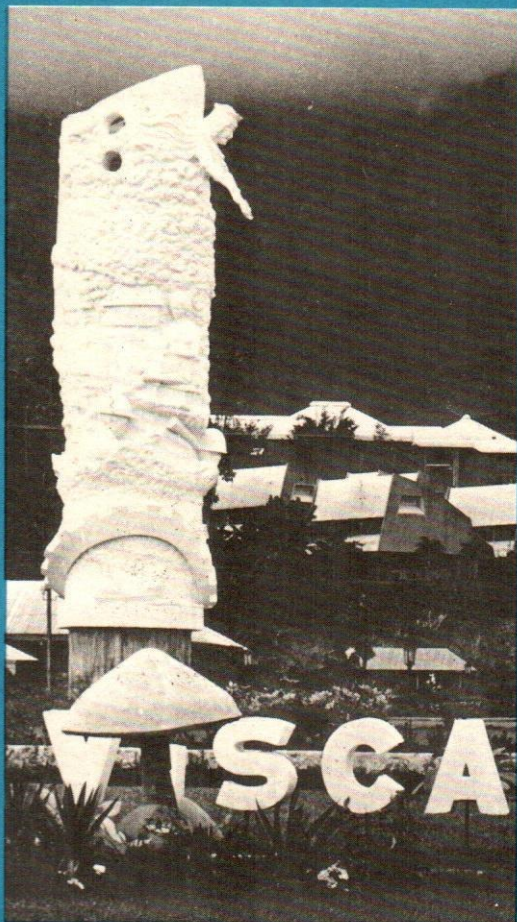


MOVING TOWARDS  
EXCELLENCE  
IN INSTRUCTION,  
RESEARCH, AND EXTENSION  
FOR AGRICULTURAL  
AND RURAL DEVELOPMENT

# 1984 Annual Report





The VISCA Annual Report is published in English and is intended for many purposes. One, and perhaps the more important of these, is to inform the members of the VISCA Board of Trustees, donors, collaborators, and the interested public of the highlights of VISCA's work. Results reported herein are those achieved within the year 1984.

This report is published by the Management Information Unit of the Visayas State College of Agriculture at Baybay, Leyte. The staff members contributing to its production are:

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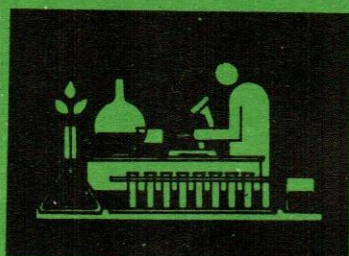
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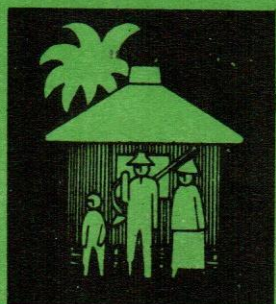
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# VISAYAS STATE COLLEGE OF AGRICULTURE

Baybay, Leyte 7127  
Philippines

## OFFICE OF THE PRESIDENT

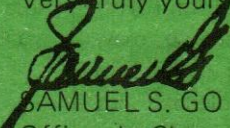
September 1, 1985

Hon. Jaime C. Laya  
Chairman, ViSCA Board of Trustees and  
Minister of Education, Culture and Sports  
Metro Manila

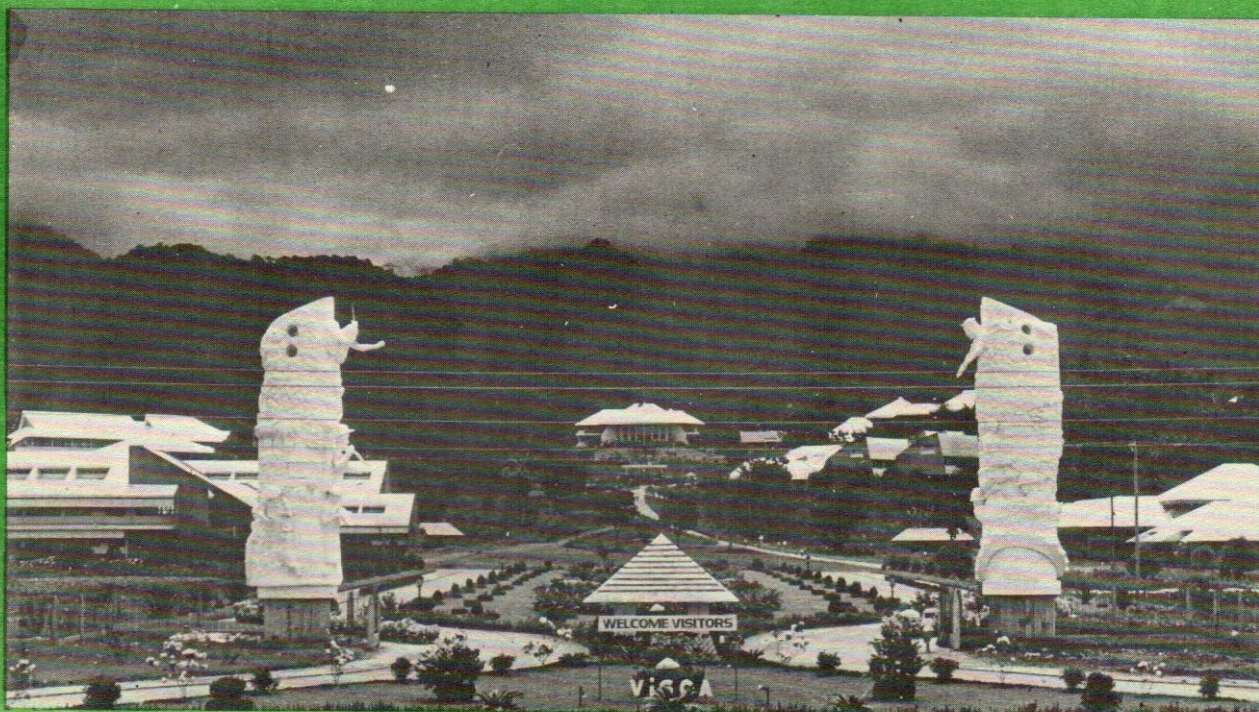
Sir:

I wish to submit to you and the members of the Board of Trustees of the Visayas State College of Agriculture the Annual Report of the College for Calendar Year 1984 in compliance with the Department Memorandum Circular No. 55, series of 1978 of the Ministry of Education, Culture and Sports.

Very truly yours,

  
SAMUEL S. GO  
Officer-In-Charge





A decade has passed since the Visayas State College of Agriculture of Baybay, Leyte was converted into a chartered state college of agriculture. With a graceful exit, the year 1984 closes . . . giving way to new horizons and greater challenges.

Looking back through the years, ViSCA has managed to forge ahead unwaveringly in its dedicated efforts to search for betterment in agriculture and rural development. Despite the country's poor economic condition in 1984, ViSCA continued to exhibit steady gains and manifest its ability to respond to various adversities. It has reaped noteworthy breakthroughs and gained more national and international recognition which has propelled the college into the forefront among agricultural institutions in the country. Specifically, ViSCA's accomplishments in Calendar Year 1984 are highlighted as follows:

### INSTRUCTION

#### Curricular Programs

In response to the clamor of agricultural and vocational administrators, employees, and the teachers' need for intensive training in their respective fields, Agricultural Economics and Language Teaching for agro-technical schools were implemented in SY 1984-85 as additional fields of specialization under ViSCA's graduate program. With these new major fields, ViSCA's curricular offerings add up to a

total of 6 major fields in the Master of Science and 8 major fields in the Master in Agricultural Development Program. The Bachelor of Science in Agricultural Chemistry degree was also implemented in SY 1984-85 as an additional undergraduate program. Thus, making the current offerings to 9 bachelor's degrees with 19 major fields and the two 2-year technician courses.

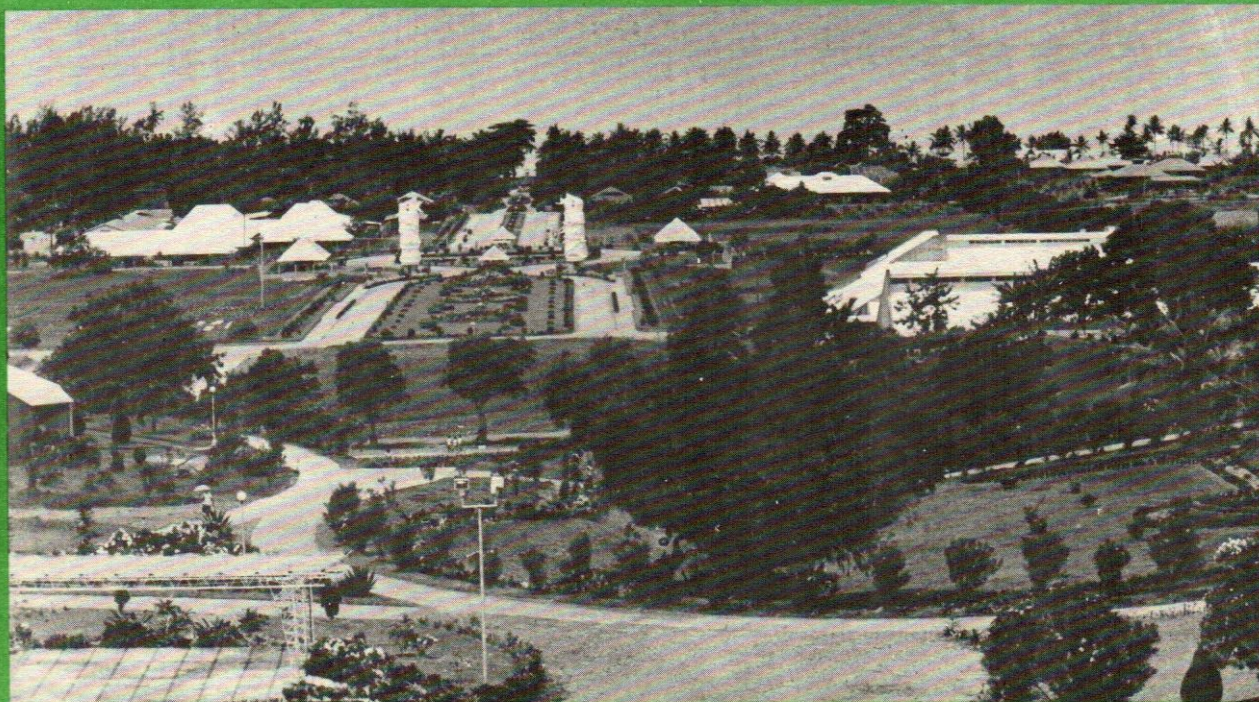
The Extramural Program (EMP) of ViSCA also gained headway in 1984. Selected academic staff slated to teach courses extramurally were oriented on the rationale, po-

licies, and procedures in the implementation of EMP as well as in the preparation of materials and study guides. Key officials directly involved in the ViSCA EMP were also sent to Massey University, New Zealand for further training.

#### Student Enrolment

While a decline of student enrolment has been observed in most agricultural schools, ViSCA continued to attract more students. For three consecutive years, student population steadily increased be-





yond the figures of the previous years. In SY 1982-83, there was an increase of 3.3 percent; in SY 1983-84, 12.0 percent; and in SY 1984-85, 6.2 percent.

On the geographical location of students, ViSCA has been constantly accomplishing its objectives of serving the Visayas region. This is manifested by the fact that the current and past year's records showed that the bulk of its total student population comes from the three regions of the Visayas, the mandated service area of ViSCA.

#### **Student Scholarship/Financial Assistance**

ViSCA continued expanding its student financial assistance program so that promising and deserving poor students could be provided with greater access to educational opportunities. Assistance given in 1984 was in the form of scholar-

ships to students performing high scholastic ratings; grants-in-aid to children of low-income families and those with exceptional talents; work-study grants to students with less academic units; and extending emergency loan to students.

In the first semester of SY 1984-85, a total of 838 students or 37.4 percent of the total student population were able to avail of various scholarships and grants-in-aid programs sponsored by ViSCA, other government as well as private agencies, and civic organizations. Likewise, a total of 1,689 students availed themselves of ViSCA's student assistantships and emergency loan fund programs.

#### **Graduates**

Production of a well-trained manpower relevant to the agricultural and rural development needs of the region continued to be one

of the ultimate goals of the college. Thus, in school year 1984-85, ViSCA turned out 256 graduates, 11 of which graduated from the masteral program, 175 from the undergraduate program, and 73 from the high school. This marked the 32nd time that ViSCA confirmed degrees to its college graduates and 55th time for the high school.

It is worthwhile mentioning that in 1984, a total of 27 ViSCA alumni passed the licensure board examination given by the Professional Regulation Commission (PRC) in Manila. Seven of them were graduates of the Bachelor of Science in Forestry and 20 of the Bachelor of Science in Agricultural Engineering.

#### **Staff Strength**

Among the meaningful accomplishments of ViSCA in its 10





years of existence as a state college is the continuous growth of its faculty and staff members. As of 1984, ViSCA has 210 academic staff members on actual duty, 65.3 percent of whom come from the 14 academic departments, 19.5 percent from the research and training centers, and 15.2 percent from the high school. Of this number, there are 46 with a Ph.D. degree, 88 with a master's degree, and 76 with a bachelor's degree — a number which continues to register the largest pool of agricultural experts in the Visayas and the second largest in the country next to U.P. Los Banos. This figure expects to increase further upon the return of 61 staff members who are still on study leave. Thirty-three of these are working on doctoral degrees and 28 on masteral degrees.

### RESEARCH

As a national research center, ViSCA has been conducting research in a broad range of disciplines in agriculture and natural resources development. It is responsible for developing and testing packages of technology for various commodities or production systems with cooperation from field stations in the Visayas. ViSCA's research has concentrated on root crops, coconut, abaca, farming systems, corn and sorghum, vegetable crops, beef/chevon, poultry, agroforestry, and socioeconomics. In 1984, 239 research studies were still in progress while 47 researches had been completed. So far, some of the significant results credited to 1984 achievement are:

1. Production and development of storage techniques for extending

the usefulness and availability of quality root crops in the market throughout the year.

2. Development of postharvest technology including processing and utilization of root crops and coconut for food, feeds, and other industrial uses. Some of these are:
  - Production of soy sauce and root crop flour as substitute for wheat flour.
  - Development of new snack and dessert products from cassava, sweet potato, and coconut.
  - Development of fresh miki noodle from composite cassava-soybean-wheat flour.
  - Processing of cassava chips into flour for baked cassava cookies.
3. Development of farm tools and equipment such as: a portable animal-powered abaca spindle stripping machine, abaca dryer, convertible plow, fertilizer applicator, cassava lifter and diggers, and coconut oil extractor applicable at village level.
4. Development of better varieties based on productivity, quality, and pest resistance.
5. Building up of germplasm collections for use in the crop improvement program. Total collections at present consist of 2,554 accessions.
6. Establishment and operation of the ViSCA FeedMill which specializes in the formulation of root crop-based commercial animal feed.
7. Establishment of a laboratory for embryo and tissue culture to accelerate the program on coconut improvement.

ViSCA has forged a strong research linkage with the Ministry

of Agriculture and Food (MAF). Verification trials and location specific tests for technologies developed at ViSCA were conducted in MAF's experiment stations in line with the goal of the college to effectively work with other agencies for a speedy transfer and adoption of mature agricultural technologies. A joint program between MAF and ViSCA that has gained momentum in 1984 is the farming systems research project for Eastern Visayas. Research in six project sites consisted of cropping pattern, soil conservation, indigenous sources of animal feeds, development of farm tools, marketing studies, and follow on of socio-economic concerns.

Other national and international agencies and institutions have likewise maintained research linkages with ViSCA. In most cases, ViSCA was actively involved as either lead or implementing agency or as a source of technical support.

### EXTENSION

ViSCA's extension program has been always geared towards acquiring or improving skills in agricultural production and other activities that could help improve the productivity, efficiency, and well-being of the target clientele. For the year 1984, extension activities were focused on the following major areas:

#### Training and Non-Formal Education

Spearheading this type of activity were the ViSCA-based Philippine Root Crop Research and Training Center, Regional Coconut Research Center, Philippine Training Center for Rural Deve-





lopment, and some academic departments of the college. The main concern riveted on the delivery of applicable packages of technology to government technicians/extension workers, farmer groups, rural women, and out-of-school youth through the conduct of short-term trainings, conferences, and seminar-workshops. For the year 1984, a total of 1,623 participants benefited from the 31 trainings/seminars conducted.

### Technical Assistance

ViSCA has a technical committee as a component of the farming systems program that assists the Ministry of Agriculture and Food (MAF) technicians in implementing extension projects in the farmer's fields. MAF technicians and other rural development workers have conferred from time to time with specialists at ViSCA concerning technical information useful to the farmers. ViSCA also maintained a Plant Pest Clinic where farmers and extension workers gather information on plant protection and pest management.

### Publication and Other Communication Media

Agricultural information at ViSCA filtered out through various means. It included the use of the ViSCA Radio Station to broadcast farm tips and guides for improved family living in rural communities as well as production and distribution of technoguides, bulletins, and leaflets to keep farm workers abreast with the latest findings in agriculture. Other relevant publications released by the college in 1984 included the VICARP News, a quarterly popularized report

which highlighted new developments in agricultural research; the Visayan Farm News Service, a bi-monthly reference which caters to extension workers, vocational agriculture teachers, and farmers; and the Annals of Tropical Research, a quarterly technical journal for the technical reporting of completed research in tropical agricultural and related science.

### Action Research Projects

Delivery of information and mature technologies to endusers was carried out by ViSCA through research-cum-extension projects. Production technologies developed through research were tested at farmer's field to determine their adoptability to specific locations and situations. Farmers and rural women were also involved in evaluating postharvest technologies related to crop storage, processing, and utilization. In cooperation with the Ministry of Agriculture and Food, the college conducted technology verification trials in MAF's demonstration plots where farmers actually observed production technologies generated through research.

### GENERAL ADMINISTRATION AND SUPPORT SERVICES

In the midst of expansion and development, the general administration and support services of the college has steadily geared itself toward efficiency and effectiveness. College resources have been utilized to the maximum to maintain, if not to accelerate, the level of production output it achieved the previous years.

Accomplishments in 1984 centered on the provision of general

administration and support services to the different units of the college in the implementation of various programs and projects. This includes the area of planning, budgeting, internal audit and control, records keeping, repair and maintenance of grounds, buildings and other related facilities, and security services. In response to the government's call for eliminating unnecessary expenses, the administration has exerted extra efforts to implement some cost reduction practices but without sacrificing the most urgent and essential activities. Among these were the introduction of adjustments in purchasing supplies and materials and scheduling of both payroll and voucher submission as well as the processing and payment to creditors, a measure which according to COA's evaluation saved ₱ 75,000.00 for the fiscal year 1984.

In the area of infrastructure development, tangible accomplishments included the completion of the Physical Education Building, Bachelorettes' Apartment, Crop Processing FeedMill and Laboratory, Farming Systems Training Dormitory, Library Building (Phase II), Agroforestation Building (Phase II), and New Water System. Among the construction programs that still ongoing as of the ending of the year are the ViSCA Mall, Social Hall, Obelisk, Staff Houses, PRCRTC Training Hall, Street Fencing along the highway, and Pasture Development Project. The accomplishments of these ongoing projects range from 70 to 95 percent complete. No activity for the completion of the Gymnasium could be carried out as funds were not available during the year under review.









# INSTRUCTION

## GRADUATE PROGRAM

### OBJECTIVES

- To provide agricultural and rural development workers including administrators the opportunity to further develop their professional competencies in line with more recent trends in attaining the better life.
- To update the theoretical foundation and scientific knowledge of rural development workers through academic exposure to more advanced courses in their respective fields of specialization.
- To whet further the managerial skills and leadership capabilities of rural development workers in planning, conducting, and evaluating rural development programs and projects.
- To upgrade the competencies of agricultural and rural development workers in planning and conducting relevant researches in their respective fields of specialization.

### ACCOMPLISHMENTS

As the leading educational institution for agricultural and rural

development in the Visayas, ViSCA is strengthening and expanding its graduate programs to enable more professionals engaged in rural development to advance professionally in their respective fields of specialization without having to go to U.P. Los Banos or Metro Manila. By pursuing graduate work at ViSCA, agricultural educators, extension workers and researchers can update their knowledge, sharpen their capabilities in research, and develop their leadership potential.

During the SY 1984-85, the ViSCA graduate school focused its development thrusts and activities on the following concerns: (1) Development of new masteral degree programs in agricultural economics and language teaching for agro-technical schools; (2) Formulation of the ViSCA Graduate School Code which defines the policies, procedures, and guidelines for the management and operation of the ViSCA graduate program; and (3) Laying the ground work for the offering of a graduate-level extramural program.

### Curriculum Development

Table 1 presents ViSCA's graduate degree programs which were

offered during SY 1984-85. There are two masteral programs involving 6 major fields in the Master of Science (M.S.) and 8 major fields in the Master of Agricultural Development (M.Ag.Dev.) programs. It can be noted that the Agricultural Economics and Language Teaching are new additional fields just implemented in SY 1984-85. The offering of these two major fields was in consonance with the college target in the 1984 development plan proposed respectively by the Department of Agricultural Economics and Agribusiness and the Department of Arts and Letters. The rationale behind the offering were as follows:

### *Agricultural Economics*

- Many BSA graduates employed in various agencies need to have in-depth training to broaden their knowledge and gain professional growth. During the needs assessment survey in the Visayas conducted by the ViSCA-Massey Team, it was found out that agricultural economics was one of the priority areas for graduate training among rural development personnel.
- The department has eleven quali-





Table 1. Graduate Programs Offered in SY 1984-85

Program/Major Field	Implementing Department
Master of Science (with Thesis) major in:	
Agricultural Education	Agricultural Educ. and Extension
Agricultural Extension	Agricultural Educ. and Extension
Plant Protection	Plant Protection
Entomology	Plant Protection
Plant Pathology	Plant Protection
Agronomy	Agronomy and Soil Science
Master in Agricultural Development (without Thesis) major in:	
Agricultural Education	Agricultural Educ. and Extension
Agricultural Extension	Agricultural Educ. and Extension
Plant Protection	Plant Protection
Entomology	Plant Protection
Plant Pathology	Plant Protection
Agronomy	Agronomy and Soil Science
Agricultural Economics	Agricultural Econ. and Agribusiness
Language Teaching	Arts and Letters

fied faculty members that can handle sufficiently graduate courses in agricultural economics. Adequate instructional materials as well as research facilities are likewise available. The library maintains a good collection of books in agricultural economics and professional journals, documents and other data sources. In addition, the Center for Social Research has acquired microcomputers which will be very useful for data analysis and word processing.

