being made to find ways to "exit" should cease. The effort should be upon finding ways to sustain the support for the farmer groups, teams, and communities that have been and will be formed under the community resource development program.

c. Build multi-disciplinary skills in staffs

The regional office staffing pattern, particularly in the Regional Technical Directors for Forestry, should be structured in such a way that the inter-disciplinary skills necessary to facilitate the management work of the PENRO's and CENRO's are readily available and to eliminate any confusion about the line accountability.

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d. Reassess manpower utilization

If the experiences of Cycles I and II are quickly expanded with minimum loss of quality to as many barangays within DENR's sphere of responsibility as possible, DENR will require additional manpower to administer the program -- particularly the monitoring and evaluation of activities. This will be true even if there is a substantial increase in the amount of work done by contract. Some of the necessary manpower, both for contract administration and for organizing work in the barangays, can be made available by changing manpower allocations. For example, some or all of the Social Forestry Technician, Social Forestry Officer, and Senior Forester slots now allocated to Integrated Social Forestry might be done away with in favor of fewer slots paying higher salaries to do PENRO/CENRO staff work.

e. Require use of experienced people

Further expansion of program coverage can be accomplished by insuring that the services of the experienced direct hire staff trained during Cycle II are utilized by corporate contractors.

f. Enhance Central Project Structure operation

The CPS staff relationships with other major components under the Under Secretaries should be refined. The intelligence concerning the requirements of the various donors and GOP special projects should be conveyed to the responsible units: financial status reports from Administration, status of physical activities from operations, and evaluation from the Monitoring and Evaluation Unit, recommended below.

g. Establish one system for monitoring and evaluating

A single monitoring and evaluation system should be installed to serve the department from the individual farms served to the Office of the Secretary. The data should be capable of being aggregated and disaggregated to meet the individual reporting requirements of donors, but should not have a separate structure predicated on the needs of each donor-assisted project

3. Prepare for Provincial Planning and Management

It is recommended that the Provinces be used as basic planning units for natural resource programs.

a. PENRO and RED training

PENRO's and RED's should be trained in Provincial level Community Resource Planning. Among the features could be the use of the Provincial Planning and Development Departments and Agriculture and Fisheries

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Councils to coordinate the activities and resources of the DA and the DENR in using common technologies within their respective zones of operation.

b. Focus on degraded/denuded areas

Guidelines should indicate that geographic priorities should be accorded to those barangays with the most seriously degraded bio-physical environments as part of the strategy for extending RRDP-style Community Resource Services to all upland and coastal farmers/fishermen.

c. Develop PENRO staffs

PENRO's should be given the staff capability to deal with national funds that are being deposited directly to accounts at the Provincial level and to deal with the Provincial budget systems -- both national funds deposited with the Provincial government and funds raised from local sources -- to achieve maximum complementarities from investments made.

4. Contracting Procedures Must be Improved

It is recommended that contracting procedures authorized under Administrative Circular No. 11 should be further improved.

a. Simple completion standards

All contracts be based upon simple completion standards so that inspection and verification is minimized and, to the maximum degree possible, mandate that the certification should be performed by technical personnel and not auditors and accountants. The technical staff should be attached to the monitoring and evaluation units.

b. Expand community category contract authority

The community category contracts with farmer organizations created under the proposed community resource development program can be entered into at the Provincial level without limit; contracts with established NGO's, such as university foundations and international organizations, would be treated more in the manner of corporate contracts. It will be the Community contracts that will gain most from proposals to advance 50 percent of the contract and handle other aspects of agricultural credit.

c. Individual contracts left to CENRO's

Authority to enter contracts with individuals be delegated to the CENRO level. The limit on number of hectares should be raised to 5. Family payments should be more frequent that once every two months.

d. Contract length on case-by-case basis

The arbitrary three-year limit on contracts should be dropped. At a minimum, commitments should be made on an option basis as to what will happen after satisfactory completion of contract requirements. In the case of community contracts, an initial five year period with an express option to continue with a 25-year Woodlot Lease Agreement would an appropriate incentive for community performance and 30 years would approximate one rotation for some species.

e. Limit extension of roads for reforestation

Contracts should be drawn so that the authority to construct access roads to facilitate reforestation is limited: New roads should not be built to areas that do not support settlements.

5. Greatly Expand All Training Activities

It is recommended that expanded technical assistance be made quickly available to DENR to meet the prodigious needs a nation-wide expansion entails.

a. Modify technical assistance contract

The management training modules now being offered in three regions should be made available to all regions and be linked with the PENRO/RED training recommended above.It is quite clear that additional resources will be necessary to expand the proper, hands-on type training shown in the approved Training Plan to all regions. One source for such expansion are those academic institutions with personnel experienced in development administration, such as the Development Academy of the Philippines. The quickest way to hasten this movement would be to further modify the training portion of the existing technical assistance contract.

b. Combine training resources of all contractors

Another source would be the combining of the very similar training programs of at least three contractors. The three -- two with DA and one with DENR -- have very similar objectives, therefore the training modules ought to be the same.

c. Give training in understory crops and silviculture

Give Site level personnel training in different understory crops and silviculture practices to produce products with high local market value. The training could

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be done through local training institutions with strong natural resource faculties.

d. Short courses for contractors

Set up short courses to transfer basic bookkeeping, community development, and agroforestry skills to potential NGO and corporate contractors.

6. Organize for Managing the Coastal Zone

It is recommended that the natural resource management responsibility for the coastal zone be unified.

a. From Mean High Tide seaward a national trust

It should be declared that all land and water from mean high tide to the limit of the economic zone (320 km) constitutes a part of the national patrimony to be managed in the public interest not just the production of fish.

b. Survey abandoned inter-tidal areas

A survey be conducted to identify inter-tidal areas that have been converted to aquaculture and abandoned.Public title should be reasserted over these inter-tidal areas so that community re-establishment of estuarine vegetation can take place.

7. Combine Access Roads and Graded Trails Activities

It is recommended that an access road component be integrated with the implementation of the community resource development activities, that the engineering standards for both access roads and graded trails be reviewed and modified.

a. Modest access roads to communities

Community development staffs are able to support the construction of such community facilities as drying pads and graded trails. The construction of access roads should be coordinated with these activities in the barangays where development activities are scheduled in the Provincial work plans.

b. Set new standards

The standards for both roads and trails should both emphasize hydrology as the major concern: rainwater run-off should not be allowed to spill over the downslope side of the grade. Grade and control of water should be favored over width and use of heavy equipment in construction.

8. Special Project to Rehabilitate Mined Areas

It is recommended that a national project be prepared to rehabilitate open pit and dredge mining sites.

a. Inventory inactive and active sites

An inventory using NAMRIA facilities of inactive and active sites and the priority ranking of the sites on the basis of active contributions to silt loads into coastal marine systems should be quickly completed.

b. Contract the treatment of critical sites

Contract treatment of the sites -- primarily by vegetation and construction of silt dikes -- to stabilize them and reduce silt movement into public waterways.[1]

c. Amend policies to internalize costs

Policies, including necessary legislation, should be formulated that impose upon miners responsibility for the costs of mining site rehabilitation, such as setting maximum grades and stabilization of tailings and other waste areas.

B. Long-Term

Draft new projects to operate in the program mode that will, without interruption, continue and accelerate the stabilizing of steep, denuded uplands.

1. Expand Community Resource Development Program Nationwide

It is a strongly recommended long-term strategy to continue the move to not only reorganize but restructure the DENR.

a. Reinforce the working of special staffs

The staffs in the CPS, the regions, and the Provinces will require continued training and help to make the full conversion the accustomed line authority to the idea of specialized staff assistance.

b. Continue recruiting and training field personnel

Additional recruiting for technically proficient upland resource managers under improved salary and field allowance conditions should continue.

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[1] Most of the technology required is already known and should be applied. However, considerable latitude should be given for trials of species to find the most appropriate combinations, including agroforestry, under Philippine conditions.

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c. Work in every Province

The Provincial-level schemes should have identified at least one high priority site/barangay and started work with whatever version of the RRA is being used, farming systems analysis (Key Farm Problem Analysis), and started field work with some farmers.

d. Promote community contracts

Community involvement in forest establishment, management (including harvesting), and protection seems the best hope to stabilize the Philippine landscape with trees and other permanent crops.

1. Support the Integrated Protected Area System

It is recommended that the new GOP initiatives to establish an Integrated Protected Area Systems be supported. The recommendation can be pursued along one or all of three channels:

a. Expand use of community protection

Apply the RRDP demonstrated approaches to community enforced land use controls to protect a central natural ecosystem to as many terrestrial communities judged worthy of inclusion in the national system as practical.

b. Identify units of marine sanctuary system

Do basic work to identify marine areas with national significance and refine protection/management regimes for the marine sanctuary units in the national system.

c. Include representative estuaries in system

Include representative estuaries in the national system and do basic research to determine the appropriate socio-economic approaches to estuary reserve management.

2. Training and Support

It is recommended that the long-term training requirements of a national community resource development program be developed and a plan drawn to meet them The plan should include financial and technical support.

a. Changes in the forestry curriculum

Actions should be started to eliminate the artificial lines that separate the Division of Social Forestry from the rest of the College of Forestry.and the curriculum should be thoroughly revised with a view to providing a general curriculum for the community resource managers that will be needed in the future.

b. Expand faculty training

Changes in the curriculum should be supported through an expanded number of scholarships leading to the PhD in such fields as Rural Sociology, Resource Economics, and Rural Development Policy

c. Strengthen regional institutions

The forestry/natural resources institutions in at least three locations and an equal number of estuarine and marine institutions should be selected for strengthening.[2] The foci should be upon development of undergraduate curricula in full concert with UPLB, development of faculty with requisite skills to respond to requests from the field for trouble shooting, and becoming part of the regular training program of the DENR.

[2] While State Colleges and Universities would be given preference, private colleges, particularly those with long experience in the marine environment, should not be excluded. Criteria for center of excellence designation should emphasize the quality of faculty teaching and research experience.

