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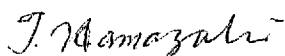
**MINUTES OF UNDERSTANDING
BETWEEN THE JAPANESE CONSULTATION TEAM
AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT
OF THE REPUBLIC OF THE PHILIPPINES
ON JAPANESE TECHNICAL COOPERATION
FOR THE PROJECT FOR THE ENVIRONMENTAL
AND PRODUCTIVITY MANAGEMENT OF MARGINAL SOILS
IN THE REPUBLIC OF THE PHILIPPINES**

The Japanese Consultation Team (hereafter referred to as “the Team”), organized by the Japan International Cooperation Agency (hereafter referred to as “JICA”) and headed by Dr. TADAO HAMAZAKI, visited the Republic of the Philippines from November 20, 2000 to November 30, 2000 for the purpose of formulating the Project Design Matrix (PDM), the detailed Tentative Schedule of Implementation (dTSI), the Plan of Operations (PO) and the Monitoring and Evaluation Plan for the Project for the Environmental and Productivity Management of Marginal Soils in the Republic of the Philippines.

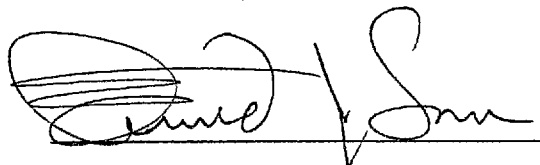
During its stay in the Republic of the Philippines, the Team exchanged views and had a series of discussions with the authorities concerned of the Government of the Republic of the Philippines in respect to various issues for sharing common understanding of the Project.

Understanding between the Team and the authorities concerned of the Government of the Republic of the Philippines are recorded as shown in the document attached hereto.

Manila, November 29, 2000



Dr. TADAO HAMAZAKI
Leader
Consultation Team
Japan International Cooperation Agency



Hon. EDMUND J. SANA
Assistant Secretary
Department of Agriculture
Republic of the Philippines

ATTACHED DOCUMENT

1. Introduction

In the Philippines, the arable land is currently 10.3 million hectares, which accounts for approximately 30% of its territory. About 9.3 million hectares is considered marginal land due to low soil fertility and land physical limitations. In addition, these lands are characterized by steep slopes and affected by severe drought during 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 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 conservation 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 (a grant aid project, Phase I project and Phase II project), in September 1998 the Republic of the Philippines made a request for the project entitled the

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"Environmental and Productivity Management of Marginal Soils in the Philippines". The purpose is 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 proposal, JICA dispatched Preliminary Study Team and Short-term Study Team to confirm needs for assistance and to discuss details of the Project. The Record of Discussions on the Project for Environmental and Productivity Management of Marginal Soils in the Philippines was signed on 12 January 2000. The Project started on 1 February 2000 for a five-year period that will end on 31 January 2005.

2. Inputs of the technical cooperation program

2-1. Japanese inputs

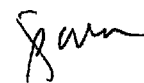
2-1-1. Long-term experts

Five long-term experts have been dispatched, which include a chief advisor, a coordinator and experts in the fields of Soil Fertility Management, Soil Conservation and Soil & Land Evaluation.

2-1-2. Short-term experts

Five short-term experts in the fields of Investigation on Community of Farmer Village, Water Resource Management, Soil Environment Information, Effect of Soil and Water Management and Dynamic Behavior of Nitrogen

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Component in Water have been dispatched.

2-1-3. Acceptance of Philippine counterpart personnel for training in Japan

Three counterparts have been trained in Japan in the following fields: Soil Conservation, Soil and Land Management and Water Resource Management.

2-1-4. Provision of equipment, machinery and materials

Vehicles, computers and equipment for research and analysis, etc. are being provided.

2-1-5. Supplementary expenditure for local costs

The Japanese side has provided part of the project management costs in order to implement project activities in a timely manner.

2-2. Inputs by Philippine side

2-2-1. Assignment of counterpart personnel and administrative staff

The project director, project manager have been assigned. A total number of 113 staff have been assigned as counterparts to work with Japanese experts. The revised list of the counterparts is attached as Annex I.

2-2-2. Provision of land, buildings and facilities

Office space for Japanese experts, laboratories and other necessary facilities have been provided. The main building of Bukidnon Highland Soil and Water Resources Conservation and Demonstration Center (Malaybalay, Bukidnon) has been renovated as planned.

2-2-3. Allocation of operating expenses necessary for the Project

Funds for office equipment, maintenance of other operating expenses and personnel service expenses have been allocated.

3. Outputs and progress of project activities

3-1. Investigation on Community of Farmer Village

One short-term expert was dispatched to provide technical guidance in

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the fields of Investigation on Community of Farmer Village from 27 April to 21 October. The Agro-socio-economic and marketing survey was conducted in the communities of three techno-demo farms, primarily by BSWM staff in cooperation with the state Colleges and Universities, Local Government Units, representatives of cooperating government agencies and farmers' associations.

3-2. Signing of Memorandum of Agreement (MOA) and set-up for implementation of techno-demo farms

MOA related to the implementation of activities in the three techno-demo farms have been signed among the concerned bodies and personnel. Techno-demo Coordinating Committee (TDCC) was organized and regular meetings in each site have been conducted. Development of the techno-demo farms has also started. Perennial crops have been planted and the first crop of the year is about to be harvested in Bulusukan and Tanay Techno-demo farms.

3-3. Design and implementation of water resources projects in the techno-demo farms

Short-term expert on water resources management provided technical assistance from August 28 to September 19, 2000. Plans and design preparation of water resource projects for the three techno-demo farms have been undertaken. Construction of a small pond by Small Water Impounding Project in Bulusukan and small farm reservoir in Agoho are in progress.

3-4. Completion of soil survey in each techno-demo farm

Soil survey in three techno-demo farms has been completed.

4. Modification of the Master Plan of the Project

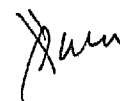
After reviewing the progress of the project, the Consultation Team and the Project Team, which consist of the Japanese experts and the Philippine counterparts, agreed to modify Master Plan of the Project as follows:

[Present]

Outputs of the Project

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

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- a. A Soil Environmental Information System (SEIS) is prototyped at the pilot marginal lands.
 - b. Water management technologies for marginal lands are developed.
 - c. Advanced soil conservation technologies for marginal lands are developed.
 - d. Low-cost fertilizing methods (Balanced Fertilization Strategy) are developed.
2. Developed 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.