- ViSCA is strategically located making it advantageous to prospective graduate students from Visayas and Mindanao regions. Students who want to advance professionally in the field of agricultural economics need not to go to U.P. Los Banos or to other schools in Metro Manila.

#### *Language Teaching* (for Agro-Technical Schools)

Language teaching, as a field of specialization in M.Ag.Dev., answers the clamor of agricultural school administrators in Region VIII to tailor English programs to the communication needs of students in agro-technical schools. A detailed "Language Teaching Needs Assessment Survey" conducted in 1983 pointed out that the majority of language teachers in agro-technical schools had expressed an interest in upgrading themselves primarily to cope with their teaching duties. Administrators who considered the importance of language teaching in their schools felt the need to send at least one English teacher to pursue a masteral program at ViSCA.

While the aforementioned masteral fields were all in line with the plan, other curricular development targets were not materialized during the year in review. These include the deferment for the second time in implementing Horticulture and Animal Science as another additional fields of specialization in the M.Ag.Dev. program. The Department of Horticulture has put aside the offering of Horticulture and prepared a new proposal to offer Horticulture as a major field in the M.S. program. Likewise, the Department of Animal Science and Veterinary Medicine failed to implement Animal Science because of the delayed deliberation of the proposal. As far as the manpower and facilities are concerned, the department appears ready to implement the new program once approved by the Academic Council and subsequently by the ViSCA Board of Trustees.

Regarding the Extramural Program (EMP), the year in review has been devoted to the development and promotion of the program and the training of the prospective staff. Selected academic staff members who has been projected to teach graduate courses extramurally during the next three years underwent a three-week training on extramural program and study guide preparation at ViSCA on May 9-30, 1984. The training which was conducted with the assistance of two consultants from Massey University oriented participants to the rationale and policies and procedures of the EMP implementation. The participating departments included Agricultural Education and Extension, Development Communication, Agronomy and Soil Science, Arts and Letters, Horticulture, Animal Science and Veterinary Medicine,





Agricultural Economics and Agribusiness, and Home Science. The output of participants in the initial EMP training was on the development of instructional materials and study guides.

The Director of Graduate School who was appointed Head of the Extramural Program, attended a one-month training at Massey University, New Zealand on the administration and management of the EMP. The ViSCA Printing Press Manager was likewise sent to the same University for a two-month training on printing press operations and management.

With the assistance of the consultant from Massey University, a number of equipment donated by the New Zealand government were installed at the ViSCA Printing Press, namely: (1) Electrostatic paper plate-making machine, (2) Hot-melt binding machine, (3) Electrostatic paper plate DT processing machine, (4) Proofing processing machine, (5) Electric headlining/lettering machine, (6) Electric combination perforating and spine plastic binding machine, (7) Spine-taping machine, (8) Marathon printing machine, and (9) Printing machine.

Due to financial constraints and the delay in the procurement of needed supplies, the ViSCA Printing Press failed to print the EMP instructional materials. Thus, the plan to offer EMP courses in the second semester of SY 1984-85 was deferred to a later date, probably the first semester of SY 1985-86.

### Student Development

#### Admission

To be admitted for the masteral

Table 2. Graduate Student Enrolment by Degree Program and Major Field, SY 1984-85

Program/Major Field	First Sem.	Second Sem.
<b>Master of Science (with Thesis) major in:</b>		
Agricultural Education	17	14
Agricultural Extension	8	7
Plant Protection	2	3
Entomology	4	9
Plant Pathology	6	7
Agronomy	28	40
Sub Total	65	80
<b>Master in Agricultural Development (without Thesis) major in:</b>		
Agricultural Education	8	11
Agricultural Extension	3	3
Plant Protection	1	—
Agronomy	1	—
Agricultural Economics	5	2
Language Teaching	3	4
Sub Total	21	20
Grand Total	86	100

programs of the Graduate School, a student with a G.P.A. of at least 2.5 or its equivalent would be considered eligible. However, by way of exception, students with lower GPA may be admitted on probationary basis. During the first and the second semesters of SY 1984-85, 20 students were admitted on probationary basis primarily due to inadequate background and grades lower than 2.5. However, they were granted regular admission later after compliance of requirements for regular status.

#### Enrolment

Table 2 indicates the graduate student enrolment by degree programs and major fields. There were 86 graduates students in the first semester and 100 students in the

following semester of SY 1984-85. Although this number still falls short of the projected 125 students, the enrolment figure in SY 1984-85 was higher than the previous school years. This marked the sixth time that ViSCA's graduate program has been constantly attracting more students. It can be observed that the masteral program with a thesis requirement (M.S.) has attracted more students than the one without thesis (M.Ag.Dev.)

Majority of ViSCA graduate students come from three regions of the Visayas. In the first semester of SY 1984-85, 69.8 percent came from Eastern Visayas, 22.1 percent from Central Visayas, and 1.2 percent from Western Visayas. The graduate program had 7 percent from Luzon and Mindanao provinces.





### Scholarships/Financial Assistance

During the first semester of SY 1984-85, 17 scholars comprising 19.8 percent of the total graduate students enjoyed scholarships and some form of financial assistance. Of this number, 5 were jointly sponsored by ViSCA and the Ministry of Education, Culture, and Sports (MECS) and 5 solely by ViSCA's program for staff development. Other scholars were funded by other government agencies: 2 by the Agricultural Support Services Project (ASSP) of the Ministry of Agriculture and Food, 2 by the ViSCA-based Philippine Training Center for Rural Development (PTC-RC), 2 by Farming Systems Development Project for Eastern Visayas (FSDP-EV) and 1 by the Forest Research Institute (FORI).

In the second semester, there was an increase in the number of scholars corresponding to the increase in the number of enrollees. There were twenty scholars representing 20 percent of the total graduate students.

### Graduates

There were eleven masteral students who completed their respective degrees in SY 1984-85, 8 with an M.S. degree and 3 with the Master of Agricultural Development degree. Analysis of their records showed that 5 of them completed their degrees on time while 6 had their graduation delayed because of financial constraints and their inability to complete their thesis/special problems on time. Table 3 compares the number of graduates in the previous school year, the current year, and the target for SY 1984-85.

Table 3. Number of Graduates in the Previous, Current, and Target Years

Program	Previous Year SY 1983-84	Current Year SY 1984-85	Target SY 1984-85
Master of Science	4	8	15
Master in Agricultural Development	1	3	4
Total	5	11	19

Table 4. Degree Profile of Graduate Faculty by Department, SY 1984-85

Department	First Semester			Second Semester		
	Ph.D.	M.S.	Total	Ph.D.	M.S.	Total
Agricultural Education and Extension	5	—	5	7	—	7
Agronomy and Soil Science	1	3	4	1	6	7
Arts and Letters	3	—	3	2	—	2
Agricultural Economics and Agribusiness	2	1	3	1	—	1
Horticulture	—	1	1	1	—	1
Plant Protection	4	2	6	4	2	6
Animal Science and Veterinary Medicine	2	1	3	3	1	4
Plant Breeding and Agricultural Botany	1	—	1	—	—	—
Total	18	8	26	19	9	28

### Faculty and Staff Development

#### Professional Strength

Table 4 summarizes the number of academic departments and faculty members directly involved in graduate teaching and thesis advising in SY 1984-85. The table re-

veals that 8 academic departments offer graduate courses with a little less than 30 faculty members on actual duty during the first and second semester of SY 1984-85. Although the Departments of Horticulture, Animal Science and Veterinary Medicine, and Plant Breeding and Agricultural Botany were not





implementing graduate degree programs, their faculty members were involved in teaching graduate courses covering their discipline areas.

#### *Graduate Faculty Teaching Workload*

During the first semester of SY 1984-85, the total teaching workload of the graduate faculty reached 115.7 or an average of 5.3 units per graduate faculty member. The total graduate teaching workload increased to 131.9 during the second semester with each faculty member increasing also their average workload to 5.5 units. The over-all workload units of the graduate teaching staff were computed based on existing criteria for determining faculty workload that covered not only teaching and thesis advising but also other administrative functions of the staff.

#### **Other Accomplishments**

##### *Formulation of the ViSCA Graduate School Code*

In order to streamline and institutionalize the policies and operations of the graduate program, the Office of the Director of Graduate School proposed the formulation of the ViSCA Graduate School Code. An ad hoc committee, consisted of the Director of Graduate School as chairman and heads of academic departments offering graduate courses as members, was formed to make the initial draft of the Code. It was submitted to the Graduate Faculty for further refinement and modification, to the Academic Council for deliberation, and finally approved by the ViSCA Board of Trustees on December 11, 1984.

##### *ViSCA-IRRI Agreement on Collaborative Graduate Program*

With the establishment of the graduate program, ViSCA explored cooperative linkages with other educational and research institutions in order to expand its clientele and improve its academic and research capabilities. Toward this end, a memorandum of agreement was signed between ViSCA and IRRI to establish a collaborative program for graduate training between the two institutions. Under the initial workplan, IRRI will submit to ViSCA every year a list of candidates considered suitable for admission to the graduate program of ViSCA. ViSCA shall in turn screen these candidates for admission. IRRI will then issue to the accepted candidates letters of award of IRRI fellowships which stipulate the terms and conditions of the scholarships. With the signing of said memorandum, ViSCA is expected to have IRRI scholars starting the first semester of SY 1985-86. Such scholars may include graduate students from foreign countries.

#### **UNDERGRADUATE PROGRAM**

##### **OBJECTIVES**

- To increase the labor productivity in the region with comprehensive knowledge and skills in the field of technical agriculture, agricultural education and extension, agricultural economics, marketing, development communication, forestry, and food technology.
- To produce graduates with leadership and managerial competencies in small-scale agro-based industries and other agricultural and rural

development programs in the region.

- To produce researchers and extension workers as may be required by specific government action programs in food production, agrarian reform, and rural development.

#### **ACCOMPLISHMENTS**

Guided with the objectives set forth in the preceding chapter of this report, ViSCA, as in the past, continuously pursued academic excellence not only in graduate but also undergraduate programs. It has been making a series of revisions and innovations that resulted in the implementation of high priority curricular programs that are considered vital to its mandated thrust on agricultural and rural development. Thus, specific accomplishments in this area were the revisions of the general education courses to suit requirements of specific disciplines and the institution of new courses and degree programs.

#### **Curriculum Development**

School Year 1984-85 saw the full implementation of the Bachelor of Science in Agricultural Chemistry. Thus, ViSCA's undergraduate curricular offerings during the year reached 9 bachelor degrees with 19 major fields and two certificate courses (Table 5). Other plans proposed for institution during the year were withheld by the college pending the refinement of curricular contents to truly reflect the appropriate training needs of manpower output for the region. The pending proposals were the Bachelor of Science in Agricultural Education with majors in Teaching Crop Production and Teaching Animal Production, Bachelor of





Table 5. Undergraduate Programs Offered in SY 1984-85

Program/Major Field	Implementing Department
<b>Bachelor of Science in Agricultural Development Education (BSADE) with majors in:</b>	
Agricultural Education	Agric'l. Educ. and Extension
Agricultural Extension	Agric'l. Educ. and Extension
Development Communication	Development Communication
<b>Bachelor of Science in Agriculture (BSA) with majors in:</b>	
Agronomy	Agronomy and Soil Science
Soil Science	Agronomy and Soil Science
Horticulture	Horticulture
Agricultural Economics	Agric'l. Econ. and Agribusiness
Plant Breeding	Plant Breeding and Ag. Botany
Agricultural Botany	Plant Breeding and Ag. Botany
Plant Protection	Plant Protection
<b>Bachelor of Science in Home Economics (BSHE) with majors in:</b>	
Secondary Home Econ. Teach.	Home Science
Elementary Home Econ. Teach.	Home Science
Home Economics Extension	Home Science
<b>Bachelor of Science in Forestry (BSF) with majors in:</b>	
Forest Resources Management	Forestry
Forest Biological Science	Forestry
<b>Bachelor of Science in Agribusiness (BSAB) with majors in:</b>	
Business Management	Agric'l. Econ. and Agribusiness
Crop Enterprise	Agric'l. Econ. and Agribusiness
<b>Bachelor in Animal Science (BAS) with majors in:</b>	
Animal Health	Animal Science and Vet. Med.
Animal Production	Animal Science and Vet. Med.
<b>Bachelor of Science in Agricultural Engineering (BSAE)</b>	
	Agric'l. Eng'g. and Applied Math.
<b>Bachelor of Science in Experimental Statistics (BSES)</b>	
	Agric'l. Eng'g. and Applied Math.
<b>Bachelor of Science in Agricultural Chemistry (BSAC)</b>	
	Agric'l. Chemistry and Food Sci.
<b>Forest Ranger Course (FRC)</b>	
	Forestry
<b>Home Econ. Technician Course (HETC)</b>	
	Home Science

Science in Food Technology, and the Bachelor of Science in Agroforestry. Some of these proposals await the approval from the Board of Trustees while others are still subjected to deliberations in the Academic Council. Adequate library materials, adequate laboratory facilities, availability of staff expertise, and urgent regional demand remain the foremost bases of the college whenever revisions are made or new programs shall be implemented.

### Student Development

#### Admission

A high school graduate desiring to enrol in any of the undergraduate courses in ViSCA must have a minimum average of 78 percent in all academic subjects (Pilipino, English, Math, Science, and Social Studies), with the NCEE rating of not lower than 60. Students were admitted to technician course based on the high school average and the results on interviews conducted by the staff members of the department concerned.

Transfer students with a general average of at least 2.5 or its equivalent were admitted upon submission of an informative copy of their grades duly certified by their school registrar.

#### Enrolment

Table 6 categorizes enrolment figures of the previous, current, and target years for SY 1984-85. The data point out that the enrolment target was not achieved in SY 1984-85. The delay in implementing the revised degree programs as mentioned earlier and the strict implementation of admission require-





ments to maintain high academic standards affected enrolment figures. Nevertheless, when compared to previous records, enrolment is still at an increasing trend. As presented in Table 6, an increase of 13.5 percent in SY 1983-84 and 4.0 percent in SY 1984-85 can be observed.

As to the home places of undergraduate students, still a majority (93.2 percent) come from the three regions of the Visayas. Thus, the objective of serving the Visayas region in terms of providing greater educational opportunities have been reached by the college. Based on the first semester enrolment, 77.1 percent of the students were from Eastern Visayas; 15.3 percent from Central Visayas; and 0.72 percent from Western Visayas. Because of its strategic location, ViSCA has been attracting 6.7 percent students from Luzon and Mindanao.

### Dropouts

Student dropout is a common experience shared by most educational institutions. However, in ViSCA, the number of dropouts continued to be minimal without significantly affecting the enrolment. Records show that there were only 9 dropouts in SY 1984-85, a great improvement over the 13 dropouts in SY 1983-84 and the 18 dropouts in SY 1982-83. The rate reduced from 1.34 percent in SY 1982-83 to 0.85 percent in SY 1983-84, and to 0.56 percent in SY 1984-85. This appears to be a healthy indication that ViSCA students are doing well in their pursuit of academic advancement.

### Graduates

The school year ending of SY 1984-85 marked the 32nd time

Table 6. Actual, Target, and Previous Enrolment (First Semester)

Program	Previous Year		Actual	Target
	SY 1982-83	SY 1983-84	SY 1984-85	SY 1984-85
BSA	338	329	360	328
BSADE	171	213	233	133
BSHE	79	112	140	145
BSAE	303	299	220	329
BSAB	177	212	206	242
BAS	103	121	149	111
BSF	115	126	147	89
BSES	18	32	47	41
BSAC	—	—	5	15
BS Ag. Educ.	—	—	—	35
BS Dev. Com.	—	—	—	35
BS Agro. For.	—	—	—	45
BS Food Sci.	—	—	—	25
FRC	16	36	16	77
HETC	23	44	62	51
Total	1,343	1,524	1,585	1,701
Percent Increase	1.4	13.5	4.0	—

that ViSCA conferred undergraduate degrees to its students. However, the number of students who completed their degrees in SY 1984-85 is smaller than the projection as well as the previous year's record (Table 7). Financial constraints which also resulted in the delay of completing undergraduate theses as well as fulfilling other requirements were cited as the ma-

jor reason for such decrease and failure to meet the target. Nevertheless, it is worthwhile mentioning that of the 175 graduates in SY 1984-85, 2 graduated magna cum laude and 11 graduated cum laude.

### Citizen's Military Training

The Visayas State College of Agriculture takes pride in its Citizen

Table 7. Previous, Current, and Target Number of Graduates

Program	Previous Year	Current Year	Target
	SY 1983-84	SY 1984-85	SY 1984-85
BSA	60	44	42
BSADE	34	17	31
BSHE	9	9	11
BSAE	32	21	37
BSAB	43	33	31
BAS	18	19	24
BSF	16	19	21
BSES	6	4	11
FRC	—	—	32
HET	5	9	21
Total	223	175	261





Military Training for its valuable contributions to the college instructional program. For five consecutive years, from 1979 to 1984, the ViSCA CMTU has been consistently judged as top placer in Tactical Inspection in the Regional, Visayas, and National Levels. Table 8 lists the yearly achievement of the unit during tactical inspections.

The CMT unit of ViSCA got involved in the Probationary Military Trainings held at Camp Downes, Ormoc City and in Camp Lapulapu, Cebu City. For five consecutive years (1979-1984), all advanced graduates who participated in the training were ranked among the top placers.

#### Staff and Faculty Development

##### *Professional Strength*

Table 9 gives the faculty strength of 14 academic departments of the college. At year end, 191 constituted the total number of teaching staff, 137 or 71.7 percent of which were on active duty and 52 or 27.2 percent on study leave to pursue either doctoral or masteral degree programs. Of the 137 on active teaching during the year in review, 5 were new recruits and 13 were returning scholars (2 with Ph.D. and 11 with M.S. degrees) who had reported to work after the completion of their advanced studies. Records show that it took the scholars who had completed their advanced studies in 1984 an average of 3 years and 7 months to complete a Ph.D. degree and 2 years and 2 months to complete an M.S. degree.

Of the 52 staff members on study leave, 14 had just started course work in 1984 and 18 had their term extended due to the problems in

Table 8. Unit Standing in Tactical Inspection from 1979 to 1984

School Year	Regional Level	Visayas Level	National Level
1979 - 80	Second Place	No Inspection	No Inspection
1980 - 81	First Place	Second Place	Second Place
1981 - 82	First Place	No Inspection	No Inspection
1982 - 83	First Place	First Place	First Place
1983 - 84	First Place	First Place	-

Table 9. Degree Profile of the Academic Teaching Staff on Active Duty and on Study Leave, December 1984

Department	On Active Duty				On Study Leave			On Grand
	PhD	MS	BS	Total	PhD	MS	Total	
Agric'l. Chemistry and Food Science	2	6	3	11	2	3	5	16
Agric'l. Educ. and Extension	8	2	1	11	3	-	3	14
Development Comm.	1	2	-	3	2	-	2	5
Agric'l. Economics and Agribusiness	2	6	4	12	2	2	4	16
Agric'l. Eng'g. and Applied Math	1	8	10	19	4	3	7	27
Agronomy and Soil Science	1	4	2	7	2	6	8	15
Animal Science and Vet. Med.	6	3	2	11	2	3	5	16
Arts and Letters	5	2	7	14	-	1	1	15
Forestry	1	5	1	7	1	2	3	10
Home Science	2	5	1	8	-	2	2	10
Horticulture	2	4	1	7	1	1	2	9
Physical Education	-	2	4	6	-	-	-	6
Plant Breeding and Agric'l. Botany	2	3	3	8	3	1	4	12
Plant Protection	4	7	2	13	5	1	6	20
Total	37	59	41	137	27	25	52	191





manuscript preparation and scheduling of final or oral examinations. So far, the highest period of extension given was 10 months for those pursuing doctoral degrees and 9 months for those taking masteral degrees. Aside from ViSCA's own funds for staff development, assistance has been sought from the Philippine Council for Agriculture and Resources Research and Development (PCARRD), International Rice Research Institute (IRRI), Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), Philippine Development Scholarship Program (PDSP), and the National Science and Technology Authority (NSTA). Foreign supporters include the International Development Research Center (IDRC), World Bank (WB), Colombo Plan, Idaho USA, New Zealand Bilateral Development Assistance, Nagoya Japan, and the United State Agency for Interna-

tional Development (USAID) through the Farming Systems Development Project for Eastern Visayas (FSDP-EV).

### Workload

Work assignments of staff are computed not only in terms of teaching but also the workload on basic and applied research, rural development pursuits, and other activities. In SY 1984-85, the total workload units of 14 academic departments of the college reached 3,130.33 in the first semester and 3,049.70 in the second semester. The Department of Agronomy and Soil Science ranked the highest earner of average workload units of 32.2 in the first semester and 29.75 in the second semester while the Department of Agricultural Chemistry and Food Science had the lowest average number of workload with 12.98 units during the

first semester and 14.69 units in the second semester (Table 10).

