

## Support Services and Facilities



Cartographic Services and Map Sales



Data Processing and Map Digitizing Services



Laboratory Services



Remote Sensing



Soil Museum



Library



Greenhouse



Studio Facilities



Soil tank and lysimeter



X-ray Facilities



Rain simulator, weather tracking, and other specialized equipment



Convention Hall, Training Facilities and Dormitory



**bswm**

For more information, please contact:  
The Director  
Bureau of Soils and Water Management  
Elliptical Road, Diliman, Quezon City  
Telephone (632)-920-4382

ing soil and water resources  
assessment and management



**Bureau of Soils  
and  
Water Management**



## *Brief History*



The first soil survey in the Philippines was conducted in 1903. But it was not until 1921 that the Division of Soils and Fertilizers under the Bureau of Science was organized. Since then, the scope of activities increased that in June 5, 1951, Republic Act 622 was enacted organizing the Bureau of Soil Conservation. It was renamed Bureau of Soils in 1956 and further reorganized in 1987 as Bureau of Soils and Water Management.

## *Our Mandate*



The Bureau is mandated to render assistance on matters relative to the utilization and management of soils and water as vital agricultural resources, formulate measures and guidelines, undertake research on soil conservation and fertility management and engage in rainmaking projects to solve the impact of prolonged drought and thereby minimize their effects on standing agricultural crops.

## **Projects and Activities in support of the National Food Production Program**



The *Balanced Fertilization Strategy* under the *Agrikulturang Makamasa* Program provides specific

fertilizer recommendation in various soil and climatic conditions in the grain producing regions of the country. The Bureau is also involved in other national programs such as *Agrikulturang Makamasa for the Uplands* and the implementation of the *Agro-Fisheries Modernization Act Productivity Enhancement through the Strategic Agriculture and Fisheries Development Zoning*.

## **Projects and Activities Relating to Soil and Land Resources Assessment, Evaluation, Conservation and Management**



The soil classification, mapping, evaluation, and management of agricultural lands and development of approaches to soil conservation both at farm and watershed levels are being undertaken by the Bureau on regular basis. The Bureau has Soil Survey, Agricultural Land Management and Evaluation, as well as Soil Conservation Divisions to undertake these tasks.

## **Projects and Activities Relating to Utilization of Water Resources for Agricultural Productivity**



Water is the most limiting factor among the farm resources and the characterization of

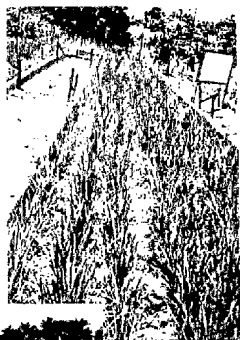
aquifers and the development of small water impounding projects as well as other farm water sources such as shallow tube wells is a mandated task implemented by the Soil Resources Management Division. The National Artificial Rain Stimulation Office (NARSO) is also under the Bureau's administration.

## **Projects and Activities Relating to Soil Management Technology Development and Commercialization**



The Soil and Water Resources Research Division conducts studies on various disciplines of

soil science (soil genesis and morphology, soil chemistry, soil physics and mineralogy, soil biology, soil fertility, and soil and water conservation) to come up with appropriate soil management technologies. There are on-going collaborative researches with international agricultural research agencies.



