

MINUTES OF DISCUSSIONS

ON THE
JAPANESE TECHNICAL COOPERATION PROGRAM
BETWEEN THE
JAPANESE PRELIMINARY STUDY TEAM
AND THE
AUTHORITIES CONCERNED OF THE GOVERNMENT
OF THE REPUBLIC OF THE PHILIPPINES
FOR THE PROJECT ON
ENVIRONMENTAL AND PRODUCTIVITY MANAGEMENT OF MARGINAL SOILS
IN THE PHILIPPINES

Metro Manila, August 25, 1999

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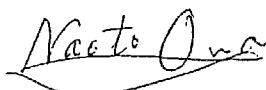
In response to the request made by the Government of the Republic of the Philippines for the Project on Environmental and Productivity Management of Marginal Soils in the Philippines (hereinafter referred to as "the Project"), the Government of Japan sent a preliminary study team (hereinafter referred to as "the Team") headed by Dr. Naoto Owa, from August 18 to August 25, 1999. The Team was sent through the Japan International Cooperation Agency (hereinafter referred to as "JICA") for the purpose of clarifying the background of the request, identifying problems for the implementation of the Project and studying the feasibility of the proposed technical cooperation program.

During its stay in the Republic of the Philippines, the Team carried out a field survey, exchanged views and had a series of discussions with the authorities of the Bureau of Soils and Water Management of the Department of Agriculture (hereinafter referred to as "BSWM").

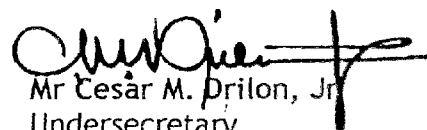
As a result of the discussions and the field survey, the Team and the BSWM agreed to recommend to their respective governments the Tentative Framework of Technical Cooperation referred to in the document attached hereto.

Metro Manila, August 25, 1999

For the Secretary:



Dr Naoto Owa
Leader
Preliminary Study Team,
Japan International Cooperation Agency
Japan



Mr Cesar M. Drilon, Jr.
Undersecretary
Department of Agriculture
Republic of the Philippines

THE ATTACHED DOCUMENT

I. Introduction

Similar to other Asian countries with increasing population and economic development, the Philippines is experiencing an increasingly serious problem of a lack of arable land. While the population of the Philippines is increasing by 2.3% each year, amount of arable land is increasing by only 0.83% each year. The lowlands are being completely utilized; therefore, the potential for expansion exists only in the highlands.

The arable land of the Philippines currently is 10.3 million hectares, which accounts for approximately 30% of its territory. Almost 90% of the arable land (about 9.3 million hectares) is considered marginal land due to low soil fertility, and soil physical limitations. In addition, these lands are besieged with high slope, as well as severe dry season. Therefore, the agricultural productivity of these marginal agricultural lands is relatively low, and it is recognized that the development of these marginal lands will be important to alleviate rural poverty, as well as to increase agricultural production.

Obviously, most low-income farmers depend on these lands for their livelihood. In addition, the development of technology suitable for increasing output in these lands and its dissemination are quite necessary due to the lack of development and technology in rural areas. The Bureau of Soils and Water Management of the Department of Agriculture is responsible for the formulation and implementation of measures designed for more effective utilization of soils, land and water resources, as well as the soil preservation in crop lands and other agricultural lands. To achieve this objective, the physical infrastructure and support facilities necessary for advanced research and development in the fields of soil and relevant soil science in the Philippines was provided by Japan's grant aid program through the establishment of the Soils Research and Development Center (hereinafter referred to as "the SRDC"). At the same time, the SRDC Phase I project aimed at improving agricultural productivity through the development of practical soil management methods; this project was carried out successfully for a period of five years starting in 1989. Moreover, the SRDC Phase II project aimed at developing the technology for problem soils including Ultisols was implemented subsequently with a five-year technical cooperation term starting in 1995.

Taking into account the background of technical cooperation (Phase I project, Phase II project and a grant aid program), in September 1998 the Republic of the Philippines made a request for the project entitled the "Environmental and Productivity Management of Marginal Soils in the Philippines". The purpose was to increase food production through the improvement of the soil and water management of marginal lands and degraded soils.

This request was made primarily to develop appropriate and sustainable soil and water management technologies for marginal and degraded soils. Secondly, to formulate and implement integrated nutrient management for marginal and degraded soils. Third, to create awareness on the capacity of improved marginal soils to sustain long-term food security. Fourth, to develop environmental and productivity information and monitoring systems. Lastly, to

upgrade laboratory capabilities/facilities in the regions/stations according to specific requirements of marginal and degraded soils. In the original request, the overall goal was to improve and sustain the strategic value of marginal and degraded soils for food security.

In response to the above-mentioned request, JICA dispatched the Team from August 18th to August 26th, 1999 for the purpose of clarifying the background of the request, identifying problems for the implementation of the Project, and studying the feasibility of the proposed technical cooperation program.

The Team investigated the background and contents of the proposed Project, and current situations and issues on soils and water management in the agricultural marginal lands in the Philippines. This was done through a series of field surveys and discussions with other Philippine officials.

The overall technical issues have been identified as: development of soil and water management technologies for techno-demo farms; and the establishment of techno-demo farms to showcase soil and water technologies. Eventually the Team confirmed that the results of the Project would improve the productivity of marginal lands and maintain environmental stability, etc., and will contribute to strengthening the technical base of farming for low-income farmers in marginal lands of the Philippines.

II. Results of the Project Cycle Management Workshop

Project planning workshop was held on August 23rd at the BSWM. Participants of the workshop were staff members of the BSWM, the Team, and Japanese experts of the SRDC phase II Project.