### In-Service Training

Within the college' financial capacity, some faculty members were allowed to attend seminars, workshops, conferences, and study tours in order to broaden their knowledge, improve competencies and establish linkages with staff members in other institutions. In 1984, the following in-service trainings were attended by the staff:

#### Local

- Seminar-Workshop on a Second Look at Effective Teaching Methodologies in the Classroom, ViSCA, Baybay, Leyte
- Seminar-Workshop on Improvement of Teaching Attitude Development, ViSCA, Baybay, Leyte
- Extramural Program for Rural Development, ViSCA, Baybay, Leyte
- Participatory Approach to Community Organization, ViSCA, Baybay, Leyte
- Executive Seminar on Computer, ViSCA, Baybay, Leyte
- Microcomputer Seminar, ViSCA, Baybay, Leyte
- VAX-11 Computer Training, ViSCA, Baybay, Leyte
- Seminar-Workshop on Agricultural Teaching Development, ViSCA, Baybay, Leyte
- FSDP-EV Planning Workshop, ViSCA, Baybay, Leyte

#### Regional

- NSTA Consultation, ViSCA, Baybay, Leyte
- 4th PCARRD-VICARP Coordinated Review and Evaluation of

Table 10. Summary of Workload Units of Academic Teaching Staff by Department, SY 1984-85

Department	First Semester		Second Semester	
	Total	Average	Total	Average
Ag. Chem. and Food Sci.	116.81	12.98	146.89	14.69
Ag. Econ. and Agribus	311.77	25.98	257.55	21.46
Ag. Educ. and Extension	230.15	23.02	255.71	25.57
Agronomy and Soil Sci.	258.41	32.20	267.74	29.75
Animal Sci. and Vet. Med.	259.60	25.96	258.97	23.54
Arts and Letters	336.82	25.91	282.65	21.09
Development Communication	94.66	31.55	73.89	24.63
Forestry	144.82	18.10	152.67	19.03
Home Science	214.64	26.83	168.94	21.12
Horticulture	145.10	24.18	243.42	24.34
Physical Education	103.51	17.25	154.18	25.70
Plant Brdg. and Ag. Bot.	129.35	18.48	119.91	14.99
Plant Protection	380.47	23.78	323.30	24.87
Ag. Eng'g. and App. Math	404.22	21.27	343.88	20.23
Total	3,130.33	327.59	3,049.70	311.01
Average	223.60	23.40	217.84	22.22





## Instruction

On-going and Completed Research Projects, ViSCA, Baybay, Leyte

- Workshop Review of FSDP-EV Research Findings and Methodologies, ViSCA, Baybay, Leyte
- Maisagana Consultation Workshop, EDS, Barugo Training Center, Barugo, Leyte
- Basic Broadcasting, Cebu City
- Nutrition Education, ViSCA, Baybay, Leyte
- Seminar-Workshop on Nutritional Measurement and Evaluation, ViSCA, Baybay, Leyte

### National

- Seminar on Recent Development on Root Crops Processing and Utilization, Manila
- Food Processing Research and Development Seminar-Workshop, Tagaytay City
- Second National Symposium on Coconut Research and Development, PCARRD, Los Banos, Laguna
- Fourth FAO Symposium on Biochemistry in Food and Energy Production, Diliman, Quezon City
- Seminar-Workshop on Participatory Research in Upland Farming System Development, ViSCA, Baybay, Leyte
- Management Information System Seminar-Workshop, UPLB, College Laguna
- ACAP National Convention, ISU, Echague, Isabela
- Evaluation Seminar on LBP Projects, Metro Manila
- Specialized Training Course on Grain-Post Harvest Technology for ACAP Institutions, NFA, Cabanatuan City
- National Conference on Resource Systems Management Program for Trainors, Tagaytay

City

- Workshop on Socio-Economic Aspect of Technological Change, PCARRD, Los Banos, Laguna
- Agribusiness Faculty Development Program, DSAC, Indang, Cavite
- PAEDA 30th Annual Convention, Metro Manila
- Seminar-Workshop on Multi-Media Teaching, USC, Cebu City
- Electrical and Electronic Equipment Maintenance Management, NEC, UP Diliman, Quezon City
- Infrastructure and Construction Management, CIT, Cebu City
- On-Farm Research Workshop on Farming Systems, PCARRD, Los Banos, Laguna
- 15th Annual Scientific Meeting of Crop Science Society of the Philippines, Batac, Ilocos Norte
- Consultative Meeting and Review of Sorghum Research and Development Program in the Philippines, PCARRD Los Banos, Laguna
- Research Management Training, UPLB, Laguna
- National Seminar-Workshop of the Philosophical Association of the Philippines, Teacher's Camp, Baguio City
- CETA National Conference, Ateneo de Manila, Metro Manila
- Sixth National Conference on Local and National History, UP Diliman, Quezon City
- Philippine Association of the Graduate Education, Tacloban City
- Nutrition Consultative Meeting, UPLB, Los Banos, Laguna
- Conference on Communication Education in the Philippines, UPLB, Los Banos, Laguna
- Symposium on the Filipino Family, UPLB, Los Banos, Laguna
- 4th National Symposium of

Fruit Crops, PCARRD, Los Banos, Laguna

- 19th SAVI National Vegetable Crop Symposium, PCARRD, Los Banos, Laguna
- Seminar-Workshop on Track and Field, Rizal Memorial Sports Complex, Manila
- First National Post-Harvest Handling and Processing of Root Crops, ViSCA, Baybay, Leyte
- PCARRD Annual Review and Evaluation of Coconut Researches, PCA, Davao City
- Annual Convention of the Society for the Advancement of Vegetable Industry, PCARRD, Los Banos, Laguna
- Annual Convention of the Federation of Institute for Marine and Fisheries of Sciences
- Mid-Year Meeting in Rice Varietal Improvement Group of the Philippine Seedboard, Munoz, Nueva Ecija

### International

- Farming Systems Research Methodology, Cornell University, New York; CATIE, Costa Rica; and University of Hawaii, Honolulu
- International Conference on Rural Development, Metro Manila
- Administration of Extramural Program, Massey University, New Zealand
- Southeast Asian Farming Systems Seminar, University of Hawaii, Honolulu
- Crop-Livestock Monitoring Tour, IRRI and Khon Kaen, Thailand
- JSPS-NSTA Scientific Exchange of Poultry, Tokyo University of Agriculture, Tokyo, Japan
- Improving Interface Between Research and Extension, Indonesia





- Strengthening Linkage Between Instruction and Extension, Manila
- Workshop on Integrated Approach to Family Welfare, Copenhagen, Denmark
- International Federation for Home Economics XVth World Congress, Oslo, Norway
- Workshop on Consumer Education, Stabbik
- Inter-Center Seminar ZARC and Biochemistry, IRRI, Los Banos, Laguna

#### *Technical Consultancy*

Services of some experts are imperative in order to aid the college in implementing its programs. For the first time, the Department of Agricultural Engineering and Applied Mathematics was able to avail itself of a consultancy program. Michael Dembinski, a consultant and specialist in Diplomi-nienier Hydrology and Rural Water Resources Engineering assisted the department in the analysis of rainfall for crop production. The consultancy period started in 1984 and will end in 1987.

A consultant from Massey University in New Zealand, Dr. Noel R. Watts worked with the staff of the Department of Arts and Letters in its ongoing program on instructional materials development. He assisted the department in prototyping an English for Specific Purposes (ESP) – an oriented instructional material for English 11 and English 12. He also served as one of the speakers in a workshop on teaching methodologies and helped conceptualize and implement a needs survey for the DAL masteral program. He likewise shared some reactions to

the proposed masteral program in language teaching. Dr. Watt's consultancy period, which coincided with his sabbatical leave and negotiated by Dr. Robert Townsley through the College President and the Department Head, started in November 1983 and ended in January 1984. ViSCA's responsibility was limited to free board and lodging although minimal funds for travel on needs survey was extended by DAL through a research project hook-up.

During the latter part of 1984, a world known specialist on Hymenoptera, Taxonomy, and Biological Control from UPLB, Dr. Claire Baltazar, was hired as a consultant for two weeks in the Department of Plant Protection. She identified some promising but still unknown hymenopterous parasites responsible for regulating the population of some major insect pests of coconut, root crops and other crops grown in Leyte. She also identified majority of the Biological Museum's Wasp Collections. Dr. Baltazar's consultancy covered the period from October 22 to November 5, 1984.

## **SECONDARY EDUCATION PROGRAM**

### **OBJECTIVES**

- To equip the youth with saleable skills, understanding, and attitudes to make them intelligent and productive participants in economic life.
- To gear the thinking activities of the youth towards the method of science, the influence of science in human life, and the main scientific facts concerning the nature of world and man.

- To provide an environment that gives students the opportunity to explore various disciplines through activities designed to develop their natural powers.
- To guide the students in the acquisition of agricultural and vocational knowledge and skills that meet the changing needs of society.

## **ACCOMPLISHMENTS**

### **Curriculum Development**

For SY 1984-85, the Experimental Rural High School (ERHS) of ViSCA remained status quo in terms of curricular changes. The same agricultural science curriculum was adopted although still undergoing a process of evaluation to determine the accomplishment of objectives.

### **Student Development**

#### *Admission*

An elementary graduate seeking admission to ERHS must have an average rating of at least "Satisfactory" or its equivalent upon graduation. It has been the policy of the school to admit only 200 incoming freshmen. However, this number could be increased if there are only few students in the upper years. Thus, a diagnostic and scholarship examination has been conducted in order to screen students. This examination is given annually one month before the start of the enrolment. Qualified students have to undergo the medical examination before classes begin. Transferees must have at least a grade of 80 in mathematics and in English as basis for admission.





### *Enrolment*

The ERHS is a growing academic institution as evidenced by the annual increase in student population. In SY 1984-85, student enrolment reached 570, an increase of 13.8 percent over the 501 enrolment in SY 1983-84. The largest bulk of student population was composed of freshmen and dominated by female students (Table 11).

Table 11. Student Enrolment by Sex and Year Level

Year Level	SY 1983-84			SY 1984-85		
	Male	Female	Total	Male	Female	Total
First Year	91	102	193	112	130	242
Second Year	72	74	146	67	79	146
Third Year	40	54	94	51	53	104
Fourth Year	34	34	68	39	39	78
Total	237	264	501	269	301	570

### *Dropouts*

Dropping out from school is a common phenomenon shared by the high school department. In SY 1984-85, the number of dropouts reached 47 students or 8.24 percent of the total student population with various reasons as ill health, poor grades, lack of interest, transfer of residence and transfer to another school.

Table 12. Distribution of ERHS Scholars, SY 1983-84 and SY 1984-85

Classification	SY 1983-84			SY 1984-85		
	Full	Partial	Total	Full	Partial	Total
Freshmen	2	6	8	7	6	13
Sophomores	2	26	28	2	34	36
Juniors	5	12	17	4	31	35
Seniors	--	10	10	2	5	7
Total	9	54	63	15	76	91

### *Scholarships/Financial Assistance*

Table 12 sums up the number of scholars during the previous and current years. Recipients of the ERHS freshman scholarships are based from the results of the diagnostic examination with a weight of 75 percent and the average grade obtained from the elementary school weighing 25 percent. All those who have obtained a composite score of 80 percent or higher were given full scholarships while those who obtained a composite score of 75.00 to 79.99 percent received partial scholarships.

Sophomore, junior, and senior students who got an average grade of 90 or higher during the past academic year were awarded full scholarships while those who have the average rating of 85.00 to 89.99 received partial scholarships.

Recipients of both scholarships were entitled to a free comprehensive fee and a monthly stipend of P 100.00 for full scholars and P50.00 for partial scholars.

### *Graduates*

In SY 1984-85, a total of 73 students marched for graduation, of which 2 were declared valedictorians. Seven awards were given to students who excelled in science, communication arts, homemaking skills, and leadership in the Future Farmers of the Philippines (FFP) and DYDCAT. Of the 73 graduates who took the NCEE examination, only one student failed to meet the passing mark. For the past two consecutive years, all of the graduating

seniors passed the NCEE examination with 99 as the highest average rating.

### **Faculty and Staff Development**

#### *Professional Strength*

During the year 1984-85, a total of 32 faculty members reported for duty in the first semester and 31 in the second semester. The number of instructors decreased in the second half of the year since one English instructor resigned at the end of the first semester and another instructor pursued an M.S. degree at the beginning of the second semester. In order not to disrupt the learning process of the





Table 13. Number of ERHS Teaching Staff on Actual Duty, SY 1984-85

Classification	First Semester			Second Semester		
	M.S.	B.S.	Total	M.S.	B.S.	Total
Old Timer	19	13	32	19	11	30
New Recruit	—	—	—	—	1	1
Total	19	13	32	19	12	31

students, a new instructor was recruited while the rest of the teaching workload was distributed among the staff (Table 13).

#### *Faculty Development*

One faculty member took summer classes in 1984 towards a Ph.D. degree in science. At the beginning of the second semester of school year 1984-85, another faculty member was allowed to pursue masteral degree program at ViSCA under the ViSCA Scholarship Pro-

gram. One faculty member reported for duty after completion of a masteral program in Home Science.

#### *Workload*

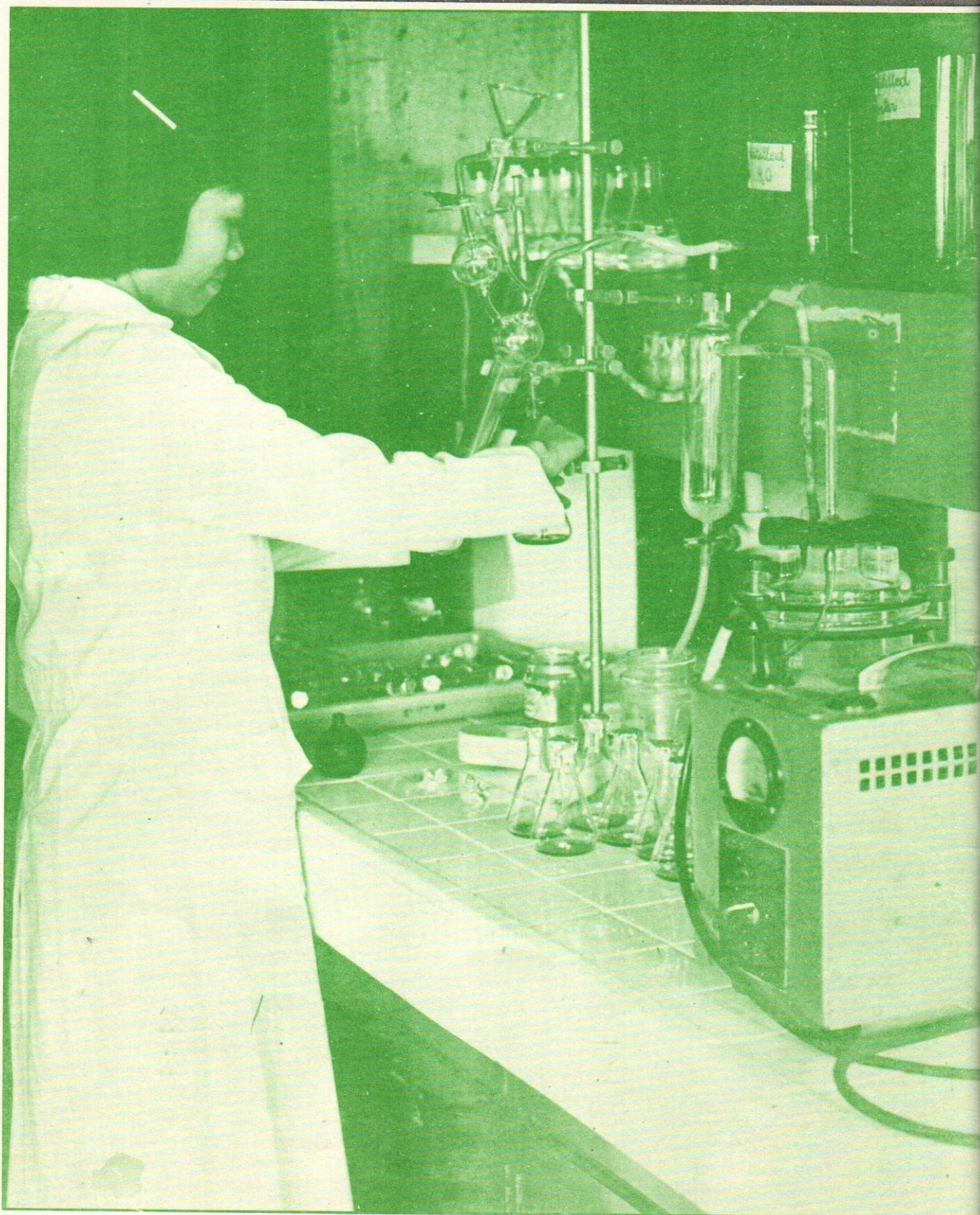
Nineteen units were recorded to be the average workload of the ERHS staff for the year 1984-85. This was 4 units beyond the minimum workload of 15. The policy of the ERHS in assigning teaching load was based on major and minor fields of each faculty member. The basic consideration in the computa-

tion of workload was the number of contact hours spent in actual teaching. Other assignments with corresponding units were distributed according to the guidelines set by the school.

#### *In-Service Training*

The ERHS faculty and staff members are encouraged to attend trainings and seminars on subjects related to their fields in order to update their knowledge and strengthen their competencies. As of December 1984, a total of 6 varied trainings were attended by the staff. This includes Seminars in Records Management and Revitalizing Teaching Methodologies in the Classroom at ViSCA, Baybay, Leyte; Short Term Courses in Bee Culture, Advance Garment Construction, and Utilization of Local Materials for Crafts at UPLB, Laguna; and a Study Tour on Farming Systems Research at Cornell University, Ithaca, New York.









# RESEARCH

## The Thrusts

As the seat of one of the four multi-commodity research centers in the country and the only one for the Visayas in the PCARRD network of research centers and stations, ViSCA has been mandated to do research not only of regional concern but also of national interest. Hence, ViSCA's prominence as the leading institution of agriculture in the Visayas is brought about not merely for its high quality instructional program but also for its intensive research and development activities. Its long range tasks are:

- To undertake applied and basic research and development work on priority problem areas, with emphasis on major food and industrial crops that have been apparently neglected or given little attention in the Visayas.
- To concentrate considerable efforts on applied researches that provide small farmers with low-risk technologies.
- To undertake research on the technological, social, and economic problems of agro-based small-scale industries in the rural areas.

- To undertake research in extension and rural community development to discover ways of accelerating socio-economic programs and for a more equitable distribution of wealth in the rural areas.
- To provide the necessary leadership in organized inter-agency research on agriculture and rural development in the Visayas.

Along with these tasks, ViSCA's national research responsibilities were focused on root crops and abaca while regional research responsibilities concentrated on coconut, corn and sorghum, vegetable crops, beef and chevon, forage, pasture and grassland, poultry, agroforestry, fisheries, soil and water resources, farming systems, applied rural sociology, macroeconomics, and agricultural engineering.

## The Personnel

ViSCA's research activities are carried out by the following research centers/units:

- Philippine Root Crop Research and Training Center (PRCRTC)
- Regional Coconut Research Cen-

ter (RCRC)

- Center for Social Research in Small-Farmer Development (CSR-SFD)
- Farming Systems Development Project for Eastern Visayas (FSDP-EV)
- Visayas Coordinated Agricultural Research Program (VICARP)

Research experts from the fourteen academic departments of the college also conduct research on various commodities and disciplines. In fact, the bulk of ViSCA's research activities is based at its academic departments which make the total pool of research experts to over 200 with distinct fields of specialization. Table 14 presents only the full-time scientists from the three research centers and from the Office of the Director of Research and Extension. Teaching staff from the academic departments who were conducting research had been reflected in the preceding section of this report. Staff members of the Farming Systems Development Project for Eastern Visayas come from the academic departments on a part-time basis and no longer reflected in the table to avoid duplication.





## PHILIPPINE ROOT CROP RESEARCH AND TRAINING CENTER (PRCRTC)

### OBJECTIVES

- To develop high yielding, good quality, and pest resistant varieties of sweet potato, cassava, gabi, and other root crops.
- To improve production and harvesting techniques and effective cropping systems for root crops.
- To undertake investigations in controlling pests and diseases attacking root crops and their by-products.
- To conduct studies on modern processing, postharvest handling, marketing and utilization techniques for human food, animal feed, and other industrial uses.
- To provide training to farmers, students, specialists, and extension workers on the production, postharvest handling, processing, and utilization techniques.
- To disseminate improved varieties and release up-to-date information on production, postharvest handling, processing, and utilization techniques.

### ACCOMPLISHMENTS

The thrust of research and development of PRCRTC in 1984 was based on the prevailing status of the root crop industry, the envisioned contribution of root crops to the improvement of Philippine economy and the problems being met by root crop farmers. In 1984, PRCRTC conducted 73 studies, 6 of which were completed during the year. Its activities concentrated on:

#### Varietal Improvement

- The present PRCRTC germplasm collection is composed of 2,554

Table 14. Degree Profile of Regular Research Staff in Research Centers/Unit

Center/Unit	On Active Duty				On Study Leave			On Grand Leave	Total
	PhD	MS	BS	Total	PhD	MS	Total		
Philippine Root Crop Research and Training Center	5	6	8	19	2	1	3	—	22
Regional Coconut Research Center	2	2	5	9	—	—	—	—	9
Center for Social Research in Small-Farmer Development	1	2	7	10	4	1	5	1	16
Office of the Director of Research and Extension	1	—	2	3	—	—	—	—	3
Total	9	10	22	41	6	2	8	1	50

accessions. This includes Sweet Potato, 1,129; Cassava, 443; Taro (gabi), 335; Ubi, 499; Nami, 24; D. rotunda, 61; Galing, 2; Palawan, 2; Yambean, 14; Arrowroot, 16; Ipomea nil (wild relative of sweet potato), 1; Konjac (Amorphophallus konjac — a relative of pungapong), 1; Pungapong (A. campanulatus), 7; Winged Bean, 16; and D. bulbifera, 4.

- The sweet potato breeding program produced 548,458 seeds from which 3,355 seedlings were selected in the greenhouse and field tested in single-row-non-replicated trials. A total of 790 advanced lines were tested and 22 elite lines were selected.
- Sweet potato lines V<sub>7</sub>-21 and V<sub>7</sub>-27 were found superior and performed exceedingly well.
- The cassava breeding program had field tested 7,750 F<sub>1</sub> hybrids from CIAT. A total of 908 hybrids were selected and tested in single row trials and 172 selections in plot trials.

There were 25 advanced lines selected based on yield, dry matter content and harvest index. Yield ranged from 26 to 61 tons/ha without fertilizer application, out-yielding the local check (Golden Yellow) by 50 percent. The dry matter content ranged from 30-37 percent and the harvest index from 58-77 percent.

