



ANNIVERSARY

Annual Report 1991

BENGUET STATE UNIVERSITY

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June 22, 1992

Her Excellency
CORAZON C. AQUINO
President, Republic of the Philippines
Malacanang, Manila

Thru: Hon. Isidro D. Carino
Chairman, Board of Regents and
Secretary, Department of Education,
Culture and Sports

Madam:

I have the honor to submit the Annual Report of the Benguet State University for the Calendar Year 1991.

This report highlights the major accomplishments of the University under its instruction, research, extension and production functions as mandated by its charter.

Very truly yours,



LUCIO B. VICTOR
President

Republic of the Philippines
BENGUET STATE UNIVERSITY
La Trinidad, Benguet

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University and Board Secretary

Table of Contents

	Page No.
Table of Contents	i
List of Tables	iv
List of Figures	iv
Executive Summary	1
Instruction	4
Curricular Offerings	4
Graduate Programs	4
Undergraduate Programs	5
Non-Degree Programs	5
Secondary and Elementary Training Education	6
Enrolment Trends	6
Graduation Figures	10
The Graduate School.....	11
The Colleges	11
College of Agriculture	11
College of Applied Engineering and Technology	13
College of Arts and Sciences	13
College of Forestry	13
College of Home Economics and Technology	13
College of Teacher Education	13
College of Veterinary Medicine	14
Curriculum and Instruction Development Efforts.....	14
Faculty Profile.....	15
Faculty Development	16
Student Services	16
Guidance and Counselling Office.....	17
Placement Office.....	17
Student Organizations	17
Student Financial Aid Office	18
Residence Halls.....	18
University Library Services.....	18
Health Services Division	19
Admission's Office	19
Research Services	20
Resources	20
Technology/Significant Information Generated	20
Publications	22
Researches	22
Completed Researches	22

Other Completed Researchers	24
On-going Researches	24
Other On-going Researches	27
Resource Development.....	28
Linkages	28
Affiliate Agencies	29
Research Income	29
Special Project.....	30
Extension Services	31
Production Projects	34
BSU Cafeteria	34
BSU Food Processing Center and Bakery Project.....	34
Other Income-Generating Projects.....	35
Operating and Service Income	38
General Administration	39
Office of the University President.....	39
Office of the University Vice President.....	39
Planning and Development Office.....	40
Legal Office	40
Office of General Services and Physical Plant	40
Office of the University and Board of Regents Secretary	41
Special Cultural Office	41
Land Reservation Office.....	41
Internal Control Office.....	41
General Administrative Services Division	42
Supply Management Office	43
Human Resource Management Office	43
Records Management Office.....	43
Staff Development	44
Physical Resource Improvement	44
Annual Budget and Expenditures	46
Problems and Recommendations	48
Directory	50
Diamond Jubilee Pictorial	51

List of Tables

Table 1	Comparison of Enrollment in Degree Programs, SY 1990-1991 and SY 1991-1992.....	6
Table 2	Comparison of Enrollment in the Secondary, Elementary and Non-Degree Programs, SY 1990-1991 and SY 1991-1992.....	7
Table 3	Comparison of Graduates, SY, 1989-1990 and SY 1990-1991	10
Table 4	Distribution of Graduate Faculty by Degree	11
Table 5	Distribution of Faculty Members among Colleges	15
Table 6	Distribution of Faculty by College and Academic Rank.....	15
Table 7	Distribution of Faculty by Academic Rank, 1989, 1990 and 1991	15
Table 8	Distribution of Faculty by College and by Highest Degree Finished.....	16
Table 9	Faculty by Highest Degree Finished, 1989, 1990 and 1991	16
Table 10	Number of Faculty Members Pursuing Higher Degrees.....	16
Table 11	Number of Faculty Members Who Attended Trainings, Seminar-Workshops, Conferences	16
Table 12	Guidance and Counseling Services	17
Table 13	Number of Scholars/Study Grantees Enrolled for School Year 1991-1992	18
Table 14	Materials Received by the University Library for SY 1991-1992	19
Table 15	Number of Medical Cases Treated for 1991	19

Table 16 Training Services Rendered and Number of Clientele Served	32
Table 17 Other Extension Services Rendered in 1991	33
Table 18 Net Income of Projects Under Revolving Fund, 1991	35
Table 19 Net Income of Projects Under General fund, 1991	36
Table 20 Summary of Operating and Service Income of University, 1991	38
Table 21 Activities Undertaken by ICU for 1991.....	42
Table 22 Accomplishment Report of Supply Management Office.....	43
Table 23 Number of Appointments for 1991	43
Table 24 Salary Adjustments for 1991.....	43
Table 25 Accomplishment Report of the Records Management Office ...	44
Table 26 Training Courses Attended by the Administrative Staff, 1991 ...	45

List of Figures

Figure 1 Comparison of Enrollment SY 1991 and SY 1992	8
Figure 2 Distribution of Enrollment of Undergraduate Programs, 1991	8
Figure 3 Enrollment by College.....	9
Figure 4 Distribution of Enrollment of Non-Degree Programs, 1991	9
Figure 5 Comparison of Graduates for SY 1990 and 1991	12
Figure 6 Distribution of Graduates by College, 1991.....	12
Figure 7 Distribution of Annual Budget Under the General fund, 1991	47

Executive Summary

For the Benguet State University, the year 1991 highlights its seventy-five years of existence as an institution of higher learning by providing services through its quadruple functions of instruction, research, extension and production. For seven and a half decades, BSU has striven to provide the highest quality education and services to its clientele. But apart from just ensuring the best education it can offer, the University implements programs and activities directed towards the upliftment of life in the countryside anchored on relevance and sincerity.



A significant year as it was, BSU celebrated its Diamond Jubilee year by undertaking innovative activities with the end in view of attaining its development goal. Among others, participatory planning towards the improvement of its programs and the delivery of services was made through consultations, seminars-workshops and meetings with the studentry, farmers, faculty and staff, the alumni as well as the people from the region. Such activities were undertaken to provide directions of all its programs in accordance with the needs of the present times and the next decade.

To date, its spirit of development support utilizing its broad expertise and resources is bearing fruits indicated by the employment of its graduates in various institutions/agencies both in the public and private sectors, adoption by farmers of its research breakthroughs, and presence of its various support services at community levels.

Instruction

During the year under review, a new graduate degree program, the Doctor of Philosophy (Ph.D) in Education with majors in either Educational Development, Language Education, Technology and Livelihood Education or Science Education was offered. This is in addition to the existing three Ph. D., 13 master's and 13 baccalaureate degree programs and a number of non-degree programs.

Enrolment for the first semester of SY 1991-92 is 5,224, which is 12.73 percent higher than that (4,634) of the same period of SY 1990-91. The distribution of the total enrolment among the instruction programs is as follows: graduate, 293; undergraduate, 2,743; secondary, 1,015; elementary, 878; and non-degree, 295.

For the second semester of SY 1991-92, the total enrolment is 5,180. This figure is 16.69 percent higher than the enrolment (4,439) registered for the same period of SY 1990-91.

For summer 1991-92, the total enrolment is 913, which is 10.27 percent higher than that (828) for summer 1990-91.

The number of graduates for SY 1991-92 is higher by 20 percent than that of last school year. A total of 681 students were graduated, 192 (28.2%) of which were conferred a baccalaureate degree; 15 (2.20%), master's degree; and five (0.73%), doctor's degree. A total of 71 (10.43%) finished non-degree courses; 224 (35.83%), elementary school; and 154 (22.61%), secondary school.

The teaching force of the University totals 270 faculty members, 29 of whom are full-fledged professors; 45, associate professors; 84, assistant professors; 99, instructors; and 13, substitute instructors. As a result of the implementation of the faculty development program and of the desire of faculty members to pursue higher education, the University has now 51 doctoral degree holders, 96 master's degree holders and 123 baccalaureate degree holders. Currently, 83 faculty members are enrolled in graduate schools, with 29 working for their doctorate and 56 for their master's. To further upgrade competence of faculty members in their respective fields of specialization, the University sent 59 faculty members to attend training and seminar-workshops here and abroad in 1991.

Research Services

Of the 138 researches conducted by research centers/institutes in 1991, 32 were completed and 106 are still on-going. There were 47 other researches undertaken by some colleges; 10 completed and 37 on-going.

Two significant accomplishments stemming from research undertakings were the development of 21 mature technologies/significant information for ready applicability on vegetable crops, ornamental crops, fruit crops, root crops and agro-forestry, and the publication of technical papers.

Researches were conducted on experiment farms with an aggregate area of 66 hectares, and utilization of 13 greenhouses, four storage houses, some laboratory rooms and some university buildings. Researches were undertaken with the efficient use of limited laboratory and field equipment and other facilities.

The numerous researches were undertaken by a research force composed of 10 professors, seven instructors, 33 personnel with science research positions, 42 laborers/utility workers, 11 personnel with supportive positions, and 28 contractual research assistants and laborers.

The University established linkages with local and foreign agencies like PCARRD, IFS, IDRC, CIP, SAP-PRAD, FF, UPWARD, IPB, ViSCA, JVOFI, NAAP, IRRI, PHILRICE, PTRI, HADP, CECAP, DA, DOST, DENR and other research and development agencies/institutions to implement and to effectively undertake relevant and priority researches. The said agencies provide financial/resource and technical assistance in the conduct of research.

Also, the University has an affiliation with the Highland Agriculture and Resources Research and Development Consortium (HARRDEC) and the Highland Crops Research Station (HCRS), which are based at BSU. The consortium and the station worked hand-in-hand with the University in the pursuit of technology advancement.

An income of P47,459.00 was realized from the conduct of research.

Agricultural Technology Education Project

The Agricultural Technology Education Project (ATEP) or simply Agritech Project became operational in 1989.

The project is tasked to undertake research studies primarily on verification trials as well as technology packaging. In 1991, the project completed one social research, conducted three on-going researches and submitted 12 research proposals to the funding agency. It had two extension activities and a production project plan.

Extension Services

The extension and training services of the University, in coordination with the different colleges, institutes and units, rendered technical assistance to

various groups of housewives, farmers, technicians and staff of either government or non-government organizations. Such services include diagnosis of plant and animal pests and diseases, farm visits, trainings, seminar-workshops, meetings, demonstrations, exhibits and distribution of publications which include newsletters/bulletins, handouts and brochures to promote the utilization of appropriate technologies and useful information as well as to enhance the development of the service communities of the University.

Production Projects

Production projects in the University are composed of income-generating projects that include the Food Processing Center, Bakery, RSDC Cafeteria and the different agri-business projects. For the year 1991, these projects were able to generate a net income of P1,995,417.50. Likewise, there were some on-going agribusiness projects which have yet to realize income.

Operating and Service Income

For calendar year 1991, a total of P3,361,359.90 was collected from various institutional operations and services of the University which include school fees, building and lot rentals, school share, women's and men's dormitory fees, water and electric bills and room rentals in the Guestel.

The projected income presented in the 1991 budget preparation was placed at P2,017,000.00, however, the actual collection for the whole year of 1991 reached P3,361,359.90 which exceeded projection by P1,344,359.90 or 66.65% higher than the target collection for 1991.

General Administration

As support arm for the proper implementation and execution of all programs of the University, the various offices under the General Administration continued their tasks of promoting economy, effectiveness and efficiency in the delivery of basic services. Towards this goal, a total of 35 administrative staff were given the opportunity to attend various seminar-workshops, conferences and symposia.

For manpower build-up, a total of 18 appointments of non-teaching and faculty members were processed and categorized as original appointment, four; reinstatement/re-employment, four; change of status from temporary to permanent, nine; and renewal, one. For non-itemized positions, 60 appointments were issued for 1991.

Also, during the year, the National Compensation Circular Nos. 65 and 33 were implemented effective July 1, 1989; the implementation benefited 139 fa-

culty members. On the other hand, 46 non-teaching personnel were granted salary adjustments under Budget Circular #3 as a result of the appeal made under the salary standardization law effective July 1, 1989. Salary adjustments were also given to 267 personnel under joint CSC-DBM Circular No. 1, s. 1990.

A total of 26 rehabilitation activities on the damaged infrastructure/buildings wrought by the strong earthquake and Typhoon Trining were completely undertaken and rendered operational. These projects were financed through the Rehabilitation Fund which totalled to P25,631,391.00. Aside from these, there were also 8 on-going projects implemented in 1991 which were funded out of the regular capital outlay allocation of the University in the amount of P3,936,000.00.

Annual Budget and Expenditures

For calendar year 1991, the University had a total budget allocation of P75,404,236 broken down as follows: P49,772,845 under the General Fund (Fund 101) and P25,631,391 under the Rehabilitation Fund (Fund 109).

Of the total allocation under the General Fund, 79% (P38,921,737.73) was allocated for personal services, 13% (P6,230,055.75) for maintenance and other operating expenses and 8% (P3,205,134.50) for capital outlays. Likewise the total allocation under the rehabilitation fund was used in the repair/rehabilitation of buildings and other infrastructure projects which were damaged during the 1990 earthquake.



BSU auditorium.



BSU main gate.



Nutrition and Dietetics students prepare a menu as a part of their training.

Instruction

As a University whose primary orientation is tertiary education, the Benguet State University has always been conscious of its responsibility of providing quality education in the fields of agriculture, forestry, education, natural sciences, home management and nutrition and other professional and technology/technical courses.

In accordance to this mandate, the University continuously develops the potentials of individuals through its various instructional programs because it firmly believes that the education system is closely tied up with the socio-economic development of the country.

Curricular Offerings

Graduate Programs

There are presently four Doctor of Philosophy (Ph.D) degree, 13 master's degree, 13 baccalaureate and several non-degree programs being offered by the University.

During the year under review, a new degree program, the Ph. D. in Education (with four different fields of specialization), was offered in addition to the existing three Ph. D. courses in Agricultural Education, Horticulture and Rural Development.

The different degree programs being offered are as follows:

Doctor of Philosophy (Ph. D.)

- Ph. D. in Agricultural Education
- Ph. D. in Horticulture
- Ph. D. in Rural Development
- Ph. D. in Education

Major in:

- Educational Development
- Language Education
- Technology and Livelihood Education
- Science Education (Biology & Math.)

Master of Arts in Education

Major in:

- Educational Administration
- Elementary Education
- English as a Second Language
- Filipino as a Second Language
- Guidance and Counselling

Master of Arts in Physical Education

Master of Arts in Teaching

Major in:

- Applied Statistics
- Biology
- Chemistry
- English as a Second Language
- Filipino as a Second Language
- General Science
- Mathematics

Social Studies
 Master of Education
 M. Ed. in Home Economics
 M. Ed. in Practical Arts
 Master of Resource Systems Management
 Master of Science (M.S)

Major in:

Agricultural Economics
 Agricultural Education
 Extension Education
 Forestry
 Rural Development

Master of Science (Agriculture)

Major in:

Agronomy
 Animal Science
 Botany
 Entomology
 Horticulture
 Plant Pathology
 Soil Science

Master of Science In Teaching Physical Science

Undergraduate Programs

Bachelor of Science in Agriculture (BSA)

Major in:

Agronomy
 Agricultural Economics
 Agricultural Extension
 Animal Science
 Entomology



Instruction in school is supplemented by field trips. This group composed of students and professors visited the Bureau of Soils and Water Management in Manila.

Horticulture
 Plant Pathology
 Soil Science

Bachelor of Science in Agricultural Education (BSAE)

Major in:

Agronomy
 Animal Science
 Horticulture

Bachelor of Elementary Education (BEEEd)

Bachelor of Secondary Education (BSE)

Bachelor of Science in Agribusiness (BSAB)

Bachelor of Science in Agricultural Engineering
 (BSAEng'g)

Bachelor of Science in Animal Technology
 (BSAT)

Bachelor of Science in Applied Statistics (BSAS)

Bachelor of Science in Forestry (BSF)

Bachelor of Science in Home Economics (BSHE)

Bachelor of Science in Nursing (BSN)

Bachelor of Science in Nutrition and Dietetics
 (BSND)

Doctor of Veterinary Medicine (DVM)

Non-Degree Programs

For SY 1990-1991 BSU offered the following non-degree programs to enhance technical/vocational skills development.

Certificate in Home Management Arts (HMA)

Certificate in Physical Education (Specialization)

One-year Farm Machinery Technology

Six-months Baking Course

Six-months Dressmaking



University President Lucio B. Victor during the CMT Tactical Inspection.

Six-months Food Processing
 Six-months Tailoring Course
 Two-years Agri-Forestry Course
 Woodworking and Carpentry
 Short term courses in Agricultural fields

Secondary and Elementary Training Education

The University also has secondary and elementary curricula under the College of Teacher Education to support the teacher education program of the University. The Secondary Education Training Department consists of three divisions; Vocational Agriculture, Special Agricultural Science and the Agricultural Home Economics. The Elementary Education Training Department has a complete course from Grades I to VI.

Enrolment Trends

Tables 1 and 2 show the distribution of enrolment among the different curricular offerings of the University. The average (1st and 2nd semester) enrolment for the SY 1991-1992 was 5,203 or 14.18 per cent higher than the average enrolment last year. Enrolment for summer classes during the year was also higher than the preceding year.

It can be observed in Table 1 that enrolment in Ph. D and Master's degree courses remarkably increased by 6.25% and 17.92%, respectively, as compared to the enrolment for SY 1990-1991. In the same table, however, undergraduate courses like BSAE, BSHE and DVM had a corresponding decreased enrolments when compared to those of

Table 1

Comparison of Enrolment in Degree Programs, SY 1990-1991 and SY 1991-1992									
Degree Program	SCHOOL YEAR 1990-1991				SCHOOL YEAR 1991-1992				% Increase (Decrease)
	Summer Apr 90	1st Sem Jun 90	2nd Sem Jan 91	Average (1&2 Sems)	Summer apr 91	1st Sem Jun 91	2nd Sem Nov 91	Average (1&2 Sems)	
GRADUATE PROGRAMS									
Ph. D.	8	35	28	32	11	29	38	34	6.25
M.S	128	244	236	240	136	264	302	283	17.92
Sub-total	136	279	264	272	147	293	340	317	16.57
UNDERGRADUATE PROGRAMS									
BSA	120	449	436	443	165	650	640	645	45.60
BSAB	17	58	57	58	20	66	69	68	17.24
BSAE	155	293	238	266	103	207	165	186	(30.08)
BSAEng'g	13	177	151	164	49	231	211	221	34.76
BSAT	6	42	43	43	21	66	67	67	55.81
BSE	48	90	106	98	34	209	219	214	148.98
BEEEd	14	167	143	155	62	266	269	268	72.90
BSF	81	224	224	224	91	379	383	381	70.10
BSHE	57	86	76	81	24	70	67	69	(14.81)
BSHT									
BSN		161	147	154	4	222	214	218	41.56
BSND	47	155	141	148	70	181	172	177	19.60
DVM	50	211	185	198	81	196	184	190	(4.04)
Sub-total	608	2,113	1,947	2,030	724	2,743	2,660	2,702	33.08
GRAND TOTAL	744	2,392	2,211	2,502	871	3,036	3,000	3,019	31.15

last year. Moreover, enrolments in non-degree program, secondary and elementary training programs were subsequently reduced (Table 2).