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APPENDIX H. THE AGRICULTURE COMPONENT

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APPENDIX H. THE AGRICULTURE COMPONENT

I. BACKGROUND INFORMATION

The RRDP is designed to respond to the fact that previous agricultural development was concentrated on the flat lands that had access to supplemental irrigation (primarily irrigated lowland rice paddies), that the rainfed lands which cover a much wider area (more than 70% of arable land) had been neglected so that land productivity and farmers' income are significantly lower; and that the rainfed sloping areas are prone to soil erosion that can rapidly reduce productivity not only on the eroding slope itself but also on the flat areas below the slopes where the eroded silt is deposited.

The agriculture component of RRDP focused mainly on improving the productivity and income of subsistence farmers and fishermen in rainfed areas. Initially, (Cycle 1) project efforts focused on building the institutions, both at the Department of Agriculture and at the rural communities inhabiting the rainfed areas, as well as the policy framework to support a community based agriculture resources management system designed to improve productivity and income of dwellers in the rainfed areas. Subsequently (Cycle II), the project focused more on farmer-centered, location-specific intervention using the lessons learned in Cycle I in order to improve the income of rainfed farmers over a wide area in Regions V and VI and in selected communities in other parts of the country.

This report is an evaluation of the accomplishments and impact so far achieved by the project; the lessons learned from these experiences and their implication to future directions and activities that may be pursued by the project.

The succeeding sections are organized into two topics, namely: (a) the rural development projects covering mainly the field activities designed to improve farm income and productivity in selected rural communities; and (b) institution building and policy implications dealing mainly with improving capacity of the DA in implementing community-based rural development projects and in policy decision. The write-up for each sub-component includes a review of the implementing

procedure used, accomplishments and impact, lessons learned, and recommendations for improving current activities as well as possible direction for future projects.

II. RURAL DEVELOPMENT PROJECTS

The primary purpose of this component is to validate the effectiveness of a community-based process for rural development by applying the procedure in actual rural communities either on a pilot basis or through large scale regional effort. The community-based rural development process was based mainly on a farming system approach with strong emphasis on farmer-centered, location-specific interventions.

A. Implementing Procedure

For implementation, Region V was selected as the pilot region in Cycle I of the project. In Cycle II, Region VI was added plus a few other selected communities in other parts of the country. Thus by 1988, there were four groups of rural communities covered by the project, namely:

(1) The original pilot development sites for Cycle I composed mainly of six pilot communities in the Bicol region. These sites were effectively started in 1984 with the initiation of technology verification trials as well as demonstration plots in one or two selected barangays per site. Primary emphasis during the initial years of this activity was to identify promising agricultural production technologies that could be introduced to the rural communities of the Bicol region.

(2) Expansion sites in Bicol (Region V). These are the barangays that were added on to the original pilot sites starting in 1987. 16 barangays in Albay were included in 1988 and 88 more will be added in 1989.

(3) Expansion sites in Panay (Region VI). At the same time that Bicol was being expanded, an additional region, Region VI, was added as a pilot region. In contrast to Bicol which focused on coconut areas, Panay concentrated more on the open uplands and coastal areas. At present, about 34 barangays are covered by the project in Panay. Note that the ultimate

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objective of the efforts in Bicol and Panay is to cover the whole region. Thus, the activities in these two regions are termed as the regional model for development.

(4) RRDP Assisted Micro-Projects. These are pilot barangays mainly located outside Regions V and VI which have identified a specific community problem that suggests a specific developmental intervention. These sites, composed of 103 barangays, are called micro projects because their area of coverage is small, i.e. one barangay, and the focus of development is very specific to one or two problem areas identified by the pilot community itself.

In spite of the significant differences among the four groups of communities, the program activities being implemented are quite similar. Some of the major activities are:

(a) On-farm technology verification and demonstration. In each pilot community, a few key leaders try some new enterprises or new management of existing enterprises in order to prove to themselves and the other members of the community the feasibility of such new practice.

(b) Training. Both the technician as well as farmer leaders go through a series of training to familiarize them with the development process as well as the new technologies that could be implemented in their specific communities. Two important features of this training are: (1) the farm-to-farm visitation through which farmers learn from the experience of their fellow farmers and (2) training by doing in which the output of training is the starting point for implementation of an intervention, i.e. the making of seedling nursery as a training output which also serves as a starting point for planting trees and other permanent crops.

(c) Rural Community Assessment for Planning (RCAP). An informal survey by an interdisciplinary group of rural development workers is conducted at each barangay in order to identify the most pressing farm problems that can be addressed by the project. RCAP is done for all communities at the initial stage of project implementation except that for the micro-projects in which the main problem and focus of project intervention is identified even prior to project initiation.

(d) Interdisciplinary and interbarangay collaboration among DA technicians. Instead of each technician working separately, technicians from adjacent barangays who usually have different areas of specialization join together to form a working group. They pool their resources and expertise to jointly identify key problem and solution of their assigned communities.

(e) Use of farmer core group. A small cohesive group of farmers is identified in each community to spearhead the demonstration and adoption of new technologies. Invariably, this core group also forms the nucleus of the community organization that develops and implements the process of community-based resource management.

B. Accomplishments and Impact

On the basis of the goals and objectives of RRDP, accomplishments and impact of this project component can be evaluated on the basis of the following:

(a) Number of technologies identified to be superior than existing farmer practices;

(b) Rate of adoption of these identified technologies;

(c) Improvement in income and productivity in the pilot barangays; and

(d) Improvement in environmental stability.

1. New technologies tested and verified

A significant number of technologies was tested and identified to be promising for the farmers of Regions V and VI (table 1). These technologies primarily involve the intensification of land use either in open rainfed area or in rainfed areas grown to coconuts.

Of the technologies identified promising, the following have been designated as ready for wide scale farmer adoption: (a) growing of legumes, coffee

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and black pepper under coconut trees, (b) use of contour hedge rows and canals for controlling erosion in sloping hillside, and (c) intercropping and relay cropping of mungbean or peanut with corn or upland rice.

2. Rate of technology adoption

The rate of technology adoption can be looked at as the product of the fraction of farmers adopting and the fraction of the adoptor's farm converted to the new technology. These two components of adoption rate were computed from data of a few target sites which were visited by the team and were judged to be examples of the more successful sites (table 2). For both Bicol and Panay, the fraction of farmer adoptors as well as the fraction of the farm converted to the new technology is low (see table 2). Consequently, the rate of adoption is also low, and the estimated impact to farm income small. Based on performance of similar projects in region VIII (ie., FSDP-EV which is also USAID funded) and the Cycle I project sites in Bicol, there is little evidence that the rate of adoption in these pilot sites will significantly increase in the next few years.

For the micro-projects, the impact is higher. This improved performance is attributed to the fact that the sites have been selected for the clarity and accuracy of the perceived community problem and the assignment to the project of the best technicians in the region.

3. Improvement in productivity and income

There is clear evidence that the new technologies when adopted can result in significant increase in productivity and income. Based on the results of TV trials, we estimate average annual increase in income per hectare of land converted to the new technology as ₱8791 and ₱4780 /ha per year for Bicol

and Panay, respectively.1/ Considering, however, that a cooperator farmer converts only a fraction of his farm to the new technology, the average actual increase in income per year per cooperator farmer is only ₱1846 for Bicol and ₱1593 for Panay. If we include also the non-cooperator farmer, the average increase in income per household per year is ₱41 and ₱92, an amount that is small. For the micro-projects the corresponding figure is ₱474 per household per year which is more than three times that for the regional projects but is still far from adequate. Thus , project impact to the income of rainfed farmers has so far been insignificant considering that the project has so far covered only a few barangays of the very large area in rainfed agriculture.

4. Improvement in environmental stability

The impact on environmental stability is even smaller than that for income. This is so since a large portion of the project site, especially in Bicol, is located in areas that are already environmentally stable. Note that the coconut areas, the main focus in Bicol, are fairly environmentally stable and the impact of the new technology, even if adopted widely, would still be small. If this impact parameter is to be increased, more of the denuded hilly areas which are environmentally fragile (as in Panay) should be covered by the project.

5. Other Accomplishments

The rate of technology adoption by farmers and its impact on income and environmental stability are by no means the only accomplishment of the rural

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1/ The TV trials provided the most reliable data comparing productivity and income for existing farmer practice and new technologies. Although the estimates could be biased upwards, we felt that such an overestimate (if indeed there is) do not invalidate but in fact reinforce further the conclusions arrived at in this section.

development component of RRDP. Human resource development, training, community organization are other impact points which, although less visible, maybe as important if not more so than technology adoption. Description and evaluation of these accomplishments are discussed in institutional development. (Section III of this appendix).

C. Lessons Learned

It is quite clear that the project has made significant progress in several aspects of its stated objectives. However, its impact on technology transfer, increased farm income, and environmental stability, is scattered and fairly unsatisfactory. The probable reasons for this are in fact valuable lessons that can be used for future program planning. Some of these lessons are:

(1) Diversity of the rainfed areas and its implication to program planning

From the beginning, RRDP recognizes the huge area that rainfed agriculture covers (more than 70% of cropped area) and the wide range of diversity both in the bio-physical environment as well as the socio-economic status of its inhabitants. In response to this diversity, the project opted to work on a large number of project sites representing the many environments of the rainfed areas (even if the project site per environment is small) on the premise that this series of small sites can later on be expanded to cover all of the rainfed areas. Our assessment indicates that the choice to address all environments simultaneously for such a diverse and huge area as rainfed agriculture, made the project task very difficult.

Another option for dealing with the diversity of rainfed agriculture is to focus project effort on one or two of the most important subset of the rainfed environment. This option would greatly reduce diversity, the range of farm problems to deal with, the number of technologies needed to solve these problems, and most likely the amount and complexity of information that the extension technican has to cope with.

