

**Leadership In Transition:
"A Prescription For Survival"**

Twelfth Annual Report

MOUNTAIN STATE AGRICULTURAL COLLEGE
La Trinidad, Benguet

1981

BRUNO M. SANTOS
President

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LEADERSHIP IN TRANSITION: "A
PRESCRIPTION FOR SURVIVAL"

TWELFTH ANNUAL REPORT

MOUNTAIN STATE AGRICULTURAL COLLEGE
La Trinidad, Benquet

1961

ERDIO H. SANTIOS
President

Republic of the Philippines
MOUNTAIN STATE AGRICULTURAL COLLEGE
La Trinidad, Benguet

September 10, 1982

His Excellency Ferdinand E. Marcos
President, Republic of the Philippines
Malacañang, Manila

Thru: The Minister
MECS, Manila

S i r :

I have the honor to submit the last Annual Report as College President since I am due for compulsory retirement on September 15, 1982 and pursuant to the provisions of Republic Act 5923, covering the calendar year 1981.

I take this opportunity to thank you most sincerely for the unqualified support extended that made possible the modest success and the development of the College to what it is today. In a span of twelve years, MSC now ranks No. 6 among the 48 state colleges and universities throughout the country according to a joint Budget Commission and the Philippine Association of State Universities and Colleges survey in 1980.

Very truly yours,

ERNEST M. SANTOS
President

Copy Furnished:

1. Minister, Ministry of Education and Culture
2. Members, Board of Trustees
3. MEC Representative for State Colleges & Universities
4. PASUC Office, Ministry of Education and Culture

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MOUNTAIN STATE AGRICULTURAL COLLEGE
La Trinidad, Benguet

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LEADERSHIP IN TRANSITION: 'A
PRESCRIPTION FOR SURVIVAL'

12th Annual Report
1981

Overview

MOUNTAIN STATE AGRICULTURAL COLLEGE maintained its momentum of growth during the school year under report. Impressive gains were achieved in all areas of the College's functions and activities. Outstanding among the accomplishments were:

1. Successful establishment of an agro-forestation project on a 150-hectare hilly portion of the reservation which now serves as the field laboratory of the newly opened two-year technician curriculum in agro-forestry.

2. Successful operation of a mini-agro-industrial estate (MSAC-BLISS II) which registered a gross net income of more than half million pesos to be shared on a 50-50 basis between MSAC and IWC of the Ministry of Human Settlements.

3. Establishment and successful operation of a Food Processing Plant which processed 20,000 cases of strawberry jams for the MSAC-BLISS II project during the year under report. Other products processed were: strawberry syrup and wine, nata de coco, fruit cocktail, vegetable pickles, chayote ketchup, peanut brittle, ham, bacon and sausage.

4. Breakthrough in the production of flowers for export to buyers in Metro-Manila.

5. Breakthrough in white potato research (rapid multiplication through tissue culture and use of true seeds).

6. In the area of physical and infrastructure development eight (8) projects were started in 1981 five of which have been completed as of this writing. Since the building program began in 1972 the following permanent or semi-permanent buildings have been completed:

- (1) One 2-storey library building (phase I)
- (2) One 2-storey Home Technology and Regional Staff Development Center Building
- (3) One 2-storey Soils-Chemistry building
- (4) One 3-storey Engineering building
- (5) One 1-storey Agro-Met building
- (6) One 1-storey Agri-Business and Economics building
- (7) One 6-door, 2-storey apartment housing for faculty
- (8) One 1-storey Training Department building
- (9) One 2-storey Agro-Forestry building (phase I)
- (10) One 1-storey Agro-Forestry building (phase II)
- (11) One 2-storey Agro-Forestry Camp Dormitory
- (12) One 2-storey Root Crops Research building (phase I)
- (13) One 2-storey Root Crops Research building (phase II)
- (14) One 1-storey Root Crops Research Multi-Purpose building
- (15) One 1-storey Motor Pool & Agric. Mechanics building
- (16) One 1-storey Animal-Veterinary Science Laboratory and Clinic
- (17) One 2-storey Food Processing building (phase I)
(Phase II is under construction at this writing)
- (18) Four Glass houses (green houses)
- (19) One Glass (green house) for IFB
- (20) RTC-RD Complex with the following components: Building 1 - Housing offices, conference room, workshop rooms and library, plenary session and social hall (Building 2); Building 3 - Canteen; Building 4 - 2-storey dormitory, 100 person capacity; Building 5 - 6-Door, 2-storey apartment housing for staff; Building 6- Cottages for the Training Director

- (21) One Duplex housing (3-bedroom/unit) for faculty
- (22) Fourteen 3-bedroom housing units for staff
- (23) One 3-storey Agricultural Science Complex
- (24) One Root Crop Training Center Auditorium

On-Going Projects

- (25) Sport Complex Auditorium with indoor basketball court
- (26) Two 2-storey dormitories for boys and girls each with 200 student capacity,
- (27) One Coffee Processing building
- (28) One Agro-Forestation Nursery
- (29) One Agro-Forestation Machinery Shed
- (30) Six 3-bedroom staff housing
- (31) Concreting of Agro-Forestry Quadrangle

To Be Bidded in 1982 (Bidding, Sept. 13, 1982)

- (32) One 2-storey Administration building
- (33) One Supply house and bodega
- (34) One Roofed parking lot and garage for motor vehicles
- (35) One Deep well (drilling and installation of pump at Amposit)
- (36) Two Bailey Bridges across the Balili River to Balili and Tabangaoon
- (37) Completion of basement of Phase II of the Processing building