Activities of the Project

1. Development of soil and water management technologies for farmers' participatory techno-demo farms
 - a. Development of agricultural resources information systems
 - b. Development of water resources management technologies
 - c. Assessment of soil conservation systems on soil productivity and the environment
 - d. Improvement of productivity of marginal soils with environmental conservation
2. Establishment of farmers' participatory techno-demo farms to disseminate soil and water management technologies
 - a. Planning of the techno-demo farms located in the marginal upland, hilly land, and highland areas
 - b. Introduction of appropriate soil and water management technologies to the techno-demo farms located in the marginal upland, hilly land, and highland areas

[Revision] *the revised parts are underlined.

Outputs of the Project

1. The soil and water management technologies are developed for the pilot marginal lands
 - a. An agricultural resources information system is prototyped for the pilot marginal lands.
 - b. Water management technologies for marginal lands are developed.
 - c. Advanced soil conservation technologies for marginal lands are

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developed.

- d. Low-cost fertilizing methods (Balanced Fertilization Strategy) are developed.
2. Developed soil conservation and water management technologies are verified in the techno-demo farms.

Activities of the Project

1. Development of soil and water management technologies for farmers' participatory techno-demo farms
 - a. Development of agricultural resources information systems for pilot watersheds
 - b. Development of water resources management technologies
 - c. Assessment of soil conservation systems on soil productivity and the environment
 - d. Improvement of productivity of marginal soils with environmental conservation
2. Establishment of farmers' participatory techno-demo farms to disseminate soil and water management technologies
 - a. Planning of the techno-demo farms located in the marginal upland, hilly land, and highland areas
 - b. Introduction of appropriate soil and water management technologies to the techno-demo farms located in the marginal upland, hilly land, and highland areas

5. Project Design Matrix (PDM)

The Japanese side and the Philippine side developed the Project Design Matrix version I shown in Annex II.

6. Detailed Tentative Plan of Implementation (dTSI)

The Japanese side and the Philippine side refined the tentative schedule of implementation signed in Manila on December 8, 1999 as shown in Annex III. This schedule shows detailed project activities based on the TSI.

7. Plan of Operation (PO)

The Japanese side and the Philippine side developed the Plan of

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Operation together for the five-year project period based on the dTSI mentioned above, which is shown in Annex IV.

8. Monitoring and Evaluation Plan

The Japanese side and the Philippine side developed the Monitoring and Evaluation Plan as shown in Annex V. Monitoring will be implemented by the long-term experts and their counterparts every six months starting from December 2000 as indicated in the Plan.

9. Comments and suggestions

9-1. Management system of techno-demo farms

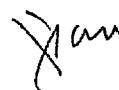
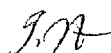
The Team understood that the Chairmen of TDCC and the Farm Managers of techno-demo farms play a very important role for successful implementation of techno-demo farms. Further clarification on the flow of technical and financial inputs from each division or group in BSWM would be helpful for a prompt action.

9-2. Coordination of concerned agencies

Since many agencies are involved in the implementation of techno-demo farms, it is suggested to share information on annual plans among the concerned agencies and to coordinate inputs for techno-demo farms for the effective implementation of the Project.

9-3. Preparation of the activity logbook of each lot in the techno-demo farms

It is suggested by the Team to record history of individual lot such as cropping system, name of each crop, and applied technologies of soil and water management for the proper evaluation of introduced technologies.



**List of project counterparts
Overall Administration and Management**

Annex I

Head of the Project:	Sec. Edgardo J. Angara
Project Director:	Dr. Rogelio N. Concepcion
Assistant Project Director:	Mr. Alejandrino R. Baloloy
Project Manager:	Dr. Lauro G. Hernandez

Project Management Staff (PMS)

Administrative:	<i>Restituto J. Vejerano</i>
Budget/Finance:	<i>Elsie A. Balagtas</i>
	<i>Asuncion A. Dimaguila</i>
	<i>Ester Santos</i>
Technical:	<i>Rodelio Carating</i>
	<i>Georgina Carmelle Siena</i>
	<i>Filipina Ventigan</i>
	<i>Gavino Isagani Urriza</i>

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Soil Environmental Information System (SEIS)

<i>Chairman:</i>	Wilfredo E. Cabezon	Chief, ALMED
<i>Co-Chairman:</i>	Alejandro G. Micoso	Chief, Soil Survey Division
<i>Members:</i>	Reynaldo P. Bajar	Chief, Cartographic Division
	Nestor M. Ticzon	ALMED
	Edna dL. Samar	ALMED
	Gina P. Nilo	ALMED
	Clarita Bacatio	Survey
	Cleotilde M. Nicolas	ALMED
	Juliet R. Manguerra	ALMED
	Rodelio B. Carating	ALMED
	Andrew B. Flores	ALMED
	Dante E. Margate	ALMED

JICA Expert: Dr. Toshiaki Ohkura

Subject Matter Specialists:

1. Emiliano Sibolboro Agricultural Land Management and Evaluation Division (ALMED)
2. Cristy C. Perlado ALMED
3. Edgar Natividad ALMED
4. Julieta Espineli ALMED
5. Ana Rhodora Abat ALMED
6. May Babaran ALMED
7. Nicomedes Liu ALMED
8. Jovette Tenorio ALMED
9. Silvino Fello ALMED
10. Leolito Siase ALMED
11. Teresita Sandoval Water Resources Management Division (WRMD)
12. Cecille Orlanes Laboratory Services Division (LSD)
13. Antonio Rivera Soil Conservation and Management Division (SCMD)
14. Jose Manguerra SCMD
15. Virgilio Castaneda Soil Survey Division (SSD)
16. Angelita Marcia SSD
17. Imelda Santos Soil and Water Resources Research Division (SWRRD)
18. Oscar Costelo SSD
19. Marcelino de Leon Cartographic Operations Division (COD)
20. Andres Calimutan COD
21. Reymundo Galanta SSD
22. Oscar Carpio WRMD
23. Diosdado Manalus WRMD
24. Ernesto Brampio WRMD
25. Georgina Carmelle Siena TIDS

