



**RAINFED RESOURCES DEVELOPMENT
PROGRAM ASSISTANCE STRATEGY OUTLINE**

**USAID/PHILIPPINES
Office of Rural and Agricultural Development**

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**(Background Planning Paper and Annex B to Rainfed
Resources Development Project Design Package)**

RAINFED RESOURCES DEVELOPMENT PROGRAM

ASSISTANCE STRATEGY OUTLINE

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RAINFED RESOURCES DEVELOPMENT PROGRAM
ASSISTANCE STRATEGY OUTLINE

I. INTRODUCTION

Over the past three years, USAID/Manila has developed a strategy for assistance to Philippine development based on an evolving understanding of the debilitating cycle of rural poverty. As articulated in the USAID Country Development Strategy Statement (CDSS) for 1982 and 1983, the departure point has been the identification of the major rural subgroups within the low-income stratum of Philippine society. This analysis identified four rural groups that together account for a substantial portion of the rural poor: the small-scale or artisanal fishermen; the farmers in low-lying, unirrigated areas; upland farmers; and landless workers.

Based on this analysis, USAID has elaborated a strategy for assistance in the rainfed and coastal areas,^{1/} as summarized in the 1984 CDSS, drawing heavily on the experience gained in the Bicol Region and on pilot activities carried out by the Ford Foundation and other donors. The Farming Systems Development Project--Eastern Visayas, now entering implementation, is the first project to be undertaken as part of the rainfed program. Additional projects are planned to support natural resource management policy, agro-forestation and coastal zone management. This paper provides a strategic overview of the USAID Rainfed Resources Development Program, which is viewed as the major programmatic emphasis in agriculture for at least the next ten years. The paper briefly describes the four AID assistance projects to be initiated over the next two years and their role within the overall strategy.

The paper begins with a description of the assistance goals of the Rainfed Resources Development Program, as outlined in the Country Development Strategy Statement. It then discusses the special nature of the natural resource management problem, which requires government and private sector cooperation in establishing a community management focus for realizing the optimal, long-term productivity of the resource base. Following a description of the overall strategy of

^{1/} Rainfed Resources Development (RRD) is an AID assistance strategy that cuts across several GOP programs and primarily involves the Ministry of Natural Resources (MNR) and Ministry of Agriculture (MA). Individual GOP projects, assisted by AID, are expected to grow out of joint analysis and design work described in this paper.

the Rainfed Program, the paper describes the four projects to be included in Phase I of the Program. Each of these projects -- except Natural Resource Management (NRM) -- is designed to stand alone as an income- and employment-generating intervention into the rural economy. At the same time, all four projects are designed to complement and mutually reinforce each other, with NRM providing the principal mechanisms to support long-term national resource management more effectively than any of the projects considered alone. Finally, these projects are intended to lead to comprehensive USAID assistance in a Phase II program.

II. PROGRAM STRATEGY

AID's strategy for assistance to Philippine development focuses on the alleviation of rural poverty. Development of this strategy has been based on identification of the major poverty groups and the design of programs to increase their opportunities for productive employment tailored to the differing needs of these groups.

Further analysis of the nature of rural poverty has led the Mission to conclude that the welfare of rural people is greatly influenced by their access to and use of natural resources, which provide them income and employment. Furthermore, it is clear that differences in the natural resource base available to the rural poor explain in large part the differences in the survival strategies adopted by them. The dependence of the coastal people on the sea as their main source of income and employment has shaped a strategy radically different from that of the upland groups, who depend on the forest and the upland soils for their livelihood. Consequently, USAID and the GOP must build their efforts to generate productive employment around increasing the ability of the rural poor to make the most productive, yet sustained use of the rainfed and coastal resources on which they depend, whether by improving traditional systems or by introducing new alternatives.

A. Overall Program Goals

The overall goal of the USAID Rainfed Resources Development Program is to help achieve the highest sustainable productivity of the rainfed and coastal resources upon which the rural poor depend for their livelihood.