**BSWM**

DEPARTMENT OF AGRICULTURE  
BUREAU OF SOILS AND WATER MANAGEMENT

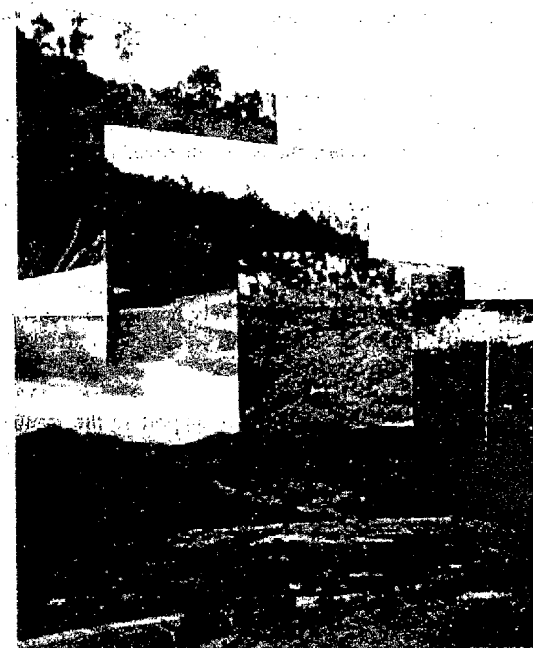
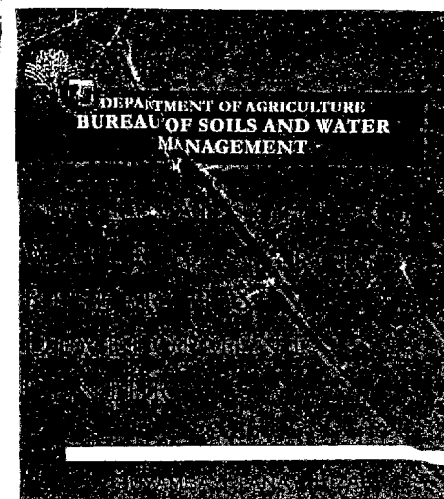
For more information, please contact:

THE DIRECTOR

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Philippine Road, Diliman, Quezon City

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## NATIONAL SWRRD CENTER (TANAY) PROFILE

The National Soil and Water Resources Research and Development (SWRRD) Center, located at Cuyambay, Tanay, Rizal was established on September 11, 1969 through Republic Act 450. The mandate of the Center is to provide research back-up for policies, programs, and standards that are to be developed pertinent to soil and water resources conservation development, and management, as well as to demonstrate soil conservation development and management technologies for upland areas.

The National SWRRD Center (Tanay) pursues strategic research programs / projects of national importance. Specifically, the Center:

- Conducts applied and basic researches on the different aspects of soil and water resources conservation, development, and management particularly for upland areas
- Conducts community-based seminars, training, specialized courses, and technology demonstration for farmers, technicians, and others involved in agriculture
- Undertakes packaging of R & D projects that are national in scope
- Demonstrates soil and water resources conservation strategies that can be effectively applied to transform upland problem soils and degraded areas for agricultural production
- Provides technical services in support to the mandate and functions of the Bureau of Soils and Water Management

## THE CENTER

Total land area - 30 hectares  
 Elevation - 550 meters above mean sea level  
 Soil type - Sampaloc series  
 Slope - 5 to 39 percent  
 Mean annual rainfall - 2,700 mm  
 Climatic Type - Type I  
 Average temperature - 18° to 30° C

The Center is situated about 80 km. northeast of the City of Manila and can be reached by land transportation either passing through Tanay Proper or via Cogeo.

The representative soil type is Sampaloc Series and belongs to the order Ultisols. Taxonomically it falls under very fine kaolinitic isohyperthermic typic kandiodults. Its color is generally red with low pH and fertility. It is very susceptible to water erosion.

## FACILITIES

The National SWRRD Center (Tanay) is equipped with a modest range of laboratory and training facilities, including farm machinery and equipment. The following are among the latest acquisition: rainfall simulator, trencher, tractors, computers, audio-visual equipment, drip irrigation system, and a small water impounding system (swip).

## MANPOWER RESOURCES

The National SWRRD Center (Tanay) has a total of thirteen (13) technical and non-technical staff implementing various programs and projects of the Center. The Soil Conservation Division Chief and his staff provide the much needed technical complement. The Bureau of Soils and Water Management (BSWM) officials together with the JICA Experts provide the overall research direction.