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Water Resources Management Core Group

<i>Chairman:</i>	Rodolfo M. Lucas	WRMD
<i>Co-Chairman:</i>	Samuel Contreras	WRMD
<i>Members:</i>	Teresita Sandoval	WRMD
	Mario Collado	SCMD
	Luzdivina Sison	LSD
	Imelda Santos	SWRRD
	Esperanza Dacanay	SWRRD
	Virgilio Castaneda	SSD

JICA Expert: Dr. Michio Araragi

Subject Matter Specialists:

1. Oscar Carpio	WRMD
2. Danilo Adriatico	WRMD
3. Ernesto Brampio	WRMD
4. Diosdado Manalus	WRMD
5. Henry Cacayan	WRMD
6. Elvira Bautista	LSD
7. Delia Sadiasa	LSD
8. Agnes Morada	LSD
9. Aurora Manalang	LSD
10. Carlos Serrano	SWRRD
11. Raul Villacorte	SWRRD
12. Rosemelinda Reforma	WRMD
13. Arnaldo Alvarez	WRMD
14. Edgardo Breganza	WRMD
15. Ricarte Melchor	WRMD
16. Juliet Manguerra	ALMED
17. Amelia Bangalan	SWRRD
18. Oscar Costelo	SSD
19. Virgincito Estoconing	SWRRD
20. Elsa Manango	WRMD

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Soil Conservation and Management Division (SCMD)

<i>Chairman:</i>	Jose D. Rondal	SCMD
<i>Co-Chairman:</i>	Redentor S. Gatus	SCMD
<i>Members:</i>	Mario B. Collado	SCMD
	Wilfredo dela Cruz	SCMD
	Imelda Santos	SWRRD
	Sunny de Guzman	SCMD
	Constancia Mangao	LSD
	Arnulfo B. Gesite	SCMD
	Querubin Navero	SSD

JICA Expert: Mr. Tadao Kon

Subject Matter Specialists:

- | | |
|-------------------------|------|
| 1. Deogracias Magtalas | SCMD |
| 2. Mamerto F. Martinez | SCMD |
| 3. Eliosa B. Go | SCMD |
| 4. Filipina Z. Ventigan | SCMD |
| 5. Aida T. Latoza | SCMD |
| 6. Antonio San Andres | SCMD |
| 7. Jose B. Bura | SCMD |
| 8. Rogelio Creencia | SCMD |
| 9. Patricio Yambot | SCMD |
| 10. Oscar Carpio | WRMD |
| 11. Sonia Salguero | WRMD |
| 12. Elvira M. Bautista | LSD |
| 13. Aurora Manalang | LSD |

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Soil Fertility Management

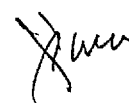
<i>Chairman:</i>	Perfecto P. Evangelista	SWRRD
<i>Co-Chairman:</i>	Crisostomo B. Alcalde	Chief, NSWRRDC, Bulacan
<i>Members:</i>	Esperanza V. Dacanay	SWRRD
	Redemcion B. Grifal	SWRRD
	Marcelina J. Palis	SWRRD
	Imelda E. Santos	SWRRD

JICA Expert: Dr. Shigemitsu Arai

Subject Matter Specialists:

1. Digna R. Allag SWRRD
2. Victorcito V. Babiera SWRRD
3. Elvira M. Bautista SWRRD
4. Celso R. Bersabe SWRRD
5. Apolinario P. Carandang SWRRD
6. Violeta E. Castaneda SWRRD
7. Bernardina I. Daguio SWRRD
8. Alma J. Gonzales SWRRD
9. Celia C. Grospe SWRRD
10. Erlinda G. Loberiza SWRRD
11. Beatriz C. Magno SWRRD
12. Venerando F. Naboia SWRRD
13. Perla V. Panganiban SWRRD
14. Jacqueline S. Rojas SWRRD
15. Leogarda T. Rubite SWRRD
16. Carlos F. Serrano SWRRD
17. Salvador F. Villarey SWRRD
18. Amy O. Yambot SWRRD

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Technology Demonstration and Promotion (TD&P)

<i>Chairman:</i>	Arnulfo B. Gesite	SCMD
<i>Co-Chairman:</i>	Mercedes Fernando	SWRRD
<i>Members:</i>	Crisostomo B. Alcalde	Chief, NSWRRDC, Bulacan
	Florencio G. Mananghaya	OIC, NSWRRDC, Tanay
	Jose B. Manguerra	OIC, NSWRRDC, Malaybalay
	Redentor S. Gatus	SCMD
	Dante Margate	ALMED
	Esperanza Dacanay	SWRRD
	Constancia Mangao	LSD
	Samuel Contreras	WRMD
	Felix Albano	Carto
	Georgina Carmelle Siena	TIDS

JICA Experts: All JICA Experts

Subject Matter Specialists:

1. Wilfredo dela Cruz	SCMD
2. Ma Perpetua Ocampo	SCMD
3. Jovette Tenorio	ALMED
4. Mario Vinluan	SSD
5. Julieta Espineli	ALMED
6. Sunny de Guzman	SCMD
7. Jessica Torrion	ALMED
8. Claire Bacatio	SSD
9. Ma. Angelita Esguerra	TIDS
10. Katherine Masbang	ALMED
11. Mario Collado	SCMD
12. Virgilio Castaneda	SSD
13. May Babaran	ALMED
14. Ana Rhodora Abat	ALMED
15. Edgar Natividad	ALMED

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Project Management Team (PMT)

PMT – Bulusukan

Farm Manager:

Bayani Villanueva
Manuel Sandoval
Arsenio Calonge
Diosdado Manalus
Leo Retamar
Leonardo de Leon
Edna Samar
Juliet Manguerra
Salvador Villarey
AT from LGU
Staff from BNASC
Farmer Cooperator

PMT – Sampaloc

Farm Manager:

Joseph Rojas
Salvador Balading
Rogelio Creencia
Oscar Carpio
Edgardo Reyes
Oscar Costelo
Cleotilde Nicolas
Celso Bersabe
AT from LGU
Staff from RSC
Farmer Cooperator