- Four varieties of cassava namely: Lakan, SI 242, Kadabao, and Golden Yellow showed a yield of 8.2 to 19.7 tons/ha when grown under shady conditions and harvested at 9 months after planting.
- Initial results on induction of flowering of gabi with the use of ethrel mixed with a surfactant and applied as foliar spray appeared promising.
- On yam, there were indications that tuber dormancy maybe shortened or broken through treatment with thiourea.
- The national testing program jointly undertaken by PRCRTC,





MAF and 3 agricultural colleges was greatly strengthened. PRCRTC provided funds for all the 12 stations outside ViSCA while PCARRD provided some funds for overall coordination and for the trials at ViSCA.

- Three promising ubi varieties were identified which had higher yield and dry matter content, and more resistant to leaf spot than two currently recommended varieties used for comparison.

#### Cultural Management

- During the first trial, sweet potato cuttings field-stored by planting very closely for up to 20 days did not show yield reduction when transplanted in the field under normal planting conditions compared with freshly gathered cuttings. Verifications trials are going on.
- The rates of production of planting materials in cassava and sweet potato were similar whether in the open or in the shade (about 50% coconut shade).
- Cassava and sweet potato can both tolerate missing hills of up to 30 percent without significant yield reduction regardless of fertilizations, population densities, and cultivars used in the experiment as long as there is adequate weed control.
- The package of post-planting tillage practices for sweet potato and gabi recommended by PRCRTC proved superior and more profitable than those of farmer practices. For sweet potato, the recommended practice is off-barring 2 weeks after planting (WAP), row weeding 3WAP and hilling up 4WAP. For gabi it is off-barring 2WAP, row weeding

3WAP, hilling up 5WAP, and hilling up again 7WAP.

- Results of the first trial indicated that with bushy sweet potato variety, hilling-up at 6 weeks after planting is possible. This resulted in significant reduction of weevil damage in tubers during dry season.
- Bushy sweet potato line V<sub>7</sub>-27 showed significantly higher yield than other bushy genotypes, namely, VSP-2 and V<sub>3</sub>-180.
- Even for bushy type the recommended planting distance of 1 m x 0.25 m. was better than closer or farther distance in terms of yield.
- Mulching upland gabi significantly increased yield over the unmulched due to the reduction in soil temperature and the retention of more soil moisture.
- During the dry season, deep planting (10 cm deep) resulted in higher cormfield of gabi than shallow planting probably because of greater water availability and lower temperature at this depth than on the surface layer. When mulch was applied, planting did not affect the yield performance.
- Complete removal of rhizomes throughout the 8 months of growing period resulted in the highest increase in taro yield followed by rhizome removal during the last 4 months, than during the first 4 months.
- Initial results on the use of single-node gabi rhizome pieces and small cormels as planting materials were encouraging.
- The most economical planting size of tugui was 100 grams with one set per hill and the most economical trellis height was one meter as for ubi also. The yield was higher in ridge or

mound than in flat, furrow or hole method of planting.

- Ipil-ipil when used as buffer strips in marginal hilly areas did not only increase the yield of root crops tested (sweet potato, cassava and gabi) but also reduced soil erosion and improved the biophysical characteristics of hillside soils.
- Mungbean appeared to be a better intercrop than peanut for cassava because of its shorter growing period thereby avoiding much shading stress.

#### Pest Management

- Three gabi (taro) cultivars namely, PR-G146, PR-G065 and PR-G516 showed high level of resistance to Chinese grasshopper (*Oxya chinensis*). Five others appeared moderately resistant.
- Of the 1,746 sweet potato genotypes in the germplasm pool and new hybrids tested, about 136 accessions showed weevil resistance.
- A total of 1486 sweet potato genotypes were evaluated for scab resistance. Of these, 340 genotypes showed resistance which will be verified using artificial inoculation.

#### Postharvest Technology and Storage

- Verification studies on soil storage technology under farmer field conditions in 7 locations in Leyte showed that vascular streaking in cassava roots was not observed even after 5 months storage. Decay occurrence was dependent on the degree of root damage incurred during harvest and soil type used in storage.





- Variety, location, and type of storage structures used affected the storage behavior of sweet potato.
- Stored roots of both sweet potato and cassava were preferred by farmers because they were sweeter compared to the newly harvested roots.
- Among the sweet potato hybrids tested, roots from V<sub>5</sub>-32, V<sub>7</sub>-27, V<sub>7</sub>-21, V<sub>8</sub>-14, CI 693, and G 52-5 kept the longest (3 months) under storage with no substantial loss in quality.
- Among the 789 sweet potato hybrids, evaluated (advanced trials) for organoleptic quality and dry matter content, V<sub>10</sub>-304, V<sub>10</sub>-306, V<sub>20</sub>-20, V<sub>20</sub>-105 were the most highly acceptable.
- Fertilization appeared to be related directly with vascular streaking but not with microbial decay.
- The number of periderm cell layers was positively correlated with weight loss in gabi and sweet potato but not in yam.

#### Processing and Utilization

- New root crop-based products include delicious SP, cacharon, cassava chocoflan, cassava chips, and cassava French fries while already existing products include cassava-coconut cookies, cassava shrimp sticks, cheese crackers, muffins, and pan de sal. For new products, activities conducted were on production assembly line development, product packaging and storage. For existing products, consumer acceptability was emphasized. Pilot production of Root Soy Sauce using cassava/sweet potato flour was started.

- The developed/improved processing equipment/devices include the pedal chipper/grater, dicing devices, and village level flour mill/grinder which is a pedal operated hammer mill.
- The ViSCA Pilot Feed Mill formulated root crop-based animal feeds from dried cassava/sweet potato chips produced by farmers. For 1984, the feedmill produced a total of 112.7 tonnes of high quality but cheaper feeds. Of these, 41.55 tonnes were hog grower and finisher rations while the rest were poultry feeds. The mill had benefited a number of small root crop farmers in Leyte and Southern Leyte by providing a ready market for their dried root crop chips at ₱ 2.25 per kilo. Feed was sold at about wholesale price level as in Cebu or ₱ 30 to ₱ 35 cheaper per bag of feed than the retail prices at Baybay, Leyte.

### REGIONAL COCONUT RESEARCH CENTER (RCRC)

#### OBJECTIVES

- To develop coconut hybrids that are high yielding, precocious, and resistant to insect pests and diseases.
- To determine cultural management practices for optimum coconut yield.
- To screen crop species of intercrops and to develop suitable coconut-based cropping systems for the optimum utilization of coconut land.
- To discover improved low-cost and efficient copra processing techniques.
- To evolve procedures for processing and utilization of coconut and its by-products for feed and

industrial uses.

- To pioneer a research-based establishment of industries at the village level.
- To study the socioeconomic factors affecting the coconut industry as a whole.

#### ACCOMPLISHMENTS

There were 23 studies conducted by the Center in 1984. Seven studies were completed in 1984 and 16 are still ongoing projects. These are as follows:

##### Completed Researches

##### *Intercropping Coconut With Some Selected Annuals in Eastern Visayas*

This study was conducted in July 1978 to May 1984 with PCARRD as the funding agency. Different cultivars of annual crops were tested under coconut in ViSCA. The crops and the corresponding number of trials conducted were as follows: mungo, 3; peanut, 2; rice, 2; corn, 1; sorghum, 2; sweet potato, 2; and cassava, 2.

Based on the yield performance of the above-mentioned crops over several trials under bearing coconut in ViSCA, none of the varieties of annual intercrops reached 60 percent of their yield when grown in the open field. However, some crop varieties have shown quite promising yield performance as exhibited by gabi (Yellow Binahi, Kalpao), cassava (Java Brown, Macan 3), sweet potato (Anon San Isidro, Kinarusa), mungo (CES ID-1, CES ID-21, and CES 55), and sorghum (CS 2940, BPI Sor 1).

Net productivity of palm was quite low during the first year ranging from 5.39 nuts/tree/harvest suggesting that the coconut trees





were not given the proper cultural and management practices before the start of the experiment. But in 1981, palms that were ringweeded, fertilized, and intercropped were more productive than trees which did not receive any of the above-mentioned cultural practices.

***Production of Charcoal from Coconut Shell, Husk and Husk with Shell Using Pit Method***

This study was funded by RCRC initiated in July 1984 and completed in December 1984. Different configuration of the pit and charcoaling procedures were studied in order to obtain high charcoal recovery. The dimension of the pit was 75 cm. wide, 150 cm. long, and 90 cm. center deep. The bottom was curved. It was noted that a good charcoal quality could be achieved when it was done under the controlled supply of air. The charge (charcoaling materials) was not permitted to produce flame but only smoke.

***Improved Procedure in the Production of Charcoal from Coconut Shell, Husk, and Husk with Shell Using Simple Drum***

A five-month period was devoted to this study from July to December 1984 under the RCRC fund. This procedure can be considered as an improved method over the farmer's practice wherein the amount of shell charcoal recovered was 32 percent more than the farmer's output.

***Design and Development of a Single Drum Kiln for Charcoalizing Coconut Leaflets, Shell, Husk, and Husk with Shell***

This study funded by RCRC was conducted in October 1983 until December 1984. The drum kiln developed has a removable cover which is conical in shape. The kiln measured 144 cm. in height, 60 cm. outside diameter. It has a theoretical volume of 0.37 cubic meter.

***Development of an Oven Fueled by Coconut Husk with Shell Charcoal***

This study was done for one year (January to December 1984) funded by RCRC. An oven was developed to make use of charcoal from husk with shell as a source of heat for baking cake and other purposes. It stands at a height of 80 cm. with a width of 60 cm. It was made of steel plate, GI sheet, angle bars, flat bars, lumber, and plywood for outside walling. The burner was made of clay and it can contain 1.8 kg. to 2.8 kg. of pulverized husk with shell charcoal. The chemical in the burner lasted for 21 hours with a temperature range of 130°C – 150°C obtainable from the beginning of the fourth to the end of the twelfth hour burning. The total cost of one unit of this oven is estimated to be ₱1,175.00 (December 1984 price).

***Design and Development of a Dryer Fueled by Charcoal from Coconut Husk, Husk with Shell, and Leaflets***

This study was initiated last January 1983 until December 1984 funded by RCRC. A dryer was developed to make use of coconut charcoal as a source of heat for drying. It stands at a height of 1.56 meters. The width is 66.5 cm. It has 6 trays on which materials to be dried were placed. It was made of lumber, plywood, and GI sheet as inner walling. The burner was made

of clay and has a size as big as one-gallon of paint can. An empty paint can be modified to serve as the burner. Materials that can be dried are fish, chips or grated root crops, banana chips, cacao, coffee, and others. The burner capacity is 625 grams of pulverized husk with shell charcoal, 375 grams of pulverized husk charcoal or 425 grams of leaflets charcoal.

**Ongoing Researches**

***Breeding and Genetics***

- Breeding for improved varieties of coconut in Eastern Visayas
- Collection and characterization of local and introduced coconut cultivars/hybrids
- Field performance of three imported coconut hybrids grown under ViSCA condition
- Maternal influence on the inheritance of growth and yield characters of coconut
- Cytology of selected local coconut cultivars
- Male flower and pollen characteristics of seven dwarf coconut populations
- Regional testing of promising coconut hybrids/cultivars

***Physiology and Tissue Culture and Biochemistry***

- Haploids as a tool in coconut improvement
- Coconut embryo culture and organogenesis
- Development of indicators for yield prediction at early growth stages of coconut
- Biochemical approach to diagnosing N and K requirements of coconut
- Rate of food reserve consumption





tion and seedling growth in coconut.

- Evaluation of the relative merits of synthetic and natural hormones on fruit development of dwarf coconut

#### *Multiple Cropping*

- Coconut intercropped with pineapple
- Intercropping coconut with some perennial crops in the Sab-a Basin areas

#### *Agronomy and Soils and Cultural Management*

- Field performance trial of coconut hybrids and cultivars
- Comparative yield trial of hybrid/cultivars grown under ViSCA condition
- Effect of organic and inorganic N on productivity of coconut grown on 4 important coconut soil types in Leyte
- Effects of planting depths on growth and yield of coconut cultivars grown on hilly areas in Eastern Visayas
- A survey of asymbiotic N-fixers in coconut rhizospheres under various soil conditions

#### *By-Product Utilization*

- Design and development of a charcoal-wood stove
- Design and development of a husk-charcoal briquetting machine for small farmers

### **CENTER FOR SOCIAL RESEARCH IN SMALL-FARMER DEVELOPMENT (CSR)**

#### **OBJECTIVES**

- To improve the rural people's capability to gain access to re-

sources and services, improve efficiency in the use of available resources to maximize production and profit, and build up their capacity to control the means of production.

- To conduct short-term training courses to advance social research knowledge and create awareness in small farmer development among students, social science researchers, agency heads, and other entities.
- To extend support services on research design and statistics, instrumentation, and computer programming to improve the rigor and efficiency in conducting research.
- To collaborate with other departments of the college in offering graduate courses on social research and small farmer development.

In 1984, there were 13 researches being handled by the Center. Of these, 2 were just started, 6 were on-going researches mostly initiated in 1983, 4 were completed, and 1 was suspended due to lack of funds.

#### **ACCOMPLISHMENTS**

##### **Completed Researches**

*Factors Affecting the Adoption of Level of Corn Production Technology and the Status of Repayment Among the Corn Production Credit Recipients in Selected Municipalities of Cebu and Bohol*

The credit recipients included in the study had low adoption levels of the package of technology. On the average, more than two-thirds of the loans were repaid. A little

less than one-third of the recipients in Cebu City fully paid their loans on time, while those in Bohol paid less than one-fourth.

On the other hand, percentage of loan repayment was linearly related to knowledge about the procedures in repaying the loan, adequacy of the cash portion of the loan, soil fertility of the farm, adequacy of the fertilizer from the loan, the recipient's understanding of their duties and responsibilities as stipulated in the corn farm plan and budget, and percentage of the corn farm being owned by the credit recipient. Doing canonical correlation analysis, the most important predictor of percentage loan repayment was knowledge of repayment procedures. Another significant canonical variate identified adoption level as important criterion variable with percentage loan repayment, and negatively, status of loan repayment as moderate contributory criterion variable. Variables that could moderately predict the above criterion set included the age of the credit recipient, per capita monthly income, distance of the farm to the fertilizer supplier, availability of certified or registered seeds in the locality, amount of loan per hectare, personal relation of the technician with the barangay people and knowledge of repayment procedures.

*Backyard Swine Raisers in Eastern and Central Visayas: Some Sociological Studies (Study 1. Family Labor Allocation in Backyard Swine Raising)*

The housewife was found to be the principal decision maker and implementor in 23 swine manage-





ment practices being identified except in "constructing the confinement area" and "castrating of hogs" which were done by the husband. This means that the housewife played a major role in the economic activities of backyard swine raising with the immediate support or help from the husband. The role of the housewife in these activities could be attributed to the fact that the nature of such activities complements or fits well into the routinary work of housekeeping.

The factors that were found to have significant relationships with decision-making and implementing of the different swine management practices were age and educational attainment of the husband; age, educational attainment and main occupation of the wife; and age of the female children.

#### *Availability of Services and Resources and Production Practices in Hillside and Highland Corn Growing in Northwestern and Southern Leyte*

One hundred hillside and highland corn growers each from Northwestern Leyte and from Southern Leyte were selected and interviewed for the study.

Hillside and highland corn growers, on the average, were 45 years old, farmed corn for 23 years and had completed elementary education. The household had six members with two helping in the corn farm and earned about ₱ 470 for every dependent each year. Majority of the corn growers were share-tenants and did not join any barangay organization.

Many hillside and highland corn growers cultivated one farm of less than one hectare located on sloping and steep terrain and with about average soil fertility. These

farmers were within one kilometer from the homes of the corn growers and two kilometers from the farm-to-market road.

Majority of the corn growers participated in seed selection, plowing the field, spacing of plants, weeding and cultivation. Rarely practiced were seed treatment, harrowing, basal and side-dress fertilizer application, pesticides application and intercropping.

#### *The Visayas Backyard Carabao Raiser: Some Sociological Studies*

Three hundred fifty-three households who were engaged in backyard carabao raising were randomly selected from 30 barangays in 15 municipalities from the provinces of Iloilo, Bohol, and Leyte — the top three provinces in carabao population in the Visayas.

The household heads were middle-aged (49 years) with five years of formal schooling, an average gross income of ₱ 9, 299 in 1982 and farmed for 27 years. In all the carabao-raising activities, the household heads were the primary decision-makers and workers. The spouses, male and female children, and other household members had significant roles in both decision making and work implementation. Common problems identified by the minority of carabao raisers were lack of forage, stealing of tethering ropes, diseases and parasites, lack of wallowing places during the dry season, low fertility levels of caracows, poisoning, snake bites, drowning in wallowing places, stillbirths, high cost of tethering ropes, and crop damage by astray carabaos.

Certain beliefs were associated with six carabao raising practices: giving drinking water, wallowing,

dehorning, castration, nose ringing and training. Beliefs were associated with the following body characteristics: cowlicks, tail, horns, and skin/hair color. The location of the cowlicks, the length of the tail, the shape of the horns and the hair/skin color were claimed as determinants of positive or negative qualities.

Among the five identified available community services and resources in carabao raising, the radio was least utilized. The services of the technicians/livestock inspectors had a high level of utilization by the majority of the carabao raisers.

#### **Ongoing Researches**

- Responses to socio-economic pressures of hillside and marginal upland root crop raisers in Eastern Visayas
- Family dynamics of small-scale root crop production and processing in Eastern Visayas
- The social dynamic of planned change: an ethnographic study of selected village in Leyte, Philippines
- Case studies on marginal farmers in three depressed municipalities in Southern Leyte
- Museum of indigenous farm technology
- Problems and needs in the implementation of KKK projects in the Visayas
- Socio-economic impact analysis of agricultural support services in the Visayas
- Socio-economic analysis of rural-based organizations in Eastern Visayas
- Participatory upland farming systems development project: a case study of Operation Land Transfer beneficiaries in San Isidro, Leyte, Philippines





## FARMING SYSTEMS DEVELOPMENT PROJECT FOR EASTERN VISAYAS (FSDP)

### OBJECTIVES

- To participate with the Provincial Development Office in formulating plans and strategies for the implementation of the project.
- To assist in the identification, formulation, implementation, and evaluation of back-up research projects.
- To participate with Sire Research Management Unit (SRMU) personnel and the clientele in planning and implementing site activities.
- To provide technical assistance to SRMU personnel whenever needed.
- To help promote the FSR/E approach to rural development.

### ACCOMPLISHMENTS

In spite of some major setbacks, particularly the passing of two devastating typhoons in some sites, the project made a considerable headway in reaching its objectives. Several backup research projects were carried out at ViSCA and on the sites under the close collaboration among the personnel of the Ministry of Agriculture and Food, the Visayas State College of Agriculture and Cornell University. Through these site activities, the working relationship among personnel and between the institutions involved continued to be strengthened. This is perhaps an important component of the project that carries a long-term implication in the overall development process.

Research accomplishments were realized during the year as some

projects were completed and data were generated from other ongoing ones. The efforts of the Technical Staff were supplemented by contributions from other ViSCA staff particularly in areas where expertise in the FSDP group was not available. Certainly, the assistance of PDO and site personnel cannot be overlooked in accomplishing the tasks programmed in 1984.

### Completed Researches

#### *Socioeconomic Profile of Buenavista and Paku, Bontoc, Southern, Leyte*

Though described as having rainfall more or less evenly distributed throughout the year, fluctuations in climate also occur with droughts, typhoons, and excessive rains. About 58 percent of the land, mostly the coastal boundaries and around the poblacion, is level or gently sloping (more than eight percent slope). Soils in most of the areas are suitable for agricultural activities, but low in fertility. Many barangays including Paku have only fair weather roads and are inaccessible except on foot during the rainy season. Water is a problem especially during the dry season in places of higher elevation. Bontoc has two public markets. Aside from these, there are also barangay flea markets operating in rotation during the week. Health services are rendered by the personnel of the Rural Health Unit. "Ayon" or cooperative which is an informal organization composed of farmers is common in the study areas.

Two-thirds of the farms in Buenavista and one-half in Paku were less than two hectares. The common crops grown in the two

communities were coconuts and bananas. Cassava was grown by more farmers in Buenavista than in Paku. Abaca was less popular in these two barangays than in other parts of Bontoc. Other common crops grown include camote, corn and upland rice. Except for coconut and abaca, most farm products of respondents were largely used for home consumption. In spite of this, purchases for rice and corn were made throughout the year, with the highest number of families buying during April before the harvest of the next crop.

#### *Socioeconomic Profile of Balante and Dolongan, Basey Samar*

The main monthly rainfall is about 259.9 millimeters with no dry season but a pronounced rainfall peak from November to January. The place is frequently visited by typhoons which caused damage to the loosely rooted coconut trees and severe flooding. The soil is generally of Catbalogan clay loam type plus a large area of nearly neutral mucky surface peat.

Among the crops found in the two barangays, coconut ranked first followed by rice. Gabi is also planted especially in Dolongan. The months of February and March were reported to have the most number of sampled farmers buying rice. Pig and chicken were commonly raised by the farmers. Some farmers kept carabaos which are mainly for draft purposes.

None of the respondents in Balante and only 7.5 percent in Dolongan had permanent houses. About two-fifths had semi-permanent houses and about 50 percent (45% in Balante and 47.5% in Dolongan) lived in poorly built and temporary houses.





### *Socioeconomic Profile of Barangbang and Cagnocot, Villaba, Leyte*

The area is experiencing a more or less distributed rainfall throughout the year. It is mountainous and hilly with less rivers and streams to supply water for agriculture. Majority of the farmers were amortizing owners, cultivating an average of two parcels of land. Farm sizes varied from 0.21 hectares to more than 3 hectares with an average area of around one hectare.

Corn was the dominant crop grown. Rice was also an important crop next to corn in Cagnocot. Cash crops such as coconut, peanut, tobacco and rootcrops were not so popular in the area. Rice and corn grown in the dry season obtained higher production than in the wet season. Most if not all of the higher production of these crops including sweet potato are intended mainly for household consumption, therefore purchases of these food items would be seldom when farmers had just harvested their crops, and would be on its peak the time the harvests are already consumed and the next crop is not yet harvested.

### *Socioeconomic Profile of Macopa and Caglawaan, Jaro, Leyte*

The area is climatically described as having no dry season with rainfall more or less evenly distributed throughout the year. It is hilly but crisscrossed with rivers and creeks which are found to be good source of water for agriculture. Agriculture is the main source of livelihood.