If the option to focus on a few subsets is to be taken, the primary basis for selecting priority

areas (as the original project aptly argues) are: level of poverty and farm productivity; susceptibility to soil erosion; and area covered by the subset. The denuded sloping rainfed area clearly satisfies all these three requirements. It is the least productive and the farmers actually cultivating these areas have very low income. It covers a large area of the rainfed upland and is very prone to excessive erosion. RRDP should, therefore, seriously consider focusing its effort to this very large but very fragile sector of the rainfed areas.

(2) Bureaucratic decision-making and financial management as a permanent constraint to project implementation

There are two major bureaucracies that RRDP has been coping and continues to cope with. These are the USAID and GOP bureaucracies. Both are formidable and have very little flexibility to adjust to specific project requirements. RRDP has had many difficult and trying experiences with these bureaucratic constraints starting from the beginning of Cycle I up to the present. It is very clear that the constraints posed by these two bureaucracies will continue to be there and will certainly outlast RRDP. The expectation that USAID and GOP will adjust their way of doing business to the requirement of such a special project as RRDP is unrealistic. What is more realistic is to design the project so that it can succeed in spite of the constraints posed by the GOP and USAID bureaucracies.

(3) Poverty and sustainability as a major focus of RRDP

The project paper clearly states that alleviation of poverty and the maintenance of a stable and sustainable environment are the major objectives of RRDP. As previously stated, rainfed farmers in the sloping upland usually have the lowest income and their farms are the most susceptible to rapid soil erosion. Furthermore, erosion in the sloping areas reduces the productivity not only of the eroded farm itself but also the surrounding areas where this eroding soils end up.

Much of the areas covered by RRDP, however, especially those in Bicol, has focused on areas that are already grown to coconuts and other permanent crops. These areas are not the least productive, are not cultivated by farmers with the lowest income, and are

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not the most susceptible to soil erosion. For such favorable areas, it is not easy to design an alternative technology that will substantially improve existing practice. In addition, the need for changing the current practice with respect to environmental degradation is not very urgent. However, if the target areas were selected more judiciously in order to satisfy low productivity, low income, and environmental instability, the potential for improvement would have been much higher and the probable rate of adoption of newly introduced technologies could have been much faster. It seems necessary, therefore, that RRDP reexamine closely its current emphasis and priorities with respect to the areas that it is currently working on.

(4) Farmers' attitude toward growing of permanent crops

In the sloping hillsides, the primary cause of erosion and soil degradation is the removal of ground cover and the exposure of bare soil to direct impact of raindrops and onslaught of surface water overflows. The primary tool to avoid soil erosion is the growing of permanent crops which do not require intensive cultivation while at the same time providing valuable ground cover to the hillside. Experience in this project indicates that the growing of permanent fruit trees and other perennial crops can be very profitable to the hillside farmers. Furthermore, many hillside farmers view these economic tree crops as valuable commodities and are willing to care for them and protect them when they are established and productive. The primary constraint towards the growing of these trees is the high initial investment as well as the time required before these trees can provide income.

Because the benefits from the growing of permanent crops in the hillside can accrue not only to the farmers who planted them but also to the down slope that is now protected from siltation, it is reasonable that the initial investment for growing these trees should be borne not only by the farmer himself but by the society in general that benefit from such investment. This is the reason why denuded forests are being reforested directly by government and no investment is charged to the occupants of this hillside. On the basis of this experience, RRDP should closely examine potential incentives that can be provided to hillside farmers so that they will grow permanent

perennial crops instead of the annual food crops.

(5) Market Assistance

For many upland areas where access to roads and markets is relatively more difficult, the availability of profitable market outlets is a major consideration for wide scale adoption of new technologies. A farmer will generally produce only for a perceived level of family needs and marketable surplus. This level is usually lower than that which can potentially be produced in his farm. This could be one of the main reasons why farmers in the target sites convert only a small fraction of their farms to the new and more productive technologies. To hasten wide scale adoption of new technologies, therefore, enough assurance must be given to all potential farmer adoptors that there is a reliable and profitable market that can absorb all that they can produce.

B. Recommendations

(1) Reorient the focus of RRDP from one that covers a wide range of environmental diversity to one that concentrates on homogeneous sites that represent a large area of the rainfed upland.

We recommend that RRDP concentrate on the denuded sloping areas. These areas are usually characterized by farmers with low income, erosion of land that is very rapid, and a large tract of land that belongs to this category. It is our opinion that the potential for improvement of these denuded sloping areas both with respect to improved farm income and reduced soil erosion is very high. In addition, the types of technologies that are required to improve these areas are fairly homogeneous and are already well known, ie., growing permanent tree crops in the steep slopes and the use of hedge rows on the gently sloping areas. Consequently, the rate of adoption and technological change in the management of these areas is expected to be fast and project impact substantial.

To phase in this new focus the project should probably modify the choice of its expansion sites for 1989 onwards. For Bicol and Panay, the expansion

sites should be selected deliberately for the presence of large areas of sloping uplands that are cultivated and grown to annual crops. If experience with this new thrust is favourable, then subsequent RRDP-type activities should significantly expand its coverage of the denuded hillsides.

At a conservative estimate of 8.0 million hectares of denuded hillsides for the whole country and 0.9 million hectares in regions V and VI, a reasonable project size that can result to a perceptible impact should probably not be smaller than 100,000 hectares. Assuming a direct cost of ₱10,000 per hectare plus an overhead cost of ₱5,000 (note that this is lower than the ₱20,000 estimated for contract reforestation), the estimated project cost is ₱1.5 billion or $ 75 million over a period of five to ten years.

(2) The project participate and contribute to the initial investment of planting permanent trees in the sloping areas.

Since the benefit from the planting of trees in the slopes do not go exclusively to the farmer of that area but also to others down the slope, government must partially pay for such an activity. If government can afford to pay for the total cost of reforestation in public lands, it seems reasonable that fruit tree planting in privately-owned lands should also receive government subsidy. More specifically, we suggest that the project provides long-term loans to hillside farmers to finance the planting of perennial tree crops. This long-term loan should have the following features:

(a) Cover all investments required to grow tree crops;

(b) Repayment should commence only when the trees start fruiting;

(c) Government pay for the cost of money (interest) as well as the cost of lending and managing the loan.

Note that the Department of Agriculture has had long experience in this activity during the Masagana 99 and Masaganang Maisan programs. The mechanics of farmer lending already in place can very well be used

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and applied to this project. For example Masagana 99 loans were short term, did not require collateral and were channeled through rural banks, PNB and other commercial banks. The loan for this project could follow the same mechanisms with the following modification:

(a) credit line is for a longer period, probably 5-10 years depending upon the time required by the trees to produce fruits;

(b) credit is channeled through commercial banks and the loan is initiated with the submission by the farmer, with the help of FOT, of a farm plan for planting permanent crops. This document should be approved and endorsed by the FOT.

(c) FOT periodically checks farmers performance and periodic release of credit line is made upon certification by the technician that the specified job has been accomplished by the borrowing farmer;

(d) Farmer starts repaying loan (without interest) when the trees start bearing fruit.

(3) Assure a ready market for the expected additional product in the uplands.

Project design should not be limited to interventions for increasing land productivity in the uplands. Just as important is market intervention that will insure a ready market for new products. The traditional market assistance provided by RRDP in the past, i.e. that of providing up-to-date information on market prices and market outlets, is not enough since the expected added production would be so large as to flood existing markets. What is required are interventions that can: (1) create new markets and greatly expand the existing market capacity and (2) control the magnitude of new products so that the existing market demands are not unduly exceeded. This means an added component on marketing, probably concentrating on new tie-up between agriculture and industry or agriculture and the export market.

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(4) Expand the use of private contractors to facilitate the disbursement of funds.

The participation of LBI is a good example. Through the contract with this private company that is willing to advance funds for legitimate expenses, fund flow into the project is hastened and regularized. The project should therefore look into local companies who can potentially play the role of LBI not only in technical assistance but also in financing the field activities for rural development. The experience that such local companies can gain through this project could serve them and the GOP well when regular project implementation (no more foreign funding support) commences.

Table 1. Added income (₱/ha) due to the adoption of some promising technologies in Regions V and VI

Promising Technologies	Net Return (₱/ha)	Added Income (₱/ha)	MBCR
REGION V			
Corn-Sesame-Corn + Mungbean	7069	5164	2.71
Upland Rice - Mungbean	6454	4928	3.23
Rice - Peanut	18190	12711	2.32
Coconut + Taro	20605	15745	3.24
Coconut + Pole Sitao	15153	10896	2.56
Coconut + Cassava - Corn + Mungbean	32882	24515	2.93
Rice - Rice - Mungbean	11048	8094	2.74
Average	15914	11722	2.80
REGION VI			
Rice - Rice	3810	3032	3.90
Kakawate + Upland Rice - Corn + Peanut	14192	11259	3.84
Kakawate + Upland Rice - Green Corn + Peanut	11191	9392	5.22
Upland Rice - Corn + Peanut	7089	4742	2.02
Kakawate + Corn - Peanut	11119	7425	2.01
Average	9480	7170	3.10

Source: PCARRD, 1987. Highlights from the Philippine Agriculture, Environment and Natural Resources and Research and Development Network. PCARRD, Los Baños, Laguna.

Symbols used: MBCR = marginal benefit cost ratio
- = followed by, i.e. corn-sesame means corn followed by sesame
+ = intercropped with, i.e. corn + mungbean means corn intercropped with mungbean

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Table 2. Rate of farmer adoption and estimated increase in farm income in some selected RRDP project sites (all figures are expressed on a per barangay basis).

I T E M S	BRADP Daraga, Albay	PRADP Tangalan, Antique	Micro Proj. Pitogo
Number of barangays	4	4	2
Number of farmer household per barangay	325	208	102
Area of agricultural land per barangay (ha.)	446	353	264
Number of direct beneficiary per barangay (core group)	16	19	35
Beneficiary as % of total household	4.9	9.1	34.3
Number of farmer adopting new technology	10	12	22
Adoptors as % of farmer household	3.1	5.8	21.6
Land areas grown to new technology (ha.)	2.1	4.0	5.5
Area in new tech. as % of land area	0.6	1.3	2.1
Added income per hectare of land using new technology (₱/ha.) *1/*	8791	4780	8791
Added income per farmer adoptor (₱/farmer)	1846	1593	2198
Added income per farmer household (₱/farmer)	41	92	474

Source: Briefing Papers from DA; sites selected are the more successful and the ones with available data.