PMT – Intavas

Farm Manager:

Jose Manguerra
Henry Apolinares
Antonio San Andres
Patricio Yambot
Ernesto Brampio
Raymundo Galanta
Cristy Perlado
Deogracias Magtalar
Gavino Isagani Urriza
AT from LGU
Staff from NOMIARC
One staff from CMU/ Xavier University
Farmer Cooperator

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Techno-Demo Coordinating Committee (TDCC)

UPLAND

<i>Chairman:</i>	Rodolfo M. Lucas	WRMD
<i>Co-Chairman:</i>	Crisostomo B. Alcalde	Chief, NSWRRDC, Bulacan

HILLYLAND

<i>Chairman:</i>	Jose D. Rondal	SCMD
<i>Co-Chairman:</i>	Florencio G. Mananghaya	Chief, NSWRRDC, Tanay

HIGHLAND

<i>Chairman:</i>	Reynaldo P. Bajar	COD
<i>Co-Chairman:</i>	Jose Manguerra	SCMD

Members: LGU, DA-RFU, DAR, SCU, Farm Managers, SWAT
Coordinators, Brgy. Chairmen and Farmers
Association/Cooperative Chairmen and
NOMIARC Representative (Highland)

Consultants: All JICA Experts

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PROJECT DESIGN MATRIX (PDM) Version 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OVERALL GOAL The soil and water management technologies contributing to the stable and sustainable agricultural production in the pilot marginal lands are adopted.	Farmers' level of adoption of the technologies promoted is increased	Survey of farmers who visited techno-demo farms	Current priorities of the Department of Agriculture will not change
PROJECT PURPOSE The soil and water management technologies suitable for the pilot marginal lands are established	Number of technology packages recommended for pilot marginal lands (upland, hillyland, and highland)	Technical reports Project reports	Information Education Campaign is sustained
OUTPUT 1. The soil and water management technologies are developed for the pilot marginal lands 2. Developed soil conservation and water management technologies are verified in the techno-demo farms	Management technologies researched and developed Technology packages demonstrated and recommended Number of visitors to techno-demo farms	Technical reports Technical manuals Technical manuals Farm reports, Farm journal Project reports Visitors logbook	Timely release of funds Peace and order situation allows continuous field activities
ACTIVITIES I. Development of Soil and Water Management Technologies for Farmers' Participatory Techno-demo Farms 1-1 Development of Agricultural Resources Information System for pilot watersheds 1-2 Development of Water Resources Management Technologies 1-3 Assessment of Soil Conservation System on Soil Productivity and Environment 1-4 Improvement of Productivity of Marginal Soils with Environmental Conservation II. Establishment of Farmers Participated Techno-demo Farms to Disseminate Soil and Water Management Technologies 2-1 Planning of the Techno-demo Farms Located in the Marginal Upland, Hilly Land, and Highland 2-2 Introduction of Appropriate Soil and Water Technologies to the Techno-demo Farms Located in the Marginal Upland, Hilly Land, and Highland	INPUTS <p style="text-align: center;"><i>Japanese Side</i></p> (a) Dispatch of Japanese Experts 1) Long-Term Experts a. Team Leader b. Coordinator c. Long-term experts in the fields of Soil and Land Evaluation, Soil Fertility Management, and Soil Conservation 2) Short-Term Experts Short-term experts may be dispatched, when necessity arise, 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.	<p style="text-align: center;"><i>Philippine Side</i></p> (a) Provision of the buildings and facilities in the site 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) Supply or replacement of materials necessary for the management of techno-demo farms 5) All operating expenses necessary for the implementation of the Project (d) Coordination and harmonization with related institutions	<p style="text-align: center;">Preconditions</p>

Detailed Tentative Schedule of Implementation (dTSI)

ACTIVITIES	2000	2001	2002	2003	2004
I. Development of soil and water management technologies for farmers' participatory techno-demo farms					
1-1 Development of agricultural resources information systems					
1-1-1 Inventory of agricultural resources information system	■	■	■		
1-1-1-1 Review of information systems	■				
1-1-1-2 Soil resources inventory	■	■	■		
1-1-1-3 Land resources inventory	■	■	■		
1-1-1-4 Water resources inventory	■	■	■		
1-1-2 Design and development of the agricultural resources information	■	■	■	■	■
1-1-2-1 Information system framework	■				
1-1-2-2 Methods of data encoding/decoding	■	■			
1-1-2-3 Methods of information analysis	■	■	■	■	■
1-1-2-4 Information linkage/network	■	■	■	■	■
1-1-2-5 Reliability and scalability of the system			■	■	■
1-1-3 Application of agricultural resources information system			■	■	■
1-1-3-1 Methods of utilization of the agricultural resources information system			■	■	■
1-1-3-2 Simulation model for the environmental and productivity management for pilot watershed				■	■
1-1-3-3 Evaluation of the developed agricultural resources information system				■	■
1-2 Development of water resources management technologies					
1-2-1 Development of the methods for identification and fluctuation simulation of water resources in the pilot watersheds	■	■	■	■	■
1-2-1-1 Methods for identification of existence and fluctuation of water resources	■				

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ACTIVITIES	2000	2001	2002	2003	2004
1-2-1-2 Existence and deficient fluctuation of water resources					
1-2-1-3 Methods for deficient fluctuation simulation of water resources					
1-2-2 Development of water and soil moisture management technologies					
1-2-2-1 Water collection and storage technologies (WCST)					
1-2-2-2 Soil moisture conservation technologies (SMCT)					
1-2-3 Development of the methods for utilization of water resources for the marginal land					
1-2-3-1 Determination of suitable irrigation method					
1-3 Assessment of soil conservation system on soil productivity and environment					
1-3-1 Assessment of soil conservation technologies on soil and water qualities					
1-3-1-1 Assessment of perennial plants as hedgerow on soil and water qualities					
1-3-1-2 Assessment of permeability improvement on strips for soil and water qualities					
1-3-2 Assessment of soil conservation technologies on productivity					
1-3-2-1 Assessment of soil conservation technologies on nutrient uptake, loss and crop yield					
1-4 Improvement of productivity of marginal soils with environmental conservation					
1-4-1 Development of effective fertilization for marginal soils					
1-4-1-1 Analysis of constraints on crop production in marginal soils					
1-4-1-2 Nutritional dynamics including immobilization and mineralization					
1-4-1-3 Use and optimization of organic and inorganic materials in marginal soils and their residual effects					
1-4-2 Improvement of fertility of the marginal soils					
1-4-2-1 Soil fertility with suitable cropping system					
1-4-2-2 Utilization of interaction between micro-organisms and plants in marginal soils					