The highest enrolment this year was registered under the undergraduate programs with 2,702, which constituted 52% of the total enrolment. The second highest enrolment, 1,015, was represented by the Secondary Education Training Department. The other programs that composed this year's enrolment with their corresponding share are: Elementary Training Department, 878; Graduate Program, 317; and Non-Degree Program, 291 (Figure 1).

In the undergraduate programs, topping this year's enrolment was the BS in Agriculture degree

(23.85%) followed by BS in Forestry (14.10%). The BS in Nursing, being the newest curriculum offered by the University, contributed 8.06%. The least number of student population was registered under BS in Animal Technology (Figure 2).

In terms of enrolment by College, the College of Agriculture posted the highest number of enrollees with 713 students followed by the different colleges in descending order of enrolment: CTE, 668; CF, 318; CHET, 292; CVM, 257; CAS, 218; CAET, 221 (Fig. 3). Figure 4 illustrates the distribution of enrolment of non-degree programs which constitutes the following courses: Agri-Forestry (51.00%), Home Management Arts (19.00%), Certificate in Physical Education (13.00%), Auto Mechanics (11.00%), Citizen Military

Table 2

Comparison of Enrolment in the Secondary, Elementary and Non-Degree Programs, SY 1990-1991 and SY 1991-1992									
PROGRAM	SCHOOL YEAR 1990-1991				SCHOOL YEAR 1991-1992				% Increase (Decrease)
	Summer Apr 90	1st Sem Jun 90	2nd Sem Jan 91	Average (1&2 Sems)	Summer Apr 91	1st Sem Jun 91	2nd Sem Nov 91	Average (1&2 Sems)	
SECONDARY		1,089		1,089		1,015		1,015	(6.80)
ELEMENTARY		946		946		878		878	(7.20)
NON-DEGREE PROGRAMS									
CPE	56	27	25	26		44	32	38	46.15
Baking		6	1	4		3		3	25.00
Food Processing	2	6		6					-
Tailoring									
Home Making Arts		44	31	38		56	57	57	50.00
Agri-Forestry	26	86	75	81	42	142	158	150	85.20
Farm Mach. Tech									
Agri-Mechanics		24		24					-
Dressmaking									
1-yr Auto Tech									
5-mo Auto Mech		10	12	11		40	26	33	200.00
CMT		10	49	30		6	14	10	(66.67)
W.W & Carpentry						4		4	-
Welding									
Auto Elec. Tech.									
Furniture									
Sub-total	84	207	193	200	42	295	287	291	45.50
GRAND TOTAL	84	2,242	193	2,255	42	2,188	287	2,184	(3.15)

Figure 1
Comparison of Enrolment, SY 1991 and SY 1992

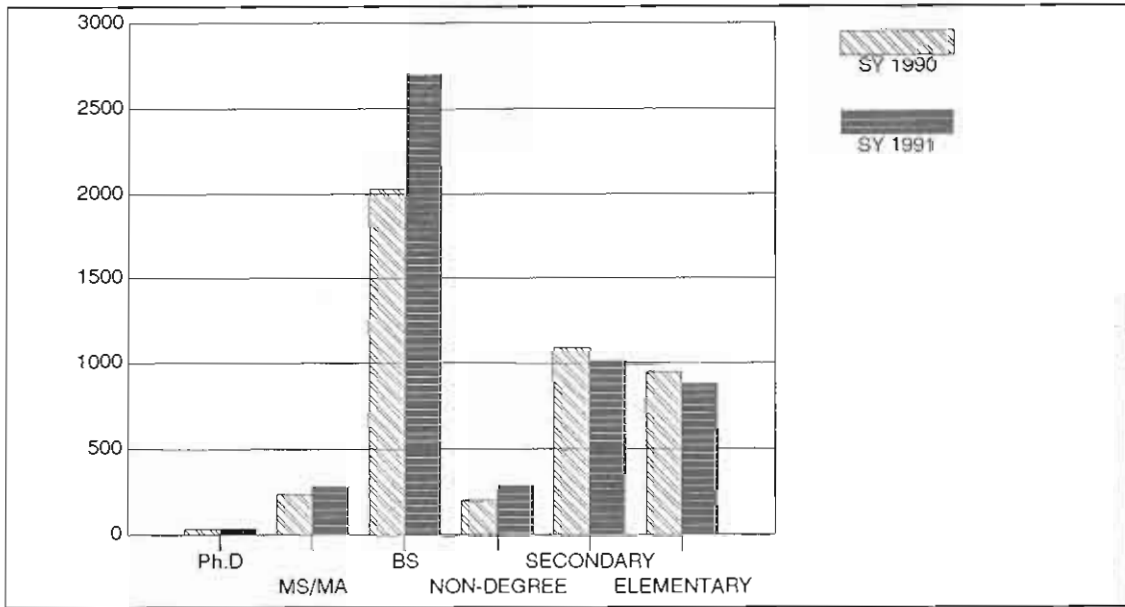


Figure 2
Distribution of Enrolment of Undergraduate Programs, 1991

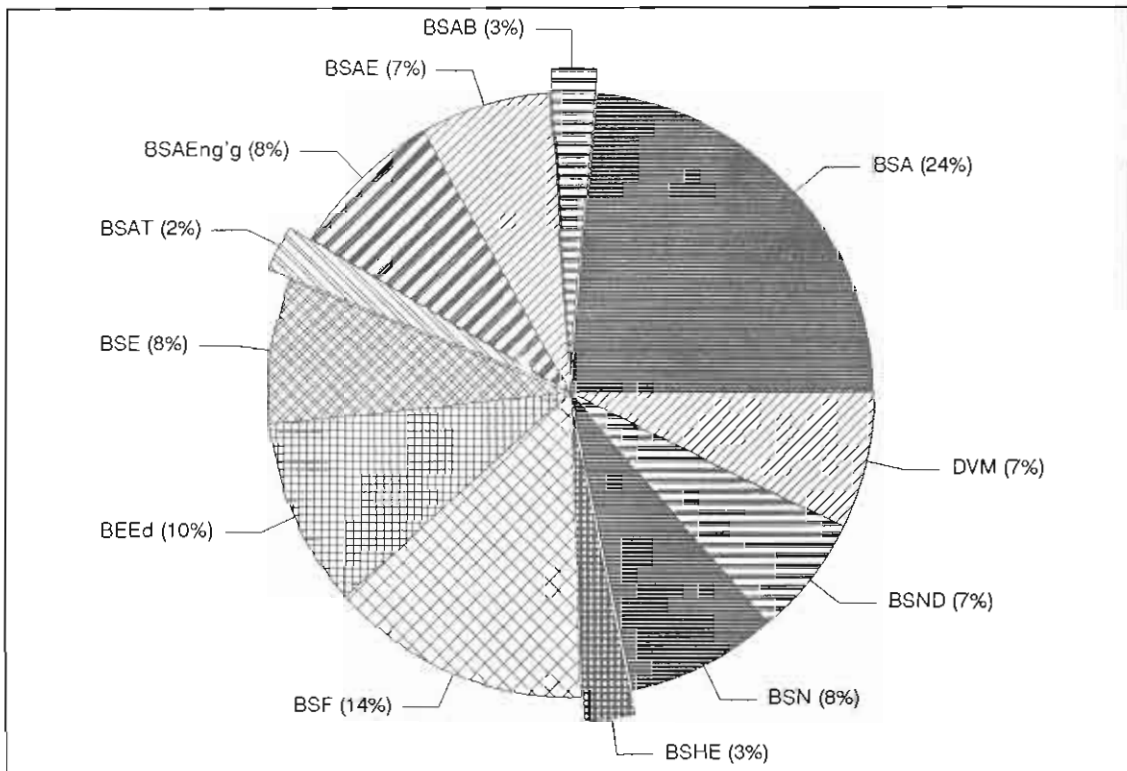


Figure 3
Enrolment by College, 1991

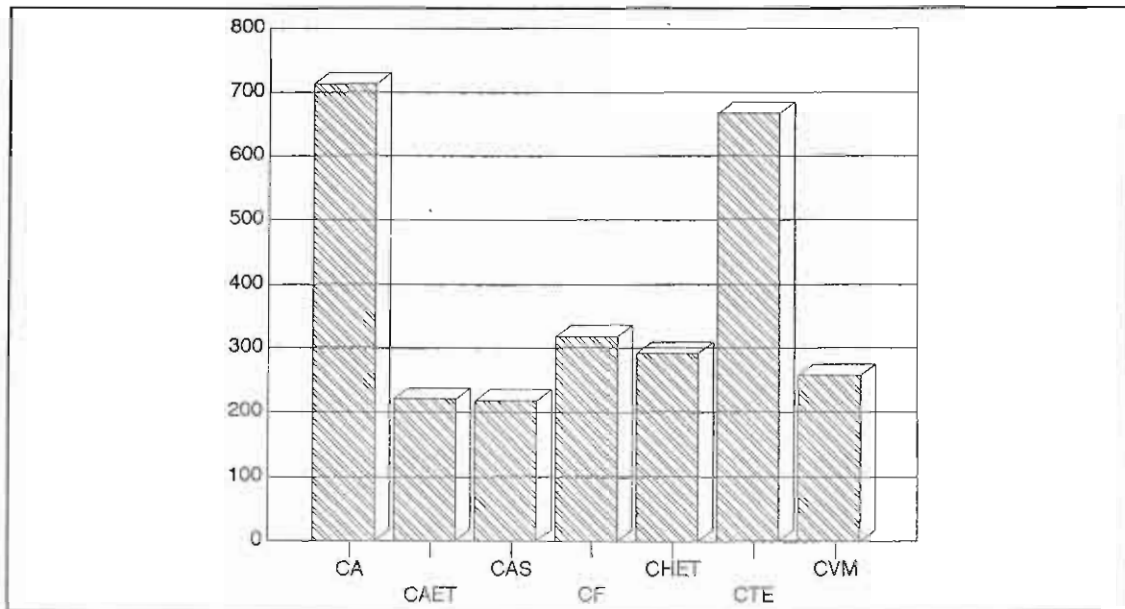
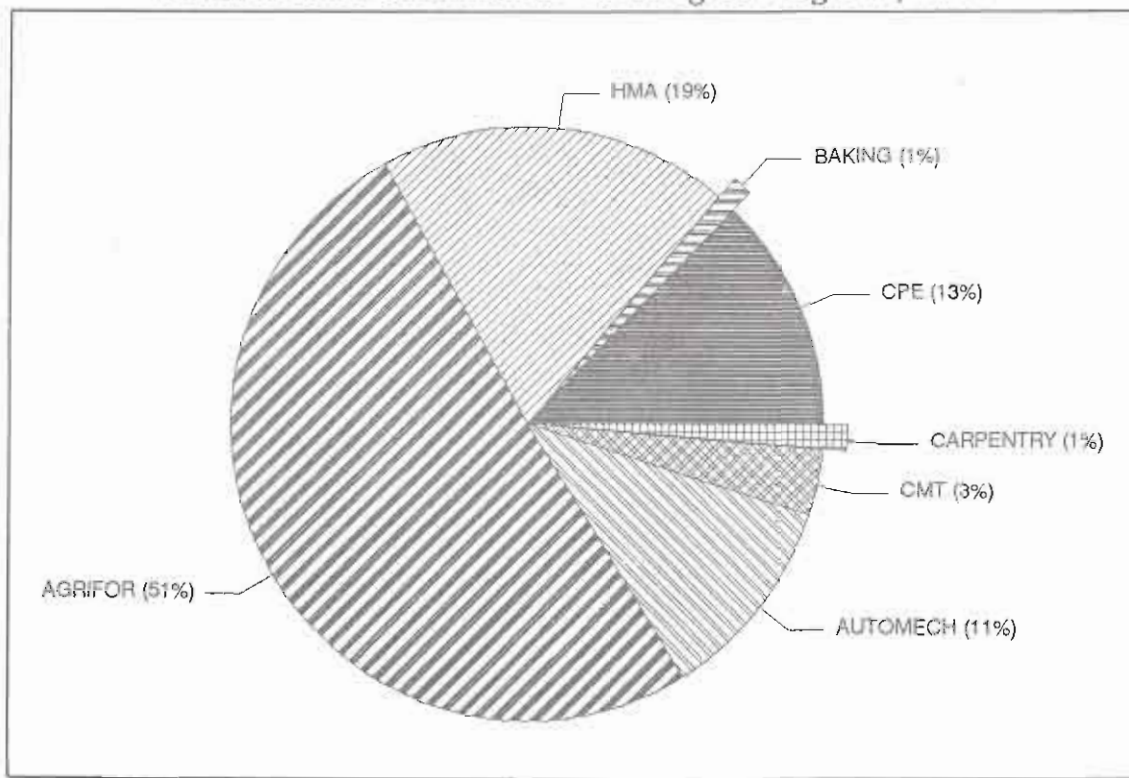


Figure 4
Distribution of Enrolment of Non-Degree Programs, 1991



Training cross-enrollees (3.00%), Carpentry (1.00%) and Baking (1.00%).

Graduation Figures

For the year under review, the University graduated a total of 681 students, 192 (28.2%) of which were conferred baccalaureate degrees; 15 (2.20%), master's degrees; and five (0.73%), doctorate degrees. A total of

71 (10.43%) graduates finished non-degree courses while a total of 244 (35.83%) and 154 (22.61%) students graduated from elementary and secondary education training departments, respectively (Table 3).

The number of graduates in 1991 was higher by 20 (3.03%) than that of last year. For the graduate programs and elementary education training department, the number of graduates increased as compared to the number of graduates in 1990. On the other hand, graduates in degree and non-degree programs, together with the second-

Table 3

Comparison of Graduates, SY 1989-1990 and SY 1990-1991									
Degree Program	SCHOOL YEAR 1990				SCHOOL YEAR 1991				% Increase (Decrease)
	2nd Sem	Summer	1st Sem	Total	2nd Sem	Summer	1st Sem	Total	
GRADUATE PROGRAMS									
Ph. D	3			3	4		1	5	66.67
M.S	8			8	4	6	5	15	87.50
Sub-total	11			11	8	6	6	20	81.82
UNDERGRADUATE PROGRAMS									
BSA	49	4	10	63	39	2	6	47	(25.40)
BSAB	10	2	12	10	1	0	11	(8.33)	
BSAE	29	5	19	53	50	2	18	70	32.08
BSAEng'g	1	2	1	4	3	1	1	5	25.00
BSAT	6			6	2			2	(66.67)
BSF	10	4	1	15	20		3	23	53.33
BSHE	13	11	6	30	12	1	5	18	(40.00)
BSHT	1			1	1			1	0.00
BSND	15		4	19	12		12	(36.84)	
DVM	1			1	3			3	200.00
Sub-total	135	26	43	204	152	7	33	192	(5.88)
NON-DEGREE PROGRAMS									
CPE	2	15	11	28	2	11		13	(53.57)
Home Making Arts	17		1	18	16		2	18	0.00
Agri-Forestry	12	1	1	14	13		1	14	0.00
Non-formal AutoMec					1			1	0.00
1 yr Auto Tech	14			14	12		12	(14.29)	
5 mo. Auto Mech	13		4	17	5		4	9	(47.06)
Welding			2	2			3	3	50.00
Furniture			2	2			1	1	(50.00)
Sub-total	58	16	21	95	49	11	11	71	(25.26)
SECONDARY	186		186	224		244	31.20		
ELEMENTARY	165		165	154		154	(6.67)		
GRAND TOTAL	555	42	64	661	607	24	50	681	3.03

any education department, reflected a decrease in the number of graduates (Fig. 5).

Figure 6 shows that most of the graduates in 1991 were from the College of Teacher Education with a total of 70 (36.46%) graduates. This was followed by the College of Agriculture with 58 (30.21%) graduates, College of Home Economics and Technology, 31 (16.15%); College of Forestry, 23 (12%); College of Applied Eng'g. and Technology, five (2.60%); and College of Veterinary Medicine, five (2.60%).

The Graduate School

The Graduate School is a special program of the University that provides graduate education to professionals presently employed as well as to regular and/or full time graduate students.

In addition to the existing three (3) Doctor of Philosophy (Ph. D.) programs being offered by the Graduate School in collaboration with the different colleges, a new program in Ph. D in Education with four different majors was offered during the second semester of school year 1991-1992. The Graduate School also offers nine master's degree courses with

Table 4
Distribution of Graduate Faculty
by Degree

Degree	Summer 1991	SY 1991-1992		Total
		1st sem	2nd sem	
Ph. D	15	28	33	76
MS/MA/MST	23	25	24	72
Total	38	53	57	148

Note: Faculty members are from BSU, SLU and FORI

various areas of specialization.

In improving its physical resources and capabilities, the Graduate School through a special project called the Graduate School Development Fund (GSDF), a fund which accepts/manages donations from agencies that sponsor foreign student grantees in the University, was able to acquire a total of 1,240 volumes of books from the American Studies Association of the Philippines (ASAP) and the Asia Foundation.

To backstop the teaching force of the Graduate School, the majority of which are regular employees of the University, several staff/professors from the Forest Research Institute (FORI) and Saint Louis Uni-

versity (SLU), were hired as part-time professors since the University has established consortium with them in the offering of specialized professional courses.

The Colleges

The University has presently seven established Colleges which were streamlined and delineated according to functions and disciplines.

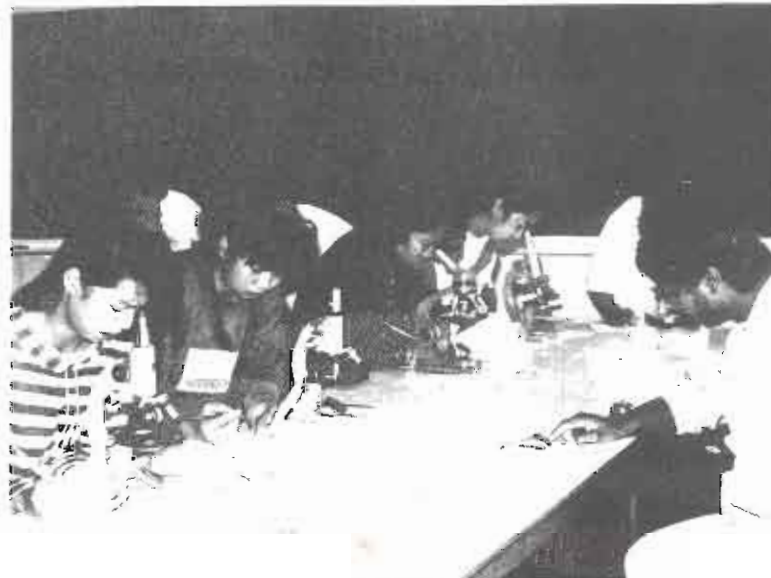
College of Agriculture

The College of Agriculture (CA) offers the Bachelor of Science in Agriculture (BSA) with eight major fields of specialization, Bachelor of Science in Agri-Business (BSAB) and a two-year Agri-forestry course. Five Master's and two Doctor of Philosophy degree programs are likewise offered. Other than its regular programs, the CA extends technical assistance to farmers, agricultural technicians including organizations in various capacities.