During the workshop, Objectives Analysis was conducted, and main framework of the Project was discussed. Despite the time constraints, intensive discussions throughout the workshop enabled the participants to reach consensus on the Project Purpose, components of the Project, main activities, responsible agencies of the activities, and necessity of technical cooperation from the Japanese side. An Objectives Tree was created as an outcome of the workshop (ANNEX 1). Based on this result, a tentative PDM of the Project was formulated (ANNEX 2). Since this tentative PDM contains only tentative consensus between the BSWM and the Team on the Narrative Summary of the Project, further effort is necessary to finalize the Narrative Summary, as well as to identify the Important Assumptions, and to set the Verifiable Indicators. Among the activities of the PDM, possibility of technical cooperation related to activities 2.3.1 (Development of artificial ground water recharge technologies), 3.2 (Agroforestry), and 5.1 (Trial of Integrated Pest Management Approach (IPM) at techno-demo sites) were not confirmed in the workshop, and continuing discussion is also necessary on this matter. Major consensus formulated by the workshop are the following:

Main purpose of the Project is verification of the technologies that were developed by the SRDC Phase II at three selected techno-demo farms. Extension and dissemination of the verified technologies will be carried out after this purpose is accomplished;

- All the activities, including generation of Soil Environment Information System and research activities, should primarily concentrate on the techno-demo farms and their surrounding areas.
- Farmers participation should be maximized for effective implementation of the verification at the techno-demo farms.
- Lead implementing agency is the BSWM, however, close coordination with Local Government Units (hereinafter referred to as "LGUs"), Northern Mindanao Integrated Agricultural Research Center (hereinafter referred to as "NOMIARC") in the Department of Agriculture Regional Field Unit X (hereinafter referred to as "DA-RFU X"), and others are critical for successful implementation of the Project.
- The Project should start with reasonable scale in terms of number of farmers who will participate as cooperator for the techno-demo farm, and so on, however, possibility of expanding the scale should be decided based on the progress of project implementation.
- For the above purpose, monitoring of the project implementation should be effectively carried out.

III. Rationale of the Project

The development of packaged technologies suitable for the pilot marginal lands and their dissemination are required to contribute to the national effort towards food security: the Agriculture Agenda of R.A. 8435 (Agriculture and Fisheries Modernization Act, hereinafter referred to as "AFMA") and Philippine Agenda 21.

Also the AFMA and Philippine Agenda 21 are targeting the alleviation of poverty in rural areas. The Project is aimed at developing agricultural marginal lands which shall be an essential component of the strategic agricultural and fisheries development zones (hereinafter referred to as "SAFDZ") targeted under AFMA of 1997.

The Philippine Government considered that the development of the packaged technologies suitable for the pilot marginal lands (taking into consideration that environmental preservation) is a high priority issue to improve the quality of rural life and secure food security.

The Project being proposed is also conceived to provide strong support to the Social Reform Agenda of the Philippine Government by seeking to improve the income and productivity of agricultural marginal lands.

The BSWM is one of the four bureaus that comprise the production group under the Department of Agriculture (E. O. No. 116, January 30, 1987). The BSWM's mission is to generate soil and water management technologies to make farming more productive, profitable, and ecologically sustainable. In addition, to study soil and water management technologies, the SRDC was established in 1991. The Japanese Government through JICA has been giving financial and technical assistance to establish the SRDC and enhance the SRDC's research capabilities, as well as the BSWM's research capabilities to implement measures for effective soil, land and water resources utilization. According to the request made by the BSWM,

in order to advance the results obtained during the Phase I and Phase II projects, and in order to maximize the use of the SRDC's research facilities, a further technical cooperation project was proposed.

According to the request made by the BSWM, the objective of agricultural development in the Philippines is "to develop soils and water management technologies capable of contributing to sustainable development." In line with the economic development policy of the Philippine Government, the BSWM is at a stage of promoting the transfer of soils and water management technologies from the current system of direct involvement of BSWM staff and other institutions such as the Agricultural Training Institute (hereinafter referred to as "ATI") to the new improved form by working side by side with farmers' groups. In the new system, the BSWM will promote more positive and more effective agricultural extension involving Local Government Units (hereinafter referred to as "LGUs"), Non-Government Organizations (hereinafter referred to as "NGOs"), and others.

The major reason for the proposal of the Philippine Government to the Japanese Government for a technical cooperation project was to strengthen both the research and institutional capabilities of the BSWM, thus supporting low-income small-scale farmers in marginal lands.

The following major constraints to the crop production in marginal agricultural areas from the technical viewpoint were found by the Team:

- (a) Steep slopes in marginal lands cause top soil loss in case of heavy rain.
- (b) The marginal lands are characterized by acid soils and low nutrient supply capacity.
- (c) The marginal agricultural lands are short of water due to their location in hills and terraces, the low water retention, and lack of rain in the dry season.

Out of the above-mentioned problems, (a) and (b) will be solved by the technologies developed through the SRDC Phase II project and/or the land resources management technologies, soil fertility improvement technologies and the preventive technologies of the soil erosion to be generated by the Project. Additionally, the problem (c) will be solved by the water resources management technologies to be newly generated by the Project.

In addition to the above-mentioned issues, the Team identified that the farmers in the marginal lands are not adequately benefiting from the BSWM due to an insufficient flow of appropriate technologies. In this context, the results of past technical cooperation programs have yet to reach an ideal level that meets the local farmers' needs.

Moreover, the farmers have no access to technologies due to a lack of necessary support of infrastructure, extension services and others. Therefore, the Project will be expected to make an important contribution for farmers in marginal lands, providing them increased access to the packaged technologies generated by the Project.

As a "center of excellence" in the Philippines and in the Asian region, it can be noted that the BSWM has a sufficient number of qualified technical staff

members, as well as well-equipped research facilities. The Team determined that Japanese technical cooperation would be effective to accelerate the development of technology based on the results obtained by past cooperation programs, and integration with agricultural research and extension activities.