1) Derived from Table 1 but discounted by 33% to take care of crop failures once every three years.

III. INSTITUTION BUILDING, TRAINING AND POLICY IMPLICATIONS

Institution building is directed at two groups of people: DA and farmer groups. On the other hand, training is the primary tool for institution building. Obviously the institution is only as good as the people manning it. As in institution building, training has two aspects: DA staff and clientele.

The main purpose of RRDP as stated in the Project Paper is "to assist the Government of the Republic of the Philippines in developing institutional capacity and policy frameworks to support a community-based approach to land and water resources management in the settled upland forest, rainfed agricultural areas, and coastal zone."

"Community-based approaches mean approaches to resource management which emphasize local private initiative by small producers, sustainable increases in the productivity of the land and water resources, and the role of the community in resource management decisions."

It is clear that RRDP was a tooling-up project in Cycle I. It seeks to design a community-based approach to resource management, and assists the Philippine Government in organizing to use the approach. But because of the radical change called for by the approach, which focuses on decision-making, CBDM, as compared to the conventional technology generation and dissemination, and because of the large expanse of rainfed areas, compared to irrigated ricelands where the DA has earlier concentrated much of its resources, RRDP looked at this task as exploratory, rigorous and time-consuming and decided it had enough information to expand to a large program in Cycle II.

With the re-design for Cycle II, project focus shifted significantly to the applications of interventions designed to "promote the adoption/application of alternative farm management options to increase incomes". This shift implies that the tooling-up process, worked on in Cycle I, has progressed far enough to move on to the actual field application of the tools developed. While it can be argues that the shift from tooling up to actual use of the tool may have been too fast and too soon, and there

is serious apprehension that this may be true, Cycle II continued to implement activities designed to strengthen and continue the tooling-up process started in Cycle I.

A. Implementing Procedure

Institutional Development for the DA was undertaken through training. A decentralized structure was assumed from the start. Training would receive technical assistance from consultancy.

For the clientele, there was both organization development (OD) and training. OD was manualized in Community Institutional Development Coordination Guidelines (CIDC). As for DA staff, clientele training would receive technical assistance from consultancy.

The implementation strategies listed in the Project Component Plan were generally followed.

a. **BRAD**

Technology verification and dissemination: These were the principal strategies in Cycle II. The activities in these areas are discussed earlier in Section II A.

Planting materials production: This was also a central activity as the supply of seedlings of all kinds was clearly critical. 53 community nurseries were set up project-wide.

Enterprise development: Here community participation was even more marked. Excluding the artificial reefs and fish shelters of Hamtik, Antique, 22 businesses were set up project-wide, involving 650 cooperators, averaging nearly 30 cooperators per venture.

Marketing: This has not really gotten off the ground. The need for it remains great, particularly during the planting stage of cropping patterns which include fruit trees and other long-gestating crops.

b. **PRAD**

1) Core community groups of farmers: This strategy is central in the project manual CIDC issued by the DA in September 1987. This is discussed further below.

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2) Enterprise development: This was discussed under BRAD above.

3) Farmer training: While the project had trained many farmers much remains to be done. The work not only involves numbers of farmers to be trained but the kinds of courses to be conducted.

c. **Micro Projects**

1) Clientele consultation: This has actually been the modus operandi. All project interventions have been in direct response to needs clearly identified by the clientele.

2) Little or no RRDP funding: This has generally been followed.

From the start of Cycle II, project management was handed over to the respective regional directors (RDs). RD V and RD VI organized their respective Project Management Units (PMUs) for this purpose. At project site level, the site managers reported to the respective MAOs and PAOs. Similarly the project-assisted special "micro" projects had their site managers who reported to MAOs and PAOs. In all three groups, or "Tracks" as DA calls the PRAD, BRAD and micro projects, the RDs had the final word. The PMO and PMUs performed staff functions. Generally, the system worked well, although technical support in planning and human resource development from the department's organic structure seemed inadequate. The PMO was not competent in either function and the project had to rely heavily on technical assistance for them.

B. <u>Accomplishments and Impacts</u>

1. <u>Resource Assessment and Policy Analysis</u>

Much of the accomplishment here is the completion of work initiated in a previous project immediately preceding RRDP. Some of these completed outputs are:

a) Regional profiles for Regions V, VI and VIII, including the development of a statistical framework to standardize the preparation of regional profiles;

b) National Statistical Handbook for

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Agriculture;

c) Policy Models;

d) Community Situation and Outlook Reports;

e) Marine Resources Assessment in Maqueda Bay and a manual on Basic Approaches in Fish Population Analysis.

2. Development of Community Management Systems.

At the end of Cycle I, two basic systems in resource management had been identified, namely: Farming system management which looks at the total development by the farmer of his farm resources according to his preferences and the community-based resource management which looks at community participation in deciding how the resources would be used.

In Cycle II, these two management systems were put into practice with the introduction of activities that strengthen grassroots decision-making. Some of these activities are:

a) the seed nurseries which fostered close cooperation among core farmers: As of the end of 1988, 16 barangay seed nurseries had been established in Albay and 15 in Aklan and Iloilo. The special projects have also highlighted the value of these nurseries, establishing a total of 21, for a project total of 53.

b) Community participation in local enterprises: The following figures are indicative of group effort:

PRAD	11	IGPs	303	cooperators	27.5 ave.
Quezon	11	"	104	"	9.5 "
Total	22		650	"	29.5 "

Antique - artificial reefs and fish shelters

c) The "porbaran" way of conducting on-farm trials: This activity is very encouraging because as yet it is the strongest evidence of farmer-based, and often community-based, decision making. It probably still needs to be more formalized to be a useful research tool. But certainly its inception must be directed, preferably by the appropriate "shelf of technology". As of end of 1988, 35 such trials had been

established involving 55 cooperators. This compares with 75 TV and 21 TA trials for the same period involving 177 cooperators.

3. Training

Training, which was mainly funded by grants, is one of the major strategies of Cycle II. Training here includes that for farmers, as in the visits to farms where the object technologies are already in place or in "training by doing" which means that the trainees actually try out what they are taught.

Table 3 gives a bird's eye view of accomplishments in training. It can be seen that the Short Term Local Training allocation has already been overshot. This is because of the extensive reorganization that DA went through, and the need to develop FOTs for the expansion areas. On the other hand, the Local Degree Training and Farmer Training allocations are severely undershot. This is because of the delay in setting down the concepts and training approach.

Table 3. Projected and Actual Number of Person Months devoted to training as of March 1989.

Type	Projected	Actual	% of Total
Short Term Local	176	261	148
Local Degree	480	12.5	3
Farmer	9.740	259	3
Short Term U.S.	26	14.7	57
Short Term Asia	24	3.6	15
TOTALS	10.446	550.8	5

Source: LBII Accomplishment Report, First Quarter, 1989

Three manuals have been produced which directly bear on the community-based approach: Community Institutional Development Coordination Guidelines (CIDC), and Community Research and Extension Coordination Guidelines (CREC) and Instruments for the

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Design and Planning of Technologies/Interventions in Community Development. CIDC is said to draw heavily from FAO and Development Academy of the Philippines (DAP) experience, while CREC draws from "Farming Systems Research and Development" by W. W. Shaner et. al. The intervention planning manual was submitted as part of the technical assistance by LBII.

The project has been able to finalize arrangements with coalitions of agricultural colleges and universities in Bicol and Panay to help the FOTs in implementing site level farmers training.

4. Decentralized Project Management

The Phasing of RRDP into the organic DA was incorporated in the project concept paper of Cycle II. Thus even now the regions have complete supervision over PRAD, BRAD and the Special Projects. This seems to be working well. Special Concerns Office (SCO) has taken a supporting role, with a budget reported at about 8% of total. But even this supporting role will have to pass on to regular DA, except that SCO may have to continue helping in project planning and in HRD. More will be said about this full turnover under Recommendations below.

The RRDP-Assisted Special Projects have been a major impact of Cycle II if one were to take institution building as a principal purpose. The manner in which these projects were developed indicates the operation of institutional capacities on both sides: government and clientele. The specific needs to be met in these projects were clearly identified by the communities concerned, and the MAOs and PAOs responded with matching flexibility. The two such projects visited, Hamtik and Pagbilao have exhibited relatively rapid progress to meet their purposes, with healthy community organizations to boot. Reports from many of the other special projects indicate similar progress.

The project planning process applied here is highly decentralized. It has reportedly been attempted more widely in Region XI with the active participation of planners from its five provinces where the process went through resources and poverty scans, delineated economic development zones, identified growth centers and pinpointed target municipalities and barangays, followed by corresponding deployment of manpower. In

fact, the logic of the RRDP Community-based approach has been incorporated into succeeding projects such as AAPP, Cordillera, Antique and Mindanao projects, and the Livelihood Enhancement Agricultural Development (LEAD) project.

5. Decision-making at the Grassroots

In preparation for an effective farmer-centered development, the DA has pilot tested the reorganization of agricultural production technicians (APTs) into FOTs so that they can adequately and speedily react to the diversity of problems that rainfed farmers may raise. APTs from a minimum of four adjacent barangays work together as an inter-disciplinary team covering four or more barangays instead of the traditional arrangement of APT working separately to take care of one or two barangays. Deliberate effort has been taken to insure that each member of the FOT has a different area of specialization in order to cover a wide range of problems. The common mix of specialization includes agronomy, animal science, and social science.

Supporting the team is a research group, the PTVT, which is responsible for identifying through on-farm trials new technologies that suit the many environments in a province. These new technologies are often used as the cutting edge of interventions in community development.