Under its production function, the CA has four production projects; swine project, poultry project, mushroom project, and the seed production project.

To promote faculty development, the College has established institutional linkages with several international schools such as: Delaware State College, U.S.A; Sang Joo National College, Korea, and Choong Ang Seed Company both in Korea.

Seven departments comprise the College of Agriculture, namely; Agricultural Economics and Agribusiness Management, Crop Science, Animal Science, Crop Protection, Agricultural Extension, Soil Science,



Practical Examination is given to further enhance the learning process

Figure 5
Comparison of Graduates for SY 1990 and 1991

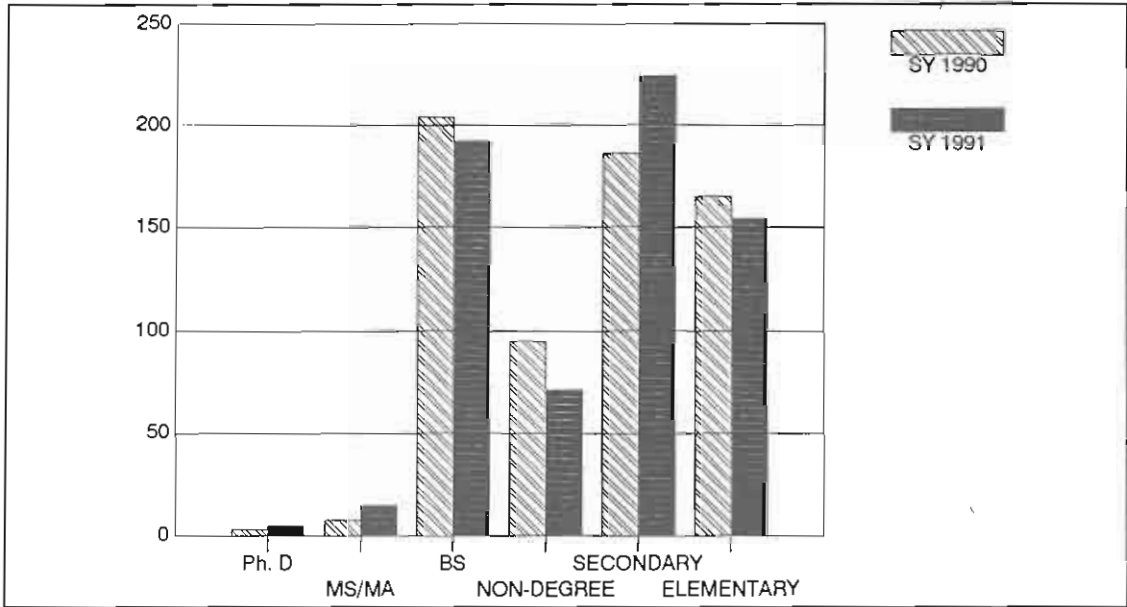
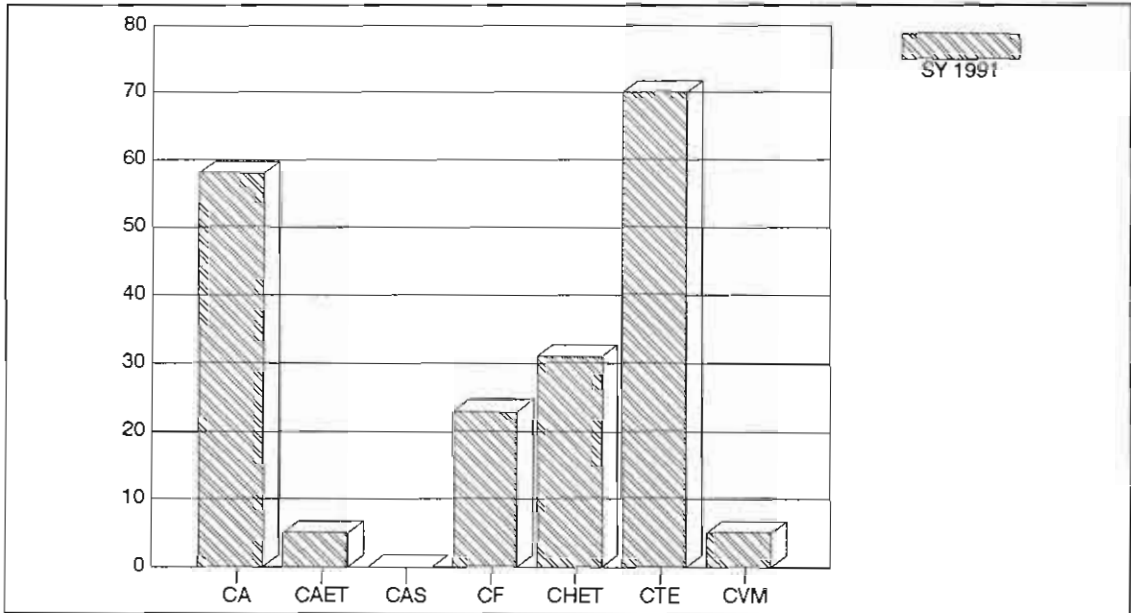


Figure 6
Distribution of Graduates by College, 1991



and Agri-forestry, a newly-created department of the College.

College of Applied Engineering and Technology

The College of Applied Engineering and Technology (CAET) is subdivided into two departments, namely: the Department of Agricultural Engineering and the Department of Applied Technology. The former offers the Bachelor of Science in Agricultural Engineering while the latter offers four short courses in automotive and woodworking technology.

The College also offers service courses to students enrolled in other programs particularly those enrolled in BSA, BSAE and Agro-Forestry programs.

Research activities of the College are confined to the supervision of basic student researches or thesis while extension activities are carried out through active participation in giving out lectures to non-government and government organizations.

College of Arts and Sciences

The College of Arts and Sciences (CAS) offers the basic courses for the first two-years required by the different degree programs of the University. The Bachelor of Science in Applied Statistics (BSAS) and the Bachelor of Science in Nursing are regular curricular offerings of the College.

The departments comprising the College are Biology, Chemistry, Humanities, Math-Physics-Statistics, Social Sciences and the department of Nursing.

The College assists students and researchers in the analysis of statistical data; thesis editing and guidance and counselling services.

Various research activities have been undertaken by its six departments in collaboration with the Training and Extension Office of the University.

College of Forestry

The College of Forestry (CF) offers a four-year BS in Forestry and a two-year Agri-Forestry course. The Agri-forestry course is offered in collaboration with the College of Agriculture and the College of Applied Engineering and Technology. The College's extension and production activities include a year round seedling production and dispersal program which is supportive of the instructional function of the University where students can avail of practical know-how and skills in plant/tree propagation. Seedlings raised were given free for tree planting activities.

Through the BSU Development Foundation, Inc., the College has established linkages with the regional



The Capping Ceremony highlights the first two years of the course of Bachelor of Science in Nursing.

and national offices of DENR such as ERDS, FMB, ERDB, and various non-government organizations.

College of Home Economics and Technology

The goal of the College of Home Economics and Technology (CHET) is to develop competent teachers and nutrition graduates, provide leaders in the field of Home Economics and managers and skilled workers in nutrition and food industries; and undertake appropriate research and extension work for the development of its clientele in the Philippines especially the people of the Cordillera.

The CHET is composed of two departments, the Department of Home Economics Education and Department of Human Nutrition and Foods. It offers B.S. in Home Economics, B.S. in Nutrition & Dietetics and Certificate in Home Management.

Several income-generating projects are being managed by the College. These are the RSDC Cafeteria, Eng'g Canteen, Food Processing Center, BSU Bakery and the RSDC Guestel.

College of Teacher Education

The College of Teacher Education (CTE) offers two doctoral degree programs (Doctor of Philosophy in Agricultural Education and Doctor of Philosophy in Education), three master's degree programs (Master of Arts, MA in Teaching and Master of Science), and three baccalaureate degree programs (Bachelor of Science in Agricultural Education, Bachelor of Elementary Education, and Bachelor of Secondary Education). It also offers a curriculum leading to a Certificate in Physical Education, and the secondary

and elementary curricula under the SEDP and PRODED.

The College is composed of four departments: the Elementary Training Department, the Secondary Education Training Department, the Department of Physical Education and the Department of Agricultural Education.

A number of faculty members conducted action researches for the purpose of improving teaching and learning. Its extension activities include a training program for student teachers in PRODED-EDP and SEDP. The College also conducts review classes for its graduates in preparation for the Teacher Board Examinations.

College of Veterinary Medicine

The College of Veterinary Medicine (CVM) offers two degree programs; Bachelor of Science in Animal Technology (BSAT) and Doctor of Veterinary Medicine (DVM) with two years preparatory or basic courses and four years professional veterinary course.

The CVM has six departments each headed by a chairman. These departments are the Department of Anatomy, Department of Biology, Public Health and Pathology, the Department of Physiology and Pharmacology, Department of Parasitology and Proto-



The teaching-learning process employs both the lecture . . .

zoology, Department of Medicine, Surgery and Clinics and the Department of Zootechnics.

Curriculum and Instruction Development Efforts

During the year under review, the different colleges continuously enriched and strengthened the different academic program offerings.

Among the activities undertaken by these colleges include the revision and updating of course syllabi and laboratory manuals under each subject offering and production/preparation of instructional materials and visual aids.

The CA, for instance, offered additional major courses that are relevant to current trends in agriculture. These courses include: Agro. 155 (Pasture and Fodder Crop), Hort. 136 (Inorganic Plant Nutrition), Hort. 137 (Principles of Farming Systems), Hort. 156 (Cutflower Crop Production), Agro/Hort 166 (Elementary Crop Seed Physiology). Several courses were also merged and changed. Agro 149 (White Potato Production) and Agro 147 (Sweet Potato and other minor root crops) were integrated and offered as Agro 145 (Principles of Root Crop Production) while Agro/Horti 125 (Seed Production and Technology for Field Crops and Vegetable Crops) was changed to Agro/Horti 125 (Seed Production Technology). On the other hand, Agro 160 (Postharvest Physiology on major Rootcrops) was dissolved.

Aside from offering new major courses, the College proposed the conversion of the two-year Agri-for-estry course into a degree program.

. . . and the practicum methods.



On the other hand, the CVM evaluated and updated its existing offerings for the BSAT course wherein DVM students had followed the 1988 curricular course which include two-year preparatory Veterinary Medicine, Basic Animal Science subjects and medical sciences which consist of pre-clinical and clinical courses.

Faculty Profile

The teaching force of the University has a total of 270 faculty members. The distribution of this number among the different colleges is found in Table 5.

As in previous years, the CTE has the highest number of faculty members (94) primarily because of the higher number of teachers required to handle the elementary and secondary education training programs. The College of Agriculture ranks next with 68 or 25.2%; however, out of this figure, several faculty members are designated to perform administrative functions but are still either teaching one, two or three subjects in the College in accord with the BSU Code.

The College of Applied Engineering and Technology, and the College of Veterinary Medicine have 11 and 12 faculty members, respectively.

Table 6 shows the distribution of faculty by college and by academic rank. Being the biggest colleges of the University, the CA and CTE have 12 and 11 full-fledged professors, respectively. The other colleges have the same number of full-fledged professors as in the preceding year.

There were thirteen substitute instructors hired during the year to temporarily occupy the posts of faculty members who either went on leave or are retired.

Table 7 shows that there were no great differences in the distribution of faculty members according to academic ranks for the past three years. The reduction in the number of assistant professors in 1991 may be due either to retirement or transfer to other government institutions and/or agencies. Two faculty members were promoted to full-fledged professors while one was upgraded to the rank of associate professor.

In 1991, the CA has the most number of Ph.D./Ed.D holders (20), followed by the CTE (16). The CVM and CAET have yet to produce Ph. D./Ed. D holders. The CF, having only twelve faculty members, has one Ph. D. holder. As in previous year, the CTE has the highest number of BS/AB degree holders, mostly comprised of those assigned in the Elementary and Secondary departments (Table 8).

Table 5
Distribution of Faculty Members
among Colleges

College	Number	Percentage
College of Agriculture	68	25.20
College of Applied Engineering and Technology	11	4.10
College of Arts and Sciences	58	21.50
College of Forestry	12	4.40
College of Home Economics and Technology	16	5.90
College of Teacher Education	94	34.80
College of Veterinary Medicine	11	4.10
Total	270	100.00

Table 6
Distribution of Faculty by College
and by Academic Rank

College	Prof.	Asso. Prof.	Asst. Prof.	Instructor	Substitute	Total
CA	12	14	22	19	1	68
CAET	0	1	1	9	0	11
CAS	4	14	18	17	5	58
CF	0	0	4	6	2	12
CHET	1	2	5	8	0	16
CTE	11	11	33	35	4	94
CVM	1	3	1	5	1	11
Total	29	45	84	99	13	270

Table 7
Distribution of Faculty by Academic Rank,
SY 1989, 1990 and 1991

RANKS	YEAR		
	1989	1990	1991
Professor	29	27	29
Associate Professor	45	44	45
Assistant Professor	93	92	84
Instructor	94	101	99
Substitute	10	15	13
Total	271	279	270

Table 8
Distribution of Faculty by College and by Highest Degree Finished

COLLEGE	HIGHEST DEGREE FINISHED			Total
	AB/BS DVM	MS/MA	Ph.D/Ed.	
CA	18	30	20	68
CAET	8	3	0	11
CAS	18	28	12	58
CF	7	4	1	12
CHET	9	5	2	16
CTE	55	23	16	94
CVM	8	3	0	11
Total	123	96	51	270

Table 9
Faculty by Highest Degree Finished, 1989, 1990 and 1991

DEGREE	YEAR		
	1989	1990	1991
Ph.D/Ed. D	38	46	51
MS/MA/MAT	114	108	96
BS/AB/DVM	109	110	107
Total	261	264	254

Note: Substitutes and Part Time Instructors not included.

Table 10
Number of Faculty Members Pursuing Higher Degrees

COLLEGE	DEGREE BEING PURSUED		
	MS/MA	Ph.D/Ed.D	TOTAL
CA	13	10	23
CAET	4	0	4
CAS	18	11	29
CHET	3	1	4
CF	5	1	6
CTE	6	4	10
CVM	7	2	9
Total	56	29	85

The reduction in the number of faculty by highest degree obtained for the year 1991 as reflected in Table 9 was attributed to either retirement or transfer of teachers to other government agencies. The University continuously promotes its on-going faculty development programs by sending faculty members to pursue higher degrees.

Faculty Development

There are 85 faculty members who are pursuing either master's or doctoral degrees for the year 1991 (Table 10). Of this number, nine are enjoying local scholarship grants while six are granted full external assistantship from Colombo Plan, East West Center or graduate assistantship in various universities abroad, and 68 are on their own.

On the other hand, 59 faculty members attended various trainings and seminar-workshops here and abroad to upgrade their competencies and/or keep themselves abreast with recent development in their field of specialization (Table 11).

Student Services

The Office of Student Affairs (OSA) is under the supervision of the Vice President for Academic Affairs. It consists of several sections, namely: Placement Office, Guidance and Counselling Office, Student Financial Aid Office, Student Organizations and Residence Halls. These sections serve as the coordinating and implementing arm of the OSA in the delivery of basic student services.

Table 11
Number of Faculty Members who Attended Trainings, Seminar-workshops, Conferences

College	Local	Regional	National	Int'l.	Total
CA	13	0	6	2	21
CAET	1	0	0	1	2
CAS	5	1	3	2	11
CF	5	2	2	0	9
CHET	2	4	2	0	8
CTE	2	2	2	0	6
CVM	1	0	0	1	2
Total	29	9	15	6	59

Guidance and Counselling Office

The office's main task is to help a student make maximum use of his educational opportunity that will enable him to develop his potentialities and become an effective member of the society. It also aims to improve the ability of the individual student to understand himself and his environment so that he can grow in the direction towards the attainment of greater personal satisfaction and adjustment in the light of accepted social and moral values. Table 12 shows the different services offered by the Guidance and Counselling Office.

Placement Office

The Placement Office is responsible in keeping in touch with various employment agencies to enable the graduates of the University avail of job opportunities.

During the year under review, this office gathered and interpreted the survey questionnaire floated to BSU graduates of school year 1986 - 1987 concerning their job placements. A total of 265 stu-

dents graduated from different degree programs in school year 1986 - 1987. Out of this number, 84.15% (223) are working in either private or government agencies while 9.10% (24) are running their own type of business. Others who were not able to land a job are working as laborers or domestic helpers abroad.

Student Organizations

During the SY 1991-92, there were 29 recognized student organizations in the University. Through these organizations students are able to develop wholesome attitudes and values as well as social and cultural consciousness. The following are the names of said organizations.

1. Agro-Horticulture Society
2. Agri-business and Economics Majors Society
3. BSU BABE-LEADA
4. BSA Organization
5. BSU BIBAK
6. Chess Club
7. Debating Club
8. Extension & Rural Development Volunteers Club
9. Future Forester's Society
10. Future Agricultural Homemakers of the Phils.

Table 12
Guidance and Counseling Services

SERVICES	NUMBER OF CLIENTELE
I. Counseling Services	
a. Emotional/personal problems	256
b. Transferees	167
II. Testing Services	
a. IQ tests for college freshmen	868
b. SETD Entrance test for freshmen	527
c. BSN qualifying test for freshmen	166
III. Information Services	
a. Orientation Program for College Freshmen	1010
IV. Inventory	
a. Personal data form	2653
b. Character references	55
c. Recording of Students Grades	2653
V. Follow-up Services	
a. Home Visitations	25
b. Hospital Visitation	6



New officers of a student body taking their oath of office.

11. Future Farmers of the Phil. College Council
12. Future Agricultural Society
13. Future Agro-forestry Society
14. Glee Club
15. Home Management Arts
16. Nursing Assoc. of Responsible Students
17. Phil. Society of Agricultural Engineers
18. Phil. Association of Nutrition
19. Plant Pathological and Entomological Society
20. Rodeo Club
21. Supreme Student Council
22. Society of Animal Science
23. Soils Science Society
24. Veterinary Science Club
25. Interdependent Study Organization of Students
26. Agape Campus Mission
27. Baptist Youth Impact
28. Campus Crusade for Christ
29. Trendsetters 3000

Student Financial Aid Office

The Student Financial Aid Office (SFAO) speeds up the delivery of educational assistance to deserving students. The scholarships being granted are sponsored by the national government and the University Administration. For school year 1991-1992, 339 students have been recipients of different scholarships/grants. The different educational assistance and the corresponding number of beneficiaries are shown in Table 13.