The Project will be implemented under the direct supervision of the Department of the Agriculture, strengthening in-country linkages to policy makers, government departments and other research institutions, extension services and rural communities. Therefore, there is a tentative organizational arrangement according to the Project framework set up below. Needless to say, ensuring the BSWM's 'ownership' of the Project is the most important factor for implementing the Project successfully as well as securing its sustainability.

In the project design process, a more intensive and extensive review of the current local farming conditions in marginal lands is crucial before the commencement of the Project.

IV. Tentative Project Framework

The Team and the Philippine side jointly formulated the following tentative framework of the Project based on the request made by the Philippine side, taking into account the findings of the Team, in particular the results obtained by the PCM workshop as shown in Annex-1.

The framework that is shown as follows may be subject to change based on future discussions and studies.

A. NAME OF THE PROJECT

The Environmental and Productivity Management of Marginal Soils in the Philippines

B. PHILIPPINE ORGANIZATIONS CONCERNED WITH THE PROJECT

(a) Responsible public administrative organization of the Project
Department of Agriculture (hereinafter referred to as "DA")

(b) Executing organization of the Project
Bureau of Soils and Water Management (BSWM), DA

(c) Partner organization of the Project
Northern Mindanao Integrated Agricultural Research Center (NOMIARC)
NOMIARC should provide the necessary technical support for setting up the techno-demo farm in Bukidnon.

C. SITES OF THE PROJECT

(a) Main site
BSWM, DA, located in Metro Manila

(b) Sub-sites in the pilot marginal lands

1) National Soil and Water Resources Research and Development Center in

Bulacan

- 2) National Soil and Water Resources Research and Development Center in Tanay
- 3) Highland Soil and Water Resources Conservation Research and Demonstration Center in Bukidnon

The above-mentioned sub-sites in the pilot marginal lands were selected by the Japanese and Philippine sides, taking into account the results gained by past technical cooperation programs, geographical variation of marginal lands, and cooperation impact as well as the potential economic impact in the marginal lands.

(c) Techno-demo farms set up in the farmer's fields in the pilot marginal lands
Techno-demo farms will be set up in the farmer's fields in the following pilot marginal lands.

- 1) Upland marginal lands
Bulusukan, San Ildefonso, Bulacan
- 2) Hillyland marginal lands
Sampaloc, Tanay, Rizal
- 3) Highland marginal lands
Intavas, Impasug-ong, Bukidnon

The farmer's field for setting up the techno-demo farm will be selected through the careful investigation to be carried out by the respective preparatory committees to be set up in the above-mentioned pilot marginal lands.

D. TERM OF COOPERATION

Five Years

E. MASTER PLAN

(a) Objectives of the Project

1) Ultimate Goal

The soil and water conservation-based farming systems are developed for marginal lands.

2) Overall Goal

The soil and water management technologies contributing to the stable and sustainable agricultural production in the pilot marginal lands are adopted.

3) Project Purpose

The soil and water management technologies suitable for the pilot marginal lands are established.

(b) Outputs of the Project

1) The soil and water technologies for techno-demo farms are developed.

1)-1. Soil Environmental Information System (SEIS) is prototyped at the pilot marginal lands.

1)-2. Water management technologies for marginal lands are developed.

1)-3. Advanced soil conservation technologies for marginal lands are developed.

1)-4. Low cost fertilizing methods (Balanced Fertilization Strategy) are developed.

2) Soil conservation and water management technologies are verified in the techno-demo farms.

3) A system for monitoring and evaluation of the Project is established.

(c) Activities of the Project

1) Verification of soil and water conservation technologies in the techno-demo farms

1)-1. Development of soil environment information systems

1)-2. Improvement of fertility of marginal soils

1)-3. Assessment of the impact of conservation systems on soil productivity and environmental quality

1)-4. Research on water harvesting and impounding including shallow groundwater utilization and management

2) Establishment of techno-demo farms to showcase soil and water conservation technologies

2)-1. Planning for verification in the techno-demo farms.

2)-2. Implementation of field trials

2)-3. Participatory evaluation in cooperation with farmers, community members, extension officers, etc.

(D) FUNCTION OF THE PROJECT ORGANIZATIONS

1) Main site

BSWM, DA, located in Metro Manila

Role: Research and development on soil and water management technologies for the marginal lands.

2) Sub-sites for technology development for practical use in experimental fields

2)-1. National Soil and Water Resources Research and Development Center in Bulacan

Role: Development of packaged technologies suitable for upland marginal lands

2)-2. National Soil and Water Resources Research and Development Center in Tanay

Role: Development of packaged technologies suitable for hillyland marginal lands

2)-3. Highland Soil and Water Resources Conservation and Demonstration Center in Bukidnon

Role : Development of packaged technologies suitable for highland marginal lands

3) Farmer's fields for technology demonstration at pilot marginal lands

Role: Demonstration and feedback of results obtained from the main-site of soil and water management technologies through farmers' participation

3)-1. Upland marginal lands

Bulusukan, San Ildefonso, Bulacan

3)-2. Hillyland marginal lands

Sampaloc, Tanay, Rizal

3)-3. Highland marginal lands

Intavas, Impasug-ong, Malaybalay, Bukidnon

F. ORGANIZATIONAL SET-UP OF THE PROJECT

In order to implement the Project successfully and to ensure the sustainability of the Project, the Philippine side should have strong 'ownership' of the Project. Philippine participation in both the project design and implementation processes is critical to project success and impact. In short, the BSWM, as the executing organization of the Project, is responsible for the research and development of packaged technologies suitable for the pilot marginal lands and their dissemination in cooperation with LGUs, NGOs and other extension services institutions. Japanese technical cooperation will focus on technical assistance in developing the above-mentioned technologies.

Taking into consideration the importance of Philippine 'ownership' of the Project and smoother implementation of the Project, the following organizational set-up will be considered.