Majority of the farmers were tenant owners, cultivating an average of two parcels of land each. Farm sizes ranges from 0.33 to 14 hectares with an average of about 2 hectares. Coconut is the primary

crop and source of livelihood of the farmers in both communities. Nuts were either sold in cash or generally processed into copra while some farmers made coconut shell charcoal and gather coconut toddy "tuba" for sale to augment their income. Farmers also produced rice, banana, cassava, camote, corn and "tuba" mostly for home consumption. "Tuba" is considered an important drink in the area and usually taken after regular meals.

### *Socioeconomic Profile of Altavista and San Salvador, Matalom, Leyte*

The farming system in Altavista and San Salvador was found to be relatively homogenous with most farmers owning two parcels of land. The average farm size in Altavista (2.8 hectares) was more than in San Salvador (1.8 hectares). Tenancy was the most common type of landholding. This could be an indication that farmers in these areas have less decision making rights with regard to their different farm activities. Cash requirements were met by sales of livestock and crops. Major food crops were corn, camote, and rice grown either in pure stand or in various combinations. Some farmers were also growing coconut. Abaca was raised by few, but most of the areas devoted for the crop were located outside the barangay. Cash for farm input was limited to paying labor and buying food for the laborers. The use of fertilizer and pesticides were not common as evidence by the volume or amount of harvest that farmers got. Respondents reported buying food for certain period of the year. Farmers owned some farm of livestock, most commonly pig and chicken. Less than fifty percent of them owned carabao. Land prepa-

ration was performed using plow and carabao. Majority of the respondents in the two communities surveyed were just residing in temporary houses.

### *Socioeconomic profile of Natimanan and Sto. Nino, Gandara, Samar*

Rice was the dominant crop grown in both sites. Cassava and corn were also grown in the area in both seasons. Considerable portion of the production of rice were intended mainly for home consumption with only small volume being marketed. Purchases of food items therefore, would be seldom when the farmers had just harvested their crop and would be on its peak, the time the harvest are already consumed and the next crop is not yet harvested. The trend in food purchases maybe associated with the kind of crop farmers are growing. Since rice is the dominant crop in the place, the family got use of eating rice. During times when their production could not meet their needs, farmers prefer to buy rice than corn.

Almost all of the respondents in both sites owned and raised chicken and pig. Some were also raising carabao and goats. Carabao raised by farmers were mostly with ages two years or more as it is in these ages when the farmers can utilize the animals for draft and transportation purposes. Farmers were also getting fresh milk from lactating females which are processed into cottage cheese. This is true to both sites. Carabao, goats and pigs are also shared by other farmers.

Pointed and weeding bolos, harvest tools, harrow, moldboard plow and shover were the most import-





ant tools owned by the farmers in both sites as these were the ones commonly used in the major farm operations such as weeding and cultivation. There were few farmers who reportedly owned the more efficient tools and equipment such as sprayer, thresher, blower, and hand tractor.

***Effect of Lime, Fertilizer, (16-20-0) and Inoculant on the Establishment of Ipil-ipil under Red Acid Soils in Matalom, Leyte and Bontoc, Southern Leyte***

The soil analysis revealed that the red acid soil had a pH range of 4.0-4.4 from the two locations where the experiment was conducted.

In Matalom, the parameter measured showed that there were no significant differences observed among treatment means. This denotes that under Matalom conditions, K-28 variety of giant ipil-ipil planted 50 cm x 50 cm can rapidly grow in acidic soil (pH 4.0) because the application of 13 grams 16-20-0/hill, liming at 30 grams/hill and inoculation of legumin at the rate of 100 grams/4 kg ipil-ipil seeds did not result to a significant increase in stem diameter, plant height and herbage yield compared to the untreated ones. The same result was observed in Bontoc with the established ipil-ipil planted at 50 cm x 50 cm in terms of stem diameter and plant height. However, liming, fertilization and inoculation resulted to a significantly higher fresh herbage yield from the untreated plants. Between the various treatments, liming at 30 grams/hill and 15 grams 16-20-0/hill application yielded the highest fresh and dried herbage of 5.73 and 2.0 tons/ha, respectively.

***Effect of Ca, Mg, and Zn on the Growth and Yield of Taro Grown on Peat Soil***

Application of lime and zinc to peat soil did not show significant effect on the agronomic characters and yield of taro plants. However, application of 15 kg/ha  $\text{ZnSO}_4$  ( $T_2$ ) and the same amount of zinc plus 10.54 tons/ha Dolomite ( $T_6$ ) and 7.10 tons/ha Dolomite ( $T_4$ ) resulted in the production of taller plants at the 5th month of the growth. The application of treatment  $T_6$  resulted in the highest leaf index of taro.

The increase of P in the soil of the control ( $T_0$ ) as well as the Ca in the treated plots ( $T_2$ ,  $T_3$  and  $T_6$ ) contributed to the high leaf area index of taro at the 5th month of the crop. Application of lime affected the soil pH consequently influenced the availability of some major nutrients such as K and Ca. This condition could have led to vigorous growth of the crop. However, due to flooding, it is likely that the available nutrients were either diffused or dissipated to other plots, thus the significant effect of the treatments.

***Preliminary Study in the Comparative Tolerance of Chicken and Pigs Vaccinated against New Castle Disease (NCD) and Hog Cholera (HC)***

In the case of chicken, egg production did not vary significantly. However, in terms of mortality, the non-vaccinated group (control) had significantly higher mortality. Least mortality was recorded with those birds vaccinated in April. Those vaccinated in May had a mortality rate of 40 percent.

In the case of pig, one of those under the control died. Laboratory analysis revealed the cause to be diarrhea.

***Small Farm Tools Development for Farmers in Eastern Visayas***

Seven different types of tools and implements were constructed and field tested, namely: a reversible moldboard plow, a seed/fertilizer applicator, a pineapple cultivator, a land imprinter, a rotating disk sheller, 8 ipil-ipil farrowers, and 12 hand-held wooden shellers.

Feedback gathered from the farmers in the different sites single out the reversible moldboard plow as a highly promising implement for hillside cultivation. However, it needs basic modification in design for better performance. The rest of the tools and implement, in spite of the satisfactory field performance, were not received enthusiastically by the farmers. Some were too costly to acquire or beyond the individual farmers' capability to fabricate. For instance, a wooden hand-held corn sheller which approximately cost nothing could not be made by the farmers due to lack of basic carpentry tools such as a chisel and drill bit. This tends to suggest that in order for the farmers to avail of the simplest technology which they normally could not fabricate themselves, the local craftsman, blacksmith and artisans should be tapped to produce the needed tools cheaply.

**Ongoing Researches**

***Socioeconomics Aspect***

- Factors associated with farmers' response to the technological changes in the farming systems





- of Villaba and Jaro, Leyte
- Marketing of peanut in Eastern Visayas
- Marketing of mungo in Eastern Visayas
- Marketing of cheese in Gandara, Samar
- Socioeconomic profile of farmer-researchers in Gandara, Samar
- Socioeconomic profile of farmer-cooperators in Jaro and Villaba, Leyte

### **Biological Aspect**

- Effects of ipil-ipil and madre de cacao as hedgerows on soil fertility and moisture conservation in sloping upland areas
- Comparative effects of anii and ipil-ipil as shade trees and madre de cacao and ipil-ipil hedges as source of O.M. on the rehabilitation of marginal hilly abaca lands
- Multi-storey cropping systems under coconut at Jaro SRMU, Jaro, Leyte
- Field crops screening, purification, and seed production project
- An assessment of mani-manihan (*Desmodium styracifolium*) grown in association with upland crops in Eastern Visayas
- Identification and chemical evaluation of selected promising indigenous feed materials
- Effects of fresh ipil-ipil leaves supplementation on milk performance of carabaos in Gandara, Samar
- Monitoring on farm performance of carabaos, pigs, and chicken

## **ACADEMIC DEPARTMENTS**

### **OBJECTIVES**

- To conduct research that lead to an increase in food production

through better land utilization, better cultural management techniques, better animal production techniques, and effective pest control measures.

- To conduct adaptability tests for the different priority crops in the region.
- To evaluate the market performance of crops and livestock and poultry in the Visayas region.
- To conduct research on food utilization and processing of animal and plant products.
- To conduct feasibility studies on the utilization of farm waste products for feeds and energy substitutes.
- To develop tools, machineries, and facilities using indigenous sources of energy for increased food production and utilization.
- To conduct studies on prolonging storage of farm products.
- To investigate certain areas of discipline pertinent to unique departmental needs and curricular concerns.

### **Department of Agricultural Chemistry and Food Science**

#### **Completed Researches**

#### **Classification of Coconut Water Vinegar**

The technique of removing the turbid substance to produce the sparkling clear coco-vinegar which is comparable to Del Monte Vinegar is established. Pilot-scale processing line to produce clear coco-vinegar is being set-up.

#### **Coconut-Based Products-Processing and Acceptance Studies**

Eighteen traditional coconut food products were identified in the Visayas. Among these, bukayo, coco bar, coco dice, and coco slice

were found almost identical in terms of ingredients and methods of preparation.

Six products out of eighteen identified ones, namely: bocarillo, coco slice, kalamay, macapuno bar, omol, and salvaro were found to be saleable in the market. Their formulations and methods of preparation were improved and standardized.

A new snack items named coco crisp from young coconut endosperm was developed. The product was highly acceptable by a test panel as well as respondents in consumer testing. Coco crisp retained pleasant coconut flavor of the fresh kernel and was observed to be crispy. Processing involved in coco crisp production are simple and can be adapted by cottage and small scale industries. The tender meat of coconut was scooped out from the shell, sliced into 0.8 – 1.0 mm. chips, blanched for several minutes, cook in syrup and dried either in a solar dryer or mechanical dryer. The product was stored for two months in celloplyethelyne and aluminum bags, respectively without the onset of rancidity or change in its crispiness.

#### **Ongoing Researches**

- Coconut Based Food Products Processing and Acceptance Studies
- Development of New Snack Dessert Products from Root Crops
- Development of Coconut Wet Process at Village Level
- Dehydration of Rootcrops for Food and Food Products

### **Department of Agricultural Economics and Agribusiness**

As of December, 1984 there were 4 completed researches and 10





ongoing researches conducted in the department.

#### Completed Researches

##### *Economics of Carabao Production in Iloilo, Bohol and Leyte*

Study 1. Social and Economic Factors Associated with Farm Level Technology in Carabao Raising.

Among the variables considered in the analysis, tribe, number of persons involved in taking care of the animals, beliefs, years in carabao raising, peace and order condition, number of animals raised, gross income, availability of inputs, improved transportation facilities and the greater number of animal-days spent were found to be significantly associated with the adoption of recommended practices.

Study 2. Economic Contribution of Carabao to the Farm Households and Resource Productivity Analyses.

- The average value of draft power per carabao per year was ₱ 269.00. Plowing and harrowing were found to be the dominant work of the carabao in both on-farm and off-farm operations.
- The carabao used for rice-based farming had the highest value of draft power and the lowest was in sugar-cane based farming.
- The animal work-days per carabao per year ranged from 23 to 37 days in rice-based farms.
- Only 3 out of 353 farmer-respondents were milking their carabaos. The 3 raisers claimed to have milked their carabaos primarily for home consumption. Milk production was 81

liters per animal per year.

- Only 44 out of 353 respondents used the animal manure for fertilizers. No respondents reported to have used the animal manure for fertilizers. No respondents reported to have used hide and horn for some purposes.
- On the average, the contribution of carabao offspring per household was only ₱ 36.00.
- Total value of the carabao's economic contribution to farm household (on-farm + other uses + offspring) was positively related to: (a) cost of supplies and materials, (b) number of work days, and (c) farm size.
- The value of work done accounted for a major component of the total value of the carabao's economic contribution to farm household.

##### *The Impact of Agrarian Reform Program on Productivity, Employment, and Income Distribution Among Selected Areas in the Visayas*

Study 1. The Impact of Agrarian Reform Program on Productivity, Employment, and Income Distribution Among Selected Rice Farmers in the Visayas.

- The average yield per hectare before agrarian reform situation (1972) was only 48.63 cavans; 52.42 cavans, 5 years after (1977); and 53.01 cavans, 10 years after (1982) its implementation.
- Total labor utilized in the farm was 151 mandays per hectare in 1972, 137 in 1977, and 116 in 1982. Labor utilization in the farm decreased due to the use of farm machineries and other

labor-saving equipment.

- In all regions, the returns to non-land fixed capital and management was positively associated with the agrarian reform program. The percentage labor share was negatively associated with the program.
- The real returns to the landlords was negatively associated with agrarian reform years. On the other hand, agrarian reform program was generally associated with increases in the real shares to farm operators and current input earners.
- Income distribution among farmers after agrarian reform program, particularly in Region VI, became better off.
- During the agrarian reform year, there was an improvement in the distribution of household income in Region VIII.

Study 2. The Impact of Agrarian Reform Program on Productivity, Employment and Income Distribution Among Selected Corn Farming Areas in the Visayas.

- The size of corn farm operated by the farmers of the Visayas were on the average a little beyond one hectare and were in general classified to be in the medium range.
- The use of high yielding variety and the number of fertilizer users in Region VI and VII were positively and significantly related to agrarian reform years.
- Cost of fertilizer applied, total area cultivated, cropping intensity, total household income, yield per hectare, and dominant variety used during wet season were the major determinants of





labor utilization per hectare in both before and after agrarian reform periods.

- Generally, the agrarian reform program was positively related to increases in total corn output, total earnings of corn farmers, total village income and earner's average income in all study areas.
- After the agrarian reform periods, Gini ratio calculations revealed an improvement in the income distribution among farmers particularly in Region VI and VII while in Region VIII no change in the distribution of income was observed.
- Gini coefficient across the different households of the farming villages of Region VI and VII also portrayed a gradual decrease implying that the program in these areas had lessened the disparity in their respective income in the after-situations while the increasing Gini-coefficients in Region VIII indicated worsening income distribution.

#### On-going Researches

- Problems and Needs in the Implementation of KKK Projects in the Visayas
- On-farm Trials of Semi-Continuous Cassava Production
- Socioeconomic Impact Analysis of Agricultural Support Services
- Marketing of Milk and Cheese
- Marketing of Peanut and Mungbean
- Supply Potentials of Cassava, Sweet Potato and Other Feed Ingredient for ViSCA Feedmill
- Price Trend Analysis of Agricultural Commodities in Eastern Visayas
- Production and Marketing Scheme of Root Crop-Based Soy

Sauce

- Benchmark Assessment of the RRDP Biotechnical Research Sites on Farming Systems in Region VIII
- Economic Tests for Profitability, Marketability, and Alternative Uses of Sweet Potato

#### Department of Agricultural Education and Extension

##### Completed Researches

##### *Case Study of Backyard Carabao Production*

The object of the study was to get a holistic view of family dynamics, level of technology, beliefs and values, and indigenous systems practices related to carabao use. The study revealed that the husband was the primary decision-maker in practically all management practices adopted in carabao raising.

##### *Socioeconomic Profile of Altavista and Salvador, Matalom, Leyte*

The limited economic capability and lack of formal credit sources of the people in the study areas made high input technologies unsuitable for such locality. The inherent low soil fertility prevented the expression of the full yield potential of crops. This problem was coupled with the climatic weather condition of the place.

##### *Socioeconomic Profile of Buenavista and Paku, Bontoc, Southern Leyte*

- The character of forrowing in the research area is largely dominated by the subsistence strategy, that is, the production of

sufficient food and cash crops for family needs is the main objective of the households. Animal production is secondary to crop production.

- The abaca, coconut, and cereal-based farms of Bontoc are on relatively poor soils in general. Little or no fertilizer is used nor soil conserving practices are followed.

##### Ongoing Researches

- Communication and Clientele Participation in Income Generating Project
- Benchmark Assessment of the RRDP Biotechnical Research Sites on Fishery Resources System in Region VIII
- Backyard Piggery Production in Eastern Visayas: Some Socioecological Studies
- Barangay-Based Rural Development Program for Small Coconut Farmers in Leyte
- Benchmark Survey on OSY in Baybay
- Study on ViSCA Proponents
- Teaching Strategies

#### Department of Agronomy and Soil Science

For the year 1984, the Department of Agronomy and Soil Science was actively conducting researches on the following commodities: Root Crops – 5 projects with 2 to 4 studies for each project; Cereals – 4 projects with one project with 2 studies and the other with 1 each; Vegetables – 2 projects with 3 studies; Farming Systems – 1 study; Agroforestry – 1 project with 4 studies; and 4 regional yield trials (soybean, mungbean, corn, and rice).





#### Ongoing Researches

- An Agronomic Approach to Reconditioning Marginal Areas for Root Crop Production (4 studies)
- Long Term Nutrient Depletion Study on Root Crop
- Effect of Ipil-ipil as Organic Fertilizer on Root Crops (4 studies)
- On-farm Studies on Spatial Arrangement of Root Crops and Succession of Legume Intercrops (2 studies)
- Comparative Study on the Effect of Four Animal Manures on the Growth and Yield of Cassava and Gabi.
- Weed Control Studies for Sorghum/Corn in the Visayas (2 studies)
- Verification of Selected Cropping Systems Technology
- Utilization of Fast Growing N-fixing Trees as Strip Crops, Fertilizer and Soil Conditioner for Crop Production in Hilly Areas (2 studies)
- Mungbean Regional Trials
- Soybean Regional Trials
- Corn Regional Trials
- Rice Regional Trials

#### Department of Animal Science and Veterinary Medicine

Increase in the number of research activities have not been remarkable. Among the activities in 1984 are:

#### Completed Researches

##### *Utilizing Fresh Mature Coconut Meat as Feed for Ducks*

Fresh mature coconut meat can be utilized by growing muscovy ducks as much as 50 percent incorporation in formulated starter ra-

tion. Mallard ducks cannot tolerate incorporation of 50 percent fresh mature coconut meat in layer rations. Fresh mature coconut meat is easier grated than cubed when fed to ducks.

##### *Use of Rice Straw as Feed for Cattle*

Rice straw can be utilized as source of dry matter for cattle in the feedlot. Best results were obtained from cattle fed 50 percent rice straw and 50 percent *Gliricidia sepium* leaves for 90 days. Cattle in the feedlot should be given 1.5 kg. concentrate supplement containing 17 percent C.P. daily.

##### *Feeding Management of Kids*

This study involves two phases. In phase 1 results indicated that weight gain from birth to weaning did not vary significantly between bottle-fed suckled kids. Likewise, weight gain from weaning to 9 months did not vary significantly.

In phase 2, sixty-four kids of Saanen, Anglo-Nubian, Toggenburg and their grades were separated from their dams, penned individually three days after kidding and bottle-fed with whole milk ( $T_0$ ), 75 percent whole milk + 25 percent coconut water ( $T_1$ ), 50 percent whole milk and 50 percent coconut water ( $T_2$ ), and skim milk ( $T_3$ ). Concentrate consumption and weight gain from birth to nine months were also monitored.

Results indicated that the average pre-weaning (6 to 9 months) gain in weights did not vary significantly among treatments. No breed differences in average final weight

gain among breeds and grades were noted. Mortality of kids in treatment  $T_0$ ,  $T_1$ ,  $T_2$  and  $T_3$  were 8, 10, 20, and 21.43 percent, respectively.

##### *Reproductive Performance of Gilts Fed with Cooked Sweet Potato as a Basal Feed Component Under ViSCA Condition*

Cooked sweet potato as a basal feed component in the ration is just as good as corn in its effect on the reproductive performance of gilts under ViSCA condition. However, it may not be economically feasible for commercial purposes, because of high labor cost on processing cooked sweet potato.

#### Department of Agricultural Engineering and Applied Mathematics

There was no remarkable increase in number of faculty research output. However, a considerable research output was made by the thesis students. All these studies were in line with the identified priority areas, identified for the department to undertake based on the college and PCARRD priority listing.

#### Ongoing Researches

- Septic Tank Digester
- Effects of Abaca Plantation and Its Control Methods Upon Soil Erosion
- Studies on Water Used by Crops Under the Different Management and Environmental Condition in Eastern Visayas
- Design and Development of a Mechanically Aerated Storage System for Drying Abaca Fiber Powered by Wind and Water.
- Testing, Evaluation, and Im-





provement of Sundrying Practices of Abaca Fiber in Eastern Visayas

- Design and Development of Abaca Dryer
- Design and Development of Animal Powered Coconut Oil Extractor
- Design and Development of Animal Powered Equipment for Root Crop Production
- Design and Development of Portable Animal Powered Abaca Spindle Stripping Machine

#### Department of Arts and Letters

Research output was proportionate to research goals set for 1984, i.e., completion of one research project on "Diffusion of Validated Research Findings on Root Crops and Coconut to Users of Research in Leyte" consisting of three studies covering print, demonstration and radio. In fact, studies of departmental concerns have kept the meager staff busy while still completing the PCARRD-funded research. These ongoing studies are on "Upgrading Needs of Service Teachers as Input to ViSCA's Program to Improve Instruction" and "Identification of Attitudes for Student Acquisition and Teacher Attitudes Related to Student Achievement as Viewed by DAL Staff and ViSCA Students." Four research studies of a non-funded departmental project on language teaching had been unfortunately set aside. This could have reinforced the new language teaching curriculum of DAL. At any rate, efforts of DAL researchers have been funneled to the departments' new masteral program on language teaching and the preparation of upcoming curricular programs on M.Ag.Dev. behavioral

science and a BS in language teaching.

#### Department of Forestry

The department had conducted several studies. One was completed in 1984 while 5 are still ongoing researches.

#### Completed Researches

##### *Effects of Fertilization on the Growth and Survival of Agoho and Giant Ipil-ipil Seedlings Outplanted in Grasslands in Region VII and VIII*

- Survival of agoho seedlings was significant during the first month after outplanting. Giant ipil-ipil showed no significant results due to rat infestation.
- Height and growth of seedlings was higher than the giant ipil-ipil seedlings.
- Diameter growth of ipil-ipil was larger than the agoho seedlings.
- Nitrogen, Phosphorous, and Potassium contents and uptakes were higher in agoho shoots than in giant ipil-ipil shoots.
- Agoho seedlings survived and grew better than the giant ipil-ipil under the experimental condition.