Residence Halls

The Ladies' and Mens' Dormitories provide housing facilities to students and some employees of the University. The Ladies' Dormitory has a maximum capacity of 170 heads and the Mens' Dormitory, 140 heads. During the year, the Ladies' Dormitory had an average monthly residents of 170, 162 and 82 for the first, second and summer terms, respectively, compared to last year's 127 and 125 occupants for the first and second semesters. Likewise, the Mens' Dormitory had an average monthly occupants of 118 and 121 for the first and second semesters, respectively, which are 21% and 53% higher than last year's 97 and 79 occupants for the same terms.

University Library Services

The University Library Services' (ULS) main function is to help build capabilities and competence of university students, faculty, staff, researchers and scholars through a well-stack, relevant quality library collections. It also aims to efficiently and effectively organize the library collections for maximum service to its clientele; provide appropriate and meaningful services and encourage life-long education through the use of library resources, prepare comprehensive literature research and abstracting bibliographies; and establish linkages with foreign and local agencies, colleges and universities for the collection of development program.

Table 13
Number of scholars/study grantees enrolled for School Year 1991-1992

	No. of Beneficiaries *
I. National Scholarships and Student Loan Center	
a. Student Scholarship Program (SSP)	11
b. National Integration Study Grant Program (NISGP)	85
c. Selected Ethnic Group Educational Assistance Program (SEGEAP)	129
II. SCU's / Administration	
a. Citizen Military Training (CMT)	25
b. Supreme Student Council (SSC)	12
c. Highland Cultural Troupe (HCT)	31
d. Glee Club	17
e. Athletics	25
f. Mountain Collegian	4
Total	339
* Average of 2 semesters	



Induction program of student organizations

For the year under review, 4,722 volumes of books and 555 volumes of other reading materials were acquired (Table 14).

The ULS offered the following services during the year: library orientation lectures and tours, intra-library access through library consortium among libraries in other schools/agencies; preparation of literature researches and other bibliographies.

Through the efforts of the ULS director and some library-conscious officials, several agencies both local and foreign have accorded the university library resources that fit into the curriculum offering of the University.

Health Services Division

The Health Services Division caters to the health needs of the University population composed mainly of students, faculty and staff and their dependents. A total of 1,546 consultations were rendered, seven immunizations given and 140 accidents treated.

For the year 1991, topping the list of communicable diseases treated were: influenza, scabies, conjunctivitis and chicken pox. There were also minimal cases of mumps, hepatitis, typhoid fever and PTB suspects.

Cholera-typhoid vaccinations were not given this year due to the absence of water-borne diseases which can be traced to the six-month long rainfall.

Admission's Office

The main function of the office is to file, update and safeguard the academic records of the students in the tertiary level. It is also responsible in implementing policies on admission and releasing of students as defined in the BSU code and DECS Memoranda covering state colleges and universities.

The aforementioned functions were successfully carried out by the office headed by its able director with the participation of the other offices' personnel.

For the year 1991, the office was able to accomplish the following:

1. Prepared school calendar of activities like enrolment and examination schedules which were based on DECS Memoranda.
2. Evaluated, updated and filed student academic records.
3. Evaluated entrance certificates of college transcripts.
4. Prepared, signed and released students' transcript of records.
5. Prepared and distributed to office concerned the summary of enrolment of each term.
6. Prepared and released enrolment forms, examination permits and clearance forms.

Table 14
Materials Received by the University Library for SY 1991

	No. of Volumes
A. Books	
University (Main Library)	2,395
Purchase	226
Gifts/Donations	2,169
Secondary Library	2,327
B. Theses	140
C. Pamphlets	250
D. Serial Titles	50
Gifts	45
Exchange	5
E. Microfiches	65

Table 15
Number of Medical Cases Treated for

I. Cases found by systems:	
a. HEENT (Heads, Eyes, Ears, Nose & Throat)	262
b. Respiratory	303
c. Cardiovascular	55
d. Gastrointestinal	77
e. Reproductive and Genito-urinary	20
f. Integumentary	85
g. Skeleto-muscular	81
h. Nervous system	1

Research Services

Through the years, the Benguet State University has been conducting research as a regular function to generate technologies and significant information useful in enriching the instructional program, in supporting the production projects, and in strengthening the extension services of the University.

Research has been coordinated by the Office of the Director of Research which serves under the Office of the Vice President for Research and Extension. The research centers/institutes created to undertake specific research and development programs are: Northern Philippines Root Crops Research and Training Center (NPRCRTC), Horticulture Research and Training Institute (HORTI), Institute of Highland Farming Systems (IHFS), Highland Agro-forest Institute (HAFI), and Highland Socio-economic Research Institute (HSERI).



Mulching strawberry with black (polyethylene) plastic sheet, a more efficient method being promoted.

Resources

Manpower. In 1991, 131 employees were involved in research activities. Ten had professorial ranks, seven instructors, 33 with science research positions, 42 laborers/utility workers, 11 with supportive positions, and twenty-eight contractuels.

Facilities. The facilities included experiment farms with an aggregate area of 66 hectares; 13 green houses; four storage houses; some laboratory rooms and some university buildings; office, laboratory and field equipment.

Technology/Significant Information Generated

The following are technologies/significant information with ready applicability developed in 1991:

Vegetable Crops

1. Use of GA₃ at 500 ppm at 3 months old stage accelerates flowering of carrot (P.E. Toledo).
2. Sul-Po-Mag containing 22% S, 22% K₂O and 18% MgO could be used in place of KCl at 25-50% substitution based on 120 kg K₂O/ha requirement for cabbage in sustaining optimum yield (P.B. Alipit).
3. Foliar application of 19-19-19 N-P₂O₅-K₂O twice at 14 and 28 days after transplanting at 5 tbs/16 li H₂O significantly increases yield of cabbage (P.B. Alipit).
4. Hilling-up of snap bean does not significantly increase yield, thus would not be a necessary field operation (F.S. Borja and M.M. Marquez).
5. For seed production purposes, snap bean pods could be harvested when they turn mature yellow; for garden pea, mature green pods could be harvested; and for tomato and sweet pepper, mature green fruits could be picked (A.A. Hermano et al.).
6. Steaming for one hour of the substrate for Jew's ear mushroom appears effective in preventing contamination and effecting high mycelial growth (B.S. Tad-awan).

Root Crops

1. Four clones of white potato with moderate resistance to late blight and cyst nematode and with good yield potential were selected: E12-4 (1-931 x NY59), E32-4 (65-ZA-5 x A-JU-9), E20

(1-931 x A-M-9), and E16-2 (1-1039 x A-JU-9). These clones may be utilized for variety trial and as parental clones for breeding work (E.O. Badol).

2. Three clones of white potato (2 BR 1-5, I- 1085, and LBRI-9) were selected for having high yield and late blight resistance and will be recommended to the Philippine Seed Board for either regional or national variety release (F.S. Balog-as and E.O. Badol).
3. White potato clone LBRI-9 grown from apical cuttings produces 21.2t/ha of large-sized tubers, highly resistant to late blight, has good tuber and eating quality, and with high economic benefits (D.K. Simongo et al.).
4. Using late blight resistant cultivars I- 1039 and P7 minimizes application of fungicides thus reducing input costs (J.C. Perez and T.C. Diccion).
5. Highland farmers prefer sweet potato varieties with high root yield and good tops, are resistant to weevil, are early maturing, could be primed, have acceptable eating quality, and have a wide range of adaptation to prevailing local climatic conditions (L.L. Tandang et al.).
6. Lower degree of root shrivelling and decay is obtained at three months in diffused light storage when sweet potato is harvested one time 10 months after planting under La Trinidad, Benguet condition (E.V. Bayogan and C.C. Sagudan).
7. Leaf blight and tuber rot are minimized with comparable yield when taro is planted 75 cm x 50 cm between rows and hills (T.C. Diccion and J.C. Perez).
8. For stalk with corms and cormels, the months of November, October, and January were found best planting time for taro. Good eating quality of corms when cooked fresh was noted in April planting while corms of those planted in March were more acceptable when stored. Corms with better storage life were obtained from those planted in November. Higher dry matter content of fresh corms was observed in January planting while in stored corms, in February planting (A.A. Botangen et al.).
9. Tuber damages in yam were dependent on cultivar. Early harvesting of yam six months after planting (MAP) and eight months or more induced greater damage at harvest. Less tuber damage was obtained on variety Padinse at 7 MAP. Delayed harvesting led to lesser tuber injuries in samples. During storage, lower weight loss was obtained in Padinse harvested 6 and 7 MAP. In Sampero, tubers harvested early showed higher weight loss and decay incidence (E.R.V. Bayogan and A.T. Botangen).
10. Practices on handling and marketing of important minor root crops in Northern Philippines depend



Adaptability trials on different varieties of apple are being done at the Agro-forestry Project.

on the crop and its uses. Ginger and yambean pass through several marketing stages from farmer to assemblers, wholesalers, retailers and finally consumers. Cormels of 'Pitik', 'galiang', 'rabok', and tubers of 'tugue' are usually marketed in small volumes through the assemblers and retailers. The identified factors affecting marketing of minor root crops are: low production, insect pest and disease incidence, poor marketing practices, lack of buyers/transport facilities, poor roads, fluctuating prices, ignorance about the nature/uses of the crop, bad weather conditions, and physical and physiological characteristics of the crops (V.B. Salda).

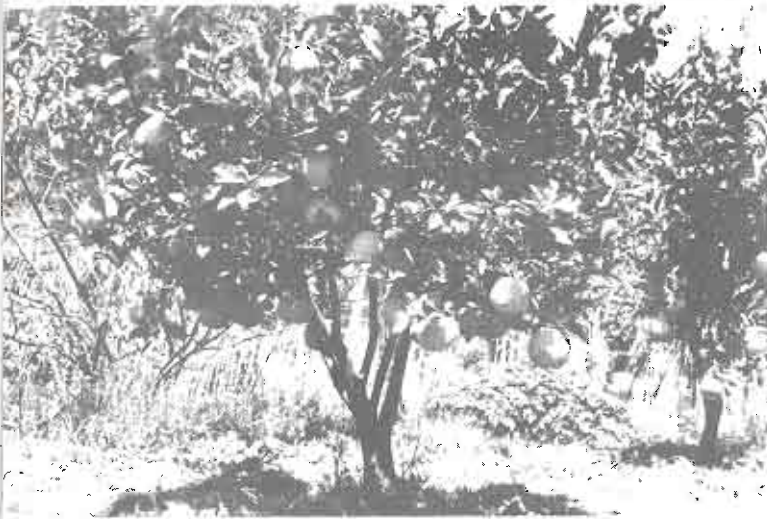
11. Most of the indigenous minor root crops in provinces of Northern Philippines are grown for their potentials as food supplement, swine feed, and as source of additional income. Consumption and utilization practices vary according to crops, tribal needs, uses and are determined by available resources, crop physical and physiological characteristics, and food preferences (V.B. Salda).

Fruit Crops

1. The identified diseases infecting banana in Benguet are bunchy top (virus), Panama Wilt (fungus), Sagatoka (fungus), Bugtok (bacteria), leaf spot (B.S. Ligat and A.L. Nagpala).

Ornamental Crops

1. Soaking gladiolus corms in 150 ppm GA₃ for 45 minutes and stored for 15 days or soaking in 100% ethyl alcohol for 5 minutes and stored for 15 days significantly breaks dormancy earlier (F.R. Gonzales and G. Mangili).



Grape fruit, for juice processing, has been successfully grown in high elevation areas.

Agro-forestry

1. Using alnus as buffer hedgerow with Arabica coffee as main perennial alleycrop could be practiced in Agro-forestry areas in Benguet having slope of 55% (R.D. Colting and M.D. Pandosen).
2. Alley cropping with either alnus or mulberry as hedgerows was highly rated by farmer-cooperators due to less soil erosion and easy to establish in areas whose slope gradients ranged from 40-60% (I.V. Moldez).

Publications

BAYOGAN, E. R. V. et al. 1990. Assessment of Post-Production, Utilization, and Processing Techniques, Losses, and Problems In Highland Sweet Potato. NPRCRTC, BSU-IDRC. La Trinidad, Benguet.

GAYAO, B. T. and J. M. SIM. 1991. Urban Sweet Potato Homegardens in the Cordillera Highlands. NPRCRTC, BSU-UPWARD. La Trinidad, Benguet.

TANDANG, L. L. et al. 1991. Highland Sweet Potatoes (Philippines) Project. NPRCRTC, BSU-IDRC. La Trinidad, Benguet.

Research results were also published in the Golden Roots Newsletter and Series of Working Papers. NPRCRTC, BSU. La Trinidad, Benguet.

Manuscripts of selected researches were also prepared for publication in the BSU Research Journal and Research and Extension Newsletter. La Trinidad, Benguet.

Researches

In 1991, a total of 138 researches were conducted by the research centers/institutes, 32 of which were completed and 106 on-going. There were 47 other researches undertaken by some colleges of the university; 10 completed and 37 on-going. Some research proposals on crops, livestock, forestry and fisheries were submitted to funding agencies for evaluation and funding.

Completed Researches

The completed researches in 1991, with their respective researcher(s) and funding agency(ies) are as follows:

Northern Philippines Rootcrops Research and Training Center

A. White Potato

1. Development of Superior Clones and Progenies of Potatoes (*S. spp*) for *Phytophthora infestans* and *Globodera rostochiensis* resistance. E.O. Badol et al. - BSU/CIP/UNDP
2. Regional Yield Trial on White Potato. F.S. Balog-as - BSU
3. On-Farm Trial on White Potato. F.S. Balog-as - BSU
4. Evaluation of Advanced Clones/Cultivars for Yield and Resistance to Late Blight. F.S. Balog-as - BSU



Rapid multiplication technique of white potato stem cuttings. Stem cuttings are being propagated as an alternative planting material for white potato.



Rearing house for field releases of *Diadegma eucero-phaga*, a parasitoid for biological control of diamond backmoth. The project is sponsored by ADB, AVRDC, BSU, PCARRD and UPLB.

5. Evaluation of Pathogen-tested and Locally-selected Potato Clones Grown from Apical Cuttings. D.K. Simongo et al. - BSU/CIP
6. Assessment of Potato Clones for Storability in La Trinidad and Sayangan, Atok, Benguet. D.K. Simongo - BSU/CIP
7. Assessment of Potato Clones Using Apical Cuttings by Farmers in Benguet. D.K. Simongo et al. - BSU/CIP
8. Response of White Potato to Chicken Manure and Inorganic Fertilizer Combination. W.L. Marquez - BSU
9. Management of LB by a Combination of Varietal Resistance and Minimal Fungicide Application. J.C. Perez and T.C. Diccion - BSU/HADP

B. Sweet Potato

10. Highland Sweet Potato (Philippines) Project (3 studies). L.L. Tandang et al. - BSU/IFS/IDRC/CIP
11. Regional Yield Trial on Sweet Potato. E.O. Badol - BSU/VISCA
12. Verification Trials on Topping, Length of Cuttings, and Planting Distance of Sweet Potato. P.A. Dalang - BSU
13. Response of Sweet Potato Clones/Cultivars Using Single-Node Cuttings. I.C. Gonzales - BSU
14. Seasonal Planting of Sweet Potato. P.A. Dalang - BSU/HADP
15. Some Factors Affecting Storability of Sweet Potato (3 Studies). E.V. Bayogan and C.C. Sagudan - BSU/IDRC
16. Sweet Potato Urban Homegardens in Baguio City. B.T. Gayao - BSU/UPWARD

C. Taro

17. Fertilizer Study on Taro. W.L. Marquez - BSU

18. Effects of Place, Spacing and Intercropping on the Spread of Late Blight. T.C. Diccion and J.C. Perez - BSU
19. Yield and Storability of Taro Planted at Various Dates Under La Trinidad Condition: Preliminary Results. A.T. Botangen and E.V. Bayogan - BSU/IFS
20. Socio-economic Importance of Taro and Galiang in the Cordilleras. J.M. Sim - BSU

D. Yam

21. Evaluation of In-ground Storage for Yam. E.V. Bayogan and A.T. Botangen - BSU

E. Minor Root Crops

22. Survey on Postharvest Handling Practices and Problems for Minor Root Crops. V.B. Salda and B.T. Gayao - BSU/IFS
23. Consumption and Utilization Patterns in Minor Root Crops. V.B. Salda and B.T. Gayao - BSU/IFS
24. Market Handling Practices and Problems in Minor Root Crops. V.B. Salda and B.T. Gayao - BSU/IFS
25. Identification of Minor Root Crops, the Growing Areas, and the Production and Utilization System in Northern Philippines. B.T. Gayao and J.M. Sim - BSU

F. Root Crops in General

26. Agricultural Profile of Barangays in the Cordilleras - Part I: Baguio City. B.T. Gayao et al. - BSU

Horticulture Research and Training Institute

A. Vegetable Crops

1. Effect of Sul-Po-Mag on the Yield of Cabbage. P.B. Alipit - Planters Products



University officials with PCARRD Executive Director Hamon V. Valmayor as they view the cages of *Diadegma*.