## ON-GOING RESEARCHES

### 1. SOIL CONSERVATION

- Assessment of soil properties and soil erosion occurrence on sloping land
- Soil productivity decline associated with soil erosion
- Evaluation of some high value crops commercial / tree crops as contour hedgerows / vegetative barrier in controlling erosion
- Improvement of erosion control practices under various land uses for sloping lands
- Effect of tillage and plant residue management on soil properties, crop yield, and erosion
- Comparative study of run-off interceptors with various indigenous soil building materials for agro-forestry
- Soil loss quantification and economics of high density planting of mango

### 2. SOILS AND FERTILIZER

- Integrated fertilization for productivity improvement of Ultisols
- Study on essential elements needed by plants in Ultisols
- Trends in the bio-physico-chemical characteristics of Ultisols with the application of organic materials from legume and non-legume crops
- Cropping systems and agricultural waste management and their effect on crop yield and fertility status of Ultisols
- The use of legumes to increase productivity of Ultisols
- Inorganic soil amendment of Ultisols for the improvement of physical properties
- Comprehensive potentials of mucuna versus cogon and talahib
- Integrated soil amendments for crops grown in Ultisols
- Animal waste application test

5. Hosted National Seed Caravan in cooperation with ASAP and PSIA since 1994.
6. Adaptation of superior breeder stocks of Simbrah animals.
7. Conducted the country's first Harvest Festival for Corn (IPB911) Block Farming Module of the Gintong Ani Program in 1997.
8. Conducted the national launching of High Value Commercial Crops in 1997.
9. Conducted the Agrikulturang MakaMASA Field Day in Nov. 4, 1998.
10. Facilitated the formulation of the Regional R D E Agenda.

#### MANPOWER RESOURCES/ TECHNICAL CAPABILITIES:

NOMIARC has a total of 41 technical staff and 27 non-technical staff working together to implement the various programs/projects of the center. Likewise, a total of 33 technical staff and 21 non-technical staff comprise 3 ROS and 3 IS.

The center is technically equipped with researchers trained and educated on the following fields:

1. Plant Breeding
2. Crop Protection
3. Crop Production and Management
4. Plant Tissue Culture
5. Soil and Plant Nutrition
6. Livestock Production & Diseases Management
7. Postharvest Handling/Technology and Agricultural Engineering
8. Farming Systems/Agroforestry
9. Socio Economics & Research Management
10. Program Packaging and Project Evaluation

#### AWARDS AND RECOGNITION:

NOMIARC's par excellence performance was nationally recognized by DA-BAR as the Outstanding Agricultural Research Center for CY 1996. Similarly, the NOMIARC Center Manager was the Outstanding Center Manager for 1996.

NOMIARC also garnered five national awards in the field of research & program implementation for four consecutive years (1994-1998).

The Center also received recognition from LGUs for its active participation in various agricultural development activities.

#### COLLABORATING INSTITUTIONS/SPECIAL PROJECTS:

##### International

1. CIP/AGRICO Netherlands - Clonal selection for bacterial wilt resistance on white potato.

##### National

1. BAR - GAP-Corn R&D Projects  
- Sustainable Farming Systems Programs (KRS)  
- Community-Based Participatory Action Research (CPAR)  
- White Potato Techno Demo Project
2. BPI - White Potato R&D Project
3. PRCRTC - Sweet Potato, Taro and Bulb Cutflower Research
4. BSWM - White Potato Project
5. Minadanao Potato Corporation - R&D on White Potato
6. CIRDUP - Comprehensive Irrigation Research & Development Umbrella Program

#### SIGNIFICANT VISIT TO NOMIARC:

1. President Fidel V. Ramos and Party on July 28, 1995
2. Secretary of Agriculture Salvador H. Escudero III
3. Former DA Secretary Roberto S. Sebastian and Party
4. Usec. Domingo Panganiban and Party
5. Ambassador of France and Party
6. Ambassador of Mexico and Asst. Secretary of Agriculture in Mexico and Party
7. International and local scientists
8. PCARRD Governing Council headed by Dr. William Dar
9. LGUs, farmers, students from Region 10 and other regions
10. Members of the Cabinet
11. DA Usec. Cristino Collado and Party

May 1999  
TAS/Debbie M.