The BSWM should take a greater initiative in the implementation of the Project and strengthen the relationships with the local agricultural research extension institutions, particularly NOMIARC in order to promote further development of integrated agricultural technologies useful for the farmers in highland marginal lands. Also the BSWM should strengthen linkages with LGUs, NGOs, etc. for the effective and efficient dissemination of technologies to be developed. The development of soils and water management technologies suitable for marginal lands will be pursued from the viewpoint of soils and water management, soil information systems, and set-up of the trial and demonstration farms in pilot marginal lands. Therefore, the BSWM should be strengthened technically and institutionally.

The Tentative Project organizational Chart is shown in ANNEX 3

G. PREREQUISITES FOR THE TECHNICAL COOPERATION PROGRAM

The Project will be implemented under strong Philippine 'ownership' of the Project, and the Japanese side will assist the BSWM with limited cooperation resources in accordance with the framework of the Project. In this context, the following measures are to be taken by the Philippine side as prerequisites for the technical cooperation program:

- (a) Project Framework will be formulated based on mutual agreement
- (b) Measures to be taken by the Philippine side will be fulfilled by the BSWM
 - 1) Assign personnel for managerial, technical and clerical staff with suitable qualifications in the fields of soil and land evaluation, soil fertility management, soil conservation, water resource management, and related specialization on a full-time/part-time basis for the implementation of the Project;
 - 2) Allocate enough funding to carry out the Project activities described in the tentative framework of the Project;
 - 3) Provide the buildings, facilities and office space for the Project; and
 - 4) Coordinate and harmonize with related institutions.

H. OUTLINE OF JAPANESE ASSISTANCE

"Project-type Technical Cooperation" is JICA's most comprehensive scheme to assist a certain development project at the national level. Generally speaking, under the scheme, the Government of Japan will provide, through JICA, the services of Japanese experts, technical training of Philippine personnel in Japan, equipment, and other necessary support. Japanese cooperation under the Project-type technical cooperation scheme will be possible if the framework for the Project (including all the elements discussed above) is refined and found to be effective through the coming supplementary study.

I. IMPLEMENTATION SYSTEM OF THE BSWM FOR THE PROJECT

Based on the results obtained through a series of discussions with officials of the BSWM and field survey of the pilot marginal lands, the Team confirmed the necessity of JICA's technical cooperation and the feasibility of the Project. The Team also considered the BSWM's implementation system for the Project (meaning both "hard and soft" infrastructure: facilities and equipment being the "hard" aspect; and policy, budgeting management, and personnel being the "soft" aspect).

In order to develop the packaged technologies suitable for the respective pilot marginal lands, both sides considered that technical cooperation in the field of water resources management is indispensable for the completion of the packaged technologies. The Team expressed that the development of water management technologies for the pilot marginal lands should be carried out under the initiative of the BSWM in cooperation with the Japanese side because of the lack of cooperation experience on the part of the Japanese side in the Philippines.

It was agreed by both sides that a more detailed survey on the BSWM's implementation system for the Project would be carried out by the coming supplementary study.

J. MEASURES TO BE TAKEN BY BOTH THE JAPANESE AND PHILIPPINE SIDES

The Team explained the detailed scheme of JICA's Project-type Technical Cooperation Program to the Philippine side (mainly BSWM staff members) in order to deepen the understanding of the Philippine side for the above-mentioned modality of the technical cooperation program.

The Philippine side is enthusiastic to take its own responsibilities to secure the sustainability of the Project activities, as well as to ensure smooth implementation of the Project.

The Team and the Philippine side confirmed the following measures to be taken by both the Japanese and Philippine sides in implementing project-type technical cooperation for the effective and efficient implementation of the Project :

J-1. MEASURES TO BE TAKEN BY THE JAPANESE SIDE

(a) Dispatch of Japanese Experts

Japanese experts in the following fields will be dispatched:

1) Long-Term Experts

- a. Team Leader
- b. Coordinator
- c. Long-term experts in the fields of Soil and Land Evaluation, Soil Fertility Management, Soil Conservation, and Water Resources Management

2) Short-Term Experts

Short-term experts may be dispatched, when necessity arises, for the smooth implementation of the Project.

(b) Acceptance of Counterpart Personnel in Japan for training

Acceptance of counterpart personnel to the Japanese experts for training in Japan shall be arranged during the cooperation period.

(c) Provision of Machinery and Equipment

Necessary machinery, equipment and other materials (hereinafter referred to as "the Equipment") for the implementation of the Project will be provided within budgetary limitations.

J-2. MEASURES TO BE TAKEN BY THE PHILIPPINE SIDE

(a) Provision of the buildings and facilities necessary for the implementation of the Project.

- 1) Land, buildings and facilities needed for the implementation of the Project
- 2) Rooms and space necessary for installation and storage of the equipment
- 3) Office space and necessary facilities for the Japanese Team Leader, Coordinator and other Japanese Experts
- 4) Other facilities mutually agreed upon, if necessary

(b) Assignment of the necessary number of full-time/part-time counterpart personnel to work with the Japanese long-term experts, and administrative and technical staff to support the activities of the Project.

(c) Sound budgetary allocation for the smooth commencement and successful implementation of the Project.

- 1) Expenses necessary for domestic transportation of the Equipment in the Republic of the Philippines, as well as for its installation, operation and maintenance.
- 2) Customs, duties, internal taxes and other charges imposed on the Equipment in the Republic of the Philippines

- 3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment
 - 4) All operating expenses necessary for the implementation of the Project
- (d) Coordination and harmonization with related institutions

K. ADMINISTRATION OF THE PROJECT

- (a) The Secretary, Department of Agriculture, as the Head of the Project, will provide the overall direction for the administration and implementation of the Project.
- (b) The Director of the BSWM, as the Project Director, shall bear the overall responsibility for the administration and implementation of the Project with the support of the Assistant Director as Deputy Project Director.
- (c) A Senior Staff of the BSWM duly designated by the Project Director as the Project Manager, will be responsible for the managerial and technical matters of the Project.

