

2 1. THE EMERGING RESEARCH SYSTEM OF THE MINISTRY OF
AGRICULTURE: PART III

ACRONYMS USED

ACAP	-	Association of Colleges of Agriculture in the Philippines
ARO	-	Agricultural Research Office
ASC	-	Agricultural Service Center
ASSP	-	Agricultural Support Services Project
BAEcon	-	Bureau of Agricultural Economics
BAEX	-	Bureau of Agricultural Extension
BAI	-	Bureau of Animal Industry
BPI	-	Bureau of Plant Industry
BS	-	Bureau of Soils
EDS	-	Extension Delivery System
FAO	-	Food and Agriculture Organization
FORI	-	Forest Research Institute
FTS	-	Field Trials Services
IRRI	-	International Rice Research Institute
M A	-	Ministry of Agriculture
MAO	-	Municipal Agricultural Officer
NEP	-	National Extension Project
PAO	-	Provincial Agricultural Officer
PCARRD	-	Philippine Council for Agriculture & Resources Research Development
PMIS	-	Project Management Information System
PMO	-	Project Management Office
PTVT	-	Provincial Technology Verification Team
R D	-	Regional Director
RADOS	-	Rainfed Agriculture Development Outreach Site
RCC	-	Research Coordinating Committee
RIARS	-	Regional Integrated Agricultural Research Systems
RRC	-	Regional Research Committee
RRO	-	Regional Research Office
ResCor	-	Regional Research Coordinator
SFS	-	Small Farm Systems
SVLF	-	Special Vehicle Loan Fund
T G	-	Technology Generation
T V	-	Technology Verification
TVN	-	Technology Verification Network
UPLB	-	University of the Philippines at Los Banos
URARTIP	-	Unified Rice Applied Research Training & Information Program

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I. INTRODUCTION

Two significant events have played important roles in the development of agricultural research in the Philippines. The first was the creation of the Philippine Council for Agriculture and Resources Research and Development (PCARRD) to manage and coordinate research in agriculture and natural resources, and the second was the creation of the Forest Research Institute (FORI) to implement forestry research.

The establishment of the FORI and PCARRD was done to answer the need for a strong coordinating mechanism that would minimize unnecessary duplication and fragmentation of research activities, thus maximize on scarce resources. These two agencies whose creation was spearheaded by Minister Arturo F. Tanco, Jr. proved to be very effective research coordinating mechanisms, that the next logical step was to improve the Ministry of Agriculture's (MA) own research capability.

Before 1981, agricultural research in the Ministry was conducted by its different bureaus. The Bureau of Plant Industry (BPI) undertook research on crops, the Bureau of Animal Industry (BAI) took charge of

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research on livestock, while the Bureau of Soils (BS) conducted those for soils.

A critical assessment of the Ministry's research structure, however, revealed some shortcomings. Similar laboratory facilities existed in each of the bureaus. Each bureau also maintained a network of research stations many of which did not have adequate facilities and operational funds. While there was a desire among the researchers in the Ministry to work together, the mechanism or organizational structure to do so did not exist.

It was very apparent that something was needed to be done to make the MA's research organization more efficient and effective in serving the needs of the small farmer. This can be achieved through better planning and prioritizing of research activities, not on a bureau basis, but integrated as a Ministry and with the active participation of the regional offices. This fits well with the current thrust of providing more economically viable farming systems technology for our farmers who now need to take a look at the benefits that can be derived from the utilization of the entire farm for the production of a suitable mix of products instead of concentrating on just a single commodity. This farming systems approach will enable a farmer to increase his chances of success and minimize the risks involved. It is, therefore, because of this need to provide the appropriate farming systems technologies to Filipino farmers in different agro-climatic zones and soil types that the Ministry needs to address agricultural research in an integrated manner.

1.1. The Agricultural Support Services Project (ASSP)

In August 1981, the loan agreement for the ASSP was signed to strengthen the Ministry's capability to provide the necessary agricultural support services not yet being supported by the National Extension Project (NEP), viz., agricultural research, plant and animal regulatory services, livestock field services and agricultural planning.

The major component of the ASSP is agricultural research, the main objective of which is the establishment of a mechanism that would assure the evolution of more relevant and appropriate technologies for the small farmers, and a mechanism through which these technologies could be disseminated faster to the end users. This would necessitate the development of the capability of the regional offices to test and verify technologies developed in research centers, and to modify them to suit the unique conditions of the regions and provinces. This would call for the establishment of the appropriate working relationships between the bureaus' research personnel and the regional research and extension staff to enable the Ministry to work in farmers' fields and better serve them.

The agricultural research component provides for the:

1. creation of a Ministry Research Coordinating Committee (RCC) and the Agricultural Research Office to enhance coordination of all research activities of the Ministry;

2. organization of a technology verification network under the MA through the establishment of the Regional Integrated Agricultural Research System (RIARS);
3. strengthening of the Institute of Plant Breeding of the University of the Philippines at Los Baños (UPLB);
4. creation of a farming systems research program at the UPLB;
5. conduct of technology generation research in agriculture at the National Research Network of PCARRD; and
6. development of an applied communications program under PCARRD.

The conduct of technology-generation (TG) type of research including the provision for an applied communications program, will be implemented by PCARRD in close consultation with the Ministry. The ASSP will support research programs of agencies which are relevant to the needs of the Ministry after proper evaluation and approval by PCARRD.

The farming systems research program at UPLB will take charge of developing small farming systems technology which the Ministry can use in the regions. Specifically, this project component will be responsible for technology generation and verification research in conjunction with the farming systems thrust and program of the MA and other agencies; will provide the supportive technical/advisory assistance to the RIARS;

will coordinate the dissemination and utilization of feasible technologies; and will establish national linkages with other agricultural colleges and universities to provide necessary technical support to the development of relevant farming systems for the small farmers in the regions.

A major thrust of the ASSP under the agricultural research component is the technology verification (TV) aspect which will be conducted through the RIARS. Through this component, the Ministry will be working with extension workers and farmers in on-farm testing of mature technology and in fine-tuning national or regional recommendations to fit the unique conditions of small farmers in specific areas. Mature technology that will be tested could be an improvement of component(s) of a package of technology for a particular commodity or it could be a better cropping pattern or farming system. Verification trials will be conducted in farmers' fields by the farmer-cooperator and the extension worker to eventually come up with farm-specific recommendations.

The second component of the project is the improvement of regulatory and field services. This involves upgrading of agricultural services including commodity analysis and plant certification, quarantine, feed analysis, livestock field services, disease diagnosis, and vaccine production and quality control.

Lastly, the agricultural planning component principally aims for the improvement of the Ministry proper and regional capability in agricultural

planning, project preparation, implementation, management and monitoring;
and conduct of a second national nutrition survey.

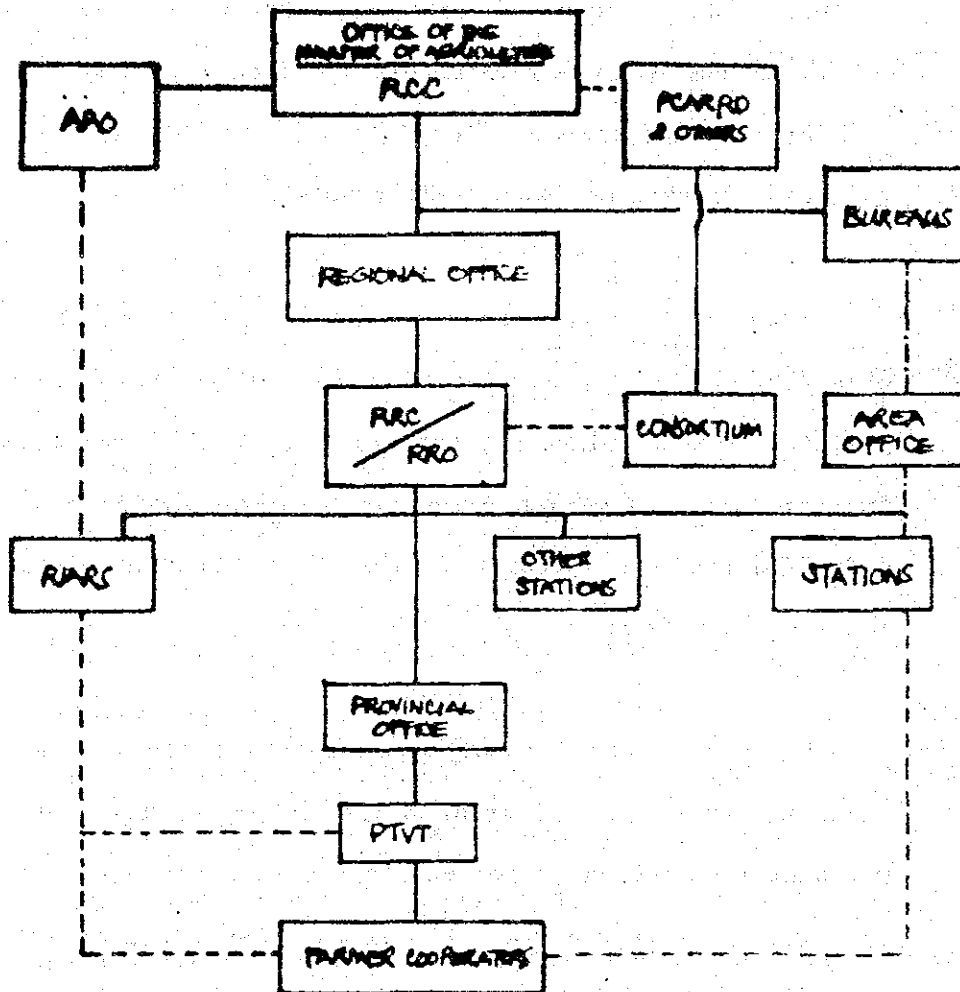
II. THE MINISTRY'S REORGANIZED RESEARCH SYSTEM

The ASSP appraisal report by the World Bank provided for the creation of a Research Coordinating Committee, an Agricultural Research Office, and twelve Regional Research Committees. These bodies are to operationalize planning/programming, coordination, evaluation and monitoring of all the MA research programs in the national and regional levels. Figure 1 (p. 7) conceptualizes the organizational structure of the MA research system.