With the FOT and the PTVT, the farmer comes in to complete the trio. Together they form the team which conducts the research trial which would signal adoption or rejection. It is really at this juncture where research may be said to have the most direct and stoutest link with extension.

The above described arrangement is commonly followed in existing RRDP sites and is planned for implementation in expansion sites. Although this arrangement did not strictly originate from the RRDP project, the idea is excellent and its widespread implementation should be encouraged.

C. Lessons Learned

1. The need for adequate training to support the FOT-PTVT-Farmer

The FOT-PTVT-Farmer team concept has shown its

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value at many project sites. A case in point is the "Porbaran" way of conducting on-farm trials. It is yet the strongest evidence of team divisions where the farmer's input also stand out. Other evidences, this time indicating more of farmer community inputs, are the barangay businesses (IGPs) and the barangay nurseries. The IGPs indicate an average of nearly 30 cooperators per enterprise.

The guidance for the FOTs and PTVTs in carrying out their portions in the teamwork is given principally by four manuals: CIDC, CREC, LBII's "Instruments for the Design and Planning of Technology/Interventions in Community Development", and Cycle I's "Manual on the Development of Community Management Systems". Except for the intervention manual, which is new, the others have been applied to the various project sites.

These manuals have played an important part in the training of the FOTs and PTVTs. But these teams have had to make some field revisions to suit peculiar situations.

Therefore, a general and systematic review is in order, bringing into play project experience through process documentation and the experience of other experts. The result of such a review may prompt some revisions in the manuals themselves and alignment in the corresponding training courses now being, or planned to be, conducted.

Some of the areas that could be reviewed are:

1. A clarification of the role of Technology Adaptation, or the testing of technologies generated under different agro-ecologies. Who performs them? Where? What does one do with the results?

2. A clarification of the role of Technology Verification, or the comparison of improved technologies against farmers practice. Again, who are the players, and what are the roles of each player? What does one do with the results?

3. A clarification of the final step -- Technology Adoption. Is this confined to the farmer team member, or are other farmers involved? The community? Is the technology adopted necessarily identical to the one verified? What is the latitude for farmer innovation?

4. The successive addition of the many sociological and economic factors to the bio-physical factors which determine the limits of "recommendation domains" increases the number of domains factorially. How far does one wish to go?

5. The minimum requirement of six months for "immersion" is severe. How can the MAO cope with this?

6. The role of NGOs in RRDP project sites has thus far been nil. What are the plans for them?

7. How about the concept developed by OCMS in Cycle I of a Farming System Approach which integrates the three interventions of technology, institution and human resources development, whose "cutting edge" depends on the extent and intensity of community-based resources management and on the community's perceived needs? Is it valid or should it be thrown out the window?

After settling these and other prickly questions, the project should be in a position to write down a working definition of the RRDP approach to developing community-based management of resources. After that it should be able to look at the rest of the country.

2. Decentralization

RRDP has provided the DA with valuable experience in the task of devolving central authority to the regions and even to the provinces. DA has recognized the more authoritative roles played by the PAOs and MAOs by substantially adjusting their salaries, proportionately more than those for staff and other line positions. This decentralization process has greatly enhanced the implementation of a farming system approach to development. The higher level of success exhibited by the micro projects can be attributed, to a large extent, to the larger input of the municipal officials as well as local farmers in identifying the most appropriate project site and problem to be addressed. Thus, the RRDP experience clearly attest to the need for more decentralization and its usefulness in the implementation of the farming system approach to research and extension.

3. Marketing Assistance

The project has received assistance from the Bureau of Agricultural Statistics (BAS). But this is limited to daily price information from selected public markets. Additional inputs in market information were made under the Accelerated Agricultural Production Project (AAPP) by various short term consultants starting in June 1988 up to March 1989.

Not much work has been done in marketing assistance proper. There are however, a number of assistance activities from which RRDP could draw ideas. These activities were conducted under the Countryside Assistance Project (CAP) with UPLB, Integrated Agricultural Production and Marketing Project (IAPMP) with Kansas State University, Farming Systems Development Project for East Visayas (FSDP-EV) with VISCA and Cornell University, and Farming Systems Development Project-Bicol (FSDP-B) with Winrock.

D. Recommendations

1. Vigorously pursue to completion the decentralized planning process.

The DA has decentralized project implementation, and are in the process of devolving planning to the regions and provinces. The Team strongly supports this ongoing effort and recommends that USAID assure that financial support is not a limiting factor in the process.

The Team further recommends that DA formalize the decentralized planning process which is applicable not only to RRDP but to its regular programs as well. This will include a study of Executive Order No. 803 and its implementing rules and of possible interfacing with the National Agricultural and Fisheries Council System.

The Team finally recommends corresponding adjustments as needed in current training courses for the various levels: barangay, municipal, provincial and regional.

2. Implement the RRDP community-based approach to planning and implementation on a DA-wide level

RRDP-developed community-based approach towards development planning and implementation should be applied to the DA's national agricultural development programs. Farming systems or farm management options encompass all the resources within the farmer's/fisherman's/dweller's environment and prescribe that these resources be managed by the people/communities living there. They can therefore serve as the nuclear and self-sustaining national program to incorporate all other projects which are being or proposed to be, undertaken in these environments. Thus, ITP, ISF crop/livestock/fisheries production, IGP, cooperatives, etc. would all be part of the system, and the appropriate technologies part of the shelf.

The critical function will be planning. National thrusts should be limited to program goals. Regional planning would merely rationalize the direction and size of agency programs emerging from the more comprehensive resource-based plans prepared at the provincial level. Provincial planning would be comprehensively done by sector so that the preferences of local society, as expressed by local heads of agencies, local sectoral representatives and elected local officials, are registered in coordinated attacks on identified problems.

Funds management starting from budget preparation up to funds release and accounting would shift orientation from allocating basis to performance basis. Thus a mechanized accounting procedure for allocation -- performance transformation will have to be developed. Accountability at all levels will, therefore, be rendered on performance.

Under this scenario, external assistance should also be program-based. This would avoid institutionalization failures and other sustainability infirmities, as well as special allowances and other project-justified inequities, not to mention funds flow logjams.

3. <u>Design and implement a training program that supports the FOT-PTVT-farmer triumvirate</u>

Design and implement a training program which

would center about fostering and supporting the FOT-PTVT-farmer triumvirate as the basic planning and implementing unit. The program would then trace the planning ascension to municipal and finally to provincial levels. Following this, the program would look at the support needed for implementation, including research and extension.

The DA needs to competently handle the dynamics of socio-economic transitions which success in the program should bring about. It is therefore necessary to have a clear understanding of whatever corresponding transformations the decision-making process undergoes as a farmer or fisherman moves up from a subsistence to a commercial mode. But this understanding includes the benchmarks: how does a farmer or fisherman make his decisions under subsistence conditions? Under commercial farming conditions? To satisfy this need, an extensive research undertaking is called for which would have to be carried out through the range of agro-ecologies and socio-economic configurations that characterize the pertinent environments.

4. Develop and complete as quickly as possible a monitoring system appropriate to a community-based development approach

Expedite the completion of the M and E system that fits the activities of RRDP. In the long run this same M and E system would cover all DA projects. This would be a good prelude to placing the RRDP community-based system as the nucleus of the national agricultural development program. If still possible, the system should be able to satisfy all other government agencies, e.g. NEDA, NCSO, BAS, etc., and even external donors.

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APPENDIX I. THE RESEARCH COMPONENT

I. PLANNING, MONITORING AND EVALUATION OF GIA PROJECTS

A. Background

The RRDP Research Component Planning and Approval process essentially follows and is part of the established planning mechanism of the National Research and Development System except for slight modifications.

The RRDP process is a product of and is in response to certain operational constraints attributed to the multiagency nature of its implementation. Among these constraints include the absence of an effective feedback mechanism between and among components; problems in fund flows and releases attributed to restrictive financial procedures.

In Cycle I (1983-86), A Steering Committee composed of top officials from DA, DENR, NEDA, PCARRD and DBM set policies and directions for rainfed related research activities. Chaired by NEDA, the body functioned to establish general directions, policy guidelines, approval, review and update of overall research plans. This body was deleted in 1986 and its functions since assumed by PCARRD.

To strengthen relationship and coordination between and among RRDP components a Project Management Office (PMO) was established. Based at PCARRD, the body coordinates such research related activities as planning, monitoring and evaluation of research projects under the research component. This was bolstered by the formation in 1986 of an Integrated Research Task Force (IRTF) and Technical Working Group (TWG) which served to unify and integrate research related activities of RRDP. Composed of representatives of the DA, DENR and PCARRD, this body took over the Management Committee and is responsible for identifying research needs and priorities, preparation of activity proposals including coordination with other RRDP components on research policies.

B. Research Area Identification

Multi-disciplinary team composed of farmer leaders, RRDP Pilot site staff, researchers and research planners conducts a Rapid Rural Appraisal (RRA) of the identified project sites. The RRA includes a reconnaissance survey, transect profiling of resources and land use, informal interviews with residents and key informants and gathering of secondary data.

The problem areas identified from the RRA are classified into problems where existing technologies for dissemination exists and problems where research could provide a solution.

Where technologies exist, PCARRD arranges with relevant agencies to disseminate information to target clienteles through the appropriate applied communication module.

The proposals follow a prescribed format established for the National Agriculture and Resources Research Development System (NARRDS) which already includes budgetary requirement for major items as Personal Services, Maintenance and Operating Expenses, Equipment, Infrastructure and training. The proposals are reviewed thru the agency's internal research evaluation system. Then these are endorsed by the agency head to the R and D consortium.

The regional R and D Framework is developed and regularly validated during the Annual Regional Integrated Review and Planning Workshops. Technical evaluation of all proposals submitted by its member agencies is done by the Regional Technical Working Group (RTWG) and/or Regional Commodity Teams (RCT). All the member agencies of the Consortium are represented in these two groups.