L. JOINT COORDINATING COMMITTEE

(a) Function

The joint coordinating committee composed of those members as listed in (2) below will meet at least once a year and whenever the need arises to:

- 1) formulate the Annual Work Plan under the framework of the Record of Discussions,
- 2) review the overall progress of the technical cooperation program as well as achievement of the Annual Work Plan of the Project,
- 3) review those measures taken by the Government of Japan:
 - a. Dispatch of Japanese experts
 - b. Acceptance of Philippine counterpart personnel in Japan for training
 - c. Provision of machinery and equipment,
- 4) review those measures taken by the Government of the Republic of the Philippines:
 - a. Allocation of necessary budget (including local cost expenditures)
 - b. Allocation of necessary counterpart personnel
 - c. Utilization and administration of machinery and equipment provided by the Government of Japan,
- 5) make recommendations to the respective governments on:
 - a. Budgetary matters
 - b. Recruitment and appointment of the Philippine counterpart personnel
 - c. Selection and effective utilization of machinery and equipment
 - d. Appropriate dispatch of Japanese experts
 - e. Acceptance of Philippine counterpart personnel in Japan for training
 - f. Others.

(b) Committee Composition

- 1) Chairperson: Secretary, DA
- 2) Members:

(i) Philippine side

- a. Undersecretary for Regional Operation, Research, Training and Extension, DA
- b. Assistant Secretary for Regional Operations, DA
- c. Director, BSWM, DA
- d. Assistant Director, BSWM, DA
- e. Project Manager, EPMMA
- f. Director of Agriculture Staff, National Economic Development Authority (NEDA)
- g. Director of Project Monitoring Staff, NEDA
- h. Director, Project Development Service, DA
- i. Director, Budget Bureau "B", Department of Budget and Management (DBM)
- j. Director, Project Development and Management Staff, Department of Agrarian Reform (DAR)
- k. Representative from the Department of Environment and Natural Resources (DENR)
- l. Director, Bureau of Agricultural Research (BAR)
- m. Administrator, National Irrigation and Administration (NIA)
- n. Representative, Department of Interior and Local Government (DILG)
- o. Representative, University of the Philippines at Los Baños
- p. Regional Director, Department of Agriculture-Regional Field Unit III
- q. Regional Director, Department of Agriculture-Regional Field Unit IV
- r. Regional Director, Department of Agriculture-Regional Field Unit X

(ii) Japanese side

- a. Team Leader
- b. Coordinator
- c. Experts assigned to the Project
- d. Other Japanese experts and personnel concerned dispatched by JICA if necessary.
- e. Resident Representative of the JICA Philippine Office

Notes:

1. Officials of the Embassy of Japan may attend the Joint Coordinating Committee meeting as observers.
2. Persons who are nominated by the Chairperson may attend the Joint Coordinating Committee meeting.

V. Supplementary Study

The Team emphasizes that it is necessary to dispatch members of the Supplementary Study Team (consisting of specialists in the fields of soil and land evaluation, soil fertility management, Water resources management, and soil conservation) by late November or early December of 1999 for about a two week period for the following purposes:

- (a) define the function and the role of the respective Project organizations, and define the concrete cooperation system between the executing organizations and related organizations;
- (b) design a detailed activity plan which will be implemented at the respective Project sites;
- (c) prepare a definite plan for provision of equipment for the Project;
- (d) formulate a draft of the Tentative Schedule of implementation that is composed of an Annual Program and a Technical Cooperation Program; and
- (e) confirm the Project implementation system on the Philippine side

The schedule and composition of the Study Team will be made available by JICA in due course.

The Philippine side will prepare for the coming supplementary study by:

- (a) organizing a preparatory committee in each pilot marginal land consisting of representatives from BSWM, leader of farmers, representatives from LGUs, NGOs, and other related institutions for the preparation of demonstration activities in the pilot marginal lands,
- (b) clarifying the responsibilities of the respective persons concerned with the demonstration activities in the techno-demo farms to be set up in the marginal lands
- (c) appointing counterpart personnel corresponding to each specialist to be dispatched by JICA,
- (d) allocating the necessary budget to at least cover the traveling expenses incurred by the Philippine counterparts for the survey on pilot marginal lands.

VI. Suggestions and Comments Made by the Team

(a) The Team believes that Human Resources development is one of the cornerstones of a strong development nation. The main purpose of JICA's Technical Cooperation Program is to transfer the technology and knowledge necessary for achieving the Project purpose. In this sense, assignment of capable and enthusiastic counterpart personnel is necessary to implement the technical cooperation program smoothly and successfully, in order to accomplish the aims of the Project at an early stage and to secure the sustainability of the Project activities. Therefore, the Department of Agriculture, through the BSWM, should allocate a sufficient number of capable and enthusiastic counterpart personnel, take suitable steps to settle them into the BSWM, and retain them over the course of the Project.



(b) In order to transfer the packaged technologies to the target areas in a timely manner, the BSWM's technical and organizational capacities must be strong and efficient. The trial and demonstration of the packaged technologies to be generated by the Project will be carried out at the techno-demo farms set up at the farmer's field of the pilot marginal lands in cooperation with farmers group in order to promote effective dissemination of the technologies. The BSWM must give full attention to the following points during the cooperation term of the Project:

1) improving linkages with farmers' groups as well as relevant institutions such as NOMIARC, DAR, LGUs, DA-regional offices, NGOs, local state college and agro-industrial companies, etc. in order to ensure close functional articulation between technical development and extension.

2) until the arrival of the next Japanese study team, the BSWM should strengthen linkages with the above-mentioned institutions for enhancing the Project implementation system.