2.1. Research Coordinating Committee (RCC).

The initial step taken by the Ministry is to create the RCC headed by the Minister of Agriculture, with the Bureau directors, PCARRD Executive director and the AFO director as members. The RCC is designed essentially to:

1. be the policy-making body for all research activities of the Ministry and the main link between PCARRD and the Ministry's research system. It establishes agricultural research priorities, and approves the Ministry's annual and long-term research plans and programs;



—— ADMINISTRATIVE SUPERVISION
 - - - - TECHNICAL SUPERVISION
 - - - - ADMINISTRATIVE AND/OR TECHNICAL SUPERVISION

FIGURE 1. CONCEPTUALIZATION OF THE ORGANIZATIONAL STRUCTURE OF THE MA RESEARCH SYSTEM

2. approves all requests for budget releases for research, evaluates the progress of on-going research, approves recommendations for adopting/disseminating technology and other research results, and approves for inclusion in the adaptation program research results found to be promising.

However, the RCC does not function independently of PCARRD's research system. In the formulation of the Ministry's research policies, plans, priorities and programs, PCARRD is included through the participation of its Executive Director who is a member of the RCC. All projects approved by the RCC will be submitted to PCARRD for final approval.

Under this new set-up, all research funds of the bureaus of the Ministry are transferred to the Office of the Minister, to be released and disbursed upon the approval of the RCC. As members of the RCC, the bureau directors will exercise the same authority over the allocation of bureau research funds. It is expected, however, that through the RCC, the bureau directors will become more familiar with one another's programs and be in a position to assist each other. This significant change in administrative procedure is expected to facilitate coordination and integration of agricultural research in the Ministry and result in improved utilization of scarce manpower, facilities and financial resources.

2.2. Agricultural Research Office (ARO).

In order to provide staff assistance to the RCC, the ARO was created to serve as the Secretariat of the RCC, with an advisory committee composed of the following:

- | | |
|-------------------------------|---------------------------------|
| 1. Dr. Edgardo C. Quisumbing | - Director |
| 2. Dr. Emiliano Gianzon | - Asst. Director for Operations |
| 3. Dr. Dalmacio Trinidad | - Asst. Director for Research |
| 4. Mr. Bienvenido Almirante | - Member |
| 5. Mr. Telesforo Angeles | - Member |
| 6. Atty. Alexander Brillantes | - Member |
| 7. Dr. Alfonso Eusebio | - Member |
| 8. Dr. Gil Rodriguez | - Member |

The ARO plans, coordinates, integrates and monitors research activities on crops, livestock, soils, agricultural economics and extension. It will have a small headquarters staff, two coordinators each for Luzon and Mindanao, a coordinator for the Visayas and 12 regional research coordinators and 12 RIARS Managers who will be assigned to each region under the direct supervision of the regional director (RD). As the technical staff of the RCC, ARO performs the following specific staff functions for the RCC:

1. identify priority research areas of the MA;
2. identify research training needs;

3. identify facilities and infrastructure of experiment stations of the Ministry which need upgrading and improvement;
4. prepare the annual and long-term integrated research program of the Ministry for agricultural technology generation, packaging and verification for presentation to the RCC;
5. monitor, coordinate and evaluate the implementation of the Ministry's research programs; and
6. recommend adoption of verified, site specific technologies for approval by RCC and dissemination to the extension service.

The AEO works closely with the research divisions of the staff bureaus to consolidate research plans and programs into one integrated MA research program involving the bureaus singly or in cooperation with each other and the regions, whenever necessary. It also monitors and evaluates research projects in cooperation with the bureaus' research divisions for speedier presentation to the RCC. It establishes linkages between the central Ministry and regional planning system to ensure that the research programs are attuned to the Ministry's priorities. The office will develop a mechanism that will promote, strengthen and institutionalize a close working relationship of research and extension personnel of the different bureaus within the Ministry. This will be particularly essential

in the design and evaluation of appropriate farming systems for various regions of the country.

The ARO will also design a mechanism which will enable it to recommend for RCC approval which technologies are already "mature" and ready for dissemination to farmers, and that the approved technology reach the farmers.

Other assignments given by the RCC to ARO are: to prepare with the assistance of the bureaus and regional offices, the research budget of the Ministry and recommend it to the RCC for approval; to establish guidelines and a reporting system for the disbursement of research funds; to prepare a manpower development program for the research personnel of the Ministry including a proposal to revise compensation commensurate to the duties, responsibilities and qualifications of such personnel; to review present research infrastructure and facilities of the Ministry and make recommendations to the RCC for the consolidation and improvement of such facilities.

Five senior research coordinators -- two for Luzon, one for Visayas and two for Mindanao -- will be appointed by the RCC. At present two coordinators on part-time detail from the BFI have already been designated, namely; Dr. Alfredo Palo, and Mr. Teofilo S. Eugenio as Coordinators for Luzon and Visayas, respectively.

*they are supposed
to be detailed to ARO
not ARO. in fact
only 5 are specified
in the report*

*not the
appropriate term
for a technical paper
(Custodio, Alcantara)*

There are six other senior staff members designated to the Project Management Office (PMO) of ASSP who act as facilitators and trouble shooters for the ARO in the implementation of the regional research program, namely:

1. Mr. Hipolito A. Custodio, FTS Officer
(on part-time detail from BPI)
2. Dr. Santiago Pablo, Station Development Officer
(on part-time detail from BPI)
3. Dr. Jesus Alcantara, Livestock Officer
(on part-time detail from BAI)
4. Mr. Victorcito Babiera, Soils Officer
(on part-time detail from BS)
5. Mr. Aniceto Cruz, Extension Specialist
(on part-time detail from BAEx)
6. Ms. Minda Mangabat, Senior Economist
(on part-time detail from EAecon)

2.3. The Regional Research Committee (RRC).

To serve as ARO's counterpart at the regional level, RRC's were created with the RD as chairman and Area Coordinator of BPI, the Regional Research Coordinator (ResCor), Station Superintendents, the Provincial Agricultural Officers (PAO's) and RIARS manager as members. This office serves as a regional mechanism allowing the RD's to closely monitor agricultural research activities being conducted in the different stations of the MA and bureaus and on-farm outreach sites of RIARS.

Regional research plans prepared by the RRC shall be endorsed by the RD to the RCC for approval. The RCC's main link to the RRC is the ARO.

2.4. Regional Research Office (RRO).

This office provides the staff support to the RRC. It shall be responsible to the RD for reviewing and finalizing plans, monitoring and coordinating research projects as well as in establishing external linkages with farmers, colleges, universities and the private sectors. It is composed of regional research and extension personnel, headed by the ResCor designated as such by the RD and with the concurrence of the bureau director concerned if the designee is in the bureau's plantilla. The following were identified/designated as ResCors:

- give table*
- | | | | |
|-----|------------------------|---|-----------|
| 1. | Salud F. Barroga | - | Region 1 |
| 2. | Tranquilino C. Alambra | - | Region 2 |
| 3. | Isagani O. Herrera | - | Region 3 |
| 4. | Banjamin B. Ramos | - | Region 4 |
| 5. | Fe D. Laysa * | - | Region 5 |
| 6. | Honorato Jereza * | - | Region 6 |
| 7. | Antonio R. Yap | - | Region 7 |
| 8. | Celestino S. Tampil | - | Region 8 |
| 9. | Leticia O. Manzon | - | Region 9 |
| 10. | Ernesto C. Olifernes | - | Region 10 |
| 11. | Isidro M. Gandia | - | Region 11 |
| 12. | Teofilo Andag * | - | Region 12 |

* awaiting concurrence of bureau director or regional director

2.5. Regional Integrated Agricultural Research Systems (RIARS)

Agricultural research at the Ministry is being viewed from two perspectives: the on-station activities which will deal mainly on TC type of research activities and some TV when necessary, and the on-farm trials to verify in and adapt the technology to farmers' fields. Most of the on-station research will be done at the experiment stations of the Ministry or bureaus under the technical supervision of the bureaus.

On the other hand, TV capability is being developed as a means of evolving location specific technology which would give substantial improvement over the existing farmers practices in terms of productivity and net income. The objective of TV is to compare under actual farm condition the productivity of alternative or new technology over that of the current practices of farmers. Three important features of this objective must be clearly emphasized, namely: 1) the actual farm condition will be the venue of the trials, 2) the alternative/new technology being recommended should be properly selected, and 3) the existing farmer's practices will be the basis for evaluating the alternative/new technology.