At present, the income and opportunities for employment of the target groups are constrained by their inability to combine their labor with the other resources available to them in the most productive way. While there is some scope for increasing their access to resources, particularly capital and technology,

long-term increases in their income must depend on more productive use of the resources to which they already have access. Present-use systems not only fail to achieve this goal, but in fact lead to a reduction in the resources available through improper use and environmental damage. Achievement of permanent increases in income will, therefore, require a long-term effort, to reverse the degradation now underway and establish sustainable systems of resource management.

B. Specific Program Objectives

Achievement of this admittedly ambitious goal requires that three conditions be satisfied:

1. The problem must be recognized and clearly defined at the national and local levels. The degree of recognition of the resource management problem varies from sector to sector. On the one hand, national authorities express concern over the apparently accelerating rate of deforestation and the consequent soil erosion and siltation of streams. On the other hand, the equally severe depletion of the fisheries resource is only beginning to receive the necessary degree of attention at the national level, although at the local level, government authorities and fishermen alike are concerned over the declining catch.

Achievement of a better understanding of the problem and possible means of dealing with it will require more than informal efforts to convince local and national leaders of the necessity for action. Permanent institutional mechanisms capable of a) dealing with the full range of issues in each area, b) evaluating alternative management approaches and c) articulating national policies to carry out the approaches selected, will be required. A start has been made through the establishment of the Upland Working Group in the Bureau of Forest Development, but no similar group yet exists for coastal fisheries. Various GOP initiatives are being undertaken for low-lying rainfed areas, but considerable testing and analysis are required to determine the best approaches and to modify operational policies accordingly.

2. Proven methodologies must exist for the productive management of the resources. Pilot efforts ongoing in settled forest uplands and rainfed agriculture areas have identified approaches to improved resource management in these two areas. Additional work is needed to validate the methodologies

developed and to expand the list of options. Methodologies for better management of coastal zones are still in the earliest stages of development.

Experience in the upland and low-lying rainfed areas indicates that successful methodologies must be community-based and flexible. It is not possible to develop a single technology package that will meet the needs of all rainfed farmers and which can then be "extended" to them en masse. The high degree of variation in their environments and current survival strategies makes it necessary to develop a "catalog" of effective technologies, which can be offered to the farmer for his selection. This approach requires more flexibility on the part of extension agents and others working with the farmers and, in addition, requires them to redefine their job as one of responding to the farmer's perceived needs and continual changes in markets and prices rather than providing a static set of recommendations.

Moreover, effective management of rainfed resources will require local cooperation of individual farmers and fishermen and sustained efforts over a period of several years. Neither ministry officials nor community-based programs can achieve this alone: their efforts must support and augment each other in order to mobilize the local governments and other institutions with a long-term commitment to the well-being of the community and the viability of the natural resource base.

3. There must be an institutionalized capacity to develop policies, test approaches to problem solution, and apply selected approaches on a wider scale. As the foregoing suggests, this capacity must exist at both the national and local levels. At the national level, it must extend beyond the line ministries concerned in each area to build a consensus among all concerned parties, particularly the private sector. At the local level, capacities must be developed within the concerned ministries as well as in local governments and the private sector, including private businesses, voluntary organizations, and associations of the users themselves.

Each of these three conditions may be viewed as an element of the resource management process, with progression from recognition of problems to development of solutions to implementation and finally institutionalization. Given the nature and magni-

tude of the problem under consideration, however, the process is unlikely to proceed in a smooth and orderly manner from one stage to another. Development of pilot approaches may in some cases precede a full definition of the problem, for example, and creation of an informal entity, such as the Upland Working Group, may be a necessary precondition to evaluating pilot approaches now being tested by private and government organizations.