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ACTIVITIES	2000	2001	2002	2003	2004
II. Establishment of farmers participated techno-demo farms to disseminate soil and water management technologies					
2-1 Planning of the techno-demo farms located in the marginal upland, hillyland, and highland					
2-1-1 Prepare action plan for techno-demo farms (including organization, several tasks forces and committees)					
2-1-2 Characterization of vegetation, soils and water resources in the pilot watersheds					
2-1-3 Indigenous agriculture technologies and market research					
2-2 Introduction of appropriate soil and water management technologies to the techno-demo farms located in the marginal upland, hillyland, and highland areas					
2-2-1 Introduction of developed soil and water management technologies					
2-2-1-1 Water management technologies					
2-2-1-2 Soil conservation technologies					
2-2-1-3 Soil productivity improvement technologies					
2-2-2 Integration of agriculture technologies					
2-2-2-1 Evaluation on socio-economic aspects (both techno and non techno-demo)					
2-2-2-2 Development of cropping systems with pest control technologies					
2-2-2-3 Selection of crops of the market demand concerned					
2-2-3 Training for farmer's association and cooperatives					
2-2-3-1 Technical seminar for farmers (including documentation, promotion and dissemination)					
2-2-3-2 Periodic guidance/supervision for farmers					
2-2-4 Monitoring and evaluation of the techno-demo farms					
2-2-4-1 Implementation of effective demonstration techniques					
2-2-4-2 Evaluation of the effectiveness of demonstration					

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Plan of Operation

Annex IV

ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
I. Development of soil and water management technologies for farmers' participatory techno-demo farms												
1-1 Development of agricultural resources information systems								SEIS Core Group Chairman: Wilfredo Cabezon JICA Expert: Toshiaki Ohkura				
1-1-1 Inventory of agricultural resources information system						Report on the background & introduction of ARIS			BSWM	BSWM & TDCC	PC Server & Workstation Aerial Photos, Satellite Images, Map generating Peripherals	BSWM & JICA
1-1-1-1 Review of information systems						Report on the inventoried/reviewed information systems	No. of information system inventoried/reviewed	Gina Nilo Cleotilde Nicolas Rodelio Carating Juliet Manguerra Jovette Tenorio Cristy Perlado	BSWM	BSWM & TDCC	ditto	BSWM & JICA
1-1-1-2 Soil Resources Inventory						Inventory of resources from reports covering 3 techno-demo sites and pilot watersheds List of soil resources parameters identified Soil survey reports and maps for 3 techno-demo sites, no. of hectares surveyed Soil survey report and maps for pilot watersheds, No. of hectares surveyed	no. soil resources parameters inventoried and identified Extent of soil resources inventoried	Clarita Bacatio Rizal: Oscar Costelo Bulacan: Virgilio Castaneda Bukidnon: Raymundo Galanta; Leolito Siase; Andres Calimutan; Marcelino de Leon	BSWM	BSWM & TDCC	ditto	

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-1-1-3 Land resources inventory						<p>Inventory of land resources from reports covering 3 techno-demo sites and pilot watersheds</p> <p>List of land resources parameters identified</p> <p>Technical report on land management and other land factor in 3 techno-demo sites</p> <p>No. of aerial photo sets taken</p> <p>No. of satellite images classified</p> <p>Technical report on land management and other land factor in pilot watersheds</p>	<p>No. of land resources parameters inventoried and identified</p> <p>Extent of land resources inventoried</p>	<p>Edna Samar Rizal: Silvino Fello Bulacan: Emiliano Sibolboro Bukidnon: Nestor Ticzon Andres Calimutan; Marcelino de Leon</p>	BSWM	BSWM & TDCC	ditto	BSWM & JICA
1-1-1-4 Water resources inventory						<p>Inventory of water resources from reports covering the 3 techno-demo sites and pilot watersheds</p> <p>List of water resources parameters identified</p> <p>Report on water resource studies in 3 techno-demo sites</p> <p>Report on water resources studies in pilot watersheds</p>	<p>No. of water resources parameters inventoried and identified</p>	<p>Teresita Sandoval Oscar Carpio Diosdado Manalus Ernesto Brampio Andres Calimutan Marcelino de Leon</p>	BSWM	BSWM & TDCC	ditto	BSWM & JICA

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-1-2 Design and development of the agricultural resources information									BSWM	BSWM & TDCC	PC Server & Workstation, networking Peripherals, Network Printing Devices, Programming Tools	BSWM & JICA
1-1-2-1 Information system framework						ARIS frame work	designed framework	Wilfredo Cabezon; Alejandro Micoso; Nestor Ticzon; Clarita Bacatio; Edna Samar; Cleotilde Nicolas; Emiliano Sibolboro; Gina Nilo; Rodello Carating; Cristy Perlado; Juliet Manguerra; Dante Margate; Andrew Flores	BSWM	BSWM & TDCC	ditto	BSWM & JICA
1-1-2-2 Methods of data encoding/decoding						Established codes for environmental and productivity data Manual in encoding/decoding environmental and productivity data Trained personnel in encoding /decoding data Digitized maps for 3 techno-demo sites Digitized maps for pilot watersheds	No. of data structure for encoding/decoding, No. of manuals prepared, No. of trained personnel	Rodello Carating; Julieta Espineli; Ana Rhodora Abat; Andrew Flores; Juliet Manguerra; Dante Margate; Edna Samar; Nicomedes Liu	BSWM	BSWM & TDCC	ditto	BSWM & JICA
1-1-2-3 Methods of information analysis						Results of statistical analysis	No. of statistical analyses	Gina Nilo; Cleotilde Nicolas; Juliet Manguerra; Jovette Tenorio; Andrew Flores; Dante Margate; Imelda Santos; Jose Manguerra; Edna Samar; Cristy Perlado	BSWM	BSWM & TDCC	ditto	ditto