#### Ongoing Researches

- An Assessment of Mani-manihan (*Desmodium styracifolium*) Grown in Association with Upland Crops
- Germplasm Studies on Different *Desmodium* Studies
- Growth and Yield Performance of *D. styracifolium* Under Different Light Penetration
- Evaluation and Development of Hillside Farming Techniques for Root Crop Production

- *Gliricidia sepium* Germplasm Collection, Field Survival, Growth and Use of *Albiza falcataria*, *G. sepium* and *Sesbania grandiflora* in Hillside

#### Department of Home Science

There was eight technical and social researches conducted by the department in 1984. The projects/studies were on the utilization and development of food products particularly rootcrops and on family resource management among rural families.

#### Completed Researches

##### *Utilization of Dehydrated Root Crops in Main Dishes*

The kind of dehydrated root crops to substitute the existing extender, binder and thickener in some existing main dishes was determined. Cost analysis showed that using the dehydrated root crop to extend, bind or thicken main dishes is cheaper than flour white Irish potato and bread. The technology can be used by housewives and proprietors of eatery for all occasions.

##### *Utilization and Marketing of Root Crop-Based Soy Sauce*

The rootcrop-based soy sauce produced at the PRCRTC was found to be preferred by some consumers, although it has some distinct characteristics from the popular brands in terms of color and viscosity. Results of the consumer preference study conducted in ViSCA and neighboring barangays indicated that 74 percent of the households signified to shift to Root Soy Sauce if offered at a cheaper price.





#### Ongoing Researches

- The Effect of Different Bleaching Methods on the Quality of Abaca Fibers
- Fresh Miki Noodle from Composite Cassava-Soybean-Wheat Flour
- Processing of Cassava Chips into Flour for Baked Cassava Cookies
- Family Dynamics of Small-Scale Root Crop Production and Processing in Eastern and Central Visayas
- Socioeconomic Analysis of Rural Based Organization

#### Department of Horticulture

The department had a total of 21 ongoing research studies conducted on different commodities – 5 on vegetables, 11 on abaca, 4 on plantation crops, and 1 on root crops. Other than the ongoing projects, the department had 3 completed researches on cultural management.

#### Completed Researches

##### *Nutritional and Fertilizer Requirements of Promising Cacao Under Coconut*

Fertilizer application of 2 kg./tree/year complete (14-14-14) obtained the highest yield. Application was done every three months at ½ kg. per tree.

##### *Nutrient Status of Coconut Pasture Community*

Nutrient status of pasture community is influenced by the management practices employed.

##### *Cultural Management Studies of Coconut in Eastern Visayas*

Intercropping, ringweeding and fertilization significantly increased nut production and copra yield.

#### Ongoing Researches

- Breeding for Yield and Disease Resistance of Cacao
- All Coordinated Vegetable Evaluation Trial (Cucurbits)
- All Philippine Coordinated Vegetables Evaluation Trials (Solana-cious Crops)
- Establishment and Maintenance of Regional Abaca Gene Bank
- Regional Abaca Cultivar and Progency Testing
- Tissue Culture of Tropical Root Crops
- Cultural Management Studies of Vegetables in the Visayas
- Identification and Development of Potential Cropping System for Selected Vegetables in the Visayas
- Critical Period of Frequency of Manual Weeding on Growth and Yield of Vegetables
- Effect of Storing Stalks on Different Duration on Fiber Recovery and Tensile Strength of Different Clones
- Growth, Yield and Development of Abaca Grown Under Coconut
- Performance Evaluation of Abaca Varieties on Hilly Areas of Sab-a Basin Under Specific Rates of Fertilizer Application
- Intercropping Giant Ipil-ipil Shade Trees Planted at Varying Distance with Abaca as Cultural Management Practices
- Production of Grain Legume as Comparison Crops to Newly Establish Abaca
- Comparative Effects of Madre de Cacao and Ipil-ipil as Hedge and Shade Trees of Abaca-Based Cropping Systems in Sloping Areas

- Comparative Effect of Anii and Ipil-ipil as Shade Trees and Madre de Cacao and Ipil-ipil as Source of Organic Matter in Marginal Hilly Areas Land (Bontoc)
- Utilization of Fruit Trees as Shade in Abaca
- Rejuvenation of Old/Neglected Abaca Plantation
- Effects of Lime Fertilizer and Inoculant on the Establishment of Ipil-ipil Under Red Acid Soil
- A Survey of Asymbiotic Nitrogen-fixers in Coconut Rhizosphere Under Various Soil Condition
- Rate of Food Reserve Consumption of Seedlings Growth in Coconut

#### Department of Plant Breeding and Agricultural Botany

The research output in terms of meaningful and useful results of the department staff during the year was tremendous. In the research on Sweet Potato Varietal Improvement, the impact to the national economy appeared to have a high potential because of the approval of the Philippine Seedboard for the release of three sweet potato varieties such as VSP-1, VSP-2, and VSP-3, produced by the department staff which are now beginning to gain acceptance by farmers and consumers. The other staff members doing breeding on white corn and abaca are starting to contribute important results. Research on the physiology of yam and gabi indicate through preliminary results that seed production maybe possible with yam, hence hybridization to recombine traits is possible. This finding could pave the way for developing new varieties of these crops – an important development since former experience indicated that hybridization





in these two crops was difficult if not impossible then.

#### Ongoing Researches

- Program of Varietal Improvement of Sweet Potato in the Philippines
- Increasing Sweet Potato Plant Variability
- Non-replicated and Replicated Screening and Evaluation
- Cytogenetics of Sweet Potato and Its Relatives
- Inheritance Study on the Sweet Potato
- Abaca Varietal Improvement
- National Cooperative for Testing Root Crops
- Regional White Corn Improvement
- Yam Dormancy and Flower Induction
- Gabi-Seed Setting

#### Department of Plant Protection

##### Completed Researches

##### *Etiology of Stem Twisting, A New Problem of Abaca*

The pathogenic microorganism associated with abaca stem twisting were isolated. Three isolates, namely: isolate A, B, and C, were obtained from the infected abaca plants, cultured and inoculated into healthy abaca plants in the laboratory. Of the three isolates, only isolate B exhibited symptoms similar to those of the field infected abaca. Thus, the conclusion that isolate B was the casual organism of the disease was drawn. Isolate B was identified as a bacterium of the genus *Pseudomonas* under Family *Pseudomonaceae*.

##### *Utilization of Suitability of Abaca*

##### *Waste as Substrate for Mushroom Cultivation*

The first trial of the experiment was quite successful. *Valvariella* valvacea was observed to grow normally on abaca leaves in the laboratory. The largest cap recorded had a diameter of 11.8 cm and the smallest 7.5 cm. The succeeding trials however, were unsuccessful. Despite efforts exerted to get rid of insect pests, these continued to infest the mushroom beds. Fungi and bacteria were also believed to have infected the mushroom buttons, hence their failure to develop further.

##### *Integrated Practice for the Control of Corn Borer*

This study was undertaken to determine the combination of practices suitable for controlling the corn stalk borer.

Twelve treatments were tested. From these treatments, Treatment 1, UPVA var. 2 applied with carbofuran at knee-high and leaf whorl stage showed the least borer holes with the average of 1.54 holes per plant.

Yield of corn was highest in T<sub>9</sub>, DMR composite 2 applied with carbofuran at knee-high and azodrin whorl stage mean yield 5.36 tons per hectare.

##### *Survey of the Invertebrate Fauna in Coastal Water of Selected Areas in Leyte*

A one year sampling of the marine macrobenthic invertebrate fauna from ten stations covering an area of 1,900 m<sup>2</sup>/station in Leyte and vicinity yielded a total of 3,015 specimens with an average of 301.5 individuals per station. Macroben-

thic invertebrates collected belong to 19 classes in 9 different phyla.

In terms of approximate number of genera, the most diversified class was Gastropoda with approximately 6 genera. This was followed by Bivalvia, Malacostraca, and Stelleroida with 24, 18, and 15, genera, respectively.

##### *Biology and Ecology of the Blue Crab, Portunus pelagicus in Coastal Waters of Selected Places in Leyte and Vicinity*

Carapace lengths and total weight were significantly correlated for both male and female *P. pelagicus* with  $r=0.883$  and  $0.859$ , respectively. The regression equation obtained for both sexes show that the females were slightly heavier than the males.

The natural food of *P. pelagicus* in descending order of % occurrence values were Osteichthyes, Holotheroidea, Algae, Echinoidea, Anmura, Bivalvia, Porrifera, Brachyura, Forrimefera, Polychaeta, Penialidia, Seagrass, Gastropoda, Amphipoda, Copepoda, and Bryzoa. Gonad index ranges from 1.44 to 1.92 for females. Breeding activity took place year-round with peak seasons during the first and the last quarters of the year.

For blue crabs ranging in lengths from 42 to 66 mm, the fecundity ranges from 420,976 to 1,312,238 with a mean of 894,284. The large crabs produced more eggs than the smaller ones. However, trends in growth rate after 60 mm was not known.

A size-related spatial distribution was observed with larger crabs caught at depths greater than 6 mm and juvenile ones (30 mm length) found in swallower portions or near the shores. Crab catch was abun-





dant during the first and last quarter of the year in coincidence with peak periods of spawning. Ecological parameters (temperature, dissolved oxygen and water transparency) did not depict any strong correlation with fluctuation in gonad index and abundance.

#### Ongoing Researches

- Improvement of agriculture-related and General Reference Collections
- Identification, Biology and Efficiency of the Natural Enemies of Major Pests Attacking Root Crops (2 studies)
- Yield Losses in Root Crops Due to Four Major Insect Pests (4 studies)
- Varietal Screening of Resistance to Insect Pests of Taro
- Studies on Population Dynamics Coconut of Rhinoceros Beetle *Oryctes shinoceros* L. in Establish and Newly Replanted Plantation
- Biological Control of Some Important Insect Pests of Coconut (3 studies)
- Evaluation on the Efficiency of Baculovirus as Biological Control Agent for Rhinoceros Beetle.
- Biology and Control of the Major Insect Pests of Selected Vegetables in the Visayas (2 studies)
- Integrated Practice for the Control of Corn Borer
- Effect of Major Insect Pests on the Yield and Yield Component of Sorghum
- Varietal Screening of Abaca to Corn Weevil
- Sweet Potato Plant Resistance to Insect Pests and Diseases
- Varietal Screening for Resistance to Insect Pests and Diseases (2 studies)
- Survey/Collection and Identification of Microorganisms for Ethanol Production
- Selection of promising Organisms for Microbial Protein Production from Starchy Materials
- Utilization of Mycorrhiza for Increased Cassava and Sweet Potato Production
- Losses in Yield Caused by Taro Mosaic Virus Infection
- Variation of Pathogen Specialization in the *Cenocospora batatas*, and *Sphaceloma batatas*
- Screening of Taro Varieties in Leyte for Resistance to Plant Diseases
- Identification, Distribution and Control of Vegetables Diseases in the Visayas (4 studies)
- Pest Management Scheme for Corn: Integrated Control Measures for Corn Downy Mildew
- Loss in Yield Due to Major Diseases of Sorghum
- Integrated Approach to Controlling Dominant Weed of Corn
- Weed Flora Associated with Coconut in Eastern Visayas and their Control (4 studies)
- Studies on the Insect Pests and Microorganisms Affecting Copra (2 studies)
- The Arthropod Fauna of Mt. Pangasugan and Vicinity

#### VISAYAS COORDINATED AGRICULTURAL RESEARCH PROGRAM (VICARP)

VICARP continued to undertake a multi-commodity research having root crops and abaca as its national responsibility. In the year 1984, a number of projects/studies had been completed and many are still ongoing. Having been mandated to set up a mechanism for the coordination and management of agricul-

tural research in the Visayas, VICARP has been pursuing its goal of developing, improving and verifying production and postharvest technologies for small Visayan farmers. Regular meetings had been done during the year to discuss problems, solutions and other important matters related to research development in Regions VII and VIII.

VICARP's Management Unit was involved in research monitoring and evaluation; consolidation of research reports and coordination with the different cooperating agencies on their research activities. On July 4-6, 1984, VICARP also coordinated with PCARRD in the review and evaluation of all completed and on-going researches conducted by VICARP agencies.

A seminar-workshop on Research Planning and Manuscript Preparation was coordinated by VICARP in 1984. Selected researches from the Ministry of Agriculture and Food, from Regions VII and VIII and from the Farming Systems Development Project in Eastern Visayas (FSDP-EV) participated in a one-week seminar-workshop which aimed at training selected agricultural researchers in conceptualizing research projects, preparing of proposals, writing of research reports and improving their efficiency and capability in the implementation and management of approved projects.

Likewise, the Visayas Coordinated Agricultural Research Program (VICARP) played its role in technology and information dissemination through the Regional Applied Communication Office (RACO) which was formerly called the Applied Communication Unit by continuing its major activities and by launching new projects. Most of





these undertakings were on the production aspects of applied communication which include reproduction, photography, exhibits, production of broadcast materials and others.

An official publication of VICARP, the VICARP News, is published quarterly to highlight activities of the agencies within VICARP. This include popularized reporting on the research-generated technologies. Copies are given free to all VICARP member agencies, to the national research network, and to all Municipal Agricultural Officers of the towns of Central and Eastern Visayas.

Commodity-based production bulletins intended for farmers and technicians were published. A total

of 7 technoguides in coconut and 1 in cassava were produced in 1984. Both were in vernacular (Cebuano and Waray). Production and publication were spearheaded by this unit. Distribution of these technoguides were done by the Ministry of Agriculture and Food, Region VIII and PRCRTC, respectively.

The "Field Day for Farmers" is celebrated every year. Booth exhibits and method demonstration were presented. A showcase of village level technologies developed by ViSCA's technical departments and research centers were presented. This annual activity of VICARP gathered about 600 farmers from Leyte and Cebu in the 1984 celebration. Field visits was also conducted. Planning coordina-

tion and management were provided by the Regional Applied Communication Office (RACO) of VICARP.

The RACO prepares and maintains a general exhibit and coordinates all the activities related to exhibits. Permanent booths are provided by the respective exhibitors such as research centers and departments to showcase results for ViSCA visitors.

A mini-library has been maintained at the Regional Applied Communication Office to provide students and researchers with information materials. It manages circulation and exchange of publication and serves as a regional outlet for PCARRD publications covering Regions VII and VIII.





Extension







# EXTENSION

## OBJECTIVES

- To package and disseminate through print, broadcast, and other media some useful information from research findings for practical application to the end-users or clientele.
- To undertake action-research projects at the village level to develop new approaches/methods/techniques in accelerating rural development.
- To conduct training and other training-related activities to improve and upgrade the capability, efficiency, and effectiveness of rural development planners, extension agents, and rural families.
- To provide technical assistance to different government agencies, development workers, teachers, and rural organizations on technical and specialized subject matter areas in agriculture and rural development.
- To assist in the verification of different technologies developed by the academic departments and research centers of the college to determine their appropriateness under varying socioeconomic and physical conditions.
- To strengthen the linkages among different agencies in the region to

maximize the use of limited resources and increase the effectiveness of government programs for rural development.

## ACCOMPLISHMENTS

Agricultural research remains abstract unless a clear flow of effective dissemination from technology generation down to utilization is provided. Hence, extension strategies are crucial to ease and hasten the flow and ensure the application of research information and technology. Only then can research be meaningful. In view of this, ViSCA has taken into account interdisciplinary and inter-agency approaches in launching its extension projects. Each department/center has a built-in extension component designed as a means of disseminating its research outputs.

### Training and Nonformal Education

Training are geared towards acquiring or improving skills in agricultural production and other activities that could help improve the productivity, efficiency, and well-being of the target clientele. Thus, through the research and training centers at ViSCA, packages of ap-

plicable technologies were delivered to government technicians and extension workers, farmer groups, rural women, and out-of-school youth through the conduct of trainings, seminar-workshops, and conferences. Spearheading this type of activity were the Philippine Training Center for Rural Development, Philippine Root Crop Research and Training Center, and the Regional Coconut Research Center. Such major activities were on root crop production, processing, and utilization and on replanting, hybridization, and processing of copra and other coconut by-products.

### Technical Assistance

ViSCA has a technical committee that assists the Ministry of Agriculture and Food Technician in implementing projects in farmers' fields. MAF technicians conferred from time to time with specialists at ViSCA concerning technical information useful to farmers. The college, through the research centers and academic departments, also maintains specific extension projects such as demonstration farms, experimental fields, and the plant pest clinic where farmers and extension workers were advised and





gathered information on plant pest protection and pest management.

ViSCA's technical assistance in the field of agricultural production were likewise given through the conduct of a farmers' field day at the school campus. In 1984, it featured village-level technologies developed by ViSCA's technical departments and research centers. Both exhibits, method demonstrations as well as actual planting designs and techniques were presented to the field day visitors in highly understandable language and in the simplest form to achieve high comprehension among the audience.

#### **Publication and Other Communication Media**

Agricultural information is disseminated through the ViSCA radio station and through the production and distribution of technical journals, popularized magazines, technoguides, bulletins, and leaflets to keep the farm workers abreast with the latest findings in agriculture. The academic departments and research and training centers of the college prepared these technology packages. Relevant publications released by the college include the VICARP News, a quarterly popularized report which highlights the new development in agricultural research; the Visayas Farm News Service, a bimonthly reference of extension workers, vocational agriculture teachers, and farmers; and the Annals of Tropical Research, a quarterly science journal consisting of a technical reporting of completed researches in tropical agricultural and related science. The Scientific Literature Service is also made available at the ViSCA Library. It provides research information materials for researchers and students.

It also facilitates acquisition from PCARRD of some research literature upon request.

#### **Action Research Projects**

Delivery of information and mature technologies to endusers was also carried out by ViSCA's research-cum-extension projects. Production technologies developed through research were tested at the farmers' field to determine adaptability to specific locations and situations. It is through this activity that the farmers can actually observe production technologies generated through research.

Farmers and rural women were also involved in evaluating post-harvest technologies related to crop storage, processing, and utilization. Eventually, appropriate technologies are adopted by target clientele direct from the research community. In another project which establishes a pilot feed mill, root crop farmers were tapped as sources of raw materials for the manufacture of animal feeds.

For records purposes, the following are the detailed extension programs and projects conducted by the technical departments and research and training centers of the college in 1984. Activities undertaken were ranging from plant and animal dispersal, nonformal education, on-farm lecture/demonstration series, consultations, short trainings courses, distribution of popularized publications, exhibits, and information dissemination.

#### **PHILIPPINE ROOT CROP RESEARCH AND TRAINING CENTER (PRCRTC)**

One of the major functions of PRCRTC is extension. This in-

cludes dissemination of information on newly developed root crop technologies and research results through publications, trainings and seminars, and distribution to farmers of recommended root crop planting materials.

The official research publication of PRCRTC is the *Radix* which is published biannually. It has a worldwide readership and can be obtained by subscription or exchange with other publications. Several requests for copies of the *Radix* were received from local and foreign scientists, researchers, development workers, and interested individuals.

"Pagtanum ug Balanghoy aron Makakuarta" (Cassava Technoguide: Grow Cassava for Profit) is a technoguide which was officially launched and distributed to farmers on March 19, 1984 on the occasion of the 7th PRCRTC Anniversary. Published in Cebuano, the technoguide is intended for use by extension workers, field technicians, and farmers. To date, around 500 root crop farmers have received the technoguide, and several field technicians and extensionists from the Ministry of Agriculture and Food (MAF) have requested for some copies. Bulletins on production of taro, yautia and yams were made available just as the brochure on soy sauce making.

Information dissemination was undertaken in various means. The developed root crop technologies and information were exhibited on various occasions. PRCRTC holds annual exhibits during the Field Day for Farmers on the occasion of ViSCA's Anniversary celebration. This year, PRCRTC's exhibits showcased ViSCA's development efforts for the upliftment of the small farmers in the region and the





entire Visayas. PRCRTC held exhibits in Palompon, Leyte on November 29 – December 3, 1984 during the town's 200th Year Anniversary. Together with the other departments and centers of ViSCA, a similar exhibit was held during the Baybay town fiesta on December 27, 1984.

ViSCA radio station, DYAC, had disseminated root crop information through broadcast and interviews of PRCRTC personnel and root crop researchers. The information could reach places in the Visayas region within coverage of the radio broadcast. Root crop information had been channelled to regular outlets like the bimonthly Visayas Farm News Service published by ViSCA as a productive aid for farmers.

PRCRTC personnel served as resource person in trainings/seminars conducted by the Philippine Training Center for Rural Development at ViSCA. Trainings on root crop production, processing and utilization had been conducted in line with the aim of ViSCA and the government to promote crops, particularly cassava and sweet potato, as replacement for corn and animal feeds.

Technical assistance, free consultations, and information had always been extended and given to farmers. This year, PRCRTC had extended technical assistance on the processing and utilization of root crops for animal feeds to the Mantahan Livestock Raisers Association in Dongon, Maasin, Southern Leyte. Root crop farmers and producers association were established in Baybay and Hilongos, Leyte; Maasin in Southern Leyte; and in Calbayog, Samar. The associations through the officers, had established direct linkage with PRCRTC.

### **REGIONAL COCONUT RE-SEARCH CENTER (RCRC)**

The Center had established and maintained demonstration farms. Care and maintenance activities such as ring weeding, pruning, fertilizing and controlling pests of cacao, coffee, papaya and gabi were done.

In 1984, a total of one hundred sixty two people participated in the training of Coconut by-product utilization which was conducted by the Center and held in different places of Leyte. The farmers and the mayor of Mahaplag, Leyte participated in the supervision of making a one unit of RCRC Concrete Block Kiln. A training regarding the skills on coconut by-product utilization and intercrop processing was participated in by the farmers, students, barangay and municipal officials and PCA officers in Region VIII. Most of the participants came from Abuyog, Leyte while others came from Baybay, Mahaplag, Palo, Babatngon and Bontoc, Southern Leyte.

### **CENTER FOR SOCIAL RE-SEARCH IN SMALL FARMER DEVELOPMENT (CSR-SFD)**

The Center for Social Research implemented six extension projects during 1984 which included a number of seminar-workshops on agricultural research, data processing and analysis using microcomputers, cooperative and leadership trainings for marginal farmers, trainings for farmers in the establishment of a communal vegetable garden, and farmer's classes on upland (rice and corn) production and agroforestry.