2. Performance of Cabbage as Affected by 19-19-19 Application. P.B. Alipit - Aldiz, Inc.
3. Control of Clubroot in Cabbage using Perlka. S.P. Milagrosa - Bounty Harvest Corp.
4. Hilling-up Study on Snap Bean. F.S. Borja and M.M. Marquez - BSU

B. Ornamental Crop

5. Evaluation of Different Techniques in Breaking Dormancy in Gladiolus Corms. F.R. Gonzales and G. Mangili - BSU

Highland Agro-forest Institute

A. Agro-forestry

1. Evaluation of Agro-forestry Schemes in RRDP Sites. I.V. Moldez - PCARRD



Sweet potato varieties/clones are being tested at the NPRCRTC experimental field

Other Completed Researchers

College of Agriculture

1. Influence of stage of Pod Maturity on the Shelf Life of Snap Bean. F.T. Bawang - BSU
2. Evaluation of Insecticides Against Resistant *Plutella xylostella*. B.S. Ligat - CARFI
3. Control of Cabbage Insect Pests by *Metarhizium anisopliae* (Metchnikoff). B.S. Ligat - BPI
4. Bioefficacy of Neem against DBM of Head Cabbage. E.V. Cardona, Jr. - IRRI
5. Survey on the Agricultural Needs of the Cordillera Region. D.P. Padua - BSU-ATEP
6. Response of Snap Beans to Different Kinds of Fertilizers. M.M. Marquez - BSU
7. A Survey on the Status of Mushroom Industry in Baguio City and Benguet. B.S. Tad-awan and J.A. Solimen - BSU
8. Influence of Various Drying Techniques to Snap Bean Seed Quality. F.G. Bawang and F.R. Gonzales - BSU

College of Arts and Sciences

1. Field evaluation of Titavit Plant Conditioner on the Growth and Yield of Head Cabbage and Potato. L.G. Lirio - Service Agri'l Product Inc.
2. Inquiring Skills of Chemistry Students at the BSU. C.B. Olea - Self-financed

On-going Researches

Northern Philippines Rootcrops Research and Training Center

A. White Potato

1. On-farm Trial on White Potato. F.S. Balog-as - BSU/CIP
2. Evaluation of Potato Clones for Yield and Resistance to Late Blight. F.S. Balog-as - BSU/CIP
3. Germplasm Evaluation of White Potato Grown from Rooted Apical Cuttings. D.K. Simongo and V.E. Demonte-verde - BSU/CIP
4. Progeny Evaluation in White Potato. D.K. Simongo - BSU/CIP
5. Management and Utilization of Farm Residues to Improve and Maintain Soil Fertility. E.T. Balaki and V.A. Macario - BSU
6. Frequency of Chicken Manure Application: Its Effects on Yield and Succeeding Crops. W.L. Marquez - BSU/CIP
7. Survey and Control of Powdery Mildew Scab. J.C. Perez and T.O. Khayad - SAPP RAD/BSU/BNCRDC
8. Greenhouse and Field Screening of Clones Against Late Blight: An Evaluation. T. Diccion - BSU/CIP
9. Evaluation of Virus Eradication Techniques in White potato. G.S. Backian - BSU/CIP
10. Use of Botanical Materials for the Control of Major Insect Pests of Root Crops: An Evaluation. J.C. Perez and E.D. Pakipac - BSU
11. Germplasm Evaluation of White Potato for Storage and Processing Qualities. E.V. Bayogan and H.L. Quindara - BSU

12. Identification and Mapping of Soilborne Diseases in White Potato Growing Areas in the Highlands. J.C. Perez and T.C. Diccion - BSU
13. Verification Study on Maleic Hydrazide Application. A.T. Botangen et al. - BSU
14. Eating, Processing, and Storage Quality Evaluation of Advanced Clones and Cultivars of Potatoes. H.L. Quindara - BSU
15. Potato Utilization into Nata and Pickles. E.T. Botangen and E.V. Bayogan - BSU
16. Application of Foliar Fertilizers: Its Effects on the Growth and Yield of White Potato (Demo- farm). Se.T. Gayao and A. Kiswa - BSU
17. Use of Rooted Stem Cuttings as an Alternative Planting Material (Demo-farm). Se.T. Gayao and A. Kiswa - BSU

B. Sweet Potato

18. Yield Trials on Sweet Potato (PYT, GYT, AYT). E.O. Badol and M. Baucas - BSU/IDRC
19. Regional Yield Trial on Sweet Potato. E.O. Badol - BSU/VISCA
20. Promotional Trials on the PSB-Approved Sweet Potato Varieties. E.O. Badol - BSU/VISCA
21. On-Farm Evaluation and Assessment of Farmers Preference to Introduced Clones of Sweet Potato in Benguet and Mt. Province. J.G. Dati and L.L. Tandang - BSU/CIP
22. Verification Studies on the Influence of Single-node Cuttings on Sweet Potato. C.G. Kiswa - BSU/CIP
23. Verification Trial on Harvesting Method of Sweet Potato. L.M. Pacuz - BSU
24. Effect of Size of Micro-tubers and Planting Distance on Yield and Quality of Tuberlets. L.M. Pacuz and P.A. Dalang - BSU
25. Participatory Research on Assessing Sweet Potato Yield and Benguet Farmers Varietal Preference. B.T. Gayao et al. - BSU
26. Biology of Major Insect Pests of Sweet Potato. E.D. Pakipac and J.C. Perez - BSU
27. Leaf-tip Quality Evaluation of Sweet Potato Clones and Cultivars. H.L. Quindara and E.V. Bayogan - BSU/CIP
28. Storage Evaluation of Sweet Potato Cultivars. E.T. Botangen and E.V. Bayogan - BSU/CIP
29. Eating and Processing Quality Evaluation of Sweet Potato Clones/Cultivars. H.L. Quindara and E.V. Bayogan - BSU/CIP
30. Preharvest Factors Affecting the Postharvest Quality of Sweet Potato. E.T. Botangen and V.B. Salda - BSU/CIP
31. Socio-economic Analysis of Traditional Sweet Potato Production Practices. J.M. Sim - BSU/CIP
32. Sweet Potato Trial Planting in Alapang, La Trinidad; Tinungdan; and Pidigan, Abra (Demo- farm). E.O. Badol and Se.T. Gayao - BSU

C. Taro

33. Germplasm Collection, Documentation, Characterization, and Maintenance of Taro and Other Aroids. J.G. Dati - BSU
34. Preliminary Yield Trials in Taro. J.G. Dati and I.C. Gonzales - BSU/VISCA
35. The Use of Organic Fertilizer on Taro Production: An Evaluation. H.B. Torres - BSU
36. Effect of Monthly Harvest on Taro Yield. H.B. Torres - BSU
37. Effect of Intercrops on the Yield of Taro. W.L. Marquez - BSU
38. Effect of Pre-planting Treatments on Taro Yield. I.C. Gonzales - BSU
39. Ecological Succession and Population Dynamics of Major Beneficial Insects of Taro. G.S. Backian - BSU
40. Effect of Intercropping on the Spread of Taro Late Blight. T.C. Diccion - BSU
41. Evaluation of Fungicides for the Control of Taro Leaf Blight. J.C. Perez - BSU
42. Biology of Major Insect Pest of Taro. E.D. Pakipac - BSU
43. Taro Dehydration and Utilization. E.T. Botangen and V.B. Salda - BSU
44. On-farm Verification Trial on the Significance of Various Harvest Maturity Levels of Taro and its Effect on Yield and Postharvest Characteristics. A.T. Botangen and E.V. Bayogan - BSU/IFS
45. Curing and Storage of Taro. E.T. Botangen and E.V. Bayogan - BSU/IFS
46. Agro-economic Analysis of Traditional and Improved Practices in Taro Production. J.M. Sim - BSU

D. Yam

47. Germplasm Collection, Maintenance, Characterization, and Documentation of Yam. C.G. Kiswa - BSU
48. Influence of Pre-planting Treatments on Yam Yield. C.G. Kiswa - BSU
49. Effect of Seed Sizes on Yam Yield. I.C. Gonzales - BSU
50. Identification of Major Diseases of Yam. J.C. Perez and T.C. Diccion - BSU
51. Curing and Storage of Yam. A.T. Botangen and E.V. Bayogan - BSU/IFS
52. Breaking of Yam Dormancy Using $CaCl_2$. V.B. Salda and E.T. Balaki - BSU
53. Seed Treatment Studies on Yam. V.B. Salda and B.T. Gayao - BSU
54. Curing Studies on Yam Setts. E.T. Botangen and V.B. Salda - BSU
55. Evaluation of Various In-building Stores for the Highlands. A.T. Botangen and V.B. Salda - BSU
56. Agro-economic Analysis of Traditional and Improved Practices in Yam Production. J.M. Sim - BSU

D. Minor Root Crops

57. Postharvest Handling and Utilization Studies on Minor Roots in the Northern Philippines (4 studies). V.B. Salda - BSU/IFS
58. Nutritional Analysis of Some Minor Roots. V.B. Salda - BSU, IFS

E. Root Crops in General Data Collection and Documentation

59. Statistical and Agro-Geographical Survey of Root Crop Growing Areas in the Philippines. B.T. Gayao et al. - BSU
60. Cost and Return Analysis of Root Crop Production. E.B. Alupias and B.T. Gayao - BSU
61. Collection of Root Crop Production and Post Production Statistics. E.B. Alupias and B.T. Gayao - BSU

Horticulture Research and Training Institute

A. Vegetable Crops

1. Acceleration of Flowering in Carrot, Cauliflower and Celery. P.E. Toledo - BSU
2. Manner of Sterilizing Sawdust-based Substrates for Mushroom Cultivation. B.S. Tad-awan - BSU
3. Growth Performance of Five Shiitake Strains on *Alnus* Logs. B.S. Tad-awan and P.B. Alipit - BSU
4. Performance of Eight Shiitake Strains on Sawdust-based Substrate. B.S. Tad-awan and P.B. Alipit - BSU
5. Efficacy of Diflubenzuron Against Mushroom Fly. B.S. Tad-awan - BSU
6. Amount of Urea Supplement on Jew's Ear Mushroom Production. B.S. Tad-awan - BSU
7. Characterization and Culture of Local *Termitomyces* spp. B.S. Tad-awan - BSU

8. Utilization of Indigenous Highland Farm Wastes for Mushroom Production. J.S. Luis - DOST
9. Hybridization and Testing of Garden Pea Cultivars. L.L. Tandang and D.P. Padua - BSU
10. A System of Managing Diamondback Moth. B.S. Ligat et al. - HADP/BSU
11. Integrated Pest Management on Diseases of Vegetable Crops. S.P. Milagrosa et al. - HADP/BSU
12. Control of Root Abnormalities in Carrot and Curd Rot in Cauliflower. P.E. Toledo et al. - HADP/BSU
13. Germplasm Introduction, Preliminary and Advanced Evaluation of White Potato for High Elevation. L.L. Tandang et al. - IPB/BSU
14. Development and Evaluation of Snap Bean Cultivars for the Philippine Highlands. L.L. Tandang et al. - IPB/BSU
15. Varietal Improvement of Crucifers, Carrots, Tomato and Strawberry. L.L. Tandang et al. IPB/BSU
16. Field Releases of Parasitoid *Diadegma eucerophaga* Horstm. of Diamondback Moth in the Highlands. E.V. Cardona, Jr. - ADB/PCARRD
17. Rate of Green Pod Production of Snap Bean Varieties. F.S. Borja and C.P. Laurean - BSU
18. Effect of Water Stress of Snap Beans. F.S. Borja and P.E. Toledo - BSU
19. N, P₂O₅ and K₂O Requirements of Snap Bean, Garden Pea, Tomato and Sweet Pepper Seed Crops. J.G. Balaoing - USAID/DA
20. Determination of the Right Stages of Fruit Harvesting in Snap Bean, Garden Pea, Tomato and Sweet Pepper Seed Crops. A.A. Hermiano - USAID/DA
21. Determination of Appropriate Seeding Rate/Population Density of Garden Pea, Snap Bean, Tomato and Sweet Pepper Seed Crops. F.R. Gonzales - USAID/DA
22. Evaluation of the Performance of Seeds Harvested from Various Stages of Fruit Maturation. A.A. Hermiano - USAID/DA
23. Water Requirements of Snap Bean, Garden Pea and Tomato Seed Crops. F.S. Borja - USAID/DA
24. Impact of Vegetable Seed Production on the Socio-economic Status of the Seed Growers and on the Program of DA-CAR. M.B. Mercado and M.K.T. Dagupen - USAID/DA

B. Fruit and Plantation Crops

25. Multi-location Trials of Apples in Benguet. B.B. Dimas - BSU
26. Pest Management in Selected Fruit Tree and Plantation Crops. A.L. Nagpala et al. - HADP/BSU
27. Apple Development Project. B.B. Dimas - BSU
28. Establishment of Pilot Citrus Orchard in Benguet. A.C. Tipayno et al. - BSU
29. Effect of Foliar Fertilizer on the Yield of Strawberry. E.T. Balaki - BSU



Greenhouse culture of anthurium, a high value commercial ornamental.

30. **Economic Analysis of Black Plastic Mulch on Strawberry Production.** E.T. Balaki - BSU
31. **Evaluation of Leading Fungicide for the Control of Gray mold of Strawberry.** E.T. Balaki - BSU
32. **Collection and Identification of Insect Pests and Diseases of Banana, Coffee and Pineapple.** B.S. Ligat et al. - BSU
33. **Study on the Life Cycle of the Insect Pest and Pathogenic Tests of the Diseases of Banana, Coffee and Pineapple.** B.S. Ligat et al. - BSU

D. Ornamental Crops

34. **Collection and Varietal Evaluation of Anthuriums Under Highland Conditions.** A.G. Ladilad and B.D. Ladilad - BSU
35. **Spacing and Planting Density Studies on Selected Ornamental Plants.** B.D. Ladilad - BSU
36. **Compatibility Test Between Scion and Stock in Roses.** A.G. Ladilad and V. Quiades - BSU
37. **Nutritional Studies in Cutflower and Ornamental Crops.** B.D. Ladilad - BSU
38. **Gladiolus Corm Improvement Project.** A.G. Ladilad et al. - HADP/BSU

Institute of Highland Farming Systems

A. Farming Resources Systems

1. **Massive Upgrading of Indigenous Breeds of Swine Under Farmer's System of Management in the Cordillera.** M.K.T. Dagupen and D.Q. Casiwan - Ford Fdn./BSU
2. **Sporulation Study on Azolla.** T.M. Merestela - NAAP/IRRI
3. **High Altitude Rice Field Performance Test.** M.D. Cadatal - PHILRICE
4. **Varietal improvement for Cool Elevated Areas.** M.D. Cadatal - PHILRICE
5. **Germplasm Evaluation and Cultural Management Studies on Rice in the Highlands.** M.D. Cadatal et al. - HADP/BSU

Highland Agro-forest Institute

A. Agro-forestry

1. **Study on Vegetative Terracing in Agro-forest Areas.** R.D. Colting - BSU
2. **Study on Intercropping/Covercropping in Coffee-pine Based Agro-forestry Areas.** B.B. Dimas - BSU



Cold tolerant rice hybrid evaluation. A joint undertaking of PHILRICE and BSU.

Other On-going Researches

College of Agriculture

1. **In-Vitro Propagation of Important Highland Vegetable Crops.** V.D. Alejandro - BSU
2. **Postharvest Project on Handling and Keeping Qualities of Snap Bean.** F.T. Bawang - BSU
3. **Varietal Trial of Cabbage During Rainy Season.** M.D. Cadatal - ABC
4. **Resistance Study of DBM Against Neem.** E.V. Cardona, Jr. - IRRI
5. **Effect of Neem Against Parasitoids.** E.V. Cardona, Jr. - IRRI
6. **Insecticides Against Insect Pests of Cabbage.** E.V. Cardona, Jr. - IRRI
7. **Postharvest Characteristics of Major Ornamental Crops.** F.R. Gonzales - DA-CAR
8. **Dojo Development Program in the Cordillera.** F.R. Gonzales - DA-CAR
9. **Effect of Posol on the Growth and Yield of Some Vegetables.** S.L. Kudan - ABC
10. **Cropping Pattern-Organic Farming Scheme Under Potato Based Farming.** J.G. Balaoing - Faculty Research
11. **Efficacy Test of Crop Spray on the Growth and Yield Performance of Cabbage.** J.G. Balaoing - Cropping
12. **Comparative Study of Different Formulated Compost on the Growth and Yield Performance of Cabbage, Potato, and Onions.** J.G. Balaoing - Faculty Research
13. **Snap Bean Technoguide Refinement/Verification Trials on Fertilizer Management.** R.D. Colting - Faculty Research



Coffee arabica could be successfully grown under pine tree stands.

College of Arts and Sciences

1. Interaction of Boron, Fertilizers and Chicken Manure on Different Crops. R.B. Castillo - Self-financed
2. Ideology and Ethnicity. J.F. Lacanaria - BSU/PSSC
3. Teaching Competencies of Mathematics Instructors in BSU as Perceived by Students. C.J. Perez - Self-financed
4. Response of Potato to Boron and Fertilizers in some soils of Benguet. R.B. Castillo - SEARCA
5. Preparation of Agarose by Electrolisis of Agar from *Gracilaria G-16*. A.M. Corpuz - UP Diliman Graduate Assistance
6. BSU Faculty Scholarship Grantees their Status and Problems. Social Science Dept. - Social Science Department

College of Home Economics and Technology

1. Final Evaluation of the LAKASS Program. R.C. Abastilla et al. National Nutrition Council

College of Teacher Education

2. Breeding Potato for Resistance to Late Blight Through Recurrent Selection. L.D. Lando

Resource Development

Towards improving the research capability of the institution, four research personnel pursued doctoral studies and 17 obtained their master's degrees.

Researchers also attended relevant seminars, workshops, symposia, fora, conferences and trainings.

Some equipment were acquired and facilities repaired/constructed to facilitate implementation of research projects.

Linkages

To promote its research and development programs, the University maintains collaborative linkages with the following agencies:

- Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)

14. Survey, Mapping and Planning for Reforestation Project at Itogon, Benguet. R.D. Colting - DENR- BSUDFI
15. Influence of KNO_3 foliar Spray on the Yield of White Potato. M.M. Marquez - Faculty Research
16. Socio-Economic Profile of BSU Swamp Area Farmer Cooperators. E.O. Sano et al. - BSU
17. The Role of Sweet Potato in the Diet, Livelihood, Culture and Ecology of an Ethno- Community. E.T. Balaki and J.A. Solimen - UPWARD
18. Farmer's Indigenous Knowledge of Sweet Potato Production and Utilization in the Highlands of Northern Philippines. R.P. Mula - UPWARD
19. The Role of Sweet Potato During the Earthquake Crisis. M.D. Fang-asan and E.O. Sano - UPWARD
20. Integrated Homegarden Project. R.P. Mula and B. Gayao - UPWARD
21. Integrated Program on Medicinal Plants in the CAR. B.D. Ladilad - DOST
22. Chemical Control of Powdery Mildew in Garden Pea. J.S. Luis - Bayer, Phils.
23. Verification Study on Rootcrop Based Swine Rations. B.D. Luis - Faculty Research
24. Physio-chemical Changes Related in Cut *Anthurium andreaeanum* W. *Kaumana*. N.R. Palispis - Faculty Research
25. Crop Protection Studies on Snap Bean Seed Production Program. S.P. Milagrosa - Chem. Co.
26. Chemical control of Potato Late Blight. J.S. Luis - Shell Chem.
27. Verification of Farmers Practice in Controlling *P. xylostella* Infesting Crucifers. B.S. Ligat - BSU
28. Effects of Leguminous Crop residues used as Organic Amendments in Soil Infected with *Fusarium* species. A.L. Nagpala - Faculty Research
29. Evaluation of Tukuthion 500 EC. L.M. Colting - Bayer, Phils.