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-1-2-4 Information linkags/network						Computers linked for networking	No. of linkages/network	Andrew Flores; Rodelio Carating; Antonio Rivera; Cecille Orlanes; Angelita Marcia; Ana Rhodora Abat; Dante Margate; Juliet Manguerra; Nicomedes Liu; Georgina Siena	BSWM	BSWM & TDCC	ditto	ditto
1-1-2-5 Reliability and scalability of the system						Manual of application	No. of manuals prepared	Cleotilde Nicolas Nestor Ticzon Clarita Bacatio Edna Samar Emiliano Sibolboro Gina Nilo Rodelio Carating Cristy Perlado	BSWM	BSWM & TDCC	ditto	ditto
1-1-3 Application of agricultural resources information system						ARIS application report	No. of reports		BSWM	BSWM & TDCC	PC Server & Workstation GIS & Statistical Analysis Software, Groupware	BSWM & JICA
1-1-3-1 Methods of utilization of the agricultural resources information system						Developed ARIS Operation manual on ARIS	No. of operational programs/ No. of manual prepared	Cleotilde Nicolas; Rodelio Carating; Ana Rhodora Abat; Dante Margate; Andrew Flores; Edna Samar; Georgina Siena	BSWM	BSWM & TDCC	ditto	ditto
1-1-3-2 Simulation model for the environmental and productivity management for pilot watershed						System designed for impact assessment, Suitability classification/ rating, productivity rating, crop modeling	No. models simulated	Gina Nilo; Juliet Manguerra; Cristy Perlado; Andrew Flores; Angelita Marcia; Jovette Tenorio; Dante Margate; Edna Samar	BSWM	BSWM & TDCC	ditto	ditto
1-1-3-3 Evaluation of the developed agricultural resources information system						Manual of feedback process	No. users/clients	Reynaldo Bajar; Edna Samar; Gina Nilo; Cleotilde Nicolas; Cristy Perlado; Juliet Manguerra; Nicomedes Liu; Andrew Flores; Dante Margate; Bayani Villanueva; Joseph Rojas; Jose Manguerra; Emiliano Sibolboro; Teresita Sandoval; Cecille Orlanes; Nestor Ticzon; Clarita Bacatio; Rodelio Carating; Arnulfo Gesite; Georgina Siena	BSWM	BSWM & TDCC	ditto	ditto

ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-2 Development of water resources management technologies												
1-2-1 Development of the methods for identification and fluctuation simulation of water resources in the pilot watersheds								Teresita Sandoval; Diosdado Manalus; Oscar Carpio; Ernesto Brampio; Mario Collado; Henry Cacayan; Evangeline Dacumos; Juliet Manguerra; Aurora Manalang	Bulacan, Tanay & Bukidnon	Bulacan, Tanay & Bukidnon Techno-demo farm	Vehicle, computer	BSWM & JICA
1-2-1-1 Methods for identification of existence and fluctuation of water resources						Available historical climate data were collected Climate data were consolidated, processed and analyzed for the 3 techno-demo water balance was calculated for each recommended crop in the 3 techno-demo sites	No. of rainfall data (rainfall station) collected No. of rainfall data (rainfall station) processed and analyzed No. of on-farm water balance calculations studied		Bulacan, Tanay & Bukidnon	Bulacan, Tanay & Bukidnon Techno-demo farm	Vehicle, computer	
1-2-1-2 Existence and deficient fluctuation of water resources						raingage evap pan & run-off collector are installed in 3 techno-demo sites data on water resources are collected & analyzed	No. of measurement systems installed No. of sub-basin water balance studied		Bulacan, Tanay, Bukidnon	Techno-demo farms	Vehicle, TDR Tensiometer	BSWM & JICA
1-2-1-3 Methods for deficient fluctuation simulation of water resources						simulation models are applied to local condition	No. of hydrological models verified/validated No. of model experimentation and optimization		Bulacan, Tanay, Bukidnon	Techno-demo farms	Computer, Software	BSWM & JICA

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-2-2 Development of water and soil moisture management technologies								Samuel Contreras; Teresita Sandoval; Diosdado Manalus; Oscar Carpio; Ernesto Brampio; Rosemelinda Reforma; Arnaldo Alvarez; Edgardo Breganza; Carlos Serrano; Elvira Bautista; Delia Sadiasa	Bulacan, Tanay, Bukidnon	Techno-demo Farms	Surveying instrument, Laboratory equipment, Computer plotter	BSWM & JICA
1-2-2-1 Water collection and storage technologies (WCST)						suitable technologies Maps (topo, soil, etc.) socio-eco and design data Engineering design project cost estimate bidding & award Operational project	No. of WCST sites studied No. of feasibility studies for WCST conducted No. of WCST implemented No. of performance analysis of WCST made					
1-2-2-2 Soil moisture conservation technologies (SMCT)						maps and design data engineering design operational technologies data on performance of technologies performance analysis	No. of SMCT sites studied No. of feasibility studies for SMCT conducted No. of SMCT implemented No. of performance analysis of SMCT made					
1-2-3 Development of the methods for utilization of water resources for the marginal land								Samuel Contreras; Diosdado Manalus; Oscar Carpio; Ernesto Brampio; Ricarte Melchor; Edgardo Breganza; Danilo Adriatico; Virginito Estoconing; Raul Villacorte; Agnes Morada	Bulacan, Tanay, Bukidnon	Techno-demo farms	Surveying instrument, Computer TDR/ Tensiometer, Flow measuring devices, Pump & Engine set	

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-2-3-1 Determination of suitable irrigation method						suitable experiment site Maps and design data Plan and design of water transportation system/irrigation method Established water distribution system Operational systems Comparison of methods (efficiency, water productivity) Final report	No. of sites for design of irrigation methods prepared No. of sites for the establishment of irrigation methods No. of irrigation methods studied/validated No. of sites for suitable irrigation methods analyzed					