Some of the CSR staff members had extended technical assistance

to marginal farmers and rural women in selected upland villages in Baybay, Leyte, farm-cooperators/OLT beneficiaries in the Land Bank Estate of San Isidro, Leyte, and selected ViSCA administrative and academic personnel (for data and processing and statistical data analysis). An exhibit of indigenous farm technologies and household artifact collections had been put by the Museum of Indigenous Farm Technology. The ViSCA Slide Story (English Version) had been translated and recorded into Cebuano to enable farmer-trainees and cooperators visiting the campus to comprehend the thrusts and accomplishments of the College. Altogether the extension activities of the Center had increased compared to last year and are envisioned to continue doing so in the next two or more years. Proof of active involvement of the CSR staff in extension activities in 1984 was the fact that 56.25 percent of the 16 staff members were carrying out a number of the extension activities enumerated above. On the average, 35 percent of the total workload of CSR staff members were devoted to extension work.

### **PHILIPPINE TRAINING CENTER FOR RURAL DEVELOPMENT (PTC-RD)**

The action program for CY 1984 of the Philippine Training Center for Rural Development (PTC-RD) at ViSCA was in accordance with its mandate (P.D. 1145) to speed up and facilitate agricultural and rural development through efficient and effective program for the distribution, development, and utilization of applicable technologies within the government and by all Filipino farmers.





### Major Operating Policies

In 1984, the three basic operating policies for the development and conduct of training courses and related activities of the center were as follows:

- Area specific coverage. In this aspect the training courses and other related activities were developed and conducted for priority and ecologically defined areas such as: area isolates, area development centers, and others.
- Program-based support. The training courses and other related activities were addressed and designed to support the on-going rural development projects of various government agencies and private sectors.
- People-centered participation. The training courses and other related activities were designed and conducted by the persons directly involved in the planning and implementation of the current programs and projects in designated areas.

### Major Training Courses

There were three major types of clientele-oriented complementary and sequential courses conducted by PTC-RD at ViSCA in 1984. These sequential courses are summarized as follows:

#### *Package Applicable Technology*

Objective: To update locally applicable commodity-based technology packages

Participant/Duration: 50-60 persons for Development Programs Operators for 1 week

### *Production Services Delivery*

Objective: To improve the function-based production support services of rural development agencies

Participant/Duration: 70-80 persons for Development Program Extensionist, Development Program Managers and Development Subject Specialists for 1 week

### *Program Implementation*

Objective: To strengthen the area-based development orientation and actual involvement of rural development entities and local leadership in order to accelerate rural development

Participant/Duration: 80-100 persons for Development Program Operators, Development Program Extensionists, Development Program Managers, and Development Subject Specialists for 1.5 weeks

### *Establishing Area Priorities*

The priority areas served and covered by PTC-RD at ViSCA in 1984 were as follows:

- Baybay ADC — Municipalities covered are Hilongos, Hindang, Inopacan, Baybay, Albura, Ormoc City, Merida, Isabel, and Mahaplag
- Calbayog ADC — Municipalities covered are Calbayog City, Taranagan, San Jorge, Gandara, Sta. Margarita, and Tinambacan
- Maasin ADC — Municipalities covered are Matalom, Leyte,

Maasin, Macrohon, Malitbog, Padre Burgos, and Tomas Opus

- Talibon ADC — Municipalities covered are Buenavista, Jetafe, Talibon, Alicia, Candijay, Pilar, Ubay, San Miguel, Bien Unido, and Trinidad

In retrospect, 1984 was another productive year of the Center. It held a total of 18 trainings in the aforementioned areas. Total participants reached 1,118 with 94.8 percent coming from the private sectors and 5.2 percent from government line agencies represented by the Ministries of Agriculture and Food, Agrarian Reform, Local Government, Human Settlement, Population Commission and from the Ministry of Education, Culture and Sports. Areas of training were in the production and management of root crops, swine, vegetables, rice, corn, mango, and the coco-based multi crops.

### ACADEMIC DEPARTMENTS

#### **Department of Agricultural Economics and Agribusiness**

The extension activities were tuned and linked to the instructional as well as the research programs of the department and the college as a whole. Its main concern was not only to improve the socioeconomic status of the individual but also of the total rural environment.

As of 1984, there had been a notable increase in the number of extension activities in the department. Extension programs and activities such as Simple Record Keeping and Cooperative Development Trainings were conducted for rural women, farmer-leaders, barangay officials, rural development work-





ers, selected farmers in Barangay Kilim, and Hibunawan. Some of the staff in the department provided technical assistance through Economic and Agribusiness Development Project to the OLT (Operation Land Transfer) beneficiaries and their families of San Isidro Land Bank Estates. Likewise, one of the department staff was actively involved as a member of the San Isidro Rural Systems Development Project (SIRDPS) Management Committee. Some of the staff members served as resource speakers during the seminars/workshops on Samahang Nasyon, cooperatives, vegetable production and teaching methodologies.

#### **Department of Agricultural Education and Extension**

The trainings conducted by the department aimed to provide the clientele an expertise in doing their work efficiently. The Barangay Integrated Development Program (BIRD) conducted a training on vegetable production and seed processing for the teachers, farmers, and rural women in Barangay Guadalupe. The department offered technical assistance to different kinds of clientele. Staff members rendered extension service to the community as resource persons in the Barrio Training of MHS Personnel and in the Seminar-Workshop on Training of Trainers for Integrating Nutrition into Agriculture.

Other activities done for community service were the production of workbooks in teaching agriculture for teachers in Agriculture in the Visayas, and the reproduction of handbooks for teaching corn production. A skill record book in manipulative skill program of the

department and a study guide were produced for the benefit of college students. A training on vegetable seed production processing was conducted in Barangay Guadalupe and participated in by farmers and housewives.

#### **Department of Animal Science and Veterinary Medicine**

The Carabao Improvement Program was conducted to farmer-leaders, barangay officials and researchers within 10 kilometer radius of ViSCA. Assistance was given to farmers regarding heat detection and pregnancy diagnosis of their animals. Carabaos found to be in heat were artificially inseminated. A short training was conducted on animal production which was participated by farmer-leaders and barangay officials within the locality of Baybay. The Rodeo Competition for Regions VII and VIII was participated by students and farm-leaders. Providing technical assistance through breeding and animal dispersal program for Region VI, VII, and VIII through farmer-leaders has been achieved by the department. A recipient from Barangay Patag of the program was issued a certificate of ownership. During the quarter, the project received three 6-8 months old cattle from recipients of the dispersal program. Animal health services within Baybay were provided to farmer-leaders. Treatment of animal diseases and advice on sanitation practices were likewise given to farmers.

#### **Department of Arts and Letters**

The Mobile Theater was the major project of the extension unit of the department. Developing

people in performing arts was a long process. Staff members were developed and sent to short-term training. The "Balik Barangay 84" and "Lingiw Ayaw Pagpakabana Istranyo" were presented at ViSCA and Kilim. The plays were viewed by students, teachers, housewives, and rural folks.

Everybody in the department was involved in the project since this was a kind of activity that required the participation of many people. The department even tapped artists from the centers and units in the college. Technical assistance was given to high school and elementary teachers at FCIC, Baybay through in-service trainings. It had also conducted two local and regional seminar-workshops on teaching methodologies with the aid of the German Foundation for International Development. The primary aim of the seminar was to revitalize classroom instruction in agro-technical schools. The areas of concern were on humanities, social science, physical sciences, agricultural economics and business, and biological sciences. The regional workshop was participated in by agro-technical teachers from Samar, Leyte, Cebu, and Bohol.

#### **Department of Development Communication**

In 1984, the department had conducted seminars on campus writing, rural broadcasting and training of trainers for Integrating Nutrition into Agriculture for student writers, announcers, public information officers, and college teachers. The Visayas Farm News Service succeeded in gathering materials for publication. It collected research results and other developmental information for dissemination.





tion. Eight hundred subscribers were given copies of the published materials. Subscribers included farmer-leaders, extension workers, agriculture teachers, radio stations, newspapers, and school libraries of Regions VII and VIII.

#### **Department of Forestry**

The department has established an Agro-Forestry Demonstration Farm. It expanded its area of about 1 hectare of land and showcased modified bench terraces for both wetland (lowland) and dry land (upland) crop culture. It participated in the Agricultural Fair held at Palompon Institute of Technology in Palompon, Leyte.

#### **Department of Horticulture**

The department conducted several extension programs and activities in 1984. It produced and distributed fruit crop planting materials and vegetable seeds such as 500 marcotted calamansi, 50 seedlings each of rambutan, cashew, and cacao, and 14 kilograms of vegetable seeds to farmers, employees, and students. During the college' anniversary, the department has launched a garden show where various kinds of flowers and plants were displayed and subsequently sold to the public.

Lectures and open forum on cash-crop-coffee-cacao and vegetable production were conducted to scientists and farmers at the PTC-RD at ViSCA. The department taught farmers of Barangay Guadalupe how to propagate fruit trees asexually. Cacao cultural management practices was disseminated to the farmers of Merida, Leyte.

#### **Department of Plant Breeding and**

#### **Agricultural Botany**

The nature of the extension activities engaged in by the department staff members included the dissemination of technologies such as the new camote varieties and the accompanying cultural practices. Some staff members were also involved as speakers in trainings. A pamphlet entitled "New Sweet Potato Varieties" was distributed to the different clientele of the department. The department participated in the Farmer's Field Day celebration where information of new technoguides were disseminated. Planting materials of new camote varieties had been distributed during the year to about 2,500 farmers and rural development workers. Feedback from some of them showed effects on their farming conditions and utilizing the technology they had acquired from the department. A big time farmer of Camarines Sur informed the department that farmers in the province have availed of the planting materials of the VSP-camote.

The department was a co-sponsor in the training of cooperators in the National Cooperative Testing (NCT) for Root Crop held at ViSCA. It was also a cooperator in the Root Crop Information caravan organized by the Farmer Training Center for Rural Development that disseminated information and distributed root crop varieties, the VSP-camote in the towns of Southern Leyte. It donated planting materials of VSP camote to other places affected by typhoon such as Surigao, Camiguin, and Eastern Visayas through the Ministry of Agriculture and Food. Acknowledgement from the officials of the province has been received by the department. The provincial Board of

Camiguin Province even went to the extent of passing a resolution of thanks to ViSCA in general and to the Department in particular for the donation to Camiguin Province in addition to a letter of acknowledgement sent by the Governor himself. These donations to Surigao and Camiguin were each picked up at ViSCA by a large commercial boat in case of Surigao, and an army ship in the case of Camiguin.

#### **Department of Agronomy and Soil Science**

Extension activities planned and programmed for 1984 had been implemented as scheduled. About 7.0 percent of the total workload of the staff was devoted to extension activities. There was a significant increase in the demand by farmers and extensionist for agricultural information materials and improved seed varieties of corn grain and legume crops. The department provided technical assistance, published and disseminated agricultural information materials on some field crops, and conducted non-formal education to the clientele through farmers' meeting, seminars, and short-term trainings. The off-campus verification trials also served as a demonstration plots to farmers and field workers. Generally, the clientele of the extension activities of the department were farmers, extension workers, MECS personnel, and some researchers. The department has started to conduct soil and tissue analyses.

#### **Department of Plant Protection**

The Plant Pests Clinic (PPC), an extension arm of the department through its faculty specializing in various plant protection related dis-





ciplines, served about 94 clientele during the year. The clientele included researchers and farmers. The clinic served in the diagnosis of pests problems and prescribed control measures against them. One hundred twenty six persons attended a lecture about "Pests and Diseases of Rice" intended for ERHS students and "Pests and Diseases of Root-Crops" intended for farmer-leaders from Southern Leyte and farm managers from Sri Lanka.

Information dissemination was achieved by preparing technical bulletins, participating in a series of radio programs on pests and diseases of rice, preparing special public exhibits for the ViSCA anniversary, maintaining regular museum exhibits, and serving as lecturers and facilitators in various trainings or programs sponsored by ViSCA and other agencies. One bulletin on Red Spider Mites, the most destructive pests of cassava will be published for dissemination to interested farmers. A series of 5-10 minutes broadcast on the control of rice diseases was done on August 6 to 15 at Radio Station DYAC on the program, "Maayong Gabi-i Higa". This was in response to the request of some farmers who had

#### Extension and Community Services

The ViSCA health service extended its services to dependents of staff, and faculty members and their people living in the neighboring barangays.

As presented in Table 18, the infirmary was able to render a total of 15,694 services to the populace which was 1.5 percent more than the targeted 15,457 services to be accomplished in 1984. It can be noted from the table that there is a slight deviation of some of the tar-

problems on rice diseases especially tungro.

The year's special feature of Biological Museum was on Fungi and other plants such as ferns, mosses and algae. A special mini-display of arthropod collections from Talibon, Bohol which was obtained late in 1983 was made for a group of upland farmers. Some 2,531 visitors came to view the regular and special exhibits of the museum. The visitors were mostly students and teachers.

The Active Agent, is a quarterly publication of the department. The publication aimed to monitor the activities of the staff in instruction, research, and extension and was distributed free of charge to the alumni of the department, staff members on study-leave and the different centers and departments of ViSCA.

#### DYAC Radio Station

The DYAC radio station at ViSCA is trying its best to be a great part of people's lives. In the year 1984, the station conducted various programs and other media activities in coordination with the different departments and offices of the college. It brought "live" co-

verage of various events to its listeners during the ViSCA Anniversary Celebration, the anniversary program of PRCRTC, the Farmer's Field Day celebration, and the local Science Fair and Quizz. In addition to its agricultural-oriented programs, the "children's Happy Hour" was aired and the Breast-feeding Campaign was launched under the request of the National Media Production Center. This campaign was aired throughout Region VIII and together with these were some slide stories about the development of some towns and cities in the region. The production function of the station was not only limited to its operation. Audio production of slide tapes were produced for other offices and departments. DYAC also produced materials for the ViSCA Mobile Theater and some other drama production for the ViSCA Experimental Rural High School.

DYAC's production work even went beyond the confines of the College. As the strong typhoon in 1984 struck the provinces of Surigao and Southern Leyte, the station did not cease its operation. It serves as a source of vital information and it coordinated in the relief operations to typhoon victims.

#### Immunization of Children Against

Polio	80	76
DPT	66	63

#### DENTAL

##### Dental Examination:

Students	1,342	1,509
Faculty/Staff and Outsiders	1,279	1,282

##### Dental Treatment:

Prophylaxis	131	139
Cum	222	233
Extraction	450	451
Filled	473	481
Total	15,457	15,694









# AUXILIARY SERVICES

## OFFICE OF STUDENT AFFAIRS

### OBJECTIVES

- To assist students adjust to the new environment and help solve educational, psychological, emotional, and social problems by providing thorough guidance and counseling services and financial assistance.
- To provide opportunities for students to become responsible leaders and good followers by sponsoring significant co-curricular and extra-curricular activities.
- To help students in their needs for comfortable living conditions, study, and relaxation by furnishing them with a good housing program.
- To provide the economically poor but deserving students in the region greater access to educational opportunities at ViSCA through scholarships and grants-in-aid.

### ACCOMPLISHMENTS

The Office of Student Affairs (OSA) was given the responsibility of the College to cater the needs of the students particularly along the areas of personality develop-

ment and adjustment problem and serve as a link between the students and the administration. Hence, the OSA staff performed their roles in meeting the student's needs through the various divisions of guidance services.

### Counseling and Testing

Counseling aimed to assist students in adjustment to the academic world particularly on the choice of courses and to reduce drop-outs and failures. Likewise, counseling helps the students adjust to the sociopsychological world particularly on classroom and dorm life adjustment and interpersonal relationship.

During the year, counseling services were provided to 65 percent of the student population; psychological testing to 203 students and employees; career guidance to 181 students; and freshmen orientation to 640 students.

As a result of a yearly information drive spearheaded by OSA, 605 freshman students enrolled during the first semester of SY 1984-85, 80 percent of which came from the province of Leyte, 8.60 from Cebu and the rest were distributed from other provinces of the

Visayas, Northern Mindanao, and Luzon. The Information Drive team visited 175 schools of which 15 percent were from Region VIII, 32 percent from Region VII, and 17 percent from Region X.

In order to attract more students to enrol in this college, entrance scholarships were offered to 40 enrollees. The OSA through its Testing Division also administered entrance and psychological tests to freshman students.

### Financial Assistance Program

#### *Scholarships/Grants-In-Aid*

Coordination of student financial assistance continued to be one of the major functions of the OSA to help poor but deserving students acquire college education at ViSCA. As in the previous years, a large number of scholarships and grants-in-aid slots were made available in SY 1984-85 to graduate, undergraduate, and high school students. In the first semester, a total of 838 students or 37.4 percent of the total population were beneficiaries of the program subsidized by ViSCA, by private donors, and by other government agencies (Table 15).





### Student Assistantships/Emergency Loan Fund

A limited number of student assistantships were also made available to students to help finance their schooling. This program allows students to work part-time during off class hours. Recipients are entitled to receive P 1.50 for every hour of work but not to exceed 100 hours a month. For the year under review, a total headcount of 883 students were granted assistantships. The aggregate amount paid by the college to them reached P 112,138.85. Likewise, a student unable to pay his school fees was made to avail of the VISCASELF program which provides emergency loan to a maximum amount of P 150.00 for a college student and P 75.00 for a high school student. In 1984, the total amount disbursed by the college for this purpose reached P 105,760 distributed among the 806 applicants (Table 16).

### Student Organizations and Activities

To provide students with opportunity to exercise their freedom of expression and rights, student organizations were given official recognition, of which 4 were class organizations, 13 course related/departmental organization, 14 fraternities/sororities, and 5 service organizations. Through the coordination of the Student Affairs, these organizations conducted 183 activities during the year which include, among others, community services such as alay linis, cooperative work, anti-rabies campaign, postal service/letter dispatching, campus book rental services, student lounge management, and selling tickets for

Table 15. Scholarships and Grants-In-Aid Program Enjoyed by ViSCA Students, SY 1984-85 (First Semester)

Type of Assistance	Graduate	Under graduate	High School	Total
<b>ViSCA Funded Scholarships (Full, Partial, Entrance, and Honorific)</b>				
	5	134	91	230
<b>Other Government Funded Scholarships (State, COCOFED, NFAC, PhilSuCom, PTC-RD, MAF, and MECS)</b>	12	89	—	101
<b>Privately Funded Scholarships (BFI, WSSP, CRSC, HS)</b>	—	18	—	18
<b>Grants-In-Aid (Free and reduced fees, Children of Barangay Officials, CMT, Varsity, and Dance Troupe members)</b>	—	489	—	489
<b>Total</b>	<b>17</b>	<b>730</b>	<b>91</b>	<b>838</b>
<b>Percent to Total Enrolment</b>	<b>19.8</b>	<b>46.1</b>	<b>16.0</b>	<b>37.4</b>

Ms. ViSCA '84; fund raising activities in the form of Betamax show, rummage sale, alay sayaw, raffle draw, and selling of snack items; academic service like tutorial/remedial class, quiz contest, assist the ERHS science fair, assist student enrolment, assist in the high school NCEE review, campus journalism, seminar, meeting, and open forum; social activities such as minus one competition, variety show, dawn serenade (mananita), get together/anniversary/parties of sorority/fra-

ternity organizations, and choral and lantern contests during christmas season. Likewise, some student organizations were involved in the beauty contest and sportsfest like the Miss CLSB '84 for the college, Bb. Agham for the high school, ERHS intramurals, and college interdepartmental sportsfest.

In addition to the activities sponsored by various organizations, OSA put up a free recreation center where students pass their time away during vacant periods.

Table 16. Student Assistantships and ViSCASELF Program

Level	No. of Beneficiaries		Amount Released	
	Assistant-ship	ViSCASELF Borrower	Assistant-ship	ViSCASELF Borrower
College	795	780	P 99,577.10	P 103,845.00
High School	88	26	12,561.75	1,915.00
<b>Total</b>	<b>883</b>	<b>806</b>	<b>P 112,138.85</b>	<b>P 105,760.00</b>





## Student Housing and Accommodation

The OSA is responsible in housing the students by distributing them to the different dormitories. In 1984, there were 17 dormitories available, with a total capacity of 1,129 students. (Table 17). However, during SY 1984-85, only 94 percent (1,056 students) of the total dormitory capacity was occupied in the first semester and 86 percent (974 students) during the second semester because some students preferred to stay outside and with their relatives in the staff houses in order to save some amount.

During the year under review, no majority projects or repairs were made on the different dormitories

except on the replacement of electrical supplies due to lack of funds allocated to these purpose.

## LIBRARY

### OBJECTIVES

- To acquire extensively and continuously library resources that are supportive of the college's programs in instruction, research, and extension.
- To organize and to service these resources in the most efficient and effective manner to the satisfaction of the library clientele.
- To effect optimum utilization of the resources by providing bibliographic and current awareness services to the ViSCA academic community.

Year 1984 was an eventful year for the library since it marked the transfer of the college library collection and staff to the new site at the hilltop campus. The new library has a setting capacity of 251. Students can now drop in during their vacant hours between classes since the library is located near the academic buildings. During the year, the International Development Research Center (IDRC) approved the proposal to establish a National Root Crops Information Center with an initial grant of P 2,131,850 to support the Philippine Root Crops Information Service (PRIS) over a three-year period. This project which involved the ViSCA Library, the Philippine Root Crop Research and Training Center (PRCRTC) and 13 other cooperating institutions all over the country aims to make optimum utilization of existing root crop literature by disseminating the information to researchers, extension workers, and scientist through abstracts, bibliographies and indexes and providing a back-up document delivery service.