- International Foundation of Science (IFS)
- International Development Research Center (IDRC)
- International Potato Center (CIP)
- Southeast Asian Potato Program for Research and Development (SAPPRAD)
- Ford Foundation (FF)
- Users Perspective with Agricultural Research and Development (UPWARD)
- Institute of Plant Breeding (IPB)
- Visayas College of Agriculture (ViSCA)
- Jaime V. Ongpin Foundation, Inc. (JVOFI)
- National Azolla Action Program (NAAP)
- International Rice Research Institute (IRRI)
- Philippine Rice Research Institute (PHILRICE)
- Philippine Textile Research Institute (PTRI)
- Highland Agriculture Development Project (HADP)
- Central Cordillera Agriculture Project (CECAP)
- Department of Agriculture (DA)
- Department of Environment and Natural Resources (DENR)
- Department of Science and Technology (DOST)
- Other Research and Development Agencies / Institutions

Affiliate Agencies

Highland Agriculture and Resources Research and Development Consortium (HARRDEC)

The consortium, with BSU as the base agency, had these accomplishments in 1991:

1. Coordinated the conduct of member-agency in-house research and development review.
2. Initiated the conduct of "Technology Forum".
3. Coordinated the conduct of the "First National Symposium and Consultative Meeting on the Management of Critical Watersheds in the Philippines".
4. Participated in radio broadcast of developed technologies and valuable information toward agriculture and natural resources development in the Cordillera.
5. Co-sponsored "Research and Consortium Management Training".

6. Continued the implementation of the "Highland Rural Development Project".
7. Assisted the DA in the implementation of R & D projects of the Highland Agriculture Development Project.
8. Evaluated and endorsed R & D proposals submitted through the secretariat.
9. Assessed technologies for commercialization and made feasibility studies in line with the Rural Enterprise Development Program.
10. Prepared technoguides, brochures, and articles for publication.
11. Participated in "Techno-fairs".
12. Prepared and maintained R & D information files.

Highland Crops Research Station (HCRS)

The Station, jointly managed by BSU and IPB, continued in 1991 its R & D activities on: (1) white potato improvement, (2) garden pea and snap bean breeding and seed production, (3) crucifers and other semi-temperate vegetables breeding and seed production, (4) tomato hybridization, (5) strawberry breeding.

The HCRS aims to develop improved varieties of economic crops and produce seeds for mass production.

Research Income

	Amount Remitted (P)
NPRCRTC	
c/o E.T. Balaki	3,088.00
HORTI	
c/o P.B. Alipit	6,164.00
c/o P.B. Alipit/ B.S. Tad-awan	2,074.00
c/o B.S. Ligat	5,200.00
c/o E.V. Cardona, Jr.	2,540.00
c/o L.G. Lirio	712.00
Sub-total	16,690.00
HAFI	
c/o B.B. Dimas	27,681.00
GRAND TOTAL	47,459.00

Special Project Agricultural Technology Education Project

The Agricultural Technology Education Project (ATEP) or simply Agritech Project, became operational in 1989. It is a nationwide project whose main objective is to produce technically equipped agricultural entrepreneurs. Its operation is under the auspices of the Education Development Project Implementing Task Force (EDPITAF) of the DECS. It is supposed to be instrumental in the rationalization of the Agricultural Education System in the Philippines.

ATEP follows a hierarchical structure where there is a National Agricultural College (NCA) followed by Zonal Agricultural College (ZAC) then the Regional Agricultural Colleges (RAC) and Provincial Technical Institutes of Agriculture (PTIA). BSU belong to the category of a RAC. As such, it is tasked among others, to do research primarily on verification trials as well as to package technology aside from its major role to help two PTIA's upgrade their technical capability. The BSU-ATEP is headed by a designated Project Supervisor. Under him is also a designated Research Coordinator and three full-time staff (contractual) and a volunteer from the Phil. National Service Coordinating Agency. For the year 1991, this project has the following accomplishments and activities:

Research

Completed

- a. Survey on the Agricultural Needs of the Cordillera Region.

On-going

- a. Strawberry Evaluation Trials
- b. Potato Verification Trials (fertilization)
- c. Verification Trial on the Artificially and Naturally-Inseminated Native Pigs

Proposed Researches

- a. Verification Trials on Potato Production Using Stem Cuttings as Planting Materials
- b. Strawberry Selection Trials
- c. Chrysanthemum Production Verification Studies
- d. Biological Control of DBM on Chinese Cabbage/Cabbage
- e. Technology Piloting on the Performance/Sustainability of Upgraded Swine Under Different Feeding Systems
- f. Technoverification on Native Chicken Production and Improvement in the Cordillera Region
- g. Verification Trials on Cattle Upgrading and Production
- h. Verification Trial on Weanling Production
- i. Village-Based Mushroom Researches in the Highlands
- j. Gladiolus Production Verification Studies
- k. Verification Trial on Integrated Swine-Vegetable Farming System
- l. Shasta Daisy Production Verification Studies

Extension

- a. Assisted the Ilocos Sur Agricultural College and Rizal College of Agriculture and Technology at Tanay, Rizal in Planning and setting some of their verification studies.
- b. Preparation of technopackages and technoguides will soon be started.

Production

- a. Production plan is already in place but is not yet started due in part to lack of area to be used.



EDPITAF Executive Director Dr. Achilles del Caltar with his wife and BSU-ATEP staff member on his visit to BSU.

Extension Services

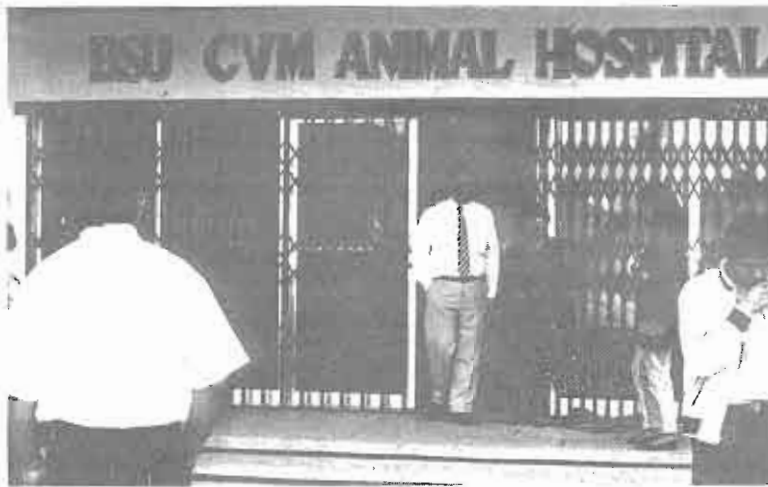
The University operationalizes its extension mandate which is "to bring the University to the villages" by working directly with its target clientele who are the farmers, housewives, out-of-school youths, development agents, extension workers, and some specialized groups.

Mature technologies and economic and farm management practices have been delivered/disseminated through farm visits, trainings, seminar-workshops, meetings, demonstration, exhibit, tours and mass media.

Through the Extension and Training Office, the extension services rendered by the University to various clientele for the year 1991 include the distribution of assorted forest tree seedlings undertaken by College of Forestry; dispersal of sweet potato cuttings and taro corms by the Northern Philippines Root Crops Research and Training Center (NPRCRTC); and conduct of relevant trainings and lectures by the different institutes/colleges (Tables 16 & 17).

The Plant Protection Clinic of the College of Agriculture Crop Protection Department took charge in identifying plant diseases and pests brought in by farmers and made recommendations on how to control them. Likewise, the Animal Clinic under the College of Veterinary Medicine rendered services to animal raisers like deworming, breeding, care and management and control of animal diseases. Also, soil experts from the College of Agriculture, Department of Soil Science made analysis on different soil samples and made recommendations on fertilizer application and usage.

Personal technical assistance was likewise augmented by distributing different publications like Gold-



(Top) Farmers' interaction on farming activities is one major concern of the University's Extension Service to determine their needs and problems related to agriculture.

(Middle) The Dean of the College of Veterinary Medicine as she shows the facilities of the BSU-CVM Animal Hospital to DBM-CAR Regional Director Ricardo Hipolito.

(Lower) Doctor of Veterinary Medicine Students vaccinate a German Shepherd dog as a part of the extension service of the BSU-CVM Animal Hospital.

en Root Newsletter, BSU Newsletter, Research and Extension Bulletin and Handouts/Brochures prepared by Root Crops, Extension and Training Office and the different colleges of the University to target clientele.

Table 16
Training Services Rendered and Number of Clientele Served

TRAINING	NO. OF CLIENTELE	DURATION	PARTICIPANTS	DEPARTMENT INVOLVED
1. Chayote Fruit, Ube Jam and Candy Processing	31	Feb. 26,28, 1991	Housewives	DAE
2. Fruit and Vegetable Processing	27	March 9-10, 1991	Housewives	DAE
3. Fruit Processing	19	March 28-29, 1991	Housewives	DAE
4. Meat Processing	20	Oct. 10, 1991	Housewives	DAE
5. Leadership Trainings	120	Oct.-Nov, 1991	Farmers/Housewives	DAE
6. Environmental Conservation	80	Aug. 12-13, 1991	Youth	DAE
7. Audio-visual Preparation for the Delivery of Technical Info	30	Sept.- Nov. 1991	Instructors	ETO
8. Farmers Consultation	80	Aug. 6, 1991	Farmers	ETO
9. Seminar on SMP/DENR	60	Nov. 5-6, 1991	Technicians	COF
10. Ubi Production Technology	43	Apr.-Aug., 1991	Farmers	DAE
11. Interagency Planning Consultation	30	Dec. 1, 1991	Prov'l Dev. Offcr./PAO's	ETO
12. Hog Production Seminar	25	Apr. 7, 1991	Coop. members	CVM

Legend: DAE - Department of Agricultural Extension ETO - Extension and Training Office CVM - College of Veterinary Medicine COF - College of Forestry



BSU researchers as they establish a Citrus Pilot Farm on a farmer's field in Los-oc, Tublay and Sablan, both in Benguet.

Table 17
Other Extension Services Rendered in 1991

SERVICE	DURATION	INVOLVED
A. LECTURE		
1. Livestock Production	Mar. 23-24, 1991	M.B. Atinyao
2. Swine Management	Apr. 5-6, 1991	M.B. Atinyao
3. Swine Production	Nov. 6, 1991	M.B. Atinyao
4. Farming Systems	Jan. 14-19, 1991	F.T. Bawang
5. Postharvest on Potato	Nov. 9-11, 1991	F.T. Bawang
6. Farming Systems	July 1-15, 1991	S.L. Kudan
7. Fertilizers and Fertilizer Applications	Sept. 27, 1991	S.L. Kudan
8. IPM on Highland and Lowland Vegetable	Sept. 23, 1991	B.S. Ligat
9. Crop Production Management and Oyster Mushroom Cultivation	May 6, 1991 & Jun 6, 1991	B.S. Tad-awan
10. Farming Systems	Jan. 28-Feb. 1, 1991	F.T. Bawang
11. Mushroom Production as Viable Science Project for Elementary and Secondary Students	July 1991	J.S. Luis
12. Major Diseases of Yam	Dec. 4, 1991	J.C. Perez
13. Career Orientation	Feb. 25-26, 1991	L.C. Balaoing
14. Career Orientation	Feb. 27, 1991	E.G. Aoas
15. Career Orientation	Feb. 28, 1991	J.R. Alonzo
16. Career Orientation	March 1, 1991	M.G. Sison
17. Career Orientation	March 5, 1991	R.T. Garcia
18. Mushroom Production Project Formulation		J.S. Luis
19. Control of DBM Using Parasitoid		E.V. Cardona, Jr.
20. Release of Diadegma for the Control of DBM		E.V. Cardona, Jr.
21. Diagnosis of Various Plant Diseases		A.L. Nagpala
22. Diagnosis of Diseases of Yam Bacterial		Wilt J.C. Perez
23. Disease Management of Highland and Lowland Vegetables		B.S. Tad-awan
24. Farming Systems Structures and Non-Structures Farm Surveys		F.T. Bawang
25. Anthurium Production		A.G. Ladilad
26. Cutflower Production		B.D. Ladilad
27. Potentials of Fruit Crop Commercialization in the Cordillera		A.C. Tipayno
28. Mushroom Development in the Cordillera		J.S. Luis
29. Mushroom Production in Benguet		J.S. Luis
B. Vaccination		
1. Hog Cholera Vaccination	Feb. 18, 1991	CVM
2. Anti-rabies Vaccination	Oct. 6-8, 1991	CVM
3. Anti-rabies Vaccination	Oct. 27, 1991	CVM
4. Anti-rabies Vaccination	Dec. 8, 1991	CVM

Legend: CVM - College of Veterinary Medicine

Production Projects

The income-generating projects of the University are composed of the Food Processing Center, Bakery Project, the RSDC Cafeteria and the different Agri-business projects. The Business Affairs Division (BADi) is mandated to streamline and systematize all income-generating projects of the University toward maximizing production and efficiency in the collection of sales, proceeds of production and services derived from the University assets.

BSU Cafeteria

The BSU Cafeteria services the personnel and students of the University and visitors from nearby offices such as the PNB, Provincial Capitol, DECS-CAR,

Benguet General Hospital, PTRI and DOST-CAR. The number of daily customers ranges from 100-150 people. Aside from waiting on daily customers, it also offers catering services to the public and private agencies.

Aside from being an income-generating project, the BSU Cafeteria basically serves as the University's training ground for its BSHE and BSND students and students from nearby universities sent for internship and on-the-job training prior to their graduation.

For the year 1991, it generated a gross income of P2,061,699.05 and a net income of P168,119.00 compared to last year's P1,809,843.00 and P227,521.34 respectively. The net income decreased by 26.11% this year (Table 18). The decrease in net income of the Cafeteria was mainly attributed to the decreased number of caterings during the year, giving of the Personnel Economic Relief Allowance (PERA) to the workers being paid by the project as mandated by law and the payment of separation pay of one personnel who resigned.

BSU Food Processing Center and Bakery Project

The BSU Food Processing Center (FPC) and Bakery Project produce various products for University and community consumption. They basically serve as the University's training ground for its students majoring in Food Industry and for students from nearby universities undergoing internship and on-the-job training prior to their graduation.

Some of the products of the FPC are: fruit cocktail, PIPA jam, guava jelly, strawberry jam, wine vinegar, peanut butter, peanut brittle, peanut adobo, ube jam, nata de coco and candies. The bakery produces different sizes of loaves, cinnamon loaves, cheese rolls, pandecoco, buns, cinnamon square, pandesal, ubi rolls and peanut bars. It also accepts orders for cakes for especial occasions.

Fresh strawberries and blue berries were processed for BAPAI for its Manila-based buyers such as Dunkin Donuts Inc., Griffiths, CMC, SMS-Magnolia Division.

For the year under review, the Food Processing Center registered a total Gross Income of P506,758.60 and a net income of P186,073.01 compared to last years P653,491.01 and P111,443.07 respectively. Despite the decrease of gross income figure this year, the FPC was still able to realize an increase profit of 40% due to the lower expenses incurred. On the other hand, the Bakery Project had a gross income of P1,076,505.85 and a net income of P253,396.25 which also registered an increased income of 40.5% com-



Students from different schools tour the Food Processing Project.

pared to last year's P801,384.10 and 150,567.75, respectively (Table 18).

The building which houses the FPC is still under repair as this had been damaged by the July 1990 earthquake. A drying deck and an office extension are also being constructed.

Other Income-Generating Projects

The University is undertaking other income-generating projects in addition to the projects presented above.

Table 18
Net Income of Projects Under Revolving Fund, 1991

PROJECT	PROJECT MANAGER	GROSS SALES	EXPENSES	NET PROFIT
RSDC Cafeteria	L.C. Balaoing	2,061,699.05	1,893,580.05	168,119.00
Food Processing Center	R.Abastilla	506,758.60	320,685.59	186,073.01
Bakery Project	R.Abastilla	1,076,505.85	823,109.60	253,396.25
Strawberry Project	R.D. Paing	318,979.39	185,050.80	133,928.59
Vegetable Project	S.R. Bangcado	230,828.00	182,949.00	47,879.00 ^a
Vegetable Project	S.R. Bangcado	210,246.00	123,050.00	87,196.00 ^b
Floriculture				
P-1 (Greenhouse)	B.D. Ladilad	24,476.00	0.00	24,476.00
P-2 (Field Area)	B.D. Ladilad	4,443.00	0.00	4,443.00
Swine Project	M.B. Atinyao	242,655.00	126,965.00	115,690.00
Strawberry Project	G. Bifango	5,470.00	122,351.00	(116,881.00) ^b
Poultry Project				
Flock I	J.K. Feleciano	1,747,943.25	1,495,710.27	252,232.27 ^c
Flock II	J.K. Feleciano	1,596,777.90	1,488,473.47	108,304.43
Flock III	J.K. Feleciano	1,210,806.35	1,148,171.35	62,635.00
Seed Production Project				
Second operation	S.L. Kudan	80,095.00	51,121.50	28,973.50 ^d
Third Operation	S.L. Kudan	-	84,689.00 ^b	-
Engineering Canteen	L.C. Balaoing	184,827.30	139,961.20	44,866.10
Chayote Project	A.L. Nagpala	No reports	-	-
Dairy and Cattle	A.V. Castrence	No reports	-	-
Orchid Culture	V.D. Alejandro	1,065.00	0.00	1,065.00
Pomology	A.C. Tipayno	6,050.00	0.00	6,050.00
Agro-Forest	B.B. Dimas	27,681.00	0.00	27,681.00
Oyster Mushroom Project	B.S. Tad-awan	32,771.00	23,829.50	8,941.50

^a From 1990 to 1991

^b On-going, 1991-May 1992

^c Report from January 1990 to April 1991

^d Report from October 1990 to April 1991

Table 19 summarizes the gross sales, expenses and net income of the projects as reported by the Business Affairs Division (BAdi) and audited by the Internal Control Office (ICO).