3) strengthening BSWM's research capabilities focused on the practical technologies suitable for agricultural marginal lands

(c) The Department of Agriculture through the BSWM should take the necessary measures to secure ample funding for the successful implementation of the Project in terms of travel expenses of counterpart personnel, repair works of the soil and water research station in Bukidnon, and provision of agricultural materials for the establishment and smooth operation of the techno-demo farms set up at the above-mentioned pilot marginal lands.

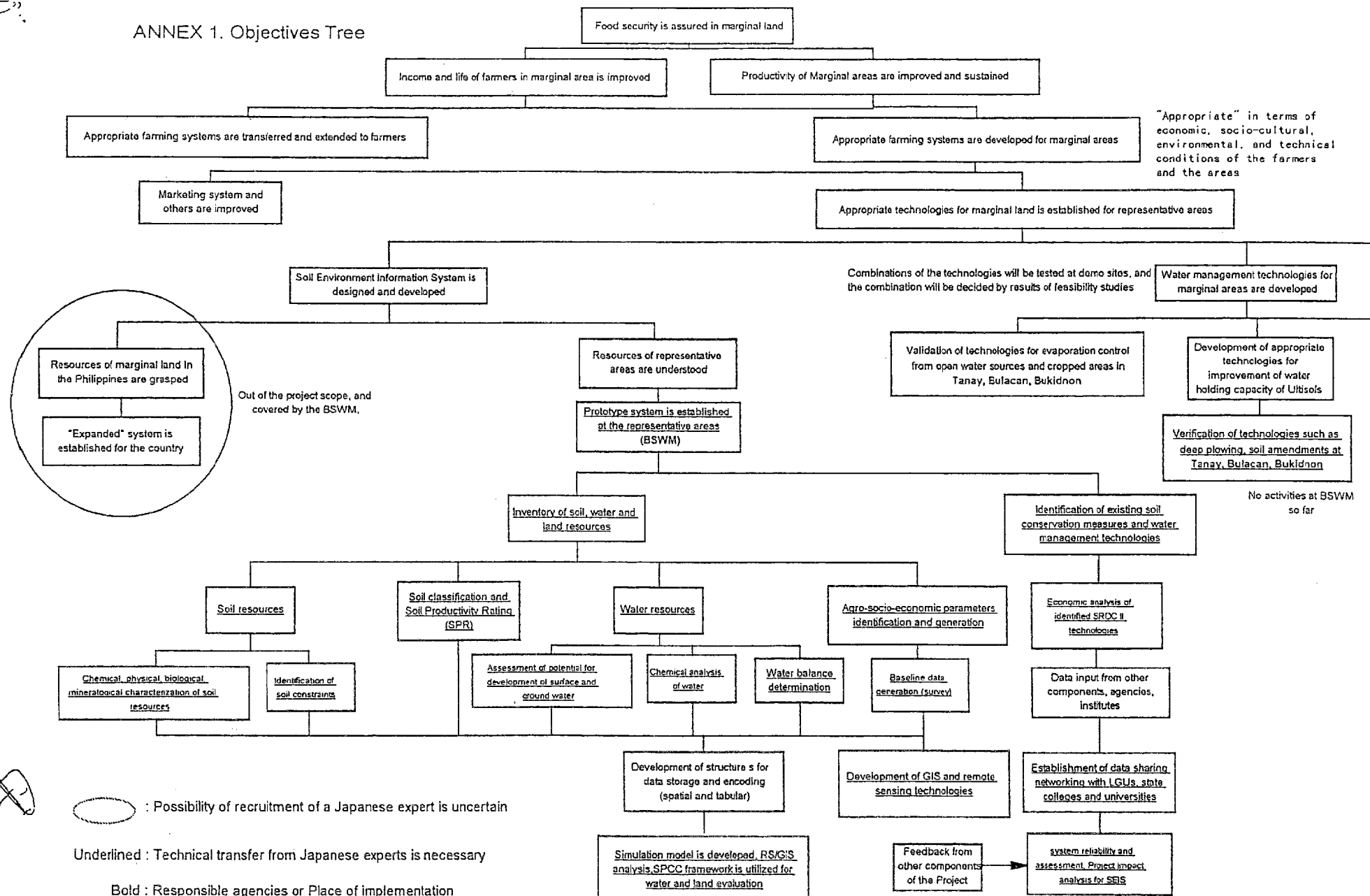
(d) Project activities will concentrate on the soil and water management of technologies which can be applied in agricultural marginal lands, mainly uplands, hillylands and highlands, taking into consideration the possible progress within the period of cooperation and the potential impact upon the production of low-income farmers in the above-mentioned marginal lands. The specific activities corresponding to those of the Project established in the Tentative Project Framework will be studied and formulated based on the local agricultural environmental characteristics, local farming systems and needs of farmers.

(e) The Team emphasizes that it will be advisable to strengthen the BSWM research linkages with the concerned agricultural research units, which will provide support to the Project. In this sense, the active participation of NOMIARC in the research and development of the packaged technologies suitable for highland marginal land and their demonstration is critical for effective and efficient implementation of the Project. Therefore, the Team proposes to set up and to strengthen a research and extension cooperation network between the BSWM and other national and local agricultural research and extension institutions such as NOMIARC, DAR, etc. for smoother implementation of the Project.

(f) The BSWM should take the initiative to establish techno-demo farms. So the Team emphasizes that the BSWM should prepare the preliminary operational plan in techno-demo farms before the arrival of supplementary study team.

(g) The BSWM should provide the farm inputs necessary for the implementation of verification activities in techno-demo farms.