The RIARS is a program for integrated agricultural research in crops, livestock, soils and even socio-economics at the regional level, through the establishment and operation of a technology veri-

fication network (TVN). Twelve RIARS have been identified in each region. Each system is headed by a RIARS Manager, as shown below:

- | | | | |
|-----|----------------------|---|-----------|
| 1. | Agustin Oballes * | - | Region 1 |
| 2. | Agapito Ronduen | - | Region 2 |
| 3. | Libertito Feliciano | - | Region 3 |
| 4. | Conrado I. Gorzales | - | Region 4 |
| 5. | Eugenio S. Savalboro | - | Region 5 |
| 6. | Isidro Domingo | - | Region 6 |
| 7. | Nicanor Ferrer | - | Region 7 |
| 8. | Danilo Palang | - | Region 8 |
| 9. | Ramon Reyes | - | Region 9 |
| 10. | Nicomedes Balanay | - | Region 10 |
| 11. | Luis Petrache | - | Region 11 |
| 12. | Khundo Pahm * | - | Region 12 |

*include
research
station*

table

The main thrust of the RIARS is to provide a mechanism through which the region can develop its own capability in packaging the technologies appropriate to the needs and problems of the different agro-climatic zones in the area, through the following strategies:

1. institutionalize at the regional level the process of technology generation, packaging and verification leading to the development of appropriate farming systems which are biologically stable, economically viable and socially acceptable;
2. develop useful and practical technologies for the farmers through an integrated research and extension program and activities;

* awaiting concurrence of bureau director or regional director

3. involve extension workers in on-farm verification trials and packaging of technology under the technical supervision of researchers;
4. develop packages of technology for specific situations and locations;
5. develop the agri-business concept in crops and livestock production;
6. link social sciences to agricultural research in order to generate acceptable technologies;
7. develop stronger linkages with private, government institutions and foreign agencies; and
8. develop better strategies in effective technology diffusion.

The RIARS Manager is assisted by a core staff of five -- an agronomist, livestock specialist, soil technologist, extensionist and economist. Eventually, additional personnel to handle other disciplines like crop and animal protection, rural sociology and others may be needed. The RIARS is responsible for the planning, implementation, supervision and monitoring of activities in the outreach sites (farmer's field identified for verifying technology).

The major activities are packaging of mature technologies, as well as verification of cropping pattern/farming systems generated from experiment stations of the MA, ACAP members, other government institutions as well as private sectors, whether local or international. The staff is also expected to conduct TG type of research in the regional stations to backstop the MA on-station research. Specifically, the RIARS Manager and his staff will perform the following functions:

1. Evaluation of the predominant land use types and constraints and potential for the development of agricultural production in the region based on the needs of the farmers, so as to define priorities for agricultural research programs in the regions, keeping in mind possible harm to the environment through mismanagement of natural resources;
2. Testing of a technology package or its components generated at the national and regional research centers and provincial outreach sites under region-specific environmental and socio-economic condition;
3. Packaging the best technology components into appropriate cropping/farming systems for the region;
4. Characterization of the environment, including soil on which technologies are being evaluated;

5. Provision of integrated technology packages to research and extension staff doing on-farm trials under similar environmental conditions;
 6. Conduct of post-farm trial evaluation of components of the technology packages;
 7. Training of multi-disciplinary teams of research and extension staff conducting on-farm technology verification trials and demonstration; and,
 8. Coordination of other research activities in the region sponsored by government or private agricultural institutions.
- 2.6. Provincial Technology Verification Team (PTVT).

The RIARS will have the primary responsibility of operationalizing the technology verification network (TVN). It will implement, in cooperation with the PAO's, RD's, ResCors, PTVT's the TV program in farmers' fields. Initially, the team will be composed of two MA extension workers or a researcher and an extension worker. Existing Field Trial Services (FTS) technicians will be given priority for membership because of their familiarity with research methods. In cases where there are no available MA technicians who could be designated as members of the PTVT in the municipality which has been selected as the outreach site, technicians from other municipalities

may be selected provided the technicians agree to the re-assignment, and decide to stay at the outreach site, especially if their previous assignment is far from the site. The appointment should be approved by the RD upon the recommendation of the PAO in consultation with the Municipal Agricultural Officer (MAO) concerned. The PTVT is expected to operate province-wide but will initially be located at the outreach site until such time that the rest of the MA personnel in the municipality are able to handle the TV functions initiated by the PTVT. At this time the PTVT may transfer to a new location to cover the other agro-climatic areas in the province, but any transfer or re-assignment of PTVT personnel can be made only with the agreement of the RIARS manager and RD. The PTVT will be under the direct supervision of the PAO but will receive technical and financial support from the RIARS.

The PTVT will be trained for TV program/project formulation, and implementation, and the analysis and interpretation of data. Eventually the team will expand to five members to represent a multidisciplinary team composed of a crop specialist, livestock officer, soil technologist, extension specialist and agricultural economist. They will hold office in the field at the outreach site. Their functions are:

1. propose and conduct on-farm projects to verify technologies that would perform better than farmers' current practices at the site;

2. conduct and/or supervise farm surveys on current farming practices and field trials;
3. assist the local extension technicians in the dissemination of technology packages verified and in the organization of farmers' field days;
4. assist in training of extensionists, particularly on the technologies verified to be superior to farmers' current practices; and
5. provide feedback on the problems encountered by the team to the RIARS or institution(s) in the region conducting research.

Annex 1 shows the composition and function of personnel involved in the MA's TV network.

III. IMPLEMENTATION OF THE RIARS PROGRAM

The implementation and supervision of the RIARS program will be the responsibility of the RIARS manager and the RIARS core staff and will be monitored, coordinated and evaluated by the RRC through the ResCor. The RIARS manager and staff should work closely with the PAO to insure that details of project implementation particularly on inputs such as seeds, fertilizers, and others are not overlooked. They should visit the out-

reach sites regularly to provide technical backstopping and to monitor project implementation and see to it that problems are being attended to. Among other details that should be looked at are the selection of farmer-cooperators, location, design and establishment of trials and analysis of results.

3.1. Coverage of RIARS Technology Verification Network (TVN)

The TVN covers all regions/ provinces in the country. Initially one outreach site in each province will be selected but this will gradually expand to additional areas in the province in subsequent years until all major agro-climatic zones and farm conditions in the region have been covered. Each of the RIARS site should satisfy the following criteria:

1. It must represent a major agro-climatic condition in the province and the region. Among the parameters considered are rainfall, topography, slope, soil texture and land use.
2. It must have a potential for agricultural research and development particularly in crop intensification/diversification and improvement of farm practices.
3. It must be in the municipality where trials could be carried out effectively and efficiently. It must be accessible to

transportation, market, input outlets and other supportive institutions.

In the nine provinces where there are existing Rainfed Agriculture Development Outreach Sites (RADOS) under the Kabsaka Project, additional outreach sites can be selected if properly justified since these are supposed to be doing related activities on TV. Provinces with RADOS are: Ilocos Sur, Pangasinan, Mindoro Oriental, Iloilo, North Cotabato, South Cotabato, Davao Sur, Bohol and Leyte. These RADOS as well as the FTS on-farm trials and other similar on-farm technology testing activities will fall under the coverage and technical supervision of the RIARS team.

3.2. Training of RIARS core staff and PTVT.

There will be six batches of training on the principles and methodology of TV to be administered by the UP at Los Banos and the ARO. Each batch is a five-week training consisting of a theoretical phase (one week), practical on-the-job exposure (one week), benchmark survey (two weeks), and formulation and preparation of research project proposals (one week). Subject matter coverage of each phase are:

1. The theoretical training provides the basic methodology for technology verification. Initial thrust focuses on cropping systems since a pool of knowledge and experience is already

available on this subject. However, inclusion of livestock components particularly on the utilization of improved forage/pasture species and crop by-products for animal production are being introduced.

2. The practical training will be held in the cropping systems research sites located in or near the region. These sites include those under RADOS, Agricultural Service Centers (ASC) in Agusan del Sur, Bukidnon and Capiz, and IRRI outreach site of Solana, Cagayan. The trainees are expected to get on-the-job experience on the conduct of cropping systems studies by being involved in the ongoing cropping systems research activities of the outreach sites.
3. The benchmark survey seeks to describe the outreach sites which include identification of farm types, and bio-physical characteristics such as soil, irrigation, pests and diseases, weed incidence and others. This will attempt to document existing farmer's resources, farming practices, and production constraints. It will also include the gathering of information on rainfall, farm characteristics and institutional support services from secondary information and key informants. Upon completion of this activity, the trainees are expected to present an agro-economic profile of the site identifying the constraints and potentials for agricultural research, more specifically TV.

This will be the basis in the formulation and preparation of the TV program for the site.

4. The formulation and preparation of the research program will be coordinated by the ResCor and the RIARS manager. The ARO technical staff will be working closely with the RIARS/PTVT in identifying regional priorities as well as relevant activities to be conducted in their respective areas of coverage. A general program of activities for the regional/ provincial outreach sites and detailed field verification studies should be prepared.

The RIARS Manager and the PTVT shall present their programs and research projects to the RRC and a panel of research workers and representatives from ARO. The RRC will then recommend the regional program on TV to the RCC through ARO. These activities, however, are still subject to review and may change from time to time when deemed necessary. All field trial activities aimed at introducing alternative farming system shall give emphasis to increased farm income and improved nutrition.

3.3. RIARS Facilities

Compared to the research network for TG in which expensive laboratories, specialized equipment, and well-designed experimental farms are required, the physical facilities for TV are relatively simple. The primary facility is a set of sample farms upon which

both the farm survey and the field experiments are to be conducted. This facility, which will mainly be serving the RIARS core staff and PTVT, includes:

3.3.1. Field offices. Field headquarters could be provided solely for the PTVT on a programmed basis depending on the availability of funds. This will not require big and elaborate buildings but small and simple structures where the PTVT can hold office, store equipment and meet regularly, and a small place for sleeping accommodations. A mobile office similar to a trailer home is being envisioned.

3.3.2. Equipment. There will be instruments such as rain gauge and evaporation pan to measure soil and weather parameters and other equipment such as weighing scale, steel tape, and others.

3.3.3. Transportation. A means of transport for hauling, delivering farm inputs, products, tools and some equipment will be provided at the RIARS Manager's office. Each PTVT should avail himself of a motorcycle under the Special Vehicle Loan Fund (SVLF) implemented under MA, which he could own and use to visit field trials.