For the strategy articulated in this paper, these conditions are considered to be program purposes for achievement of the program goal. Unlike the purposes of site specific projects, they will not be accomplished within the time-frame of the projects proposed in this document and accompanying PIDs. The four projects together constitute a first phase in the assistance program. The activities in this phase will focus on achievement of the first purpose outlined--recognition and definition of the problem--with substantial progress toward achievement of the second--development of methodologies--and at least some initial steps toward the final stage--institutionalization. The second phase, consisting of one or more projects and scheduled to begin in 1985 or 1986, will build on the progress made during Phase I. The emphasis will shift to broader implementation of methodologies developed and institutionalization of the approaches at the national and local levels.

In structuring the Phase I program, the decision was made to separate the policy-making and evaluation activities at the national level from the effort to develop workable approaches at the local level. While the activities at the national and local levels are clearly part of the same program (and the same problem), the natural resource management process is not sufficiently advanced or the roles of responsible agencies sufficiently defined for an integrated approach to work at this time. The goal of the Phase I program will be to develop understanding and to establish working relationships among the diverse actors in the system sufficient to permit a more integrated approach to natural resource management particularly at the local and regional levels in the second phase. Program activities in Phase II are therefore expected to cut across the conceptual borders established in the design of Phase I projects. This may involve transfer of a methodology in the rainfed lowlands, for example, to agro-forestation in the uplands. In particular, the Phase II program will attempt to tie

national policy-making more closely to the definition and meeting of needs at the local level. While this may require some restructuring of both GOP and USAID programs, it would be premature to speculate on the form the new structure(s) might take.

The remainder of this paper sets forth the tactics selected to implement the foregoing USAID and GOP strategy. It will discuss current Mission understanding of the natural resource management problem, setting the stage for a brief overview of how the Natural Resource Management (NRM), Farming Systems Development (FSD), Agro-Forestation Improvement (AFI) and Coastal Zone Management (CZM) assistance projects will address this problem.

III. PROGRAM TACTICS

A. Definition of the Problem

As the goal statement presented above suggests, the basic problem is that the natural resources of the rainfed and coastal areas are not being used in a way that maximizes their productivity over time or maximizes the income of the poverty groups dependent on the resources. This problem can be viewed as comprising three somewhat separate "sub-problems." First, the current pattern of use threatens the existence of the resource itself. Particularly, in the case of the sea and forest upland resources, continued exploitation using the present technologies will result in the destruction of the resource, perhaps permanently. Second, in the current use pattern, there is, at best, poor definition of who controls the resource and who has access to it. In the uplands, members of the target poverty groups have access to areas that are theoretically under the control of the government, with the result that neither has the necessary incentives to manage the resource properly. In other areas, the tenurial structure gives the farmer only partial control. With regard to fisheries, anyone with a boat has access, while no one appears to have the ability to control the use of the resource. The third related sub-problem stems from the inability of the target groups to make the most productive use of the resources, even when they have access to and control of the resources and when the existence of the resource is, temporarily at least, secure. Here the problem is generally insufficient access to the other resources necessary to exploit the natural resource, such as capital, technology, and marketing channels.

Although AID's interest in the natural resource problem lies largely in its concern with the poverty groups that

use the resources, the problem affects all levels of the society. Each level, however, views the problem in a somewhat different way. At the national policy-making level the rainfed resource problem is seen as only one of a number of related long-term resource issues, and one that is probably less critical than the need to use energy more efficiently. The rainfed and coastal resources enter the equation only as they contribute to national development over time, especially in assuring the food supply of the Philippines.

At the lower end of the organizational scale, the individual users view the resources as an immediate source of food and income for their families. Short-term concerns, including the need for a quick return to any labor or capital invested, are paramount.

If the Philippines natural resource base is to be conserved and utilized on a sustainable basis, both of these concerns with very different time frames must be resolved satisfactorily. To date the various institutions and organizations involved, whether national ministries, local governments or the private sector, have made little progress in doing so.