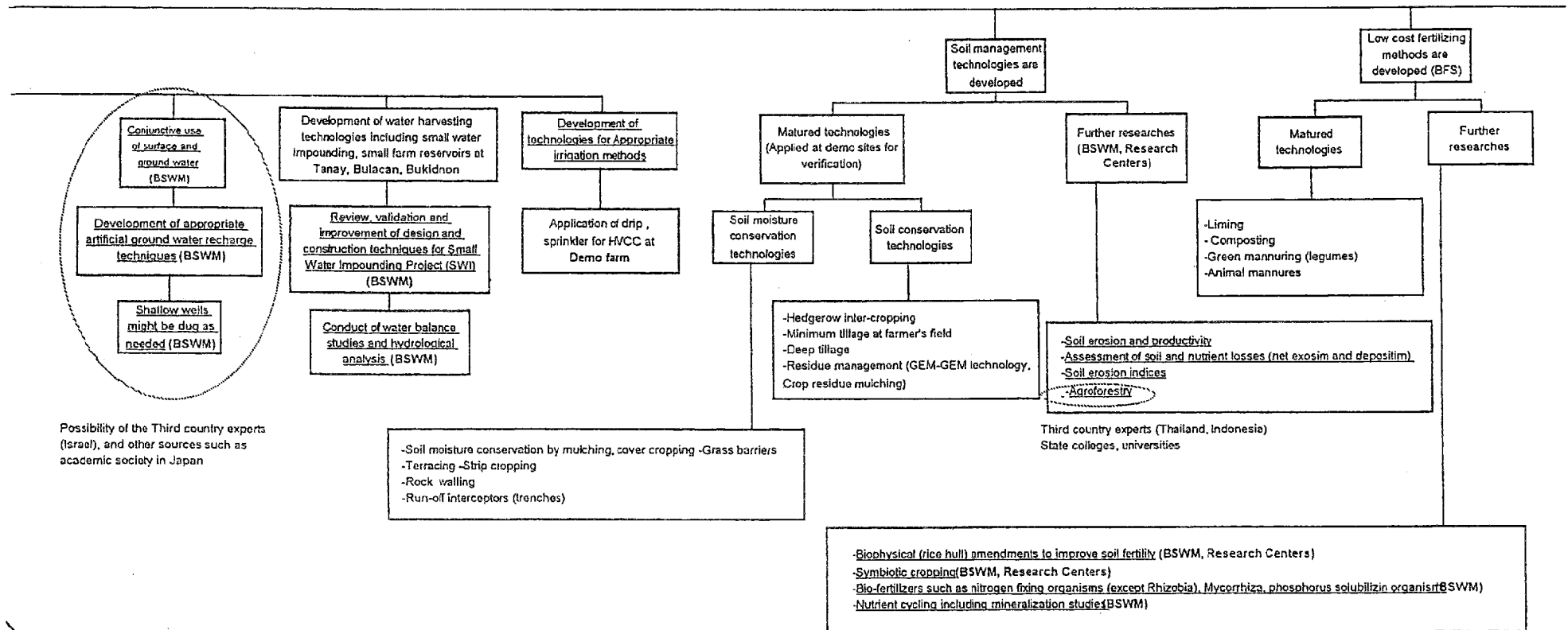
ANNEX 1. Objectives Tree

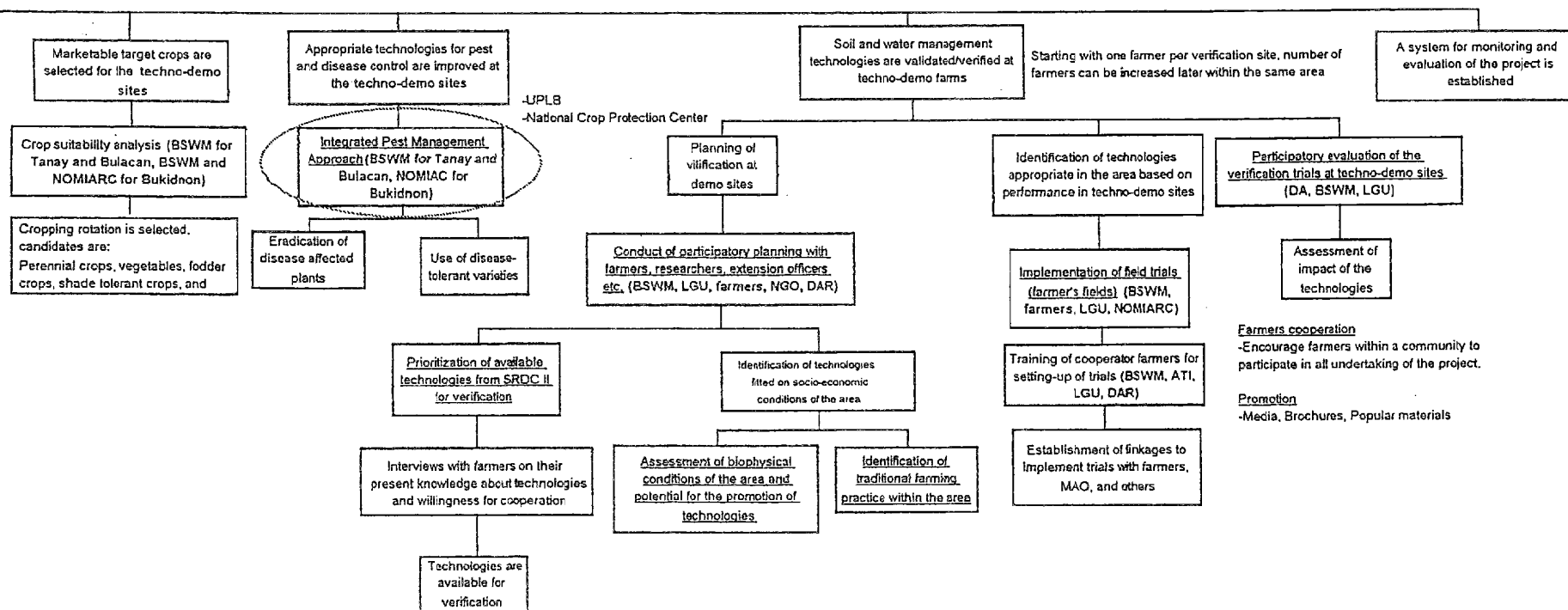


: Possibility of recruitment of a Japanese expert is uncertain

Underlined : Technical transfer from Japanese experts is necessary

Bold : Responsible agencies or Place of implementation





Farmers cooperation
-Encourage farmers within a community to participate in all undertaking of the project.