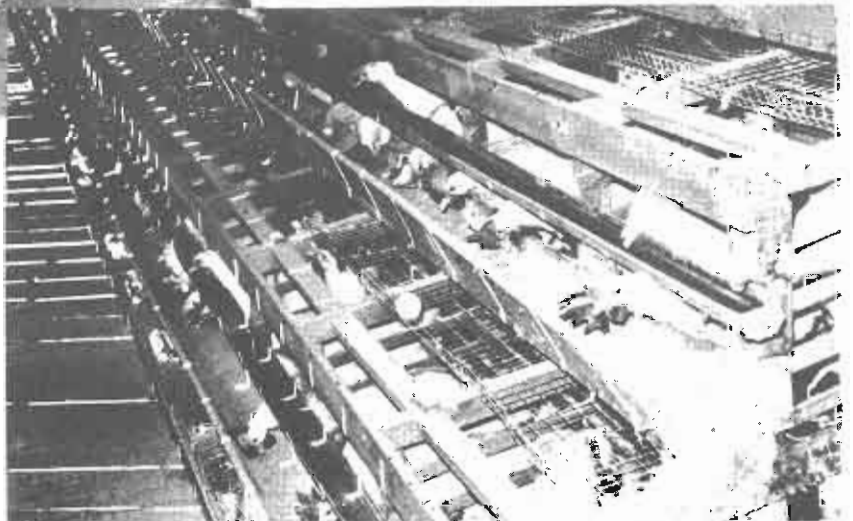
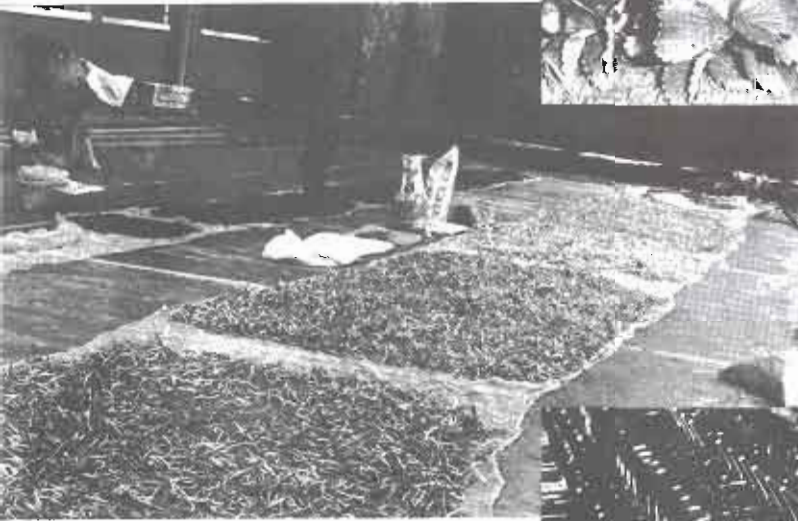


The BSU Bakery Project

Table 19
Net Income of Projects Under General Fund, 1991

PROJECT	PROJECT MANAGER	GROSS SALES	EXPENSES	NET PROFIT
Floriculture P-3 (Research)	B.D. Ladilad	0.00	107,572.50	(107,572.50)
FAHP Canteen	M.C. Porte	7,195.49	0.00	7,195.49 ^a
Agri-Mechanics	A.L. Paran	1,689.00	0.00	1,689.00
BAPAI	BAdi	107,558.64	0.00	107,558.64 ^a
Stall Fees	BAdi	1,668.00	0.00	1,668.00
Cut - grasses	BAdi	420.00	0.00	420.00
SWAVIS-GRASS	BAdi	147,532.51	0.00	147,532.51
Sariling Sikap	BAdi	74,619.02	0.00	74,619.02
Farming Program	S.K. Aben	8,033.96	0.00	8,033.96 ^a
	A.A. Basalong	4,660.32	0.00	4,660.32 ^a
	R.M. Bocalan	12,187.45	0.00	12,187.45 ^a
	H.K. Bolinto	10,088.20	0.00	10,088.20 ^a
	J.P. Botengan	9,836.55	0.00	9,836.55 ^a
	R.M. Macli-ing	14,328.38	0.00	14,328.38 ^a
Research/Thesis	S.L. Kudan	4,429.38	0.00	4,429.38
Vet. Med Clinic	A.V. Castrence	9,442.00	0.00	9,442.00
Research and Technology	c/o P.B. Alipit	16,690.00	0.00	16,690.00
Root Crops Project	c/o E.T. Balaki	3,088.00	0.00	3,088.00 ^a

^aSchool share, SY 1990-1991



*(Top) Vegetable production project.
 (Middle) Strawberry production project.
 (Above) Seed production project.
 (Right) Poultry production project.*

Table 20 shows the summary of income derived from the various operations and services of the University.

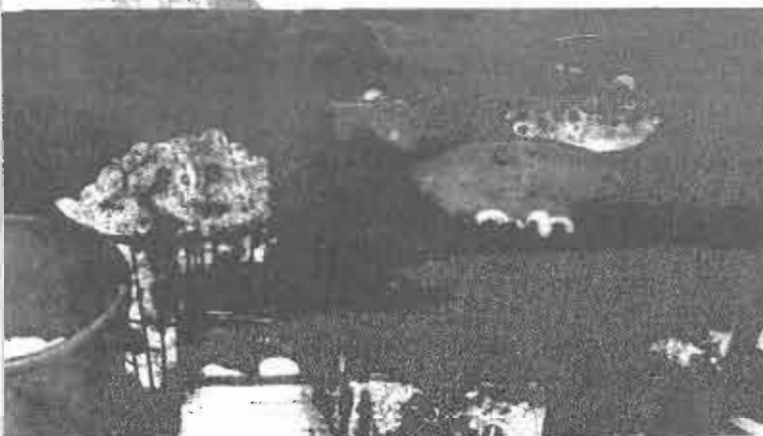
Operating and Service Income

Apart from the income generated by the different income-generating projects, regular income were also derived from various institutional operations and services of the University. For the calendar year 1991, a total of ₱3,361,359.90 was collected out of school fees, school share, building and lot rentals, dormitory fees (women's and men's dorm), water/electric bill and room rentals in the Guestel, and others.

The projected income presented in the 1991 budget preparation was placed at ₱2,017,000.00, however, the actual collection for the whole year of 1991 reached ₱3,361,359.90 which exceeded projection by ₱1,344,359.90 or 66.65% higher than the target collection for 1991.

Table 20
Summary of Operating and Service
Income of the University for CY 1991

ACCOUNT	INCOME
Tuition Fee	₱1,369,964.05
Adding/Changing/Dropping	8,915.00
Athletic Fee	54,509.00
Certification Fee	15,649.00
Diploma Fee	19,305.00
Dormitory Fee	
(Men's and Women's Dormitories)	178,211.00
Entrance Fee	42,825.00
Guestel	66,677.50
Identification Cards	23,257.00
Laboratory Fee	401,274.25
Late Registration Fee	7,748.00
Library Fee	208,043.00
Matriculation Fee	103,670.25
Medical/Dental Fee	120,035.25
Miscellaneous Income	25,910.00
Official Transcript of Records	11,141.00
Out-of-State Fees 90,	718.88
Rental (Building)	29,399.63
Rental (Lot)	501,759.04
Remittance/School Share	30,050.82
Validation Fee	12,149.00
Water/Electric Bill	40,148.23
	3,361,359.90



The Poultry Production project approximately produces 500 to 583 dozens of poultry eggs daily during peak production period.

Office of the University Vice-President

The Office of the University Vice President (OUVP) assisted the University President on the general administration and supervision of the overall operation of the University. As per Board of Regents resolution, the University Vice President acted as officer-in-charge of the institution in the absence of the President.

During the year under review, the OUVP supervised and coordinated the activities of the General Administrative Services Division, Financial Services Division, Planning and Development Office, Land Reservation Office, Business Affairs Division and Office of the General Services. The Office continued its tasks of promoting administration efficiencies and the elimination of red tape by acting on at least 90 percent of the vouchers and other routinary matters and attended to 50 percent of the problems and non-routinary matter in behalf of the University President.

As Chairman of the Selection and Promotion Board and other AdHOC Committees, the UVP initiated the strict implementation of the recruitment and promotion policies approved by the Civil Service Commission; coordinated and supervised other activities such as security of the University, dialogues and investigation of administrative cases; and conducted pre-qualification bidding and awarding of the University's infrastructure projects including its rehabilitation programs.

General Administration

Just like the other chartered state universities and colleges of the country, Benguet State University is administered by the Board of Regents with the Secretary of Education, Culture and Sports, represented by Dr. Luis R. Baltazar, Undersecretary of DECS, as Chairman; Dr. Lucio B. Victor, BSU President as Vice-Chairman; and Arch. Joseph M. Alabanza, NEDA-CAR Regional Director and two prominent citizens (not yet appointed) as members.

Office of the University President

The leadership of the University lies in the President who is the chief executive of the University. He is assisted by the University Vice President, two designated Vice Presidents: VP for Academic Affairs and VP for Research and Extension; the Administrative Council and the University Council. The Administrative Council chaired by the University President is composed of the Vice Presidents, deans, directors and heads of units. It is the administrative council that prepares and promulgates policies governing personnel, financial management and development planning subject to the approval of the Board of Regents. The University Council which is also chaired by the President consists of the Vice Presidents, deans, directors, heads of departments and all faculty members with the rank of Assistant Professors or higher. The council is responsible for approving academic matters affecting the college including the offering of courses, admission and graduation of students.



The Benguet State University Administration Building.

Planning and Development Office

In line with the goal of working towards a stronger institutional commitment and development, the Planning and Development Office (PDO) coordinates with various offices of the institution in planning, monitoring and evaluating programs, projects and activities of the institution.

For the year 1991, the PDO represented the University in various planning and development seminars/workshops both in the provincial and the regional levels. The office prepared quarterly progress reports of the different projects of the University and submitted them to the National Economic Development Authority (NEDA).

The 1990 Annual Report of the University was compiled and printed by the Office. It was also assigned to evaluate the different committees during the 1991 commencement program, results of which was presented and discussed during the Administrative Council meeting.

On the other hand, the Management Information System (MIS) which is under the PDO collected and compiled the enrolment and graduation figures of the different curricular programs in all levels from 1984 to 1991. The profile of the faculty and supportive staff was likewise updated, even as the utilization of building and rooms was monitored.

The MIS accomplished reports as requested by other schools and agencies which include the DBM, NCSO, PUP, NAES and others.

Legal Office

The primary functions of the Legal Office are to provide the institution and its constituents legal assistance in the formulation, interpretation and implementation of University rules and regulations; to represent the University in courts where legal actions are initiated for or against the University; to handle investigation of administrative cases involving University personnel and students and, when deemed necessary, recommend disciplinary actions; and to study and advise the University President on the status of legal cases involving the landholdings of the University.

For the year 1991, the office represented the University in three pending cases before the Regional Trial Court. These are Civil Cases No. 90-CV-0526, 91-CV-0552 and 91-CV-0557.

Being the chairman of the BSU Investigating Committee, the Legal Officer also conducted interviews, investigations and ocular inspections anent reported thefts and losses in the University campus.

Office of General Services and Physical Plant

This office is composed of nine sections which takes charge of the janitorial, sanitation and campus drainage, electrical, transportation, landscaping and ground improvements, repair and maintenance and water sewerage system services of the institution. It also coordinates the different construction of buildings and fencing of boundaries of the University.

During the year 1991, the office has completed the repair and rehabilitation of 26 buildings which were damaged by the 1990 earthquake and the strong typhoon Trining. It also attended to numerous job requests from the different offices of the University.



(Above) A portion of the damaged University Road is being repaired. (Lower) The University Library Building after it was rehabilitated from the damage wrought by the July 1990 earthquake. Other buildings and structures were likewise repaired with the release of P 25.6 million rehabilitation fund for the university.

Among these are: the construction of storage room at the Root Crops Center, guard house, cottage for the poultry project and several furniture including repair of various facilities in the University.

Office of the University and Board of Regents Secretary

The Office of the University and Board Secretary functions in pursuance to Sec. 15 of the University Charter - P.D. No. 2010, and by virtue of the provisions of the University Code as approved by the Board of Regents.

As a line and staff officer under the office of the University President, the University Secretary is functionally involved/directed to prepare memoranda, circulars, bulletins, and other internal or external communications. It is also a part of his duties and responsibilities to inform the members of the faculty and staff of various policies, and rules and regulations recommended by the University Board of Regents.

During the year under report, the Board of Regents held six meetings. It passed/adopted 63 vital resolutions that bear on policies, and on the implementation of various programs and projects, principally related to instructional, research, extension, and production functions of the University.

In relation to policies governing academic/instruction programs of the University, the Board gave due course to the following concerns: (1) opening of a doctoral degree, major in education; (2) Contract Affiliation or Consortium between the Benguet State University (BSU) and the Benguet General Hospital (BGH) in the matter of training student nurses from the College of Nursing; and (3) graduation of 682 candi-

dates for doctoral, master's, and baccalaureate degrees, and Certificate of completion in the Secondary Courses.

Special Cultural Office

The Special Cultural Office was created by virtue of Presidential Decree NO. 2010 dated January 12, 1986 converting the Mountain State Agricultural College into Benguet State University to gather, collate and synchronize the teaching, preservation and integration of the socio-cultural heritage of the various tribes of the mountain region into a national milieu.

During the year 1991, the office has put-up a "Humanities Learning Center" which houses some art works and publications donated by local and foreign art enthusiasts. The Center has also acquired a TV set.

Several publications about the Cordillera and its people were solicited aside from those donations given by the Embassies of Japan and People's Republic of China and from the private sector. The Museum and the Cultural Library served the needs not only of the BSU faculty and students but also that of the community insofar as culture is concerned.

Land Reservation Office

During the year under review, the Land Reservation Office which is mandated to take charge of establishing definite boundary lines and technical description of the present landholdings of the University and to initiate proper utilization and acquisition of land needed for the various envisioned programs of the institution accomplished various tasks in line with its functions. This office coordinated with a representative of the Japan International Cooperation Agency (JICA) and a representative of the La Trinidad Municipal Council in conducting a contour survey of the proposed site of the Integrated Solid Waste Management Project, a joint undertaking of the Municipality of La Trinidad, Baguio City, and Benguet State University, situated at BSU Lot 2, Talingoroy, Wangal, La Trinidad, Benguet.

It investigated and reported incidents of illegal quarrying and construction of houses/improvements within the University to the University President. It also issued 58 certifications of status of lands situated inside, outside or adjacent to BSU school sites in La Trinidad. Likewise, the boundaries of the school sites were relocated by this office for perimeter fencing. It assisted the contractors in fencing certain sites.

Internal Control Office

The Internal Control Office (ICO) is a management tool designed to help the University accomplish its objective towards the attainment of economy, effec-



Irrigation facility constructed by the Highland Integrated Rural Development Project, a JICA assisted project within the university's production farms at the swamp area.

tiveness and efficiency in the use of government resources and delivery of basic services. It is charged to review procedures, systems and processes employed in the various stages of operation in order to ascertain and evaluate the effectiveness of these systems and to recommend/introduce improvements to the existing system through authorized management. Towards this end the office accomplished different activities for the year under review as presented in Table 21.

Aside from the aforementioned activities, the ICO-conducted cash counts; reviewed disbursements covering payments of salaries and wages; supplies and materials, equipment and capital outlays and financial reports. It also participated in the inspection of deliveries; disposal of government property; death/damages to animals and crops. The ICO also took part in the activities of the BAC and the PBAC and in the evaluation of existing systems of operation.

General Administrative Services Division

In accordance with the organization of the Benguet State University, the General Administrative Services Division is directly under the Office of the University Vice President which is composed of four offices, namely: the Human Resource Management

Table 21
ICO ACTIVITY for 1991

ACTIVITY	QUANTITY
A. Vouchers reviewed	
a. General Fund	2,699
b. Revolving Fund	357
c. Other trust Funds	344
B. Monthly Statement of Accountable Forms Reviewed	
a. Official business stamps	12 sets
b. Government checks	3 sets
c. Official Receipts/ Cash Invoices	12 sets
C. Monthly Financial Reports Reviewed	
a. Collection Reports	24 sets
b. Check Disbursement Reports	24 sets
c. Cash Disbursement by Disbursing Officer	24 sets
d. Bakery	12 sets
e. Cafeteria	12 sets
f. Eng'g. Canteen	12 sets

Office, Supply Management Office, Records Management Office, and Administrative Support Service Office.

The division is responsible in performing the following functions: (1) to implement the laws, policies, plans, programs, rules and regulations of government pertinent to the general administration of the University's mandates and operations, (2) to ensure the delivery of educational services through effectiveness, efficiency and economy, and (3) to evaluate, monitor, continuously supervise the implementation of systems and procedures and the progressive institution of improvements of the systems and methods for better productivity of the service under the Government Productivity Improvement Program (GPIP) in coordination with other trained, expert and knowledgeable officers and higher authorities in terms of performance, service delivery, administration of time, funds, machines, equipment, supplies, and other government resources.

The General Administrative Services Division had significant accomplishments for CY 1991, namely:

- (1) Instituted improvements on regular and emergency procurement systems for facilitation of delivery of commodities to the end-users with concerted efforts of adherence to internal control measures towards the avoidance of the commission of irregularities, violations of pertinent laws, rules and regulations, manipulations, and fraud in transactions,
- (2) Very satisfactorily maintained the payroll keeping for prompt payment of salaries and wages and other compensation benefits of all University personnel,
- (3) Continuously monitored the up-to-date preparation and remittance of employee shares to the GSIS, TAG-IBIG, BIR, PPSTA & PAVE in compliance with the prescribed target dates of agencies concerned,
- (4) Enhanced and progressively monitored the collection of income from production projects, building and facilities utilization rentals, water and electric fees, and others for improvement of government resources,
- (5) Performed on-the-spot inspection and/or monitoring of the utilization and consumption of supplies and materials to minimize over requisitioning or overstocking, and also to minimize extravagant overflow of funds,
- (6) Strictly monitored and controlled the use of government vehicles during official travels through a systematic procedure, and as much as possible to maximize use thereof per trip by enforcement for a "car pool" mechanism as well as proper scheduling of trips and the provision of fuel needed for a trip, which as shown through the average monthly consumption of P20,000.00 or P240,000.00 annually compared to previous years' (1980-1986) average monthly expenditures of P60,000.00 or P720,000.00 annually, showing a difference of P480,000.00 wa-

stage/loss of government fund per year incurred in the early '80s.

- (7) Adopted a continuing strict supervision and close monitoring of the execution of systems and procedures in the administration of resources; and instituted immediately the corrections on errors and violations incurred by officers and employees on these systems and procedures to insure the efficient and effective utilization of resources and delivery of services to the maximum but at least cost.

Supply Management Office

The main function of this Office is the supervision and management of the supply and property operations of the Institution.

During the year under review, this office has focused its activities on its main functions: (1) procurement of supplies, construction materials and equipment, (2) inventory of property, (3) disposal of expendable and semi-expendable supplies and materials, (4) inventory and inspection report of unserviceable equipment, (5) repair of motor vehicles for the University, (6) inventory of books and equipment donated by the USAID, ASAP and Asia Foundation, and (7) attending to administrative matters.

The accomplishment of this office is itemized in Table 22.

Human Resource Management Office

The Human Resource Management Office's (HRMO) main task is centered on personnel management which includes updating/preparation of appointments, salary adjustments, employee's claims/benefits and personnel research. The office is also responsible in maintaining effective liaison with the Civil Service Commission - Cordillera Administrative Region (CSC-CAR) and other agencies.

As shown in Table 23, there were 18 appointments which were worked out with the CSC-CAR during the year under report. Of this number, four were original, four reinstatement/reemployment, nine permanency and one for transfer. For the non-itemized positions there were 60 appointments issued for 1991.

During the year when the National Compensation Circulars Nos. 65 and 33 were approved for implementation effective July 1, 1989, there were 139 (75 under NCC 65 & 64 for NCC 33) faculty members who benefited from the approval of the two Circulars as reflected in Table 24.

On the other hand, 46 non-teaching personnel were also granted salary adjustments under the Budget Circular # 3 as a result of the final Position Allo-

cation List on Salary Standardization Appeal effective July 1, 1989 while 267 personnel were given salary adjustments under Joint CSC-DBM Circular # 1.s. 1990.