The national line ministries, i.e. the Ministry of Agriculture in the case of the low-lying rainfed areas, the Ministry of Natural Resources' Bureau of Forest Development (BFD) in the upland areas, and MNR's Bureau of Fisheries and Aquatic Resources (BFAR) in the coastal zones, have been most active attempting to arrange for provision of new technology, necessary inputs and markets. Local governments have thus far played a much less active role, although municipal governments are involved in near-shore marine fisheries management and in some reforestation.

On the other hand, effective private market systems to sell inputs or buy goods produced have not materialized, due partly, at least, to the remote, dispersed nature of the upland and coastal resources. User groups have not formed due in part to the heterogeneity of the rural poor.

Thus to date neither the public sector nor the private sector have been successful in simultaneously meeting the short-term survival requirements or profit motivation of the individual and the longer-term social concern of sustainability for future requirements. This failure is traceable to the underdeveloped status of the rural areas as well as to problems of human need and behavior in social interaction described below.

The underdevelopment of rural areas has resulted in insufficient availability of complementary resources. Effective use of the natural resource base requires availability of complementary inputs such as technology, capital and marketing channels. Lack of these inputs leads to underutilization of the land and water resources and, consequently, lower average productivity. In all three agro-climatic zones, (i.e., settled forest uplands, rainfed agricultural areas, and coastal zones) these complementary resources are either scarce or unavailable to the target groups. In some cases, technologies appropriate to the needs of the poorer upland farmers and fishermen have not been developed. Specific inputs such as planting materials for agro-forestation are not readily available in upland areas, or may require more capital than the upland farmers can spare.

The inadequacy of complementary resources, however, is only part of the problem. The natural resources under consideration pose special problems that will not be solved simply by making more inputs available to the target groups. Two types of social interaction problems may be identified: externalities and the "commons" problem.

1. Externalities. Wherever the use of a resource by one group has side effects which the users do not fully benefit from nor fully pay for, the resource will not be used in such a way as to maximize its productivity. This problem is most evident in the case of the upland forest areas, where the actions of the slash-and-burn farmers and loggers create situations that cause erosion and siltation problems downstream for which the upland users pay only part of the cost. If these groups engage in conservation practices, such as replanting of hill-sides or terracing, they reap only part of the benefit. In this situation, they naturally tend to underinvest in the maintenance of the resource, with the result that productivity is lower than it could be and, moreover, decreases with time. Similar externalities exist to a somewhat lesser extent in both the low-lying farming areas and the fisheries. The conversion of mangrove swamps to aquaculture and the dynamiting of coral reefs, for example, lead to long-term reductions in the breeding grounds for which the aquaculturists pay nothing and the dynamiters bear only part of the cost.
2. The "Commons" Problem. Any open-access resource, such as a fishing ground (or, in the classical case, a village commons for the grazing of cattle), has an optimal level of use beyond which total production

declines. For each user, however, the incentive is toward greater and greater use, since his income depends on his fish catch (or how many cattle he keeps on the commons), not on the level of the total catch. This problem is most severe in the fisheries, where the total effect of individual fishermen trying to do as well as they can is a reduced catch for everyone. It also affects the upland areas, however, where the increase in the number of kaingineros farming any one area leads to over-use, insufficient recovery time for the forestland, and declining productivity for all of the farmers.

All of these problems--the inadequacy of complementary resources, externalities, and the commons problems--are essentially problems of market failure. For the first problem, the market probably can be induced to function adequately, although some initial governmental assistance may be required. The externality and commons problems, however, involve structural market failure: the market will not produce the desired result without some form of intervention. The usual response to this situation, in developed and developing countries alike, has been government intervention in the market, providing subsidies to the upland farmers to induce them to plant more trees than they otherwise would, for example, or controlling access to the fisheries resource through licensing. However, alternatives to government regulation do exist for dealing with these problems. Private organizations of the fishermen, for example, may provide "self-regulation." Conversion of open upland areas to individual ownership gives the farmer the incentive to maintain the quality of his land over time.