BAR and ERDB review all proposals emanating from their regional stations and offices to assess relevance to the thrusts of the agriculture and natural resources sectors, respectively. The proposals are endorsed to PCARRD by the Directors of DA-BAR and DENR-ERDB. PCARRD's National Commodity Teams review all proposal as to national research priority, possible duplication, and appropriateness of budget.

The Technical Research Departments (TRD) of PCARRD communicate directly with proponents regarding modifications/changes to improve the proposals.

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Proposals which do not pass the evaluation of National Commodity Teams are returned with corresponding reasons for disapproval. Proposals recommended for approval are packaged into a Research Plan by the RRDP-PMO and endorsed to the Governing Council (GC) for approval.

The IRTF evaluates the Research Plan based on relevance to the thrusts and programs of the RRDP. Particular attention is given to the requirements of the pilot sites of the RRDP. The IRTF is backstopped by the Technical Working Group (TWG) and the PMO.

USAID reviews the programs and budget as to conformity with country assistance policies, and funding policies and limits as provided for in the Grant Agreement. Based on these, USAID approves the program and earmarks funds for the duration of the programs.

Upon approval by the GC, PCARRD calls for detailed proposals from the proponent agencies. This is done simultaneously while USAID is reviewing the Research Plan.

The proponents develop and submit the detailed proposals to PCARRD and PCARRD communicates directly to the proponents for possible modifications to improve the proposals.

When the proposals are ready for implementation, the detailed proposals are endorsed to USAID with requests for commitment of funds and release of the first 90 day requirement of the projects to the Bureau of Treasury for release to PCARRD thru DBM.

PCARRD prepares notices of approval to agencies concerned and releases of funds for project implementation. For GOP funding, the notices of approval are sent to the proponent agencies immediately upon favorable action by PCARRD of detailed proposals.

C. Implementation and Monitoring

The Technical Working Group (TWG) and the PMO of the RRDP conduct a pre-implementation visit to the projects and assess the suitability of the areas. PCARRD takes up with the researchers the policies and procedures in the implementation of GIA projects in general and RRDP grants in particular and approves the research design.

For the duration of the project, accomplishment is evaluated periodically. PCARRD coordinates with the regional agencies the field evaluation which is normally synchronized with the Annual Regional Integrated R and D Review.

Field evaluation is done as frequently as necessary. It evaluates the conduct of the experiment, verifies the accomplishments reported and agrees on possible solutions to problems met in implementation.

Prior to the Regional Integrated R and D Review, each member agency of the R and D Consortium conducts its own In-House Reviews. The In-House Review is part of the agency's internal monitoring system and looks at the progress of each project implemented by its various research stations in the region. It is during the In-House Review where projects with significant breakthroughs are identified for presentation in the Regional Symposium.

Another venue where project accomplishments are reviewed is the Annual Regional Integrated R and D Review. This review evaluates all projects coordinated by the R and D Consortium.

The output of all reviews held within the year are summarized and presented to the researcher for further discussion and concurrence during the Researchers' Dialogue. This is normally scheduled during the last quarter of the year. A Program of work and budgetary requirement for the succeeding year is also discussed and agreed upon. The output of the dialogue is officially sent to the implementing agencies for appropriate action.

The output of the dialogue is endorsed to the IRTF for their review. Recommendations of project implementators in terms of spin-off activities are also discussed for possible implementation.

D. Evaluation of Research Results

In the In-House review and the regional symposia on technology breakthrough, technologies for piloting or dissemination may be determined. The technologies are evaluated based on methodology, levels

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and types of analysis and status of technologies generated.

In some cases the results of the project are presented during a forum with wider participation. Specific projects with significant findings for possible piloting in the RRDP sites are highlighted during the IRTF meetings where DA-DENR Pilot Managers are represented. PCARRD through its development mandate, produces media materials of technologies generated from researches. These materials are widely distributed in national and regional offices involved in agriculture and natural resources research.

E. Difficulties encountered in the GIA process flow system

In the case where projects are not revised and there are no other problem, the shortest time required for project approval and fund release is 14 months. Since the formation of the IRTF, which serves to unify and integrate research related to RRDP, the two step USAID approval process appears over-cautious. USAID now approves the general plan and budget after the plan has been approved by:

(1) regional consortia/RTWG

(2) BAR or DENR

(3) PCARRD-NCT

(4) PCARRD/RRDP-IRTF

(5) PCARRD-GC

After the full proposals have been prepared and approved by PCARRD, USAID again approves and then commits grant funds for the first year of the research program and releases cash advances for the first 90 day to Treasury to DBM to PCARRD.

The Team can think of no useful reason why USAID would want to be involved in individual research projects approval at all --- to say nothing of twice and then to commit funds for one year only with cash advances for 90 days. USAID should find a way to extradict itself from the approval process and release funds annually based on progress reports. USAID should

approve the Cycle II Research Plan as the only approval requested of AID.

The whole system, of course, would be shortened if the approval system could merely choose among many worthwhile, well-written, relevant, TG, TV and TA proposals. (BPPP proposals do not go thru the system.) Unfortunately, this is not the case. PCARRD in 1988 conducted workshops to instruct proposal proponents how to select, test, design, implement, monitor, and analyse research. The quality of 1988 TA proposals was particularly substandard because an estimated 60% of farming systems trained staff in RIARS have been transferred out of the rainfed uplands. The remedy is continuing training program for regional researchers on research design and management and then a commitment from DA to keep trained staff in the rainfed areas.

At the moment, it can not be recommended to allow the regions to approve their research agenda without outside approval.

II. FARMING SYSTEMS RESEARCH AND EXTENSION

The basic premise which lead to the FSR/E concept was that the rainfed uplands were very variable and technologies were very site specific and not widely adapted. Therefore, instead of conducting research trials on stations with known soils and climates, trials would need to be conducted on farms where the technology would be ultimately adopted. Multi-disciplinary teams of scientists were recommended to conduct the research.

The RRDP project has embraced the FSR/E model. It has been assumed that the rainfed sites are variable and that the technology is very site specific. The research methodology now employed is a series of programs starting with Technology Generation (TG), progressing thru three more steps until it is piloted in barangays.

- TG is mainly conducted at SCUs and at commodity specific institutes at the regional level and at the national level. Research staff conduct this research under controlled conditions in the laboratory or on experiment stations. These experiments are conducted under accepted field plot techniques which

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optimize the environment to test the potential of the technology - not its adaptability to any environment. The conditions under which the experiments was conducted are recorded and the results are analyzed statistically. Examples of TG experiments would be plant breeding and tissue culture stress testing of germplasm.

- The Technology Adoption (TA) program of the DA-RIARS and DENR-ERDB is funded by the RRDP in Regions 1, 2, 5, 6 and 8. These trials are designed for component testing of varieties, fertilizer responses, and pest control variability. They are conducted on RIARS experiment stations under controlled conditions and on farmers fields in conjunction with Technology Verification (TV) trials. The rationale for the off-station tests is that the technology may not be adopted to the conditions off station. These trials are not testing farmer acceptance but rather compatibility of technology to micro environments. In most regions, TA trials are designed and the results are analyzed by RIARS research staff. The off-station actual management is implemented by specially trained Provincial Technology Verification Team (PTVT) extension staff.

- The Technology Verification (TV) trials program combines the best components (variety, fertilizer, pest management) as determined in the TA trials and compares this improved package to farmer's practices. The tests are standardized to approx. 1000 sq. meters. These tests are designed by RIARS staff and implemented by PTVT extension a staff. The PTVT staff are BS graduates that received a one-week course on research methodology. The DA-RRDP staff are considering the need of Municipal Technology Verification teams.

- The Barangay Pilot Production Program (BPPP) is the final step in bringing technology to farmers. That technology which prove superior to farmers practices in the TV trial is demonstrated for farmers at this step.

The strength of this system is in its design to bring research and extension staff together at the farmer level and to give the RIARS research staff a feedback to the problems at farm sites and a method to extend only adaptive technologies to the micro environment of the farm. There are also weaknesses in the system which should be corrected. These will be addressed separately.

- For the system to work there must be a steady supply of improved technology being produced in the TG program. This activity has received little funding by the RRDP and better funding is a necessity.

- Training, both degree and non-degree, are needed at all levels in the regional research system. The SCU's need to have a steady stream of new researchers and the staff needs upgrading in the latest techniques. Training of the PTVT staff has not kept up with attrition so that only an estimated 30% of the original staff is left.

- The system is too expensive. There needs to be ways to increase the quality of the research, reduce the number of trials, determine the adaptive parameters of the technology, and to put in place a system which will allow prediction of agrotechnology transfer.

The following steps are recommended:

* An analysis should be undertaken to determine the response variation of treatment between provinces in a region to warrant TA trials on farmers fields. If, for example, pest management practices and varieties prove to be widely adapted, then most of the TA trials could be conducted on station with a few on select on-farm sites.

* The TV and BPPP programs may be merged resulting in reduced RIARS program costs.

* Promising new varieties identified in the TA program should be multiplied at this point and not at the end of the TV program. Now that BPI is no longer responsible for seed multiplication but rather the private sector, project intervention is more difficult.

* All station experimental sites should be characterized using Soil Taxonomy as the standard. Each station should have the ability to collect a minimum data set to be fed into a data base management system (DBMS) such as the ARRTIS proposed by PCARRD-MISD. The DBMS should be compatible with the IBSNAT - DSSAT. The SMSS program of USAID implemented by the Soil Conservation Service of the USDA has assisted ten (10) experiment stations in the Philippines to characterize their soil and could be asked to support further site classifications. This will allow the prediction of agrotechnology transfer between sites on similar soils and climate with a vast reduction in trial and error

experiments.

The above describes the intermediate to long term regional research program designed to deliver a steady flow of technology and a system to cope with production problems. There are times when there arise catastrophic field problems that need immediate attention and resolution. These should be forwarded to the institution capable of the quickest response. In case research is needed, there should be funds available for this purpose. PCARRD has a percent of its funds that it can use for this type of situation.