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-3 Assessment of soil conservation system on soil productivity and environment								Soil Conservation Core Group Chairman: Jose D. Rondal JICA Expert: Tadao Kon				
1-3-1 Assessment of soil conservation technologies on soil and water qualities									Tanay Station	Techno-demo farms	Analytical kits for water quality	BSWM & JICA
1-3-1-1 Assessment of perennial plants as hedgerow on soil and water qualities						Perennial plants assessed as hedgerows	No. of perennial plants evaluated	Eliosa Go; Antonio San Andres; Wilfredo dela Cruz; Jose Bura; Deogracias Magtalas; Aurora Manalang; Rogelio N. Creencia	Tanay, Bulacan, Bukidnon Station			BSWM & JICA
1-3-1-2 Assessment of permeability improvement on strips for soil and water qualities						Soil permeability of different practices assessed	No. of technologies/practices assessed	Wilfredo dela Cruz; Oscar Carpio; Antonio San Andres; Eliosa Go; Jose Bura; Sonia Salguerro	Tanay, Bulacan Station		Testing kits for permeability measurement	BSWM & JICA
1-3-2 Assessment of soil conservation technologies on productivity								BSWM and JICA	Tanay, Bukidnon Stations			
1-3-2-1 Assessment of soil conservation technologies on nutrient uptake, loss and crop yield						Soil conservation technologies assessed	No. of soil conservation technologies assessed	Aida Latoza; Antonio San Andres; Patricio Yambot; Mamerto Martinez; Filipina Ventigan; Elvira Bautista; Jose Bura	Tanay, Bukidnon Stations	techno-demo farm		

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
1-4 Improvement of productivity of marginal soils with environmental conservation						Improved soil management technologies for techno-demo farms		Soil Fertility Management Core Group Chairman: Perfecto Evangelista JICA Expert: Shigemitsu Arai	Bulacan, Rizal, Bukidnon	Techno-demo farms (Bulusukan, Agoho, Intavas)	Machinery, Tools, Analytical equipment, Vehicles	BSWM JICA
1-4-1 Development of effective fertilization for marginal soils						Developed fertilization technologies for marginal soils			Bulacan, Rizal, Bukidnon	TD farms (Bulusukan, Agoho, Intavas)		
1-4-1-1 Analysis of constraints on crop production in marginal soils						Developed basic information on macro-and micro-nutrient for marginal soils	No. of site No. of nutrients identified	Redemcion B. Grifal; Beatriz Magno; Elvira Bautista; Perla Panganiban; L. Loberiza; B. Daguio; Vic Babiera	Bulacan, Rizal, Bukidnon	TD farms (Bulusukan, Agoho, Intavas)		
1-4-1-2 Nutritional dynamics including immobilization and mineralization						Improved fertilizer nutrient utilization related with environmental concern	No. of site No. of nutrients studied	Celia Grospe; Esperanza Dacanay; Venerando Naboa	Bulacan	TD farms (Bulusukan, Agoho, Intavas)		
1-4-1-3 Use and optimization of organic and inorganic materials in marginal soils and their residual effects						Optimum organic-inorganic combination for improved productivity of marginal soils	No. of site No. of organic/inorganic fertilizer combinations tested	Imelda Santos; Salvador Villarey; Apolinario Carandang; Carlos Serrano	Bulacan, Rizal, Bukidnon	TD farms (Bulusukan, Agoho, Intavas)		
1-4-2 Improvement of fertility of the marginal soils						Developed soil fertility enhancement technologies for marginal soils				Techno-demo farms	ditto	ditto
1-4-2-1 Soil fertility with suitable cropping system						Improved cropping systems	No. of site No. of cropping pattern tested	Celso Bersabe; Violeta Castaneda; Digna Allag; Alma Gonzales	Bulacan, Rizal, Bukidnon	Techo-demo farms		
1-4-2-2 Utilization of interaction between micro-organisms and plants in marginal soils						Improved soil fertility through utilization of microbes	No. of site No. of plant microbe interactions tested	Marcelina Palis; Amy Yambot; Jacqueline Rojas; Leogarda Rubite	Bulacan, Rizal, Bukidnon	TD farms (Bulusukan, Agoho, Intavas)		

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
II. Establishment of farmers participated techno-demo farms to disseminate soil and water management technologies								TD Core Group Chairman: Arnulfo Gesite				
2-1 Planning of the techno-demo farms located in the marginal upland, hillyland, and highland Strategic site identification						TD sites identified	No. of sites	TDCC and PMT Bulacan Rizal Bukidnon	Agoho, Bulusukan, Intavas techno-demo farms	Farmers in marginal lands	vehicles	BSWM, JICA, DA-RFU, DA- Region office, LGU, PAO, MAO, MARO, Farmer cooperators
2-1-1 Prepare action plan for techno-demo farms (including organization, several tasks forces and committees)								TDCC and PMT Bulacan Rizal Bukidnon				
* Program of work						Annual program of work	No. of annual work program prepared					
* Organize TDCC						TDCC established	No. of collaborating agencies involved					
* Farm Planning						Preliminary farm plan	No. of farm plans prepared					
2-1-2 Characterization of vegetation, soils and water resources in the pilot watersheds												
* topo and soil survey						Reports and maps tables and graphs	No. of maps and reports prepared	Claire Bacatio; Mario Vinluan; Sunny de Guzman; Wilfredo dela Cruz; Mario Collado; Virgilio Castaneda				
* Inventory of crops and other vegetation						Final farm plan	No. of farm plan finalized					
* Climatic and water resource inventory												
* Finalization of farm plan												
2-1-3 Indigenous agriculture technologies and market research						Reports on farmers' knowledge, attitudes and practices for the three techno-demo sites/ Market study report	No. of respondents interviewed, no. of indigenous technologies identified, No. of market research/ studies conducted	Agro-socio economic team	ditto	ditto	ditto	ditto