Selection among these alternatives, whether subsidies, regulation, or encouragement of private initiative, is clearly a question to be resolved at the level of national policy. Policy makers must have enough information, however, to understand the nature of the problem, to select among alternative ways to deal with it, and to put in place the appropriate institutional structure to implement solutions. The current situation, approaching crisis in the fisheries and uplands, requires that information be made available at the national level as soon as possible in order to influence key decisions in the near future. Over the longer term, an effective information system will be needed for development and coordination of national resource management policy.

B. Overview of Rainfed Resources Program Components

The four projects supported by the USAID Rainfed Resources Assistance Program are described extensively in documents submitted with this paper or in others already submitted. The Farming Systems Development (FSD) Project - Eastern Visayas is described in the Project Paper approved in FY 81. Planning for the other three projects is somewhat less detailed at this time, since project papers are not scheduled for completion until FY 82 in the case of Natural Resources Management (NRM) and FY 83 or later in the case of Agro-Forestation Improvement (AFI) and Coastal Zone Management (CZM). Current descriptions of NRM and AFI are presented in PIDs submitted with this document. A problem statement and possible elements of a CZM Project are set forth in a concept paper appended to the NRM PID. Another concept paper being submitted with this Strategy Outline proposes an amendment to the Farming Systems Development Project - Eastern Visayas to support farming systems activities in the Bicol Region.

1. Natural Resource Management (NRM). The Natural Resource Management Project will provide the vital, overarching connection between the three site-specific projects operating at the local level and the policy-making process at the national level. It will assist the GOP to establish informal working groups in each of the line agencies involved in the site-specific projects. These working groups will monitor and evaluate local pilot activities (public and private sector) and identify the changes needed in national policies and operational procedures of concerned agencies to carry out such programs on a larger scale. NRM will support design and development of expanded national and regional programs suitable for external donor assistance through a program of research to determine the most appropriate approaches to natural resource problems and to develop improved technologies for later on-site testing.

The three field projects with multiple, site-specific implementation will generate extensive information on the nature and extent of the problems, possible approaches for dealing with them, and alternative institutional structures for implementation. In order to ensure that the information thus obtained, itself a scarce resource, is effectively utilized, it will be necessary to organize national-level monitoring and evaluation of GOP, external donor supported, and private sector project activities. If, instead, the increased understanding remains

isolated in the line agencies, and other counterpart organizations or entities in individual projects, it is unlikely that the most effective Phase II program could be developed. None of the individual agencies acting alone is likely to be able to carry out the critical functions of synthesizing the results from the various programs, modifying national resource use policy, and planning future actions to improve resource management. These functions, vital to the success of the Rainfed Resources Development Program, will be assisted through the NRM Project.

2. Farming Systems Development--Eastern Visayas and Bicol. The Farming Systems Development (FSD) Project will work with the small farmers in low-lying and upland rainfed areas to develop more productive farming systems. Although farming systems is not a new concept in the Philippines (and in fact to some extent originated here in the work at IRRI and UPLB), programs to date have focused more on single crops or on a multiple cash-crop system, primarily in irrigated and low-lying rainfed areas. The on-going FSD-Eastern Visayas component departs from previous project approaches by taking a broader view of the farm system and individual farm enterprises. The project is involving farmers located in a range of agro-climatic zones in Region VIII to gain an understanding of the total pattern of farm family resource use, including how these resources are used to grow commercial crops, cultivate backyard gardens, produce livestock, market produce and also earn income from non-farm enterprises or employment. It will then identify and test possible improvements in the system. Unlike more traditional programs, it will work directly with the farmers on their own fields and homelots. While such close involvement of the farmers is a central element in the theory of farming systems research, projects have in practice tended to follow a top-down strategy and not include farmers on the research team. At the institutional level, the project will depart as well from the model developed in other farming systems projects to date. The Ministry of Agriculture has adopted a policy of regionalization, combining previously separate bureaus under the control of the MA Regional Director. The project will support this policy, which is well advanced in Region VIII, by working through the regional office. In addition, FSD-Eastern Visayas will bring the regional agricultural college, VISCA¹, into direct involvement in project implementation, strengthening the link between the college and ministry staff at the local level.