### Library Collection

As early as February 1984, the library added to its collection 2,003 volumes of assorted titles worth P 1.094 million. At the end of the school year 1983-84, a total of 101 titles of undergraduate theses, case studies, and similar materials were added to the ViSCAiana collection. Likewise, the serial collections was further strengthened by the arrival of 144 titles as partial delivery journals under the FSDP-EV Library grant, and towards the end of the year, another 732 monographs worth P 548,739.19 came in. The ViSCA Library collection rose from 582 in 1983 to 2,003 in 1984

Table 17. Student Housing and Accommodation, SY 1984-85

Dormitory	Total Capacity	Actual Residents			
		Occupancy rate (%)		Occupancy rate (%)	
		1st Sem.		2nd Sem.	
COOKING DORMITORIES					
Bougainvillea	26	26	100.0	24	92.3
Calachuchi	58	56	96.6	57	98.3
Dahlia	14	12	85.7	12	85.7
Daisy	14	13	92.9	13	92.9
Everlasting	58	58	100.0	53	91.4
Rosal	18	18	100.0	17	94.4
Sampaguita	273	271	99.3	251	91.9
Sunflower	76	73	96.0	75	98.7
Waling-Waling	62	60	96.8	60	96.8
Lauan	44	40	90.9	16	36.3
Zea Maize	120	120	100.0	120	100.0
Sub-Total	755	747	98.9	698	92.4
NON-COOKING DORMITORIES					
Magnolia	58	31	53.4	23	39.7
Mariposa	58	38	65.5	36	62.1
Mahogany	120	108	90.0	102	85.0
Molave	58	54	93.1	42	72.4
Mulberry	58	58	100.0	53	91.4
Narra	22	20	90.9	20	90.9
Sub-Total	374	309	82.6	276	89.3
Grand Total	1,129	1,056	93.5	974	86.3





which marked an increase of 244 percent. This figure includes the 47 volumes purchased by the balance of the NSTA/IBP grant received from the previous year and also donations from the Food and Agriculture Organization of the United Nations, the International Rice Research Institute (IRRI), the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) and the International Development Research Center (IDRC).

#### Information Service

List of new acquisitions was distributed to various college departments from time to time to keep them informed on recent titles that might be of interest to them. In addition, a library staff was assigned as liaison officer between the library and specific academic departments with the responsibility to find out their library needs for possible acquisition. The liaison activity aimed to insure a more comprehensive and varied subject matter coverage and a more effective public relations as well.

#### Orientation Program

The Library resumed its orientation activity in coordination with the Office of Student Affairs. A brief talk of the chief librarian at the orientation program was followed by library tours to acquaint freshmen and new students with the library set-up. Each student was issued a borrower's card and a copy of the library handbook.

#### Computerization

Towards the end of 1984 the library started to input its theses collection file into the college newly

acquired VAX-11/730 in anticipation of the installation of the terminals allotted for the use of library staff and clientele. The library inventory will be fed into the college computer and be updated regularly.

#### Other Accomplishments

To celebrate the National Book Week (November 24-30), the library set up a book exhibit entitled "Technical Education" including agriculture and veterinary science. The exhibit of 120 books was arranged by the British Council, another generous benefactor of the library. Similar exhibits are planned to be shown at the library from time to time.

The library was twice involved in the seminar workshop on "Research Planning and Manuscript Preparations". Participants were given a brief orientation and tour of the library facilities to acquaint them with the set-up and to find their way around when they do their research.

#### INFIRMARY

##### OBJECTIVES

- To provide health care service to the ViSCA populace.
- To prevent and control the spread and occurrence of communicable diseases.
- To maintain an effective sanitation program particularly on water supply and waste disposal system.
- To promote health of mothers and the normal growth and development of infants and children with emphasis on nutrition.
- To coordinate with other agencies in carrying out some health programs.

#### ACCOMPLISHMENTS

As in the previous years, the strategies adopted to achieve the goals and objectives set forth in 1984 were on the integration of curative and preventive health care with emphasis on out-patient consultation of ambulatory patients, effective two-way referral systems wherein patients were referred to appropriate facility level in accordance with their health needs, and prophylactic immunization of the populace against communicable diseases. In spite of the lack of health manpower, health service was made available to the populace by rotating the schedule of the two resident physicians, three nurses, and two medical attendants to go on a 24-hour duty. The health programs implemented during the period under review are the following:

##### Health Appraisal Program

- Annual medical and dental examination of students and school personnel.
- Follow-up and referral of those with physical or medical findings.

##### Prevention and Control of Communicable Diseases

- Periodic immunization of the populace against cholera-typhoid and other communicable diseases.
- Environmental sanitation program through periodic inspection of student dormitories and staff cottages with emphasis on sewage and garbage disposal.
- Food sanitation program through periodic inspection of school canteens and other food establishments on campus.





- Preventive dentistry such as flouridation of elementary school children.

#### Health Care Program

The Infirmary provided health care to ViSCA populace for emergency cases. The activities include the following:

- Out-patient medical consultation and treatment
- Hospitalization for those who need bedside care
- Referring those who need higher level of health care facilities

#### Maternal and Child Care Program

- Pre-natal check-up
- Well Baby Clinic

#### Health Education Program

Information dissemination to the populace especially to students were conducted on topics that improve and promote health on their daily lives. Other means of dissemination used were publications, radio programs, small group informal discussions in the clinic, and lectures in organized student and staff meetings.

#### Extension and Community Services

The ViSCA Health service extended its services to dependents of staff and faculty members and those people living in the neighboring barangays.

As presented in Table 18, the Infirmary was able to render a total of 15,694 services to the populace which was 1.5 percent more than the targeted 15,457 services to be accomplished in 1984. It can be noted from the table that there is a slight deviation of some of the tar-

geted programs especially on inpatient services because the populace do not get sick often. This is a good indication, however, that the health status of the clientele is satisfactory. The limited polio and DPT vaccines and non-availability of CT vaccines made it impossible to reach the targeted number of children for immunization against Polio and DPT. Since dental examination of students during enrolment were required only for the freshmen and transferees for record purposes, the targeted number of

clientele for this program was hardly met.

#### Staff Development

Because knowledge in medicine and its allied profession is expanding rapidly, physicians, dentist and nurses were sent for training to upgrade and update their competencies in order to provide a quality health care to the community. The year's area of training was on "Dental Scientific Seminar" which was held in Tacloban City.

Table 18. Medical and Dental Services of the ViSCA Infirmary, 1984

Service	Target	Actual
<b>MEDICAL</b>		
<b>Outpatient Consultation and Treatment:</b>		
Students	2,886	2,990
Faculty and Staff	1,314	1,322
Staff Dependents	1,369	1,417
Outsiders	670	710
<b>Inpatient Services:</b>		
Students	95	91
Faculty and Staff	49	48
Staff Dependents	46	46
Outsiders	26	28
<b>Physical Examination:</b>		
Students	2,207	2,207
Faculty and Staff	1,589	1,620
<b>Laboratory Examination of Blood, Urine, Stool, and Others</b>		
	960	959
<b>Immunization of Children Against:</b>		
Polio	80	76
DPT	69	65
<b>DENTAL</b>		
<b>Dental Examination:</b>		
Students	1,542	1,509
Faculty/Staff and Outsiders	1,279	1,282
<b>Dental Treatment:</b>		
Prophylaxis	131	159
Gum	222	233
Extraction	450	451
Filled	473	481
<b>Total</b>	<b>15,457</b>	<b>15,694</b>









# GENERAL ADMINISTRATION

## GENERAL ADMINISTRATION AND SUPPORT SERVICES

### OBJECTIVES

- To provide support, direction, and coordination in planning and implementing college programs and projects.
- To formulate administrative policies and guidelines for efficient management of activities of the different units of the college.
- To help generate and implement fiscal management procedures that promote efficient utilization of college financial resources.
- To effect general improvement of various administrative offices in the performance of their individual functions.

### ACCOMPLISHMENTS

#### Administrative Policies and Guidelines

During the year under review, the General Administration was able to formulate and recommend to the Board of Trustees the following administrative and academic policies and guidelines for efficient management of activities of the different offices/units of the college.

- Revision of the guidelines for determining academic rank which include, among others, a minimum requirement of a masteral degree for the tenural position such as assistant professor and higher.
- Revision of criteria for the appointment of graduate faculty specifying, among others, that temporary appointment is given to visiting professors, consultants, and affiliate staff and the permanent appointment is given to the regular staff of the college whose academic qualifications satisfy the minimum prescribed requirements of the college.
- Establishment of guidelines governing the merit systems for academic staff to attract and retain high qualified and professionally competent manpower for the academic departments and to ensure an equitable and orderly procedure in the recruitment, selection, promotion, and career advancement of the academic staff members.
- Implementation of the Administrative Personnel Development Programs which gives priority to applicants occupying a supervisory position. Financial assist-

ance is available for both graduate and undergraduate degrees provided that the applicant meets the requirements for scholarship. Priority is given to applicants who have started their studies at their own expense and expected to graduate within one year. The funding of this program shall come from the interest of a P 460,000 deposit coming from the interest earnings of research grants.

- Giving of P 500 monthly representation allowance to the chairman or presiding officer and each member of the Board of Trustees for their contribution to the development of ViSCA.
- Payment of commutable representation and transportation allowance to the key executive of ViSCA.
- Giving of 5 percent merit increase to the President for his efficient and effective leadership.
- Giving the College Vice-President for Administration a three-step merit increase over his basic salary for his valuable and dedicated efforts to the College.
- Providing an incentive allowance of P 150/month to the casual employees of ViSCA Manila Of-





fice due to the tremendous increase in the cost of living.

- Formulation of general policy and specific guidelines on the payment of honorarium for undertaking ViSCA/PRCRTC funded research based on workload of either teaching or research staff.
- Increasing the stipend of ViSCA scholars/fellows, starting June 1, 1984, from P 350 to P 550 each for married fellows and P 200 to P 400 each for single fellows. For ViSCA scholars without salaries, the monthly stipend was increased from P 850 to P 1,050 each. The stipend and book allowance, and thesis support of the ViSCA World Bank scholars was also increased as follows: \$50 increase in monthly stipend, \$100 increase in yearly book allowance, and \$300 increase in thesis support.
- Integration of the Office of the Director of Research and the Office of the Director of Extension into the Office of the Director of Research and Extension to achieve a coordinated, more direct, and efficient administration.
- Signing of the memorandum of agreement between ViSCA and ViFARD stipulating among others, that ViFARD shall assist ViSCA in utilizing and expanding its human, fiscal and physical resources towards the focused thrust in rural and agricultural development.
- Approval of the negotiated contract for the construction of the Gymnatorium and Forestry Buildings.
- Adjustment/increase of contract amount for the completion of the Bachelorettes Dormitory.
- Construction of teaching facili-

ties, particularly the athletic oval and bleachers of Physical Education.

- Increase of non-registration related fees with the amount collected to be deposited in the College Depository Unit.
- Approval of the ViSCA Graduate School Code to take effect in SY 1985-86.
- Separation of the Development Communication Section from the Department of Agricultural Development Education and elevating it to the Department of Development Communication. The Department of Agricultural Development Education was renamed as the Department of Agricultural Education and Extension.
- Allowing the College President to leave from ViSCA for one year starting October 16, 1984 until October 15, 1985, due to his appointment as Director General of SEARCA and at the same time Deputy Minister of MECS.
- Fixing ViSCA's Anniversary celebration to July 31, to coincide with its organization date. Farmer's Field Day, Garden and Flower Show, and Display Exhibits are the important parts of the anniversary celebration.

#### Information Office

In 1984, the Information Office came up with 3 quarterly issues and one special issue of ViSCA ViSTA. It published materials of general interest with emphasis on popularized research relevant to ViSCA, important news stories and articles concerning national and international seminar workshops, conferences, and symposia held in ViSCA; and other relevant news stories for the

ViSCA staff. During the same year, it had 14 issues of the monthly ViSCA newsletter with two fortnightly issues. The ViSCA Newsletter was a mimeographed monthly publication which provided the ViSCA community with news items worth knowing. It delved into the major and significant news occurring in the college, the activities and happenings in each department and office at ViSCA as well as the whereabouts of the college personnel for the information and guidance of high school and college students and the ViSCA staff.

Other than maintaining its own publications, the Information Office also sends weekly photo, press, and broadcast releases to local and national dailies for wider information dissemination. For 1984, it has briefed approximately 50 various groups of guests and visitors ranging from foreign dignitaries, government employees, students, and farmers. Each group constituted about 35 to 50 individuals. For foreign dignitaries there were five to ten persons in a group. Another task of the office was to assist in the 1984 regional information drive conducted by the Office of Student Affairs in the Visayas region. Its staff was sent to Bohol for that purpose.

#### Physical Plant Office

A considerable number of infrastructure projects, both vertical and horizontal were completed in 1984. Although some were completed ahead of schedule, some projects such as the 20-door Bachelorettes' Apartment, the New Physical Education Building, Farming Systems Training Dormitory, Repainting of the PRCRTC Building, and the construction of the Boar House





were not completed on time. Some of the reasons behind the slippage could be attributed to the delay of procuring the necessary materials for the completion of the said projects. The status of the major infrastructure projects undertaken as of December 1984 is presented in Table 19.

The repair and maintenance of College facilities have shown remarkable accomplishment in spite of the meager supply of materials and the limited labor force at hand. Used materials and left-overs from various infrastructure programs on repair and maintenance were effectively utilized. Repair activities were prioritized according to the degree of importance and utilization. Operational motor vehicles were the only equipment being maintained. Those which needed rehabilitation were set aside until sufficient funds could be made available. Likewise, labor from all sections were reduced according to budgetary allocations. Table 20 adds up the various job requests served during the year under review. The table reflects the non-completion of some targets due to lack of materials and personnel and urgent shift of personnel from a certain section to rush completion of other urgent projects.

#### Legal and Claims Office

The Legal Office prepares and reviews contracts, memoranda of agreement and other legal documents, constitution and by-laws, and articles of incorporation of duly constituted bodies within the college. It makes and submits legal opinions, advises and/or recommendation on matters referred and conducts researches on legal matters for certainty. It extends legal as-

Table 19. Status of Major Infrastructure Projects as of December 1984

Project	Contract Amount	Slippage	Remark
ViSCA Water Reservoir	—	None	100 percent Completed
Social Hall Remodelling	P 517,500	None	100 percent completed but was undertaken by the administration as the contractor abandon the project
Agro-Reforestation Building (Phase II)	P 1,148,500	None	100 percent Completed
Agro-Reforestation Building (Phase III)	P 1,802,193	—	21.7 percent completed (Ongoing)
Library Building (Phase III)	P 2,498,876	—	100 percent Completed
20-Door Bachelorette Apartment	P 212,000	146 days	100 percent completed but delayed due to lack of materials
Physical Education Building	P 1,335,000	110 days	100 percent Completed
Farming System Training Dorm	P 1,642,471	83 days	100 percent Completed
Repainting of PRCRTC Building	P 16,000	18 days	100 percent Completed
Crop Processing Lab. and 3-Unit Staff House	P 1,400,000	—	78.9 percent Completed (Ongoing)
Transfer and Renovation of Seaside Cottage	P 19,500	—	100 percent Completed
Riprapping, Bridge and Pathway Library	—	—	60.0 percent Completed (Ongoing)
Boar House	P 28,497	38 days	100 percent Completed
Trench Bunker Silo	P 93,502	—	100 percent Completed
Forestry Stairway	P 5,500	—	40.0 percent Completed (Ongoing)





sistance in the formulation, interpretation and/or implementation of the college policies, rules and regulations and reviews recommendations/decisions for disciplinary action involving staff and students. Through the Legal Officer, it represents the college in court for any litigations initiated for and against the college.

The office is also responsible for the purchase of lands covered by PD 1107 and payments of lawful tenants whose landowners entered into negotiation sale with ViSCA. It files petition in court for reconstitution of land titles and cause the transfer of land titles and for declaration of properties into the name of ViSCA. It also assist the Office of the Solicitor General in reproducing and preparing data needed in the expropriation proceedings.

All such activities were performed at various instances. As of 1984, the office has notarized and reviewed 959 legal documents. It had filed 13 court pleadings and had conducted 13 investigations of cases involving students and personnel. The legal officer had attended 36 court hearings. Regarding legal opinions, the office had issued 8 recommendations and comments for its clientele. In relation to land acquisition, it had reviewed 4 claimants regarding land titles.

#### **Records Division**

The Records Office is entrusted with the custody of the record holdings of the college. Its main function is to establish and maintain an efficient systems of records management. Records management has to do with records creation, records maintenance, records disposition and records preservation. It takes charge of the mail and messengerial services of the college. In

**Table 20. Summary of Job Requests Served, CY 1984**

Project/Section	Target	Actual	Variance	Remark
Civil Work Services	65	52	13	Lack of materials and personnel
Electrical Services	300	300	—	Accomplished as plan
Plumbing and Sewerage Services	290	227	63	Lack of materials and personnel
Furniture Services	45	33	12	Personnel of the Section were utilized to some urgent projects
Painting Services	37	37	—	Accomplished as plan
Office Equipment Services	57	57	—	Accomplished as plan
Mechanical Services	500	483	17	Personnel of the Section were utilized to some urgent projects
ADDS Services	4	4	—	Accomplished as plan
Electronic Services	130	130	—	Accomplished as plan

1984, a total of 8,137 letters and 11,299 publications were mailed. The office delivered 709,795 letters and 1,571 radio messages. It received 660 telegrams which were delivered by the telegraph office.

In the same year, the office had made an improvement in its messengerial procedures to facilitate the sending of messages within the college campus. The installation of a "pigeon hole" wherein the messengerial materials not urgently needed were placed in the holes with their corresponding label for every department/center to help ease the backlog of deliveries. The utilityman of each department/center would then pick up the materials from its corresponding hole, thereby minimizing the trips of the office messenger and economizing gasoline consumption. With

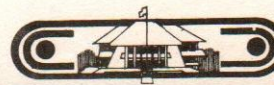
the acquisition of the wonder bike, messengerial services of the office could be extended promptly.

#### **FINANCIAL STATEMENT**

##### **Appropriation**

The General Appropriation Act indicated a total appropriation of ₱ 42.544 million for ViSCA's overall expenditures in 1984. ViSCA's budget comes from three major sources namely: the annual appropriation of the national government; proceeds of the USAID loan to support the Farming Systems Development Project and other international development agencies to support research projects; and the college income generated from school fees and various income-generating projects. The National





Fund had the biggest share amounting to ₱ 38,696 million which was equivalent to 90.96 percent of the total budget. USAID's share amounted to ₱ 2,934 million (6.89%) and the college income was only ₱924,000 (2.17%).

#### Allotment

The amount set by the national government to support ViSCA's operations for 1984 would have enabled the College to propel itself towards further development and completion of its major pro-

grams and projects had the total appropriation mentioned been released. But due to budgetary reserves imposed by the OBM, only a little more than ₱34,455 million was released during the year which is 19.01 percent less than the appropriated amount.

#### Expenditures

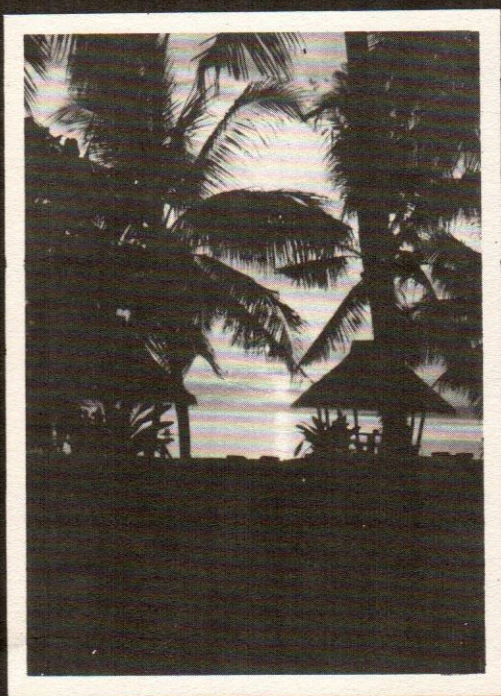
ViSCA's expenditures covered only the obligated amount for the Calendar Year of 1984. The total expenditures reached a total of ₱ 34,704,944.60. The biggest slice

went to Research, ₱14,138,813.60. Expenses for Instruction amounted to ₱11,331,500.00 while Extension expenses totalled ₱ 1,220,000.00. General Administration spent ₱4,974,631.00; while the Auxiliary Services spent ₱ 891,000.00. Table 21 reflects the details of ViSCA's expenditures. Expenses incurred during the year 1984 was lesser compared to last year's ₱ 37,517,162.10. During the previous year, several buildings were constructed including the staff housing projects which explains the higher expenditures in 1983.

Table 21. ViSCA's Expenditures by Programs and Projects Covering the Period January to December, 1984.

Programs/Projects	Personal Services	Maintenance and Operating Expenses	Capital Outlay	Total
<b>INSTRUCTION</b>	<b>₱ 6,539,000</b>	<b>₱ 1,989,000</b>	<b>₱ 2,803,500</b>	<b>₱ 11,331,500</b>
Advanced Education	257,000	261,000	—	518,000
Higher Education	5,180,000	1,379,000	2,803,500	9,362,500
Secondary Education	1,102,000	349,000	—	1,451,000
<b>RESEARCH</b>	<b>6,979,000</b>	<b>7,159,813</b>	<b>—</b>	<b>14,138,813</b>
Research studies on abaca, coconut, applied sociology, and socioeconomics	1,175,000	610,000	—	1,785,000
Operation and maintenance of PCARRD research programs and projects	2,355,000	1,769,000	—	4,124,000
Philippine Root Crop Research & Training Center	2,364,000	2,932,000	—	5,296,000
Support to the Eastern Visayas Farming Systems Development Project	1,085,000	1,848,813	—	2,933,813
<b>EXTENSION</b>	<b>635,000</b>	<b>585,000</b>	<b>—</b>	<b>1,220,000</b>
<b>AUXILIARY SERVICES</b>	<b>486,000</b>	<b>405,000</b>	<b>—</b>	<b>891,000</b>
<b>GENERAL ADMINISTRATION</b>	<b>3,356,413</b>	<b>1,618,218</b>	<b>—</b>	<b>4,974,631</b>
<b>WATER, ILLUMINATION AND POWER SERVICES</b>	<b>—</b>	<b>2,149,000</b>	<b>—</b>	<b>2,149,000</b>
<b>TOTAL</b>	<b>₱ 17,995,413</b>	<b>₱ 13,906,031</b>	<b>₱ 2,803,500</b>	<b>₱ 34,704,944</b>





"The attainment of ViSCA's goals and objectives and the success in the implementation of its plans and programs have greatly depended on the managerial effectiveness and the work force of the individual units of the College. It is therefore worthwhile mentioning that what has been accounted for in this report may not have been accomplished without the support of ViSCA's constituents..."

F. A. Bernardo





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