## NORTHERN MINDANAO INTEGRATED AGRICULTURAL RESEARCH CENTER (NOMIARC)

Department of Agriculture - Field Office No. 10  
Davao City, Davao Region

## NOMIARC PROFILE

The Northern Mindanao Integrated Agricultural Research Center (NOMIARC) was created and operationalized with the implementation of DA Administrative Orders # 6 and # 19. The Center is tasked to conduct basic functions of research, germplasm production, and distribution of high quality seeds and planting materials, and training /technical assistance for the advancement of agricultural sector in the region.

NOMIARC is the nerve center of the nine (9) R&D stations of the Department of Agriculture - Region 10.

### NOMIARC Satellite Stations: R & D Stations

1. Malaybalay Stock Farm - Dalwangan, Malaybalay City
2. Kislon Seed Farm - Kislon, Sumilao, Bukidnon
3. Regional Crop Protection Center- Bangcud, Malaybalay City

### Research Outreach Stations:

4. RIARC for Upland Development Zone - Barongcot, Danggagan, Buk.
5. RIARC for Hillyland Development Zone - Lanise, Claveria, Misamis Oriental

### THE CENTER:

Total land area	- 601.28 hectares
68 has	- NOMIARC
533.28 has	- MSF
Elevation	- 2,700 ft. above sea level
Soil Type	- Adunyon Clay Loam
Climatic Type	- Type IV (well pronounced wet & dry)
Ave. Rainfall	- 2,400 mm/yr.
Ave. Temperature	- 33°C max. 18°C min.

Distance from Cagayan de Oro City - 87 kilometers

\*Acquired thru: Proclamation No. 637

Reservation 329

Decree #595348 Date Nov. 23, 1933

## ACTIVITIES

The Center is conducting on-station and off-station research and development activities in collaboration with the Local Government Units (LGU's) and other agencies, both national and international.

### 1. Research and Development

R&D efforts of the center is geared towards the development of cost-effective and sustainable farming systems technologies on crops, livestock and fisheries.

#### 1.1 Crops

Continuing researches on crops are being conducted on vegetables, rootcrops, cereals and ornamentals including biological control of pest on crops.

#### 1.2 Livestock

Researches focused on breeding program of superior stocks of cattle, forage and pasture, as well as animal health improvement.

### 2. Production and Distribution of High Quality Seeds and Planting Materials, Biological Control Agents, Superior Stocks of Animals

**2.1 Crops** - Germplasm collection, maintenance and distribution of superior crop varieties which the farmers can avail at minimal cost.

- a) White potato disease-free planting material production thru tissue culture
- b) Vegetable seed production of tomato, eggplant, pechay and beans
- c) Cuitflower production of anthurium and gladiolus
- d) Phil. Seed Board varieties of gabi and sweet potato
- e) Production of biocontrol agents for rice, corn and crucifers

#### 2.2 Livestock

- a) Production and maintenance of superior breeder stocks of cattle for dispersal program

- b) Production and maintenance of improved forage and pasture grasses for distribution to livestock raisers in Regions 9, 10 and 13 and other parts of the country.

### 3. Training/ Technical Assistance

Techno-demo projects on corn and vegetables are conducted both on-station and on-farm in collaboration with LGUs and other institutions. Field days are regularly undertaken to showcase the technologies being demonstrated.

Package of technologies (POTs) or production guide on several crops are prepared for distribution to interested clients. The One-Stop-Shop serves as outlet of information and for technical assistance. The center is also equipped with training facilities capable of hosting trainings/ seminars and conferences.

Trainings/ seminars are conducted to enhance the technical capabilities of the researchers, LGUs and farmers. NOMIARC also accepts On-the-Job Training (OJT) of students from various agricultural schools in the region.