3.3.4. Housing. The RIARS Manager and the five core staff will be provided with housing facilities in the RIARS station.

3.4. Research Trials.

The following studies will be given emphasis by the PTVT during the initial stage:

3.4.1. Cropping pattern trials. This study will compare the performance of recommended cropping patterns with the farmers' practices. It should be noted that the recommended pattern and that of the farmer's might have the same crop components but may differ in the choice of the variety, stand establishment, fertilizer rate and timing, and other practices. Trials of this kind should be conducted in at least 5 farmer-cooperators' fields per cropping pattern/land type identified each with an area of at least 1,000 sq. meter plots.

3.4.2. Factorial trials/constraints experiment. This study will measure the contribution of each component in the package of technology to the yield gap between the recommended pattern and the existing farmer's practice. This will be conducted depending on the knowledge and experience of the PTVT since this requires extra effort in the collection and analysis of data.

3.4.3. Component technology test. After identifying the component in a package which is relatively weak and should be refined,

this study should be conducted. This trial is superimposed on the cropping pattern trials in (3.4.1). In most cases, these trials will be conducted by the PTVT particularly on promising varieties, fertilizer rates, tillage, pest management and others. Research should focus only on component technology that will immediately solve the problems and improve the technology being verified.

3.4.4. Livestock research. The project includes backyard raising of ruminants particularly carabao, cattle and goats, and in some places swine and poultry. Experiments will concentrate on upgrading and identification of crops to improve animal nutrition and health. Improved animal management could be tested against farmers' practices.

About 200 sample farms per outreach site will be picked at random for preliminary survey. From these farms, about 20-30 farms will be selected as the site of the on-farm trials. The test farms will be selected on the basis of farm features that are known to approximate the characteristic of the farm in the target area and are associated with farm productivity and farmers' willingness to adopt new practices. Among the features to be considered are land type, farm size, land tenure and existing cropping system.

For TV, these sample farms should represent a target area where the new technology package, if successfully verified, will be recommended for

adoption. Considering the close supervision that is required for TV experiments, it is practical to concentrate these sample farms within two to three barangays covering about 500 - 1,000 hectares of cultivated lands.

The RIARS manager will determine and procure the input requirement of trials per site, produce the seed requirements if necessary, and administer the packaging of mini-kits for distribution to the outreach sites. The RIARS program will provide all the needed material inputs for the TV trials (seeds, fertilizers, insecticides, etc.) while the farmer-cooperators shall provide the land and labor. All the produce from the trial plots shall accrue to the farmer-cooperator after all the necessary data are gathered unless other arrangements are agreed upon between the farmer-cooperators and the RIARS/PTVT.

3.5. Packaging of Technology

Technology that had been verified and proven to be better than existing farmers' practices shall be evaluated for possible dissemination, thus multi-location testing in different parts of the province that have similar conditions as the research site will be made. The RCC or RRC through the recommendation of ARO or RIARS, should decide what packages of technology are ready for multilocation testing. The multilocation testing should be conducted by the extension workers with technical assistance of the RIARS and PTVT staff. The extension specialist of the RIARS staff will coordinate

the planning, designing and implementation of the multilocation test.

3.6. Project Management Information System (PMIS)

A PMIS should be maintained at all levels. The ARO shall establish and maintain a PMIS unit that will monitor the TV activities of the RIARS. At the regional level, the RRO shall have the responsibility of consolidating reports from the RIARS and PTVT staff. The route of PMIS reporting is presented in Fig. 2 (p. 30).

3.7. Project Review and Evaluation System

There will be a project review/evaluation and consultation workshop that will be held at the end of the year in each region. This hopes to discuss the progress of the previous year's activities and thresh out problems/constraints encountered. During this meeting, projects for implementation during the year will be finalized. This session will be attended by the RRC, PTVT, researchers from the region and national research centers/stations and ARO staff.

After the regional reviews, there will be a national workshop to review and evaluate the national integrated programs. The RIARS

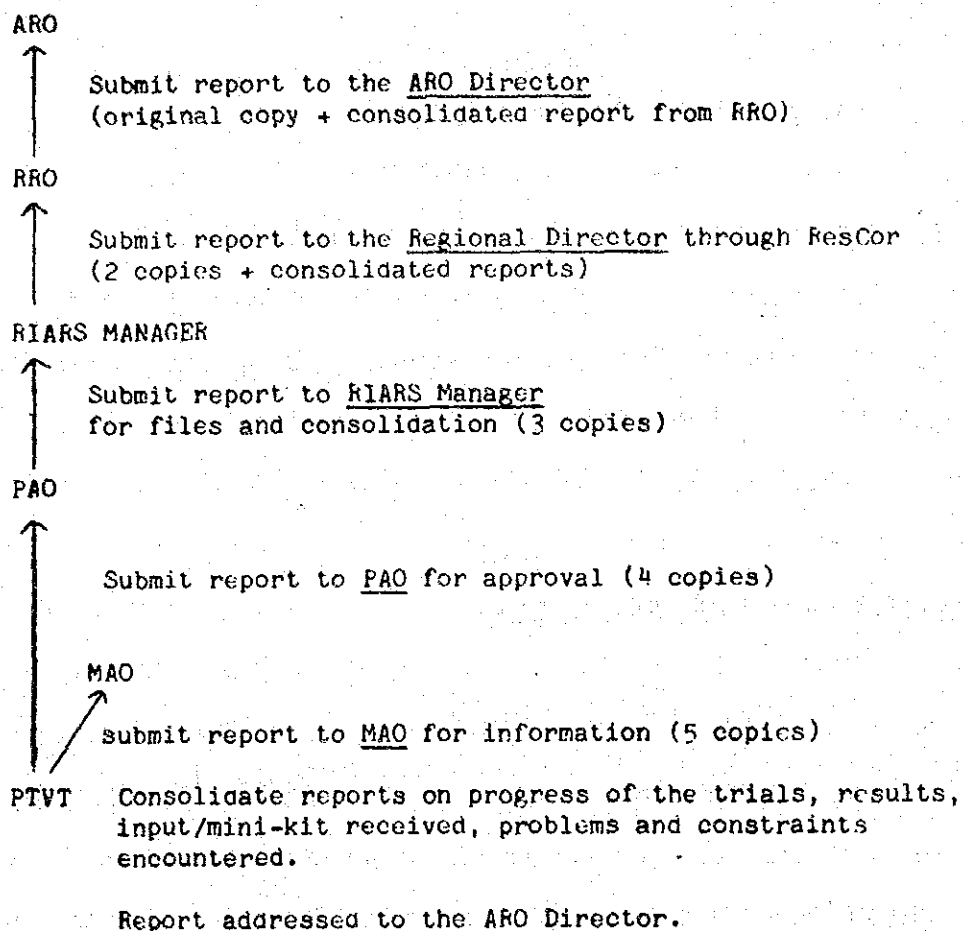


Figure 2. PROPOSED PMIS REPORTING SYSTEM

Managers, ResCors, and researchers from various research centers/
stations will participate.

IV. WORKING RELATIONSHIPS

In order to have a smooth implementation of on-going projects within its own system and in coordination with different institutions of more or less the same objectives, the Ministry is developing a coordinating mechanism through the RCC.

4.1. MA/Bureau/Region/Province.

Most of the on-station research of the Ministry will be conducted at the experiment stations of the bureaus. These stations will administratively be placed under the regional offices, but technically administered by the bureaus. Some selected stations will both be technically and administratively supervised by the bureaus but will eventually be transferred to the administrative and operational supervision of the regions at the appropriate time. Meanwhile, the on-farm research component of the Ministry will be operationalized by the RIARS and the regional offices.

The Ministry shall release the funds for the operation of the RIARS stations and outreach sites through the Office of the Regional Director of the MA. The Ministry, through the RCC and ARO, shall

provide directions and technical supervision in the planning, implementation, coordination and monitoring of programs and projects of the RIARS.

The RD, through the ResCor, shall provide administrative supervision and support to the RIARS program. As such he will sub-allot the funds of the RIARS, approve appointments, leaves of absences, etc. duly recommended by the RIARS manager. The ResCor shall assist the RD in reviewing the plans and programs of the RIARS as well as in coordinating and monitoring implementation of research activities.

The RIARS Manager will be responsible to the RD for implementing the on-farm research and TV programs in the region. He will coordinate with the PAO in the preparation and implementation of programs and provide technical supervision and support to the PTVT.

Meanwhile, the PTVT shall have a provincial mandate and will administratively be under the PAO. Nevertheless, the PTVT staff will still coordinate and consult with the MAO of the municipality where he is conducting the verification trials, inform the MAO of his activities and progress of the trials. Whenever a PTVT staff is scheduled to be transferred to another municipality, the RIARS manager's concurrence should be sought and the MAO's concerned should be informed.

The PTVT staff shall be under the technical supervision of the RIARS. Their duties as on-farm trial implementors of the RIARS in the outreach sites shall be their main responsibilities although as members of the Extension Delivery System (EDS) of the MA, they can still be called on to perform other relevant activities like assisting in the conduct of farmers' trainings, seminars and field days, but not in the extension of credit or loan collection.

4.2. MA/PCARRD

The PCARRD Executive Director and Deputy Executive Director for Research are members of the RCC and ARO, respectively. As stipulated in the Memorandum of Agreement between PCARRD and the MA signed on August 9, 1982, with specific reference to the implementation of the ASSP and other research projects of the Ministry, PCARRD will be responsible for the TG activities of ASSP. PCARRD will undertake with ARO the evaluation of research proposals of agencies in the National Research System requesting financial support from the TG fund of ASSP, which will be given as grant-in-aid to agencies concerned. PCARRD will facilitate the collation, packaging and dissemination of results obtained from verification trials to the RIARS which will test them in farmers' fields at the outreach sites. As a matter of procedure, proposals on TG and TV under ASSP will be submitted to PCARRD through ARO and the RCC, for evaluation and approval. The proposals will be jointly processed by ARO and PCARRD within one month. PCARRD and ARO will endorse the proposals to the

RCC for approval and funding and to the PCARRD Governing Council through the PCARRD Executive Director for final approval. PCARRD will also assist the PMO of ASSP and AFO in the submission of the Ministry's research proposals to be funded by ASSP, to the World Bank by October 31, 1982 and every October 31 of each year, thereafter.