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
2-2 Introduction of appropriate soil and water management technologies to the techno-demo farms located in the marginal upland, hillyland, and highland areas								TD Core Group Chairman: Arnulfo Gesite				
2-2-1 Introduction of developed soil and water management technologies								TDCC and PMT Bulacan Rizal Bukidnon	Agoho, Bulusukan, Intavas techno-demo farms	Farmers in marginal lands	tractor grass cutter	BSWM, JICA, DA-RFU, DA- Region office, LGU, PAO, MAO, MARO, Farmer cooperators
2-2-1-1 Water management technologies						Water management technologies established	Days extended for water availability	TDCC and PMT Bulacan Rizal Bukidnon				
2-2-1-2 Soil conservation technologies						soil erosion and surface run off decreased	No. of introduced soil conservation technologies	TDCC and PMT Bulacan Rizal Bukidnon				
2-2-1-3 Soil productivity improvement technologies						Improve and verify soil management technologies on farms (Fusion of traditional practices with improved technologies)	No. of soil management technologies (sub-soiling) introduced, No of soil fertility management techniques applied	TDCC and PMT Bulacan Rizal Bukidnon				
2-2-2 Integration of agriculture technologies								PMT	Agoho, Bulusukan, Intavas techno-demo farms	Farmers in marginal lands		BSWM, JICA, DA-RFU, DA- Region office, LGU, PAO, MAO, MARO, Farmer cooperators

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST
2-2-2-1 Evaluation on socio-economic aspects (both techno and non techno-demo)						Report on the agro-socio-economics of the three techno-demo sites farm economics study	No. of respondent interviewed No. of techno-demo evaluated	Bulacan: Edna Samar; Juliet Manguerra; Ana Rhodora Abat; Jovette Tenorio Rizal: Cleotilde Nicolas; Julieta Espineli; Edgar Natividad; May Babaran Bukidnon: Cristy Perlado, May Babaran, Edgar Natividad, Jovette Tenorio				
2-2-2-2 Development of cropping systems with pest control technologies						Cropping systems	No. of cropping systems introduced	Rizal - PMT, TDCC, Technician Bulacan - PMT, BNASC, Technician Bukidnon - PMT, NOMIARC, Technician	Rizal Bukidnon Bulacan			
2-2-2-3 Selection of crops of the market demand concerned						Report on the analysis of commodities	No. of commodities studied	Bulacan: Edna Samar; Juliet Manguerra; Ana Rhodora Abat; Jovette Tenorio Rizal: Cleotilde Nicolas; Julieta Espineli; Edgar Natividad; May Babaran Bukidnon: Cristy Perlado, Jovette Tenorio, May Babaran, Edgar Natividad				
2-2-3 Training for farmer's association and cooperatives												
2-2-3-1 Technical seminar for farmers (including documentation, promotion and dissemination)						Training conducted Printed materials Video materials	No. of farmers' trainings conducted, No. of farmers trained No. of print publications produced and disseminated No. of video materials produced and disseminated	Mercedes Fernando Georgina Siena Perpetua Ocampo Angelita Esguerra Katherine Masbang PMT	Rizal, Bukidnon, Bulacan	Farmer in marginal lands		BSWM, JICA, DA-RFU, DA-Region Office, LGU, PAO, MAO, MARO, Farmer cooperators
2-2-3-2 Periodic guidance /supervision for farmers						Guidance/ supervision conducted	No. of IEC rendered No. of farmers visited	TDCC, PMT				

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ACTIVITIES	2000	2001	2002	2003	2004	OUTPUT	INDICATORS	PERSONNEL	LOCATION	TARGET	EQUIP	COST	
2-2-4 Monitoring and evaluation of the techno-demo farms								Rizal: Florencio Mananghaya; Jose Rondal; Antonio Creencia; Dominciano Ramos; Leodegario Berana; EMMMA Martinez; Ediberto Niones; Crisanto Delica; Joseph Rojas Bulacan: Crisostomo Alcalde; Rodolfo Lucas; Eduardo Gonzales; Bayani Villanueva; Aile Alba; Rosita Saporteza; Leonila Calderon; Efren Calderon; Bukidnon: Reynaldo Bajar; Jose Manguerra; Carlota Madriaga; Oscar Salonga; Eriberto Bangis; Adriano Bactol; Meryn Moring; Nelson Sagayna	Agoho, Bulusukan, Intavas techno-demo farms	Farmers in marginal lands			BSWM, JICA, DA-RFU, DA-Region office, LGU, PAO, MAO, MARO, Farmer cooperators
2-2-4-1 Implementation of effective demonstration techniques						crop yield effective soil and water technology	level of crop yield No. of technology promoted						
2-2-4-2 Evaluation of the effectiveness of demonstration						farmers adoption of technologies measurement of soil loss	No. of farmers adopting technologies and level of income level of soil loss	PMT, TDCC, Agro-socio economic group	Bulacan Rizal Bukidnon				

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Monitoring and Evaluation Plan

Project Title	Project for the Environmental and Productivity Management for Marginal Soils in the Philippines
Project Period	1 February 2000-31 January 2005
Survey Team	Management Consultation Team
Team Leader	Dr. Tadao Hamazaki
Survey Period	20 November 2000-30 November 2000
Division/Department	Agricultural Cooperation Division, Agricultural Cooperation Department
Person in Charge	Ms. Yuko Ishizawa

I. Plan of the Project

1. Project Design Matrix(Annex 1)
2. Plan of Operations (Annex 3)

II. Monitoring and Evaluation System

1. Monitoring system
Periodical Monitoring:
conducted by the Japanese expert team and counterpart personnel
2. Evaluation System
Mid-term evaluation and Project final evaluation:
conducted by the Joint Team consisted of Japanese and Phillipino representatives

III. Schedule of Monitoring and Evaluation

Time	Types of monitoring and evaluation	Conducted by	Report
Second year (June 2001)	Periodical monitoring	C/P, Experts	Monitoring report
Second year (December 2001)	Periodical monitoring	C/P, Experts	Monitoring report
Third year (June 2002)	Mid-term evaluation	Personnel of DA and Japanese survey team	Minutes, Evaluation report
Third year (December 2002)	Periodical monitoring	C/P, Experts	Monitoring report
Fourth year (June 2003)	Periodical monitoring	C/P, Experts	Monitoring report
Fourth year (December 2003)	Periodical monitoring	C/P, Experts	Monitoring report
Fifth year (July 2004)	Project final evaluation	Personnel of DA and Japanese survey team	Minutes, Evaluation report

IV. Monitoring/Evaluation Items

1. Monitoring items
Monitoring will be conducted in accordance with PDM and PO.
2. Evaluation items
Evaluation will be conducted in accordance with the five evaluation items, namely achievement, effectiveness, impact, relevance and sustainability.