## SIGNIFICANT ACCOMPLISHMENTS

### 1. Phil Seeds Board Varieties Developed at NOMIARC

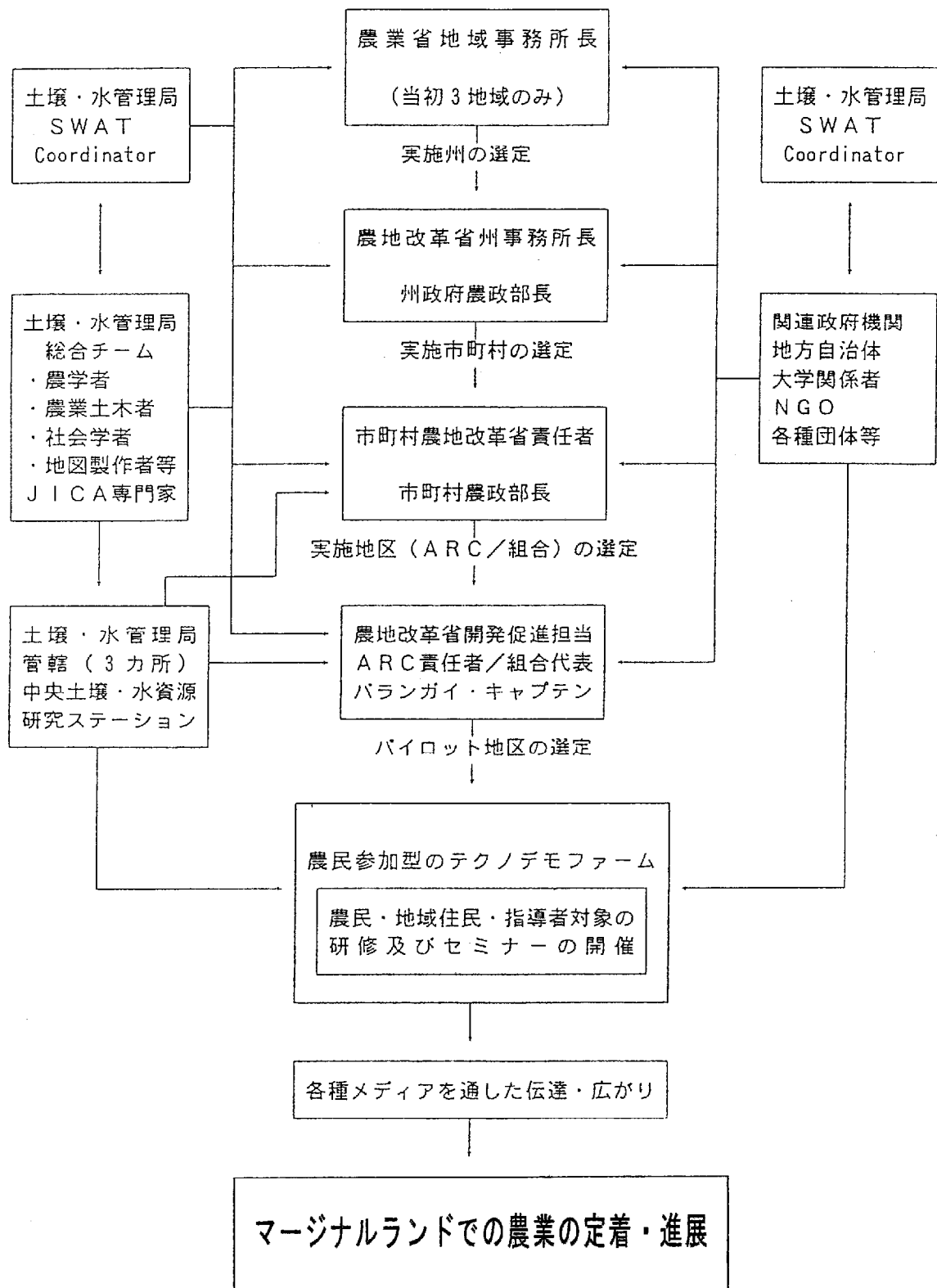
- a. PSB Vg3 - taro/ gabi variety, 10t/ha average on-station yield, 8 months maturity and highly tolerant to pest and diseases.
- b. PSB Tm7 - fresh-market tomato variety, 45 t/ha average on-station yield suited for dry season planting, highly tolerant to pest and diseases.
- c. PSB Tm8 - fresh-market tomato variety, 34 t/ha average on-station yield suited to wet and dry season plantings highly tolerant to pest and diseases.