Promotion
-Media, Brochures, Popular materials

ANNEX 2. Tentative PDM of the Project

Project title: Environmental and Productivity Management of Marginal Soils in the Philippines

Target: Farmers in marginal areas (ultimate target), BSWM.

Duration: Five years.

Area: Tanay, Bulacan, Bukidnon (the representative areas), and Manila.

Date: August 23, 1999.

Narrative Summary	Verifiable Indicator	Means of verification	Important Assumption
<p>Overall Goal:</p> <p>Appropriate soil conservation and water management based farming systems are developed for marginal areas.</p>			
<p>Project Purpose:</p> <p>Appropriate (environmentally, economically, technically, and socio-culturally) technologies for soil conservation and water management at marginal lands are established for the representative areas (Bulacan as the Lowland/upland, Tanay as the Hillyland, Bukidnon as the Highland).</p>			
<p>Output:</p> <ol style="list-style-type: none"> 1. Soil Environmental Information System (SEIS) is prototyped at the pilot marginal lands. 2. Water management technologies for marginal lands are developed. 3. Advanced soil conservation and management technologies for marginal lands are developed. 4. Low cost fertilizing methods (Balanced Fertilization Strategy) are developed. 5. Soil and water management technologies are verified at the techno-demo farms. 6. A system for monitoring and evaluation of the Project is established and conducted. 			
<p>Activity:</p> <p><u>SEIS</u></p> <ol style="list-style-type: none"> 1.1 Inventory of soil, water and land resources. <ol style="list-style-type: none"> 1.1.1 Chemical, physical, biological, mineralogical characterization of soil resources. 1.1.2 Identification of soil constraints. 1.1.3 Soil classification and Soil Productivity Rating (SPR). 			

- 1.1.4 Assessment of potential for development of surface and ground water.
- 1.1.5 Chemical analysis of water.
- 1.1.6 Water balance determination.
- 1.1.7 Baseline survey on Agro-socio-economic conditions.
- 1.1.8 Identification of Agro-socio-economic parameters.
- 1.1.9 Development of structure for data storage and encoding.
- 1.1.10 Development of GIS and remote sensing technology for the soil and water resource inventory.
- 1.1.11 Development of simulation model, GIS/Remote-sensing analysis, and land evaluation technologies utilizing SPCC framework.
- 1.2 Identification of existing soil conservation measures and water management technologies.
- 1.2.1 Economic analysis of technologies developed by SRDC II.
- 1.2.2 Establishment of data sharing networking with LGUs, state colleges and universities.
- 1.2.3 Data input from other components of this project, agencies, and institutions.
- 1.3 Assessment of system reliability
- 1.4 Impact analysis on SEIS component of the Project.

Water management technologies

- 2.1 Validation of technologies for evaporation control from open water sources and cropped areas in the representative areas.
- 2.2 Development of technologies for improvement of water holding capacity of Ultisols.
- 2.2.1 Verification of technologies such as deep plowing, soil amendment at the representative areas.
- 2.3 Conjunctive use of surface and ground water
- 2.3.1 Development of artificial ground water recharge technologies (construction of shallow wells may be necessary).
- 2.4 Development of water harvesting technologies (including small water impounding and small farm reservoirs) at the representative areas.



2.4.1 Studies and analysis on water balance and hydrology at the representative areas.

2.4.2 Review and improvement of design and construction techniques of Small Water Impounding Project.

2.5 Development of irrigation methods.

2.5.1 Application trials of drip irrigation and sprinkler for high value crops at the techno-demo farms.

Advanced soil management technologies

3.1 Soil erosion and productivity

3.1.1 Assessment of soil and nutrient losses.

3.1.2 Development of soil erosion indices.

3.2 Agroforestry.

Low cost fertilizing technologies

4.1 Development of Low cost fertilizing method.

4.1 Development of soil amendment technology using biophysical (rice hull etc.) substances.

4.2 Development of symbiotic cropping technologies.

4.3 Development of bio-fertilization technologies.

4.4 Studies on nutrient cycling including mineralization process.

Pest and disease control technologies

5.1 Trial of Integrated Pest Management Approach (IPM) at techno-demo farms.

Soil and water management technologies verification

6.1 Planning for verification at techno-demo sites (Number of the techno-demo farms will be one for each representative area at the beginning of the Project. Additional sites may be selected in adjacent areas in the course of the Project).

6.1.1 Assessment of biophysical conditions of the sites.

6.1.2 Identification of traditional farming practice within the representative areas.			
6.1.3 Analysis on crop suitability and selection of cropping rotation for each techno-demo farms.			
6.1.4 Prioritization of technologies developed by SRDC project based on the socio-cultural and biophysical conditions of the sites.			
6.1.5 Organizing participatory planning with farmers, researchers, extension officers, and so on.			
6.2 Implementation of verification			
6.2.1 Establishment of linkages for implementation of verification with farmers, MAO and others.			
6.2.2 Training of cooperator farmers for field trials at the techno-demo farms.			
6.2.3 Implementation of field trials.			
6.2.4 Monitoring of field trials and information feedback for identification of necessary researches.			
6.2.5 Supplemental researches to modify the technologies.			
6.3 Evaluation of the results			
6.3.1 Participatory evaluation with the cooperator farmers, community members, extension officers, etc.			
<u>Monitoring and evaluation of the Project</u>			
7.1 Establishment of a system for monitoring and evaluation of the Project.			



Annex 3. Tentative Project Organizational Chart