4.3. MA/UPLB/ACAP/Other Agricultural Institutions

In line with the MA's role of implementing impact research and development programs for the Philippine countryside, the UPLB has been assigned the task of generating production technologies for the small farmers along the farming systems concept. On August 31, 1982 a Memorandum of Agreement between the MA and UPLB was entered into for the implementation of the Small Farm Systems (SFS) program.

Specifically, the UPLB agreed to:

1. conduct technology generation research in support of the farming systems thrust of the MA;
2. conduct training programs for the various MA personnel involved in the implementation of farming systems program;
3. provide technical assistance/advisory services to the small farm systems teams at the various MA's RIARS in the conduct of TV

- studies on farming systems and in the operationalization of farming systems projects at the provincial and barangay levels;
4. monitor for MA the implementation of farming systems programs by other agencies and provide policy guidelines/research and development directions in farming systems research.
 5. establish national linkages necessary to provide technical support to the farming systems program.

The MA through the ARO shall:

1. provide the necessary funding support from the ASSP loan package for the above;
2. make available facilities/resources in the RIARS and regions necessary to implement mutually-agreed research programs;
3. conduct on-station and on-farm verification trials;
4. coordinate through the RD's and PAOs the dissemination and utilization of proven farming systems technologies in the various farming communities.

Research under the SFS may be conducted at the UPLB or in the region or it may be coordinated with ACAP and other agricultural

institutions with research capability for technology generation.

In regions where there are existing colleges and universities composing the regional research consortia, proper linkage between the ARO and the consortia will be established to make possible a more efficient coordination and implementation of research programs and projects in the region.

4.4. MA-IRRI.

Some experiments conducted in the farmer's fields by the IRRI cropping system, Rice Production Training and Research (RPTR), Engineering and other departments were made in collaboration with MA personnel. These research shall be coordinated by the RIARS so that the regions will be benefitted by the results of the experiments. Further verification of this experiment could be done by the RIARS or the PTVT Staff. Likewise, IRRI researchers who would like to conduct research in the RIARS outreach site could coordinate with the RRC and RIARS in the site so that these could be channelled through the PTVT's for on-farm testing.

Meanwhile, the IRRI and the Ministry have initiated a semi-annual dialogue involving IRRI scientists and the RIARS managers, ResCors and RD's of the Ministry in an attempt to properly channel their research efforts towards the solution of existing major problems on rice production. During these meetings IRRI scientists

present their findings to the Ministry and obtain first-hand feedback on them. The Ministry, on the other hand, provides IRRI up-to-date information on the problems of rice production being experienced by the farmers. Through these dialogues which shall take place before the wet and dry season rice crops are planted, it is anticipated that a mechanism for a more rapid transfer of technology from IRRI to the national program can be effected.

The first consultation, held last October 1-2, 1982, proved quite fruitful and plans for the follow-up consultation in March, 1983 are now being made. The IRRI Director expressed the wish to maintain a continuous dialogue between MA-Research and Extension personnel and IRRI scientists through these consultations.

4.5. Relation of RIARS with Organizations Undertaking Similar Projects in the Region.

The RRC will serve as the umbrella organization in the region of all agricultural research activities involving the Ministry including those research components of various foreign-assisted projects such as:

1. the Agricultural Service Center (ASC) in Agusan, Bukidnon and Capiz under the 2nd IBRD Resettlement Project.
2. Philippine-Australian Development Assistance Project (PADAP) in Zamboanga del Sur and Northern Samar.

3. Bicol River Basin Development Project (BRBDP) in Region V.
4. Cagayan Integrated Area Development Project (CIADP) in Region II.
5. Rainfed Agricultural Development (Iloilo) Project - Adaptive trials component in Iloilo and eight (8) other provinces.
6. Palawan Integrated Area Development Project (PIADP) in Region IV.
7. Farming Systems Development Project in Eastern Visayas and Bicol.
8. Central Visayas Rural and Urban Development Project and Bohol Integrated Agricultural Development Project in Region VII.

All experiments/trials conducted in farmers' field which include: the FAO-NFAC Fertilizer trial, FTS trials, RADOS, URARTIP trials, and others which are being conducted by the Bureau of Soils must be properly channelled through the RRC/RRO and be coordinated with the RIARS. In case these trials are to be conducted in the municipality where the RIARS outreach site is located, the PAO should see to it that these trials are implemented by the PTVT. All other trials conducted outside the outreach site shall be

implemented through the regular scheme. If necessary, TV trials in farmers' fields could be financed by the RIARS.

If effective, the package of technology will be considered for inclusion in a production program. This production program might have a provincial and/or regional focus. At this stage, institutional arrangements as to credit, input delivery, marketing, infrastructure and others should be considered.

V. CONCLUSION

We are confident that the Ministry of Agriculture is headed in the right direction in its effort to provide more relevant farming systems technologies to the nation's small farmers. The basic structure of the Ministry's research system has been established. The linkage between research and extension is also being strengthened. But the RCC is still working out the details for the smooth operation of its on-station and on-farm research system. The next few years will be busy, formulative years which will require the undivided attention of the RCC and the Ministry's regional offices to insure that the final organizational structure of the MA's research system will fulfill the Ministry's research mission of increasing farm incomes, increasing food production generating rural employment and improving the nutritional status of the population.

Annex 1. COMPOSITION AND FUNCTION OF PERSONNEL INVOLVED IN
THE TECHNOLOGY VERIFICATION NETWORK (TVN)

LEVEL	COMPOSITION	FUNCTION
National	<p>Research Coordinating Committee Deputy Minister - Chairman Bureau Directors, ARO Director, and PCARRD Director General - Member</p> <p>Technical Committee</p> <p>Agricultural Research Office (ARO) Technology Verification Division - field trials officer - soil technologist - livestock officer - agricultural economist - extension specialist</p> <p>Senior Research Coordinators</p> <p>Consultants</p>	<ul style="list-style-type: none"> • Policy making body. • Establishes agricultural research priorities of MA. • Evaluates technology package to be verified for dissemination. • Selection of target area and outreach sites. • Identifies priority areas of technology verification. • Prepare integrated program on technology verification. • Monitor and evaluate the implementation of TV activities by SIAB3. • Recommend, for the approval of the RCC the adoption of a verified package of technology for dissemination by the extension service. • Liaison and facilitates the TV activities in the region. • Provide feedback and trouble shoot technical problems that will arise during the implementation. • Review and evaluate proposed projects on technology verification. • Design and recommend experiments to answer specific problems encountered in the site. • Advise ARO in selecting packages of technology that are ready for adoption.

F U N C T I O N

C O M P O S I T I O N

L E V E L

LEVEL	COMPOSITION	FUNCTION
Regional	Regional Research Committee (RRC) Regional Director - Chairman RAO's, ResCor, RIARS Manager - Members Regional Research Office (RRO) - ResCor Regional Integrated Agricultural Research System (RIARS) RIARS Manager - crop specialist - soil technologist - livestock officer - extension specialist - agricultural economist RIARS Core staff	<ul style="list-style-type: none"> • Counterpart of RRC in the region who will establish regional agricultural research priorities. • Acts as secretary of the RRC, and Plans, monitors and coordinates agricultural research project of RA in the region. • Evaluate predominant land use types, constraints and potential areas for agricultural research. • Package technology for testing. • Test technology package components generated at the national and regional research centers. • Summarize and evaluate results of on-farm trials. • Recommend to RRC verified technology package that are ready for dissemination.
Outreach Site	Provincial Technology Verification Team (PTVT) Farmer Cooperators	<ul style="list-style-type: none"> • Propose projects for technology verification. • Conducts and supervises field trials and/or farm surveys. • Collects and summarizes all required information. • Submit recommendation to the RIARS manager based on the result of on-farm verification trials. • Assists the local extension technicians in the dissemination of verified package of technology and in the organization of farmer's field day. • Cooperate with the PTVT by providing his farm and labor in the conduct of the trials. • Suggest modification on the technology package to be verified as it suits his farm condition.