¹/ Visayas State College of Agriculture.

Although some regions have a single strong agricultural university such as VISCA, many other regions do not. USAID/Manila, based on a GOP request proposes to amend FSD-Eastern Visayas to expand its scope to a second region, Region V, in order to test other institutional approaches and also to do the required site-specific farming systems research, using a consortium arrangement among several smaller colleges. The broadened Farming Systems Development Project will thus be able to generate information on both specific technologies and workable institutional approaches to direct farmer involvement in resource management. This project output provides critical support to the achievement of the RRD program purposes outlined above. USAID will also be monitoring the IBRD-assisted KABSACA project in Region VI, PADAP activities in Zamboanga Del Sur and the IBRD Land Development Project for lessons applicable to AID-assisted farming systems activities in Regions V and VIII. We expect many of the site-specific farming systems technologies to be adapted and disseminated through the improved regional research network assisted by the World Bank's Agricultural Support Services Project.

3. Agro-Forestation Improvement (AFI). The AFI Project will be community-based and work directly with upland farmers to develop pilot, multiple land-use management systems that serve the joint purposes of increased productivity and income for this target group, as well as improved watershed management to achieve ecological stability. The project will build on pilot efforts in the Bicol (funded in part by AID) and Antique (funded in part by Ford Foundation grants) and emerging social forestry initiatives. Like the Farming Systems Development Project, AFI will not attempt to develop a single, universally acceptable technical package, but will instead identify workable elements of a total upland management system. The pilot activities have begun this process, testing a number of promising approaches including such things as construction of semi-permanent terraces, replanting of deforested areas with productive trees with inter-cropping, and establishment of local woodlot and fruit-tree nurseries. Initial projects have also explored approaches for providing incentives to bring about investment decisions by individuals more consistent with longer-term social concerns. Approaches tried to date have ranged from subsidies for family labor used for long-term projects to the loan of tools and the provision of seedlings and other planting materials directly to cooperating farmers to encourage active participation. A

variety of institutional strategies are being tried for organizing necessary support for farmer-cooperators. The primary outputs of AFI will be a better understanding of how to address the disincentives to adoption of behavior necessary to accomplish sustainable resource use as well as specific technologies and institutions to increase the productivity of upland areas. The lead implementing agency will be the Ministry of Natural Resources and within the Ministry, principally the Bureau of Forestry Development. The Project will be designed to mobilize farmers' organizations and local government authorities, who must have a long-term commitment for sustainable resources use and area development.

4. Coastal Zone Management (CZM). The resource management problem in the near-shore fisheries is technically the most challenging because of the "commons" problem created by an open-access resource. At the same time, it is the problem for which there is the least consensus on the need for action and the least experience with pilot approaches. Because of these problems, and a more varied environmental situation than in either of the other two agro-climatic areas, it will be necessary to start from a level substantially less advanced than in the Farming Systems Development and Agro-Forestation efforts. The precise mix of project components remains to be determined, but it appears that the project will center around the following two activities:
 - 1) a national survey of the current state of the fisheries and coastal resources in target areas such as Bicol and the Visayan Central Seas between Mindanao and Southern Luzon and
 - 2) a number of pilot efforts to identify workable intervention strategies for later testing on an expanded basis. These pilot efforts are expected to concentrate in one or more specific locations, including a semi-enclosed area such as a heavily fished bay. Selection of such an area, where the population of both fish and fishermen is relatively stable, will greatly facilitate monitoring of the impact on fish stocks, target group incomes and their economic and interaction behavior. Because understanding of the fisheries and coastal resource problem is still in an early stage, preliminary design efforts will be channeled through the NRM Project. Subsequently, the CZM Project will (a) assist the GOP in developing a clearer definition of the problem and a consensus on the need for action and (b) support preparation of a more comprehensive plan for action in an expanded GOP program and Phase II of the USAID Rainfed Resources Development Assistance Program.