"PORBORAN" Concept for Technology Verification

The Bicol Rainfed Agricultural Development (BRAD) staff in Cycle II has developed a farmer driven approach to replace the TV step in the research system. In this approach, the farmer designs the demo, decides the intensity of management, chooses the size, buys the inputs, and analyses the results. The BRAD believe that they can increase adoption rates with PORBORAN.

The PORBORAN could better replace the BPPP and to leave the TV trials in the research agenda.

III. THE RRDP BUDGET

The PACD of the RRDP is September 1991. By September 1989, according to PCARRD, all USAID grant funds will have been committed except for approx. $0.73 million for GIA and $60,000 for training. This will allow for $370,000 per year for GIA research grants and $30,000 per year for training. By the end of fiscal year 1989, there will be no uncommitted funds for commodities and infrastructure. Refer to the budget tables.

The lack of training funds is the most worrisome. The low quality 1988 GIA research proposal approval exercise dramatized the need for stepped up training at all levels of the regional research network. Training of SCU, DA-RIARS, and DENR-ERDP staff in project identification, design, implementation and analysis is critical.

Farmers should receive training in a wide range of subjects, both technical and managerial, to be able to function with confidence in the larger community and in commercial farming.

The 14 consortia also look to PCARRD for support in maintenance and repair of their infrastructure and commodities, especially spare parts. It is virtually impossible for regional staff to make their own arrangements. PCARRD attempts to keep an up-to-date inventory of regional research equipment and has limited GOP funds. The service is not attractive to donors who persist in buying in preference to maintaining equipment.

The LOP research budget for RRDP is indicative of what now can be considered as a faulted assumption. Approx. 67% of the budget was in direct support of TG, TA and TV research focusing on RRDP problems. Thirty - three % was directed to institutional development support (6% training, 14% commodities, and 6% buildings). The assumption was that the limiting factor was funds for adapted research and that the system was in place to conduct research. It is now clear that the system needs constant support to maintain its ability to conduct quality research.

TABLE 1. USAID-RRDP BUDGET

1)

Cycle I ITEM	Research Component budget (U$000)		
	(L)	(G)	
GIA	52	353	
Training	-	85	PCARRD has
Commodities	-	366	committed or
Infrastructure	34	40	reprogrammed
Tech. Assistance	-	240	all Cycle I funds.
	86	1084	

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2)

Cycle II ITEM	Budget* (G) (U$000)	Uncommitted
GIA	1,504	250 (as of 9/89)
Training	68	0 (as of 9/89)
Commodities	72	0 (all AID approved)
Infrastructure	103	0 (4 building)
	1,747	

*Amendment signed mid 1988, only had 6 months to commit.

3) DA/DENR being obligated to PCARRD in 1989.

ITEM	Budget ($000)	
GIA	479	- unearmarked
Training	60	- "
Commodities	62	- PCARRD computers
Infrastructure	33	- small proj. buildings
	634	

4) LOP Budget (both L & G) U$000

ITEM	Budget	Percent
GIA	2,388	67
Training	213	6
Commodities	500	14
Infrastructure	210	6
Tech. Assistance	240	7
Total	3,551	100.0

DISTRIBUTION OF PARTICIPANTS FUNDED THROUGH THE RAINFED RESOURCES DEVELOPMENT PROJECT (PCARRD)
(as of March 1989)

REGION	DEGREE			NONDEGREE		
	INCOUNTRY		SUBTOTAL	INCOUNTRY	OVERSEAS	SUBTOTAL
	MS	PhD				
I				61	1	62
II	3	2	5	19		19
III	6	1	7	39		39
IV	5	3	8	114	17	131
V	1		1	34	1	35
VI	1		1	26		26
VII			0	21		21
VIIII	2	1	3	64	1	65
IX			0	19		19
X			0	36	1	36
XI			0	27	1	27
XII	1		2	36		37
NCR	1		1	68		69
TOTAL	20		28	564	22	586

Distribution of On-going GIA Projects by sector and agency under the RRDP, 1988

ITEM	NUMBER
A. **DISTRIBUTION BY SECTOR:**	
FARMING SYSTEM	36
COSTAL ZONE MANAGEMENT	13
AGROFORESTRY	18
SOCIO-ECONOMICS	11
TOTAL	78
B. **DISTRIBUTION BY AGENCY**	
DEPARTMENT OF AGRICULTURE	33
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES	16
STATES COLLEGES AND UNIVERSITIES	27
DOST	2
	78

Completed RRDP GIA Projects (1985-1988).

SECTOR	1985	1986	1987	1988	TOTAL
FARMING SYSTEMS	-	2	11	6	19
FISHERIES	1	2	2	7	12
AGROFORESTRY	1	1	3	4	9
SOCIO-ECONOMICS	-	9	1	2	12
TOTAL	2	14	17	19	52

STATUS OF INFRASTRUCTURE PROJECTS
RAINFED RESOURCES DEVELOPMENT PROJECTS
AS OF MARCH 21, 1989

PROGRAM YEAR	PROJECT TITLE LOCATION	TOTAL PROJECT	FUND SOURCE: USAID LOAN	GOP	USAID GRANT	REMARKS
1986	Multi-purpose Reasearch Bldg. RIARS, Bacnotan, La Union Region I	1,098,318.48**	X			Fuctional, turn-over and accepted
1987	Seed Storage Building BPI-VES, Hamungaya, Jaro, Iloilo, Region IV	344,082.24**		X		Functional, turn-over and accepted
	Soil/Sedd Laboratory Building DENR, Sumpong, Malaybay Bukidnon, Region X	548,370.38**				Functional, turn-over and accepted
	CSSAC, Pili, Camarines Sur Region IV	50,000.00**				On-going
	Semen Labotory Bldg. DA, STa. Barbara Pangasinan Region I	50,000.00**		X		On-going
	Crop Research Laboratory Bldg. PSPC, Mambusao, Capiz, Region IV	997,581.00*		X		On-going
	Soil/Seed/Water/Lab. Bldg DENR, Tacloban City (Leyte) Region VIII	483,421.75**		X		On-going

PROGRAM YEAR	PROJECT TITLE LOCATION	TOTAL PROJECT COST	FUND SOURCE USAID LOAN	GOP	USAID GRANT	REMARKS
1988	Soil/Seed/Water Laboratory Building for:					
	- DENR, Nabunturan, Davao Region XI	450,000.00**			X	Revised Plans and technical specification submitted to USAID for review and approval
	- DENR, Legaspi City Region V	470,000.00**			X	Plans and technical specification approved by USAID
	- DENR, Baguio City Region I	700,000.00**			X	Revived plans and technical specification submitted to USAID for review
1989	Information Center Building PCARRD, Economic Garden, Los Banos, Laguna Region IV	500,000.00**			X	For design (Architectural and Engineering)

* Construction cost plus architectural and engineering services fee
** Construction cost
*** Budgetary cost

IV. ACCOMPLISHMENTS

A. General Statement

The accomplishments of the research component are measured by two basic activities, the strengthening of the research network and by the quality and quantity of the research output from TG, TA, and TV trials. The responsibility for generating and transferring technology is the entire National Research and Development Network (NRDN) composed of PCARRD, DA-BAR, DENR-ERDB, and UPLB at the national level and the total regional consortia network including the extension PTVTs.

The accomplishments are a reflection of the ability of the system to identify constraints in existing farmer technology, to design trials which will improve the technology, to determine whether the technology is adopted to a specific location and then to package this technology for farmer use. As a general rule the State Colleges and Universities are involved in TG and TA. The DA-RIARS are DENR-ERDB are involved in TA, TV research.

Most TG and TA trials are conducted for a minimum of three years. Therefore there is a time span of from 3 to 5 years before technology proceeds thru the research process to the farmers. For variatal improvement, the time usually is seven years before new variety seed is available.

In 1988 alone, there were 78 RRDP funded ongoing GIA projects. No effort will be made to attempt to pass judgment on any of these projects but rather to select a few technologies in the areas of (1) coastal zone management, and (2) FSR/AF. The beneficiaries are in similar locations, need similar technology and have adopted the same technology which makes FS & AF barely indistinguishable.

B. Farming Systems and Agroforestry

DA-FS and DENR-AF have evolved similar development implementation strategies. Development site include slopes that are greater and less than 18% for both agencies. Neither agency is attempting to offer

farmers a total package of practices but rather are encouraging the farmers to select from a shelf of technologies.

In order to increase the focus in Cycle II, six definite program areas for research were selected. These are:

Program 1: Development/improvement and evaluation of varieties/breeds/species for specific needs and environments in rainfed areas.

Program 2: Improved production through resource assessment and management.

Program 3: Technology Adaptation trials in rainfed and coastal areas for upland rice, corn, legumes and other crops, oysters, mussels and seaweeds.

Program 4: Technology Verification trials in rainfed areas involving upland rice, corn, legumes and livestock.

Program 5: Improved Processing and utilization of available resources.

Program 6: Assessment and improvement of support services for the development of rainfed areas.

Accomplishment of GIA; a small selection of promising technologies.

1) Coconut + Pineapple, this technology is very successful, 30,000+ slips released in Albay.

2) Coconut + Coffee, in Albay only,over 80,000 seedlings released with 200,000 in nurseries.

3) Wet method of coconut oil extraction; being piloted; greater extraction rate.

4) Upland rice: UPL RI-7 & C22 where grown in complete package have increased HH income increase from ₱500 to ₱3000 on average size farm.

5) Maize: Yellow IPB #1; 125 farmers in the Mt. Masaraga AF Site are contouring their land on an average slope of 30%, using fertilizer to increase yield from less than 1 mt/ha to 2 mt/ha.

Advanced lines of white corn at VISCA have shown more yield potential but unfortunately has disease resistance than traditional lines. Work continues.

6) At VISCA, drought resistance differences in sweet potatoes and cassava have been found and research is continuing.