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〔同仮訳〕

I はじめに

比国の農業研究の発展に2つの局面が重大な影響を及ぼしているが、最初は農業と天然資源の研究を管理調整するPCARRDの創設であり、次は林業の試験研究を行うFORIの設立であった。

FORIとPCARRD設置の目的は、試験研究活動の無用な重複や細分化を避け、少ない資金を有効に活用するために、強い調整機能が必要であるとの要請にこたえて作られたものである。これら2つの機関は、効率的な研究調整機能を果たすべき先兵としてArturo R. Tanco, Jr. 農業大臣によって創設され、その有用性が確められた。次の必然的なステップは農業省の試験研究体制を改善することである。

1981年までは、農業省の農業研究は各局(Bureau)によって行われていた。BPIは作物のBAIは畜産の、BSは土壌の研究を所掌していた。

しかし、農業の試験研究機構の厳しい見直しの結果、いくつかの欠陥がはっきりした。類似の実験施設を各局が所有していたり、又各局は適当な施設や経常経費を用意しないまま多くの研究ネットワークを保有していた。他方省内の研究者の間では、協力して行くべきであるという機運が存在していた。

農業省の研究機構は小規模農家の要望にこたえるべく、いっそう効率的に再編する必要性は明白であった。しかし、この改革は、各局ベースではなく、各地域間の活発な参加を得て、全農業省的観点から企画し、優先順位をつけることによって達成できるものである。他方農民の側からも、単一の作目の生産に専念するよりも、適当に組み合わせた生産によって、農地を総合的に利用することによって、より利益を求めるといふ要望があり、より経済的な生産的な農業技術を農民に提供すべきであるという現在の農業政策に適合するものである。このような農業システムの採用は、農家に対し成功の機会を増大し、リスクを軽減するという効果をあげることができる。このように、おのおの異なる農業、気候及び土壌の条件下にあるフィリピン農家に適当な農業技術のシステムを提供するために、農業省は農業の試験研究を総合的に推進する必要性が増大してきたのである。

II The Agricultural Support Services Project (ASSP)

1982年8月、ASSPのためのローン契約が調印された。ローンの目的は、普及計画(NEP)と十分な連携をとっていなかった農業支援計画を、農業省が推進する機能を強化するためのものであり、これらの支援計画とは農業の試験研究、作物、畜産の定型的な企画活動や現地サービス等があげられる。

ASSPの主要な役割は農業の試験研究であり、主たる目的は小規模農家のためにより適切な技術の開発を可能にする機構の確立であり、最終利用者にこれらの技術を速やかに普及させる機構をも確立することである。このためには、試験研究機関で開発された技術をテストし、

実証し、かつ地域や州の特性に適應するように改善する役割を担い、regional officeの能力を開発する必要がある。こうして農業省が農家の圃場に働きかけ、かつ農民により役に立つよう各局の試験研究機関と地域の研究者普及要員相互の役割分担を適切にする必要がある。

このため下記の措置をとる

1. 農業省の全研究活動の調整を推進するためMinistry Research Coordinating Committee (RCC)とAgricultural Research Officeの創設
2. 農業省はRegional Integrated Agricultural Research System (RIARS)を設置して新技術の実証ネットワークを組織しする。
3. ロスバニヨスのフィリピン大学(UPLB)の作物育種研究所の強化
4. UPLBのfarming system research programの創設
5. PCARRDのNational Research Networkにおける農業の技術創出活動の推進
6. PCARRDによるapplied communication programの推進

applied communicationsを包含したTG研究計画の実施は、農業省と緊密な連絡を保ちつつPCARRDによって推進させる。ASSPは農業省の必要とする各機関の研究計画をPCARRDが評価し承認したものについて支援する。

UPLBのfarming systems research programは農業省が各regionにおいて利用できるsmall farming systems technologyを開発する任務を負う。特に、この計画は農業省や他の機関が計画していることと関連を保ちつつTGとTV計画に責任をもつ。またRIARSに対し、技術的助言活動を行うことになっている。また導入可能な技術の普及と併用についても調整機能を果たす。他方各regionにおける小規模農家のためのfarming systemを開発するために、必要な技術的支援が得られるよう、他の大学やカレッジと全国的な連携機能をもつようにする。

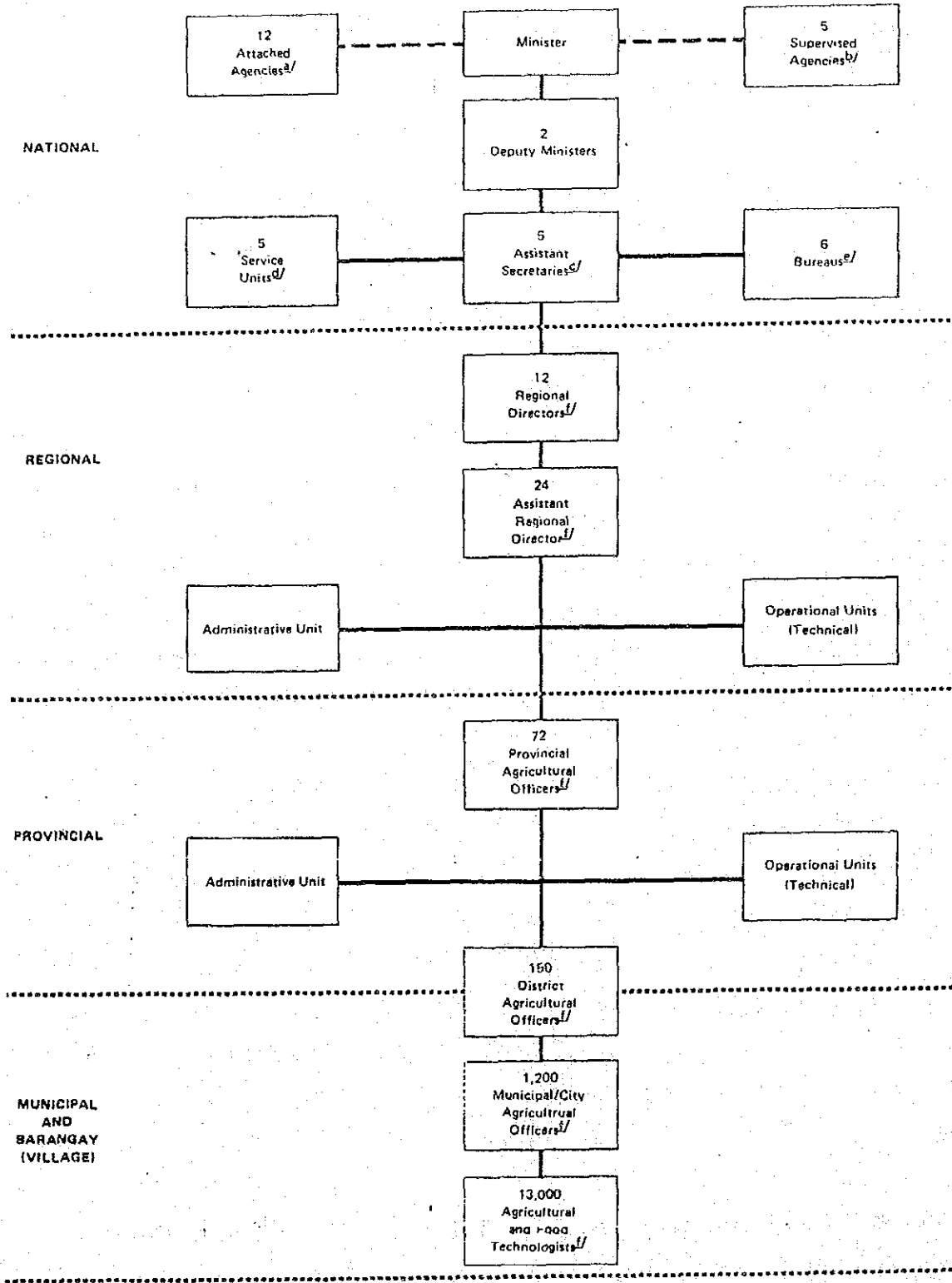
農業研究分野におけるASSPの重点項目は、RIARSを通して実施されるTechnology verification (TV)である。この計画を通して、農業省は成熟技術の現場におけるテストを普及員や農家と実施できることとなり、また特定areasの小農家の特殊な条件にも合致した調整のとれた全国的、またregion規模の改善策を作成することができる。テストされる成熟技術は、特別な物量をパッケージした技術の改善であったり、より適切な作付様式であったり、作業体系であったりする。実証テストはfarmer-Cooperatonや、普及員によって農家の圃場で実施され、実質的に耕種基準(farm-specific recommendations)となるものである。

本計画の第2の要件は、現場における農業行政、基準の改善である。これには、肥料農業等の分析や種苗検定、検疫、食品分析、家畜の現場指導、疾病の診断、ワクチン製造その品質管理等の改善が必要である。

最後に、農業の企画分野においては、農業省や各regionの計画、プロジェクト立案、実行、管理、モニタリング及び第2回全国栄養調査の実施面等における能力向上を意図している。

世界銀行によるASSPアブレイザルレポートは、Research Coordinating Committee や Agricultural Research Office 及び 12 の Regional Research Committees の設置を決めている。これらの組織は全国的・地域的なレベルで全農業省の研究計画を planning, programming, Coordination, evaluation and monitoring することとなっている。図1は農業省の研究システムの概念的な機構図を示している。