### 2. Pest and Diseases Management

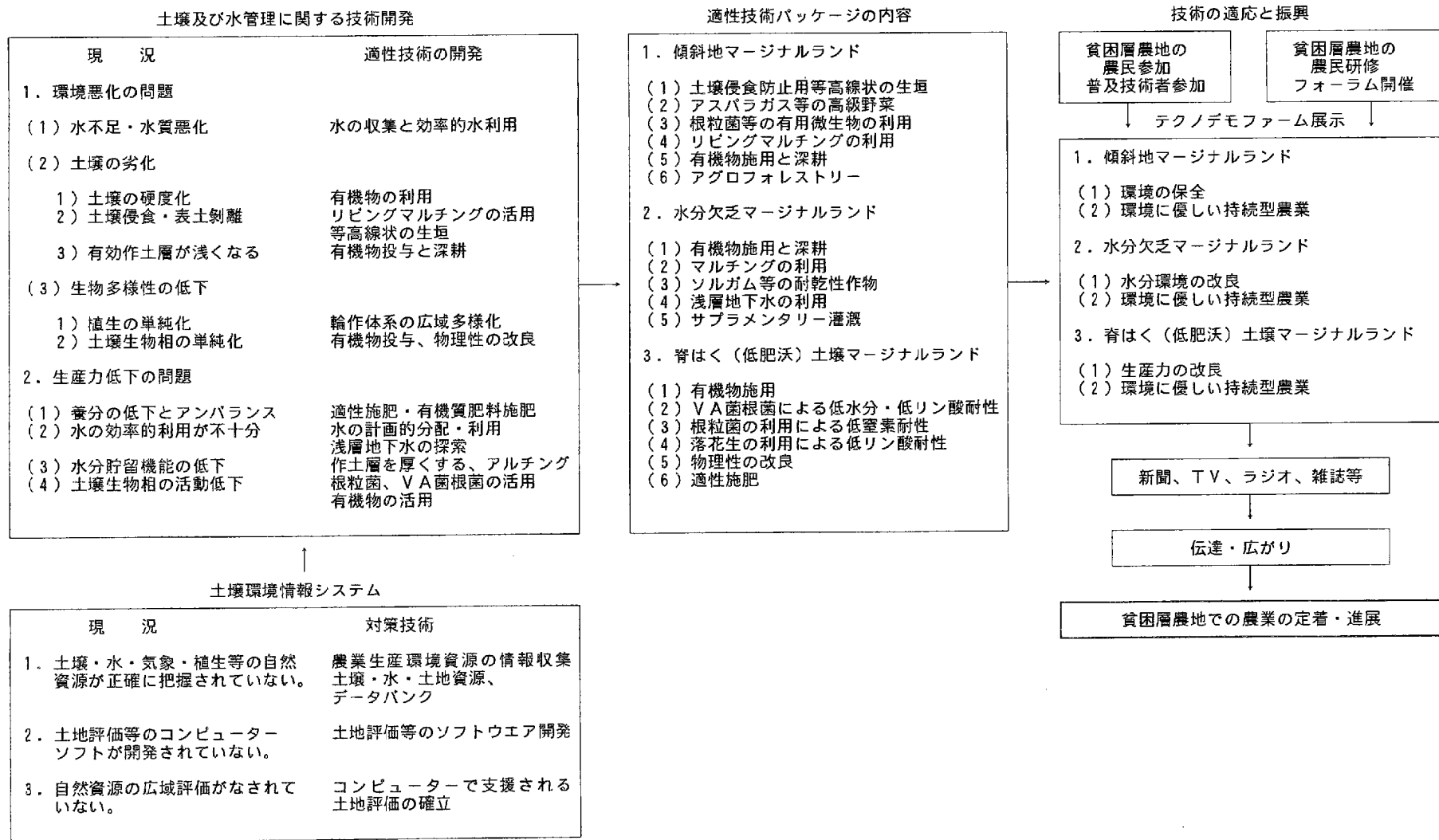
50% reduction of bacterial wilt infection on white potato thru introduction of an effective cropping system, Potato-Corn-Legume in Bukidnon.