7) Organo-chemical fertilizer trials for seedling establishment has resulted in material being adopted by DENR. Research on locally available low cost soil amendment has increased growth significantly.

8) Soil and water stabilization trials to determine efficiency in reducing erosion has began at multi-sites.

9) Caraboa upgrading with imported Murrah by AI. The procedure became possible after basic research in conception.

10) Eucheuma farming project has proven that the technology can be extended to Region I. DA-BFAR is extending the technology using the project as a source of seed stock.

C. Fisheries and Coastal Zone Management

Priority areas for Cycle I were chosen based on a poverty survey conducted by USAID. The coastal zone was given a high priority both for the poverty of its fisherman families and the lack of technology generation to solve its problems. USAID, when redesigning RRDP, decided to minimize efforts in fisheries and coastal zone management as outlined in JPIL-11. This was emphasized when USAID informed PCARRD a they would not fund the U.P. Marine Science Research Building at Bolinao. USAID had approved the building plans in 1986. The GOP which includes PCARRD, and the DA, consider the coastal zone a very high priority.

RRDP funded research in oysters, mussels, red tide, reef design, and sea weed, have all resulted in technologies which are viable and which have been adopted by coastal zone inhabitants.

V. SOCIO-ECONOMIC STUDIES

There have been 130 research projects completed and ongoing funded by the RRDP. Of these 23 or 18 percent are classified as socio-economic. Yet the majority of these projects have been of the benchmark, appraisal variety. There is a noticeable lack of up-to-date economic and marketing data associated with the RRDP. Therefore it is advised that the following types of studies be initiated.

1) Marketing studies as part of the technology testing process. When a technology is identified, the extent of the market will be known and the area to be developed without adversely affecting the market under a specific commodity can be calculated.

2) Analysis of farmer adoption. Why do some farmers not adopt a seemingly adaptive, economically superior technology when it is offered?

3) Cost benefit of new technology. Economic benefit of adopting should be available to help farmer in his choices and as feed back to researcher to determine second generation limiting factors.

VI. RESPONSIVENESS

A. The Problem

The responsiveness of the NARS has been a source of criticism since there was a NARS. The criticism in the 1960's was that it was not responsive to national goals and that it was not coordinated. There was agreement that a national coordinating body was needed. PCAR was founded in 1972 and had both DA, DENR, NEDA on its GC to guarantee that it was responsive to line agency concerns.

Since the late 70's PCARRD has been involved with strengthening the regional consortia; SCU, DA, DENR, BFAR, etc.

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Since 1982 -- DA and DENR have been going through the process of regionalization.

Under the RRDP, research was given funds to support the development efforts of DA/DENR. DA contends that the regional consortia/RIARS selected research activities do not match the site technology requirements.

The problem lies in the long term nature of research and the inability of the TG, TA, TV to supply fast answers. The present system works to insure site specific relevant technology is produced. It would not help to bypass the RIARS/consortia system and contact directly with regional SCU for research trials. What is needed is a fast response mechanism to find available technology and to package it for the local environment.

B. Fast Problem Identification

PCARRD has a fast response mechanism to send expert technical assistance to GOP Researchers requesting identification of field problems and to recommend possible solutions. PCARRD has identified commodities teams of up to 10 members (breeders, pathologists, entomologists, agronomists, economists, farmers) that can be contacted and sent to a DENR/DA problem site. The team would identify the problem and either find a technology that is available or design a quick response solution.

It is obvious that DA/DENR field staff are not aware of this service or do not know how to contact PCARRD, or for reasons unstated are reluctant to request assistance from PCARRD.

* The system should work as follows:

When a regional problem is found, the researcher should contact the Coordinator of the Regional consortia. The consortia has commodity teams and a profile of all existing technology in the region.

A consortia team visits the site, determines the cause of the problem and searches through the profile for a recommendation. Should more help be needed the regional consortia then contacts the PCARRD Office of Technology Development and Regional Coordination.

This Office can select among 31 commodity teams to investigate the site problem. The breakdown of the teams are:

Socio Economic	-	2
Crops	-	12
FS and Soil & Water	-	4
Forestry	-	7
Livestock	-	6
TOTAL		31

The value of the system is at least partially based on the speed and soundness of its response. And the response is dependent on the strength of the regional consortia. PCARRD will be releasing a "Research Management Manual" in July 1989 to the regions which will explain the response procedures. It will also describe the research under, and the procedures for access to, the 10 percent of total PCARRD budget for fast response of GIA.

VII. INSTITUTIONAL DEVELOPMENT

A. Manpower Development

PCARRD-RRDP has provided funds for 20 incountry MS and 8 PhD participants for the NRDN. This is not sufficient to maintain the competence of the 2324 full time equivalent (FTE) agricultural research staff in the NRDN. The breakdown is as follows:

FTE Research Staff

DA	-	1256 (56%)	] 78%
DENR	-	553 (24%)	
SCU	-	308 (Teaching reduces FTE)	
DOST	-	207	
TOTAL	-	2324	

Non-degree training at workshops and special training sessions for 586 agricultural and biological scientist was accomplished. This amount of training in a five year period is also insufficient when one considers the need just for the 14,000 agricultural extension staff. The limitation of training has been the availability of funds. Refer to table 1.

PCARRD's most important responsibilities are to assist in formulating National Research priorities, in approving research proposals, in evaluation ongoing research, and in institutional development. In order to perform these tasks to the satisfaction of the research community, senior PCARRD staff must be regarded by their peers as the best up to date choices in their respective disciplines. Therefore all senior staff should either periodically return to active research or to a research sabbatical for at least one year in seven. There should also be influxes of DA, DENR, and SCU staff rotated into PCARRD positions to keep PCARRD sensitive to developmental concerns.

B. Facilities

USAID grant funds were used to build à multipurpose research laboratory for Regional I RIARS in Cycle I. This building has been turned over to the DA and is being used satisfactorily. In cycle II, US grant funds will build three soil/seed/water labs for DENR in region I, V, and IX plus upgrade the Information Center at PCARRD. All building plans are progressing satisfactorily. Six building are being constructed using GOP-RRDP funds. Refer to table 1.

C. Commodities

Progress in ordering, delivery, and installation of equipment has been less than satisfactory. The history of the problems and attempts at resolution are well documented with both USAID and PCARRD. The team is satisfied that efforts are being made to resolve the problems as they arise. Fortunately, commodity purchase was a very small element in the RRDP - Research.

D. Publications

Each year, RRDP supports the publication of relevant material in the PCARRD Technology Services, Philippine Recommends, Book Series, Technoguide, Primer, and Proceedings valued at about ₱400,000.

VIII. RECOMMENDATIONS

A. PCARRD - MISD

Since 1988 the RRDP has funded the pilot application in regions 5, and 8 of the Agricultural and Resources Regional Technology Information Systems (ARRTIS) for a cost of P186,000 or U$9,300.

This system monitors technology flow and develops a data base on all research projects. This division has two additional computer based information systems; the Research Information Monitoring System (RIMS) and the Research Information Storage and Retrival System (RETRES).

It is recommended that funds are made available to:

- extend the ARRTIS system to other regions

- reactivate the proposal entitled "Establishment of Soils Data Base, Info, Storage, and Retrieval System." Preceding this activity would be agreement and cooperation with DA-BS and staff training in UH with IBSNAT staff on Data Base Management of Soils.

- Training of selected PCARRD, DA-BS, Pagasa, Consortia, and DENR staff at the University of Hawaii or at selected IBSNAT cooperator organizations on information systems, crop modeling, software packages, and expert systems.

B. Farm Survey

That a survey be carried out to determine why the SALT model and the World Neighbors model of sloping land stability are not adopted more widely by farmers who are introduced to the models.

C. Strengthen NRDN

That funds be made available to PCARRD to strengthen all levels of the National Research and Development Network (NRDN). This includes all the regional consortia members. Strengthening includes both degree and non-degree training at all levels and repair and maintenance of stations and equipments.

D. Permanent Sites

That permanent experimental/training demonstration sites be established on farmers land in each region similar to the Cavite pineapple/coconut sites and a well managed SALT site. These were cited as having a profound effects on farmers.

E. Research Agenda

That the following research activities be funded that have relevance to RRDP and that are under funded now or will be because of cessation of donor funding:

- The National Cooperative Testing Program (NCTP) and the crop breeding program at IPB will lose their ASSP funding on 12/89. RRDP is funding four crop breeding project at IPB including projects on vegetable improvement and drought and salt stress. PCARRD has included the NCTP in its submission to Finance but at a much reduced level. These two programs need donor funding.

- Pasture improvement research needs more support under both shade and open environment. Technology is needed for both grazing and cut and carry

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conditions. Research is needed on grasses, ground covers perennial and combinations. Goat trials in the Bicol show feed to be the limiting factor. Work at CIAT should be factored in.

- At Mt. Masaraga Agroforestry site, maize is the main crop on average slopes of 30 percent. Project staff are recommending fertilizer rates of 74-28-28 without knowing why this rate and ratio were used. A simple fertilizer trial is needed at site to determine correct ratio of N-P-K.

- The benchmark soils research sites in the Bicol are no longer fully utilized by CSSAC because of funding limitations. These sites have been completely characterized by the SMSS project and should be used as a permanent out station for CSSAC for agronomic studies.

F. THE TA, TV, BPPP System

There are three types of regional DA research trials conducted off station; the Technology Adoption (TA) trials which are component testing trials, the Technology Verification (TV) trials which combine the best component to compare with the farmers practice, and the Barangay Pilot Program Projects (BPPP). All of this activity is in response to the notion that the yield of crops and the response to cultural practices are very site specific which may not be true.

It is recommended that trials be conducted to determine the parameters of the technology adoption within a region to warrant these trials. If the varieties prove to be widely adopted, then the TA trials could be concentrated at the RIARS stations and fewer on farm sites. Then the TA trials could be more intensely managed by RIARS research staff with quality results. The TV and BPPP trials could be merged and handled by better trained extension workers. All TG and TA trials would need to comply with the ARRTIS data base system.