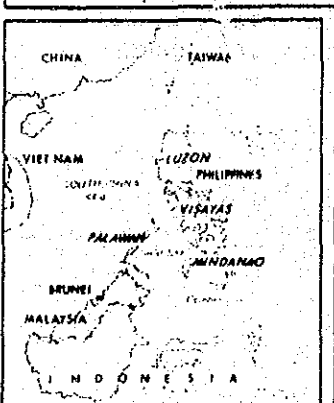
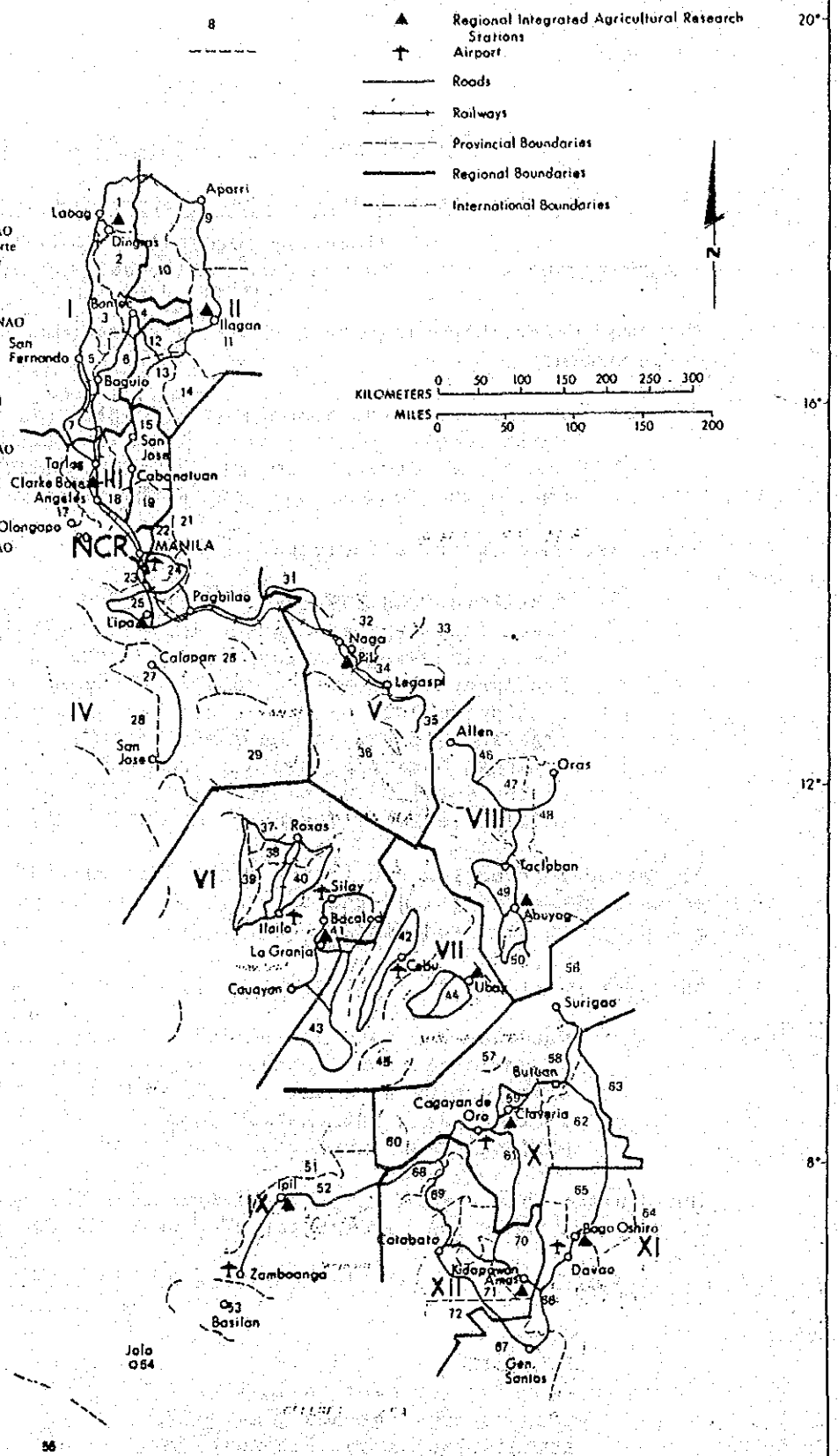
PHILIPPINES
2.2. AGRICULTURAL SUPPORT SERVICES PROJECT
Reorganized Ministry of Agriculture (as of May 1981)



CLASSIFICATION OF PROVINCES
BY GEOGRAPHICAL REGIONS

- NCR NATIONAL CAPITAL REGION**
- I ILOCOS**
 - 1 Ilocos Norte
 - 2 Abra
 - 3 Ilocos Sur
 - 4 Mountain
 - 5 La Union
 - 6 Banguet
 - 7 Pangasinan
 - II CAGAYAN VALLEY**
 - 8 Batanes
 - 9 Cagayan
 - 10 Kalinga-Apayao
 - 11 Isabela
 - 12 Ifugao
 - 13 Nueva Viscaya
 - 14 Quirino
 - III CENTRAL LUZON**
 - 15 Nueva Ecija
 - 16 Tarlac
 - 17 Zambales
 - 18 Pampanga
 - 19 Bulacan
 - 20 Bataan
 - IV SOUTHERN TAGALOG**
 - 21 Quezon
 - 22 Rizal
 - 23 Cavite
 - 24 Laguna
 - 25 Batangas
 - 26 Marikina
 - 27 Mindoro Oriental
 - 28 Mindoro Occidental
 - 29 Romblon
 - 30 Palawan
 - V BICOL**
 - 31 Camarines Norte
 - 32 Camarines Sur
 - 33 Catanduanes
 - 34 Albay
 - 35 Sorsogon
 - 36 Masbate
 - VI WESTERN VISAYAS**
 - 37 Aklan
 - 38 Capiz
 - 39 Antique
 - 40 Iloilo
 - 41 Negros Occidental
 - VII CENTRAL VISAYAS**
 - 42 Cebu
 - 43 Negros Oriental
 - 44 Bohol
 - 45 Siquior
 - VIII EASTERN VISAYAS**
 - 46 Northern Samar
 - 47 Samar
 - 48 Eastern Samar
 - 49 Leyte
 - 50 Southern Leyte
 - IX WESTERN MINDANAO**
 - 51 Zamboanga del Norte
 - 52 Zamboanga del Sur
 - 53 Basilan
 - 54 Sulu
 - 55 Tawi-tawi
 - X NORTHERN MINDANAO**
 - 56 Surigao del Norte
 - 57 Camiguin
 - 58 Agusan del Norte
 - 59 Misamis Oriental
 - 60 Misamis Occidental
 - 61 Bukidnon
 - 62 Agusan del Sur
 - XI EASTERN MINDANAO**
 - 63 Surigao del Sur
 - 64 Davao Oriental
 - 65 Davao
 - 66 Davao del Sur
 - 67 South Cotabato
 - XII CENTRAL MINDANAO**
 - 68 Lanao del Norte
 - 69 Lanao del Sur
 - 70 North Cotabato
 - 71 Maguindanao
 - 72 Sultan Kudarat

PHILIPPINES
AGRICULTURAL SUPPORT SERVICE PROJECT



This map has been prepared by the World Bank's staff exclusively for the convenience of the readers of the report to which it is attached. The denominations used and the boundaries shown on this map do not imply, on the part of the World Bank and its affiliates, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

PHILIPPINES

AGRICULTURAL SUPPORT SERVICES PROJECT

Reorganized Ministry of Agriculture (as of May 1981)

(Explanatory Notes Chart 1 --

Authorizing Instruments and Dates of Establishment shown in parenthesis)

a/ The twelve attached agencies include four Government-owned and controlled corporations:

Philippine Tobacco Administration (RA 25, 6/16/54)
Philippine Virginia Tobacco Administration (RA 2263, 6/19/59)
Coconut Investment Company (RA 6260, 6/11/71)
Philippine Cotton Corporation (PD 250, 12/22/78)

Other attached agencies include:

Fertilizer and Pesticide Authority (PD 1144, 5/3/77)
Abaca Industry Development Authority (PD 1208, 10/8/77)
Philippine Virginia Tobacco Board (EO 331, 3/10/71)
Presidential Committee on Agricultural Credit (PD 792, 9/7/74)
Philippine Agricultural Training Council (EO 307, 3/23/71)
Pagkian ng Bayan National Advisory Council (EO 620, 9/11/80)
National Governing Board of the Philippine Training Center
for Rural Development (PD 1145, 5/30/77)
Philippine Dairy Corporation (PB BLC 21, 3/27/79)

All attached agencies can accept funds from outside MOA, under agreements between the agencies and the donors. MOA coordinates these agencies' plans and programs to match Ministry priorities.

b/ Agencies under the administrative supervision of MOA include:

National Food and Agricultural Council (EO 183, 5/6/69)
Green Revolution Expanded Program Action Committee (EO 418, 7/26/73)
Livestock Development Council (PD 914, 3/29/76)
National Rain Stimulation Committee (EO 212, 2/17/70)
National Meat Inspection Commission (PD 7, 10/1/72)

The Ministry has a role in policy formulation for these agencies. Their budgets are under MOA, except for NFAC which is controlled by the agency.

c/ Created under AO 2, 1981, implementing PD 1579, 6/11/78:

Crops
Livestock
Planning (by designation)
Cooperatives (by designation)
Administration and Finance

- d/ Planning (PD 1, 7/21/72)
Financial and Management (PD 1, 7/21/72)
Administration (PD 1, 7/21/72)
Computer Center (LOI 9, 1973)
Agrarian Reform Unit (LOI 9, 1973)