3. Rapid multiplication of diseases-free planting materials on white potato thru tissue culture
4. Piloted the demonstration of conservation tillage technology in the different municipalities of Bukidnon.

資料9 技術振興と実施のためのフローチャート

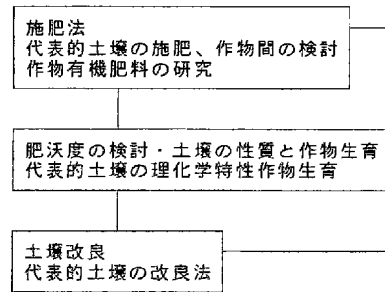


「農民参加による貧困層農地の環境及び生産管理計画」

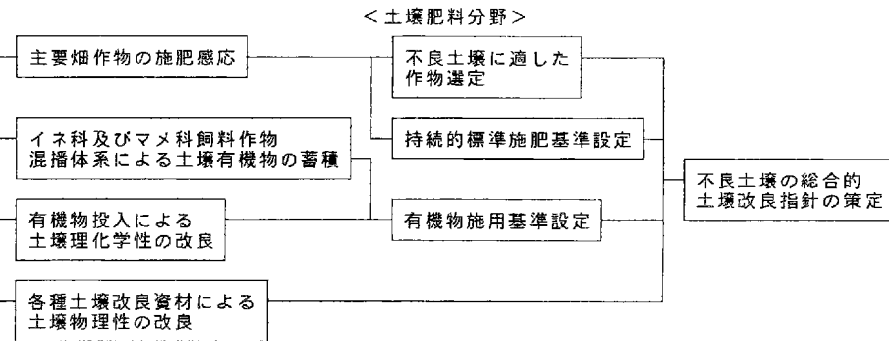




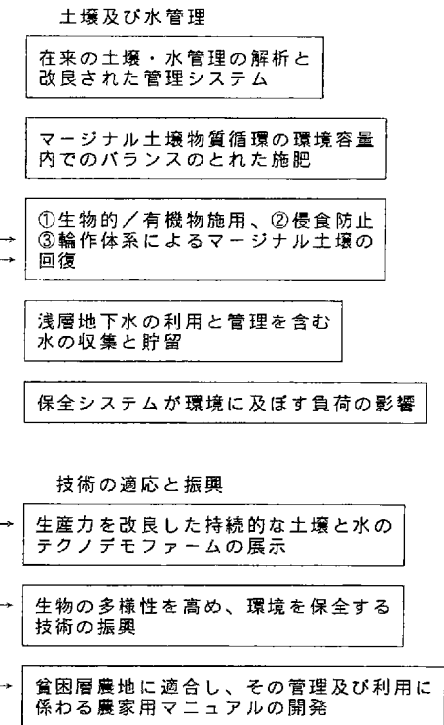
「フィリピン 土壤研究開発センター計画」



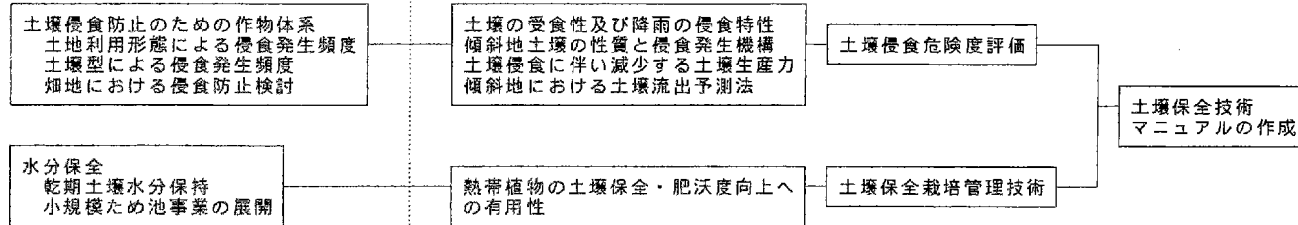
「フィリピン土壤研究開発センター計画フェーズ2」



「農民参加による貧困層農地の環境及び生産管理計画」



<土壌保全分野>



<土壌生産力可能性分級分野>