Records Management Office

The Records Management Office is the central registry office which is responsible in maintaining effective-

Table 22
Accomplishment Report of Supply and Management Office

TASK ACCOMPLISHED	QUANTITY
Purchase Request Approved	732
Local Canvass made	732
PO Prepared and Approved	1,119
Reimbursement Vouchers made	23
Commercial Vouchers Prepared	1,147
RIV's Made and Approved	732
Inventory General Fund	1
Inventory Revolving Fund	1
Inventory Donations	2
Relief of Property Responsibilities	6

Table 23
Number of Appointments for 1991

Nature of appointment	Faculty	Non-Teaching	Total
Original	4		4
Reinstatement/re-employment	3	1	4
Permanency(from temporary to permanent)	6	3	9
Renewal	1		1
TOTAL	14	4	18

Table 24

NATURE	No. of Personnel	
	Faculty	Non-teaching
National Compensation Circular #65	75	
National Compensation Circular #33	64	
Budget Circular #3 (Final Position Allocation list on Salary Standardization Appeal 46		
Joint CSC-DBM Circular #1, s. 1990 - effective Jan. 1, 1990	10	8
- effective July 1, 1990	63	36
- effective Jan. 1, 1991	1	25
- effective July 1, 1991	79	45

ness, efficiency and economy in handling, safeguarding, keeping of records and ensuring a systematic operation for a smooth flow of written incoming and outgoing communications. It also serves the documentary information and reference requirements of management and other agencies with official transactions in the University including the general public.

For the year under review, the office accomplished the different activities presented in Table 25.

The section also maintains a document monitoring system for correspondence and provides pick-up and delivery service for incoming and outgoing mails.

Staff Development

The Administrative staff of the University were given the opportunity to attend various seminar-workshops, conferences and symposia to improve their efficiency and effectiveness. Among those who participated in different trainings conducted are listed in Table 26.

Physical Resource Improvement

For the year 1991, the University has given priority to the improvement of its infrastructure and physical resources in order to meet the needs for necessary structure in support to its four-fold functions.



BSU Administration officials . . .

During the year under report, 26 buildings damaged by the July 16 earthquake and Typhoon Trining were repaired/rehabilitated.

Other infrastructure improvements were undertaken particularly in the College Building wherein the space previously occupied by the College of Forestry was converted into classrooms provided with collapsible partitions. When partitions are removed, the classrooms can serve as a multi-purpose hall.

In the Secondary Training Department, 80 arm chairs and 12 windows including destroyed gutter in the Vocational Agriculture Building were repaired by practical arts students. Four steel door gutters were

Table 25
Accomplishment report of the Records Management Office

Activities	Quantity
A. Flow of Communication	
1. External incoming correspondence	1,606
2. Internal incoming communications	508
3. Internal outgoing communications	216
4. External Outgoing communications	1,272
5. Telegrams	25
B. Circulation of Memoranda, circulars, notices, etc.	
1. Administrative Memorandum	490
2. Office Memorandum	3,200
3. Special Order	747
4. Memorandum for individual employees, Committees and general memos	1,153
5. Notice of Meetings	60
C. Xerox Copier Operation	685,351
D. Telephone Operation	25 to 30 calls/day
E. Records Keeping	1 copy per document
F. Records Disposition	



... and staff participate in the University's drive for greening and cleanliness.

likewise constructed and installed at the Principal's Office and Home Economics Building. Others include the painting of blackboards and installation of more lights in classrooms occupied by the College of Arts and Sciences.

Several laboratory equipment and office supplies were also acquired by the seven colleges during the year.

Table 26
Training Courses Attended by the Administrative Staff, 1991

Training Courses	Name of Personnel		Sponsor	Duration
Seminar on Personnel Selection /Promotion Process	Buasen, Carlos T. Alipit, Percival B. Ramos, Estrella A. Baniwas, Tranquilino B.	Perez, Ursula C. Hufana, Esther R. Esteban, Emilia M.	CSC-CAR	January 22, 1991
Advanced Leadership and Employee Relations Training (ALERT)	Costina, Sherilyn			June 4-10, 1991
Regional Assembly	Victor, Lucio B. Cuitilen, Edith B. Baniwas, Tranquilino B.	Ramos, Estrella A. Esteban, Emilia M.	CSC-CAR	
Alay sa Bayan (ALAB) Induction Program, Class III	Bengwayan, Grace T. Denis, Romeo B.	Bayawa, Arsenia L.	CSC-CAR	Aug. 12-15, 1991
National Assembly	Victor, Lucio B.	Ramos, Estrella A.		Sept. 18-20, 1991
Seminar-Workshop on Records Management	Limpin, Victoria L Salvador, Carmen H.	Bengwayan, Grace T.	CSC-CAR	Sept. 25-27, 1991
Alay sa Bayan (ALAB) Induction Program, Class IV	Carantes, Nancy G. Padsingan, Jerome C.	Demot, Natividad R.	CSC-CAR	Nov. 4-7, 1991
Values Orientation Workshop (VOW), Class IV	Limpin, Victoria L Sison, George R.	Alagao, Ludivina Tabilas, Maribel	CSC-CAR	Dec. 3-6, 1991
Pre-Retirement Counselling Course	Alciso, Jose B. Marquez, Josefina Esteban, Emilia M.	Batcagan, Lawana Bodia, Sansera B. Rapuso, Mary Joy S.	CSC-CAR	Dec. 10-12, 1991
National Conference on Public Personnel Administration	Ramos, Estrella A.		CSC-CAR	POAP

Annual Budget and Expenditures

For Calendar Year 1991, the Benguet State University received an allotment from the National Government in the amount of P49,772,845.00 under the General Fund (Fund 101) and P25,631,391.00 under the Rehabilitation Fund (Fund 109).

REHABILITATION FUND (109)

A. Repair/Rehabilitation Project:	
1. Elevated Water Tank	500,000
2. Agri-Science Building	999,000
3. Research Lab. Building (ATEP)	199,980
4. College of Agriculture Building	249,950
5. Motor Pool Extension Building	55,942
6. Home Management Building	499,950
7. Agri-Economics Building	99,990
8. Perimeter Fencing	599,940
9. Agricultural Engineering Building	499,950
10. Elementary Laboratory Building	999,000
11. NPRCRTC (Root Crops Building)	499,950
12. Closed Gymnasium	496,192
13. Library Complex Phases I and II	2,230,022
14. Roads and Bridges	2,998,800
15. Open Auditorium	199,980
16. Teacher's Training Center	349,965
17. Men's Dormitory	349,965
18. Comfort Rooms at Open Gym	10,000
19. Women's Dormitory	293,910
20. Piggery House	199,980
21. Laundry Building	24,998

GENERAL FUND (101)

1. Current Operating Expenditures:	Personal Services	MOOE	Total
1.1 General Adm. & Support Services	7,162,040	2,887,000	10,049,040
1.2 Admin. of Personnel Benefits	2,947,837	-	2,947,837
1.3 Salary Standardization	3,572,968	-	3,572,968
1.4 Advanced Education Services	3,316,000	175,000	1,491,000
1.5 Higher Education Services	9,424,000	1,410,000	10,834,000
1.6 Secondary Education Services	6,059,000	324,000	6,383,000
1.7 Elementary Education Services	1,720,000	245,000	1,965,000
1.8 Research Services	3,688,000	955,000	4,643,000
1.9 Extension Services	816,000	290,000	1,106,000
1.10 Auxiliary Services	2,560,000	285,000	2,845,000
Sub-total	39,265,845	6,571,000	45,836,845
2. Capital Outlays:			
32- Construction, Rehabilitation/Renovation of Buildings and Structures			
1. Construction of the Vet-Med Building			1,600,000
2. Continuation of the College of Agriculture Bldg.			1,686,000
3. Completion of Elevated Water Tank			350,000
4. Repair of Student Alumni Center			300,000
Sub-total			3,936,000
GRAND TOTAL			49,772,845

22. Vet. Med. Clinic	208,563
23. College Related Building	199,980
24. RSDC Building	63,984
25. Administration Building	79,992
26. Secondary Home Economics Bldg.	29,997
27. Old Library Building	149,985
28. Secondary Science Building	199,980
29. Mini Grand Stand	299,970
30. Marketing and Student Center	49,995
31. Soils-Chemistry Building	249,975
32. Secondary Related Subject Bldg.	199,980
33. Food Processing Building	2,739,785
34. 20 Faculty and Student Cottages	399,960
35. Machine Shed Building	199,980
36. IBP Green House	34,997
37. Old Home Management Building	499,950
38. Executive Guest House	249,975
39. Farm Shop Building	50,000
40. BSU Main Gate	5,000
41. Water System at Ampasit	999,900
42. Student Alumni Center	3,487,530
43. High School Laboratory Building	999,900
44. Perimeter Fencing (Continuation)	702,755
45. Old Motor Pool Building	20,000
46. Old Armory Building	25,000
47. Mushroom Building	10,000
48. Med-Dental Building	10,000
49. Vo-Ag Building	20,000
50. Horticulture Green House Bldg.	200,000
51. Agro-Forestry Building	50,000
52. Horticulture Research Building	5,000
53. Orchidarium Building	20,000
54. Cottage of Prof. Dimas	249,975
55. Water System	500,000
56. Laboratory Science Building	9,999
57. Water House Building	49,995
TOTAL	<u>25,631,391</u>

EXPENDITURES (General Fund 101)

Personal Services	38,921,737.73
Maintenance and other	
Operating Expenses	6,230,055.75
Capital Outlays	<u>3,205,134.50</u>
TOTAL	<u>48,356,927.98</u>

Rehabilitation Fund (109)

Repair/Rehabilitation of Various	
Projects	<u>25,617,082.38</u>

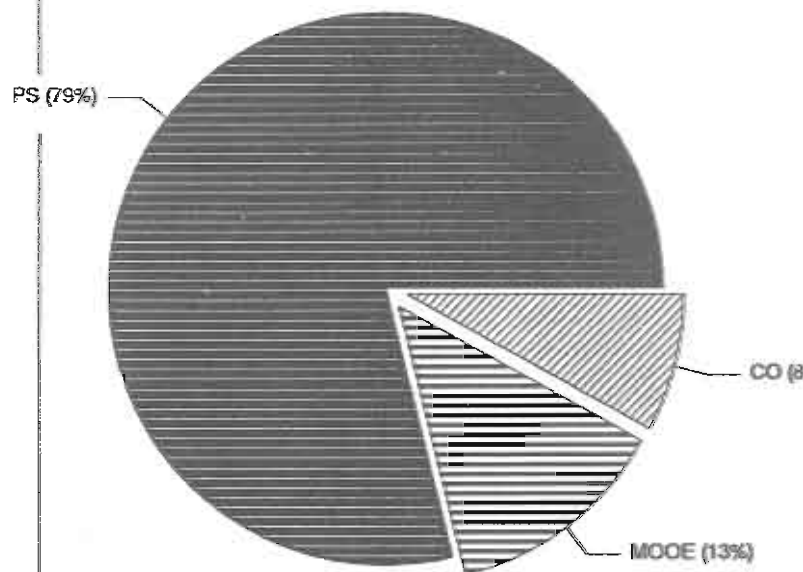
A reversion to the National Treasury of unexpected balance amounting to P685,051.52 from the

Current Operating Expenditure comprises of the following:

Personal Services	P344,107.27
Maintenance and Other	
Operating Expenses	340,944.25

The Capital Outlay year-end balance of P730,865.50 cannot be reverted since it is considered a continuing appropriation. Income realized from tuition fees and other miscellaneous income totalled P3,361,359.90. On the other hand, income realized from various income generating projects under the Revolving Fund amounted to P1,770,928.05.

Figure 7
Distribution of the Annual Budget



Problems and Recommendations

Instruction

Problems

1. Insufficient books, magazines and relevant publications for the use of students.
2. Lack of lecture and laboratory rooms and greenhouses.
3. Inadequate laboratory equipment, supplies and materials.
4. Poor maintenance of classrooms and laboratory facilities.
5. Lack of funds for faculty seminars/trainings.
6. Lack of office and laboratory personnel.
7. No well-defined forest reservation for the College of Forestry's research, extension and instruction uses.

Recommendations

1. Purchase of equipment, textbooks, materials, laboratory chemicals and field facilities.
2. Construction of more lecture and laboratory rooms and greenhouses for experimental research.
3. Purchase of needed laboratory equipment, supplies and materials like microscope and chemicals.
4. Employment of a full-time laboratory technician to take care of the repair and maintenance of all laboratory equipment and materials.
Provision of more funds for faculty enhancement.
6. Appointment of regular clerks in the different departments to ensure a smooth flow of work.
7. The forest reservation for the College of Forestry's research, extension and instruction uses should be clearly defined and its management should be placed under the College.

Student Services

Problems

1. Lack of medical and dental instruments, equipment and linens (blankets, bedsheets etc.).
2. Lack of medical and nursing staff.

Recommendation

1. Procurement of instruments and equipment needed by both the medical and dental clinics.
2. Employment of another physician, preferably male on a part-time basis, and a regular nurse to assist the University physician in carrying out her function especially during enrolment.

Research Services

Problems

1. Limited number of contractual personnel, service break of contractuels, thus hampering operations and not entitling them to benefits.
2. Lack of research facilities.
3. Lack of resources to fully operationalize the research institutes.

Recommendations

1. For authorities concerned to allow hiring of the manpower requirement of research projects and continuous service of contractuels throughout the duration of the research projects.
2. Provision of greater allocation for equipment, infrastructure, and site improvement for research services.
3. Provision of adequate appropriations in support for the research institutes.

Production Projects

Problems

1. Limited funds for production operations.
2. Continuous operation of losing projects.
3. Lack of storage facilities for commodities and utensils.
4. Limited space for big caterings.
5. Lack of transport vehicle to be used in the delivery of farm produce to market and transporting of supplies and materials.
6. Some sinks in the RSDC Guestel are destroyed.

Recommendations

1. Funds for production projects should be allocated and ready for release when needed by the project concerned.
2. Losing projects should be stopped from funding but maybe maintained for instructional purposes.
3. Storage room should be provided
4. Construction of wider catering space at the second floor of RSDC hall.
5. A transport vehicle should be made available for use in transporting supplies and materials and delivery of produce to market.
6. General repair of sinks in the RSDC must be done.

General Services

Problems

1. Lack of manpower.
2. Delayed purchase of supplies and materials requisitioned for repair purposes.
3. Lack of fund for equipment requisitioned.

Recommedations

1. Hiring of more carpenters.
2. There is a need to systematize procurement procedure.
3. More budget should be allocated to equipment outlays.

General Administration

Problems

1. Purchase request for supplies and materials for repair/construction purposes were bloated by requisitioners.
2. Delayed liquidation of cash advances by accountable officers.
3. Delay in procurement and disbursement processes due to violations of systems and procedures.
4. Required periodic reports of the University to be accomplished by officers concerned on administrative and financial operations are of ten times delayed.
5. Purchase requests for repair of building and facilities were not supported by program of work or sketch plans and pre- inspection reports caused delay.
6. Rampant non-compliance of civil service laws, rules and regulations regarding employee conduct in office by personnel in various sectors of the University.
7. Insufficient turnout of income collections from the different production projects of the University.

Recommendations

1. Requests for the purchase of supplies and materials should strictly adhere to what are actually needed by the requisitioner.
2. Accountable officers who were given cash advances should comply strictly with the rules and regulations on liquidating cash advances.
3. Supporting documents to any procurement and disbursement of funds for any expenditure in government are listed at the back of the disbursement voucher to avoid unnecessary requirements imposed by processing officers. We must "Do Away With Red Tape" (DART).
4. Strict imposition of penalty to violators of the prescribed reporting in adherence to COA regulations will improve the reporting system which in a way reflect to the performance of the University.
5. To facilitate purchase request process, the basic and necessary supporting justification should be well-adhered to by officers involved in this activity such as program of work, and/or sketch plan and pre-inspection reports.
6. All concerned supervisors and/or heads of offices should submit written reports to the Administration of commissions and/or violations of personnel as regards conduct in the public service for appropriate action, and strict imposition of disciplinary action should be followed. The procedures in the "Grievance Machinery" should be used by all sectors to avoid rumor mongering and/or unmeritorius complaints, "chismis" and hearsay.
7. Strict adherence of rules and regulations governing the administration of production activities should be imposed for compliance by all officers concerned, and, project managers who cannot comply as prescribed should be dealt with accordingly and reshuffled. On the other hand, productive performers, whether in service or income generation should likewise be given appropriate awards as prescribed by the Civil Service Commission.

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Diamond Jubilee '91



LAMBAKAN. The University Vice President Carlos T. Buasen together with guests perform the Igorot "Tayao" dance during the "Lambakan."



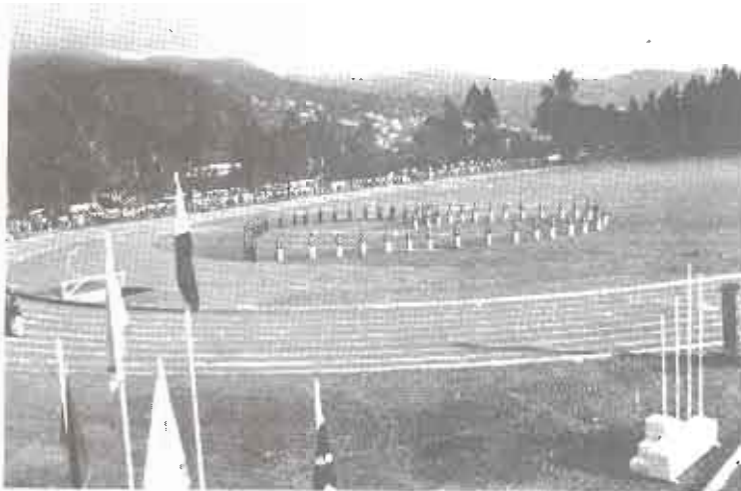
UNIVERSITY FROLICS. Faculty members of the College of Agriculture as they perform their number the "Coconut Nut" during the University Frolics.



CULTURAL NIGHT: The Highland Cultural Dance Troupe in one of their numbers during the cultural Night Show.



STAGE PLAY. The "Dulaang Biag" Drama Guild presents "Vida and Aling Poleng," a play.



PMA SILENT DRILL. The PMA cadets were invited to present a silent drill exhibition.



FIRST CORDILLERA RODEO AND LIVESTOCK FAIR. A DVM student demonstrates how to lasso a cow.



SCIENCE FAIR. Science and technology exhibits participated in by different government and private agencies.



DONATION. As part of the Jubille celebrations, the Cyanamid Agricultural Foundation, Inc. donates a computer unit and printer to the College of Agriculture.



Dr. Angela Caritativo, a former BSU professor donates books to the CAS Learning Center.



First of its kind in the University, the College of Agriculture presents a plant as a special token to Dr. Carlota V. Lubrica, a professor, when she retired. Not in the picture is Dr. Ursula C. Perez, retired VP-Academic Affairs who was also given the same token.



The University inks a Memorandum of Agreement with PCARRD for the implementation of a research project in the University.



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