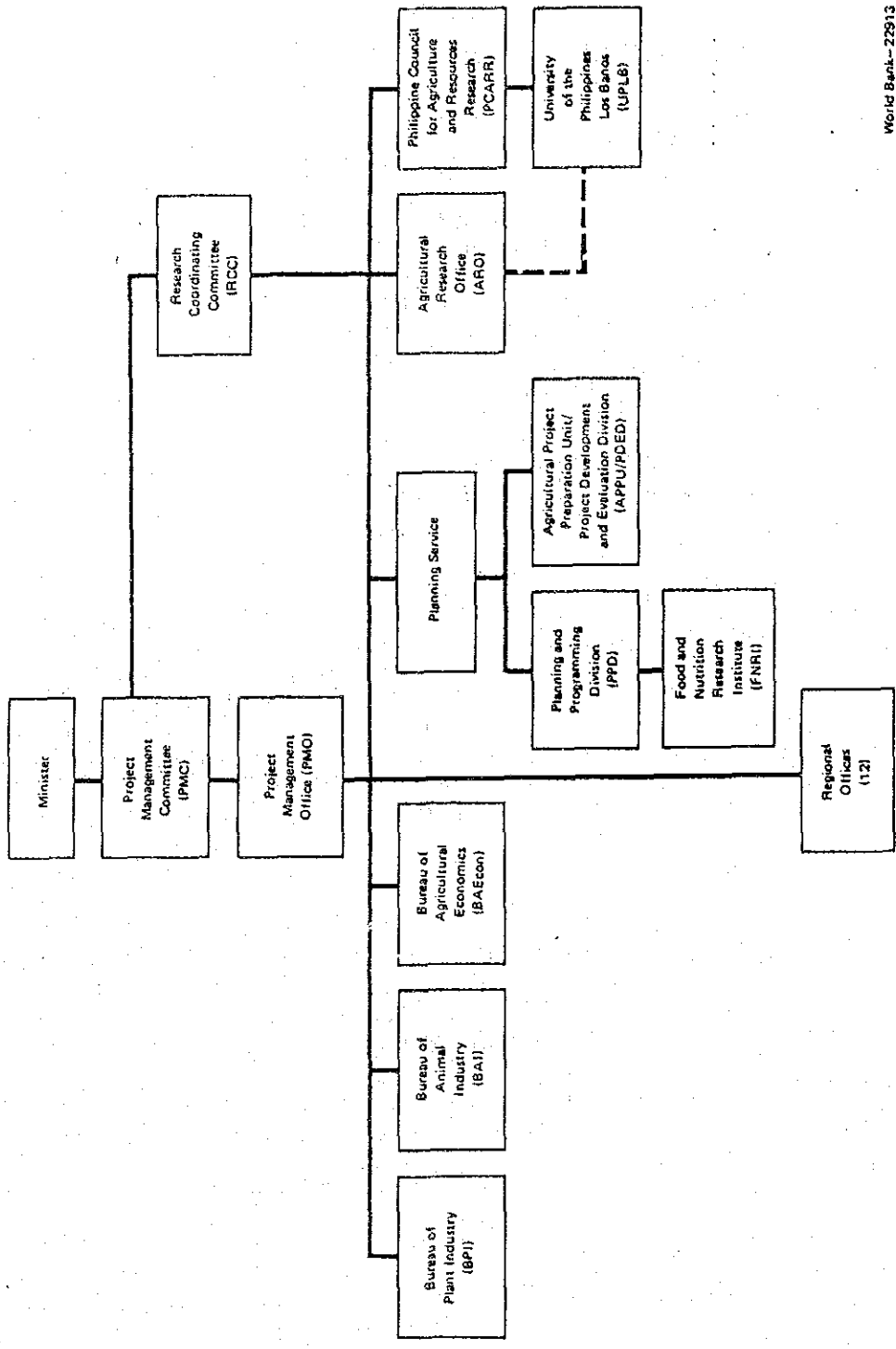
- e/ Bureau of Plant Industry (BPI) (RA 3639, 10/7/29)
Bureau of Animal Industry (BAI) (RA 3639, 10/7/29)
Bureau of Soils (BS) (RA 622, 6/5/51)
Bureau of Agricultural Extension (BAEx) (RA 680, 4/24/52)
Bureau of Agricultural Economics (BAEcon) (RA 3627, 6/22/63)
Bureau of Cooperative Development (BCOD) (Section 2, EO 395, 5/22/80)

- f/ Created under PD 1579, 6/11/78.

Assistant Regional Directors for Crops and Livestock in
twelve regions.

Chart 2
Page 1

PHILIPPINES
AGRICULTURAL SUPPORT SERVICES PROJECT
Organization for Project Implementation



World Bank-22913

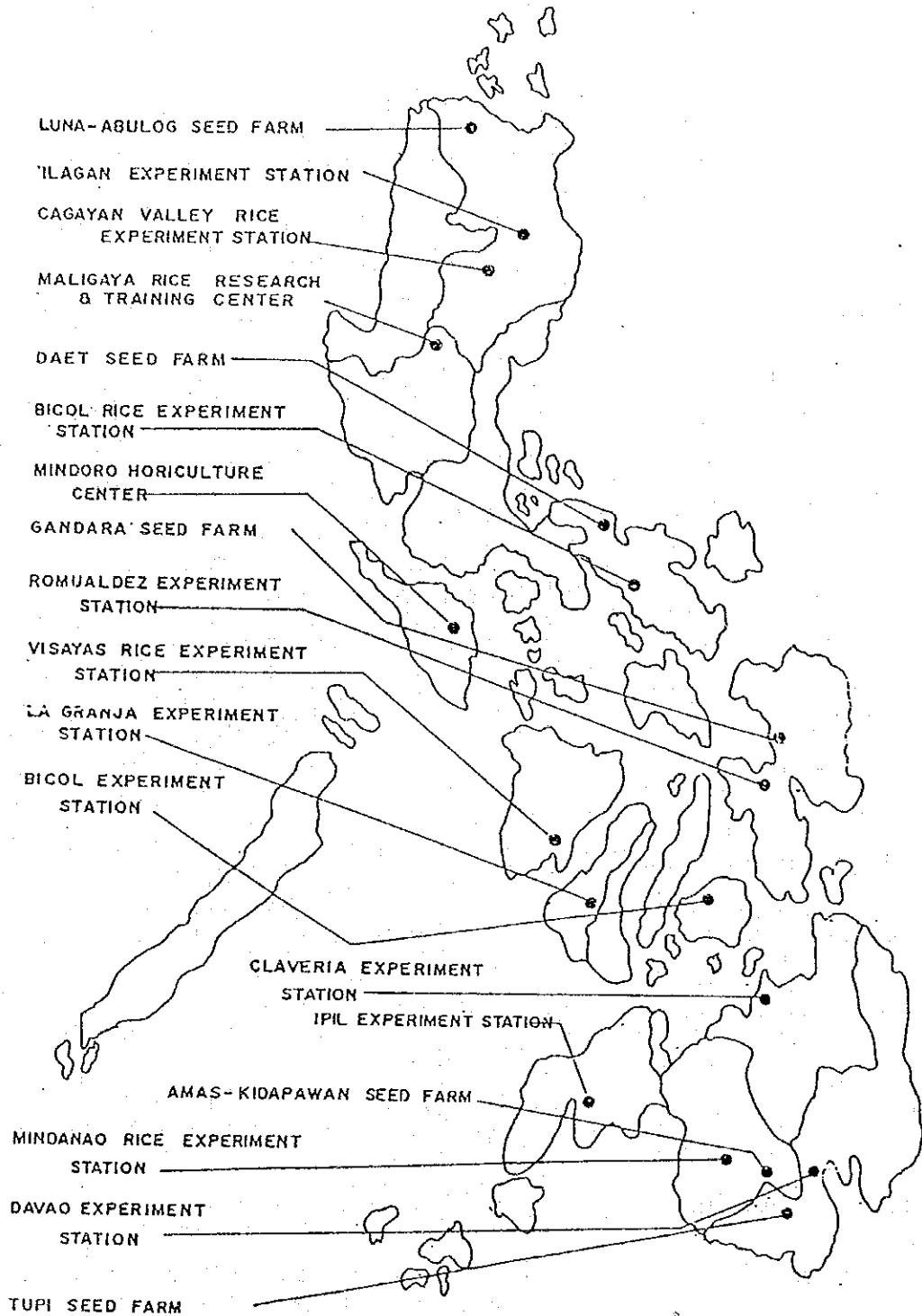
PHILIPPINES
AGRICULTURAL SUPPORT SERVICES PROJECT
Organization for Project Implementation

(Explanatory Notes Chart 2)

The following agencies are responsible for implementing the project:

<u>Agency</u>	<u>Project Component</u>
Project Management Office	-- Administration -- Transportation -- Training
Bureau of Plant Industry	-- Commodity Analysis -- Plant Certification -- Plant Quarantine
Bureau of Animal Industry	-- Feed Analysis -- Livestock Quarantine -- Livestock Field Services -- Livestock Disease Diagnosis -- Vaccine Production -- Vaccine Quality Control
Bureau of Agricultural Economics	-- Data Development
Planning and Programming Division of the Planning Service	-- Food and Nutrition (Plan) -- Agribusiness
Agricultural Project Preparation Unit/ Project Development and Evaluation Division of the Planning Service	-- Agricultural Project Preparation
University of the Philippines at Los Banos	-- Institute of Plant Breeding -- Small-Farm Systems Research Program
Philippine Council for Agriculture and Resources Research	-- Technology Generation -- Applied Communications
MOA Regional Offices	-- Regional Integrated Research Stations (RIARS) -- Technology Verification
Food and Nutrition Research Institute	-- National Nutrition Survey

2.3. B P I 管轄 Station の設置場所



JICA team here maps activities

A team of the Japan International Cooperation Agency (JICA) arrived here early this week to start the assessment of the forthcoming activities at the Agricultural Promotion Center in Dao which will be operational next year.

The construction is expected to be finished in December this year, according to the assurance of Ambassador Yoshio Okawa during the ground breaking ceremony two weeks ago.

(Continued on page 6)

JICA from p. 1 ago.

According to Architect Venerando Dumadag, provincial development coordinator who is escorted the JICA team, the group has pinpointed probable problems which might hamper the APC objectives.

The main purpose of the agricultural center which is the first of its kind in the country is to promote the agricultural development through the extension of technologies suitable for the area and the efficient implementation of relevant tests and studies in order to promote agriculture in Bohol as part of the Bohol Integrated Area Development project.

The contents of activities will undertake researches for the purpose of improving the agricultural technologies suitable for the natural conditions of the province. It will also facilitate the training activities for the agricultural technicians to evaluate their skill by introducing the most up-

dated technologies.

The central department of the agricultural promotion center for research, training and extension activities will be located in Dao while the rice research and livestock department are located in Ubay which is the rice farming area of Bohol. Another extension is being constructed at the Bohol Agricultural College in Bilar.

The consultant firm of the project is the Kume Architects Engineers which is being collaborated by the Philippine International Consultants, Inc. The general contractor is the Kumagai Gumi Co., Ltd. while the sub-contractor is the Summa Kumagai, Inc. with Engr. Exequiel Madriñan, Jr. as the project manager.



JICA