Programmed for construction in 1983 out of a Capital Outlay of 14.5 million allotted in the 1983 Appropriation Act. This capital outlay is broken down as follows:

I. Sports Complex	<u>55,000,000</u>
1. Grandstand	1,500,000
2. Roofed Bleachers (2)	1,000,000
3. Wooden or concrete seats around root crop research Ag-Gymn	550,000
4. Upholstered Auditorium chairs	500,000
5. Interlink wire fence around sports field	500,000
6. Improvement of track and field	500,000
7. Two tennis courts	200,000
8. One open air basketball court	100,000
9. Two volley ball courts	150,000

II. Agri-Science Complex	<u>13,000,000</u>
1. Animal Science Building	1,500,000
2. Staff Housing, 23 units for Agriculture Science staff	1,500,000
III. Agro-Forestation Complex	<u>22,000,000</u>
1. Forest nursery hood house	180,000
2. Poultry house and broiler cages for 1000 broilers/mo.	
a. House 8 x 20 m	50,000
b. 10 units cages, 3 storeys 3' x 16' x 6.5'	10,000
3. Piggery house good for 100 weanlings for fattening every 6 months 8 x 30 m. with bio-gas tank	100,000
4. Communal toilet and bath, with 20 seats, 10 wash lavatory, 10 shower heads and laundry area	100,000
5. Concreting of site roads	900,000
6. Fencing of project (hog wire or interlink)	900,000
7. Two cottages	160,000
IV. Dormitories	<u>1,500,000</u>
1. Boys' Dormitory	1,100,000
2. Renovation of old girls' dorm	400,000
V. Elementary Laboratory High School (phase II)	<u>1,500,000</u>
VI. Food Processing Building (To be re-aligned)	<u>1,300,000</u>
1. Construction of five cottages for processing staff and seasonal workers	
VII. Concreting of Campus	
Road network including gates	<u>1,200,000</u>

7. In the area of instruction stress was placed on the improvement of quality. This was done through the acquisition during the year of more laboratory, shop and field equipment; library books, journals, and other references; purchase of adequate instructional supplies and materials; construction of additional classrooms and laboratory buildings, nurseries and green houses; expansion and intensification of instructional and income generating projects, and a more aggressive implementation of the extension and non-formal education program.

8. The personnel development program was likewise pursued with the same vigor and determination. During the school year under report twelve faculty members were on scholarship grant, four on training grants abroad and in UPLB, while 18 were pursuing graduate studies at the Colleges and Universities in Baguio City on their own.

All the above accomplishments were possible with the generous support of the Ministry of the Budget both for the operation expenses as well as for the capital and equipment outlays.

Details of the year's accomplishments and activities may be gleaned from the main body of this report.

CHAPTER I
INSTRUCTION

A. Enrollment

The enrollment figures in the different levels of instruction for the year under review are presented hereunder.

1. Enrollment by Level, Course, and Term

1.1 Graduate	<u>Summer</u>	<u>1st Sem.</u>	<u>2nd Sem.</u>
Master of Science	99	143	125
1.2 Undergraduate			
BS in Agriculture	559	926	772
BS in Ag. Education	379	601	566
BS in Home Technology	107	165	146
B in Agri-Bus. Mgnt.	53	96	95
BS in Forestry	161	202	171
BS in Animal Technology	76	156	132
BS in Ag. Engineering	144	170	165
Total . . .	<u>1,578</u>	<u>2,459</u>	<u>2,172</u>
1.3 Post Secondary			
Agri-Mechanics	-	11	11
Agri-Forestry	-	38	38
Total		<u>49</u>	<u>49</u>
1.4 Secondary			
Vocational Agriculture and Special So. Educ.		521	521
General Curriculum	-	456	456
Total		<u>977</u>	<u>977</u>
1.5 Elementary	-	842	842
<u>GRAND TOTAL</u>	<u>1,578</u>	<u>4,327</u>	<u>4,040</u>

1.6 Summary of Enrollment by Levels

<u>Level</u>	<u>Summer</u>	<u>1st Sem.</u>	<u>2nd Sem.</u>
Tertiary	1,598	2,459	2,172
Post Secondary	-	49	49
Secondary	-	977	977
Elementary	-	842	842
Total	<u>1,598</u>	<u>4,327</u>	<u>4,040</u>

2. Scholarships. A total of 338 students enjoyed scholarships during the period under review:

<u>AGENCIES</u>	<u>Total</u>
2.1 Mountain State Agricultural Colleges:	
KOMPAD	29
Glee Club	30
CMT	10
Student Assistants	35
School Paper	2
Academic Scholars:	
Full	5
Partial	2
Total	<u>113</u>
2.2 National:	
AFT	2
KISGP	52
SEGEAF	29
NFAC	2
SNPL	120
Total	<u>205</u>
2.3 U.S. Veterans Administration	<u>3</u>

2.4 Local

Petron, Baguio-Benguet	2
Episcopal Church of the Phil.	6
Private Anonymous	1
Californians	3
MSAC Alumni Assoc.	3
Baguio Masonic Lodge	2
Total	<u>17</u>

Summary of Scholarships

<u>Agencies</u>	<u>Total</u>
Mountain State Agricultural College	113
National	205
U.S. Veterans Adm.	3
Local	17
<u>GRAND TOTAL</u>	<u><u>338</u></u>

B. Graduates

1. Tertiary. The data include graduates as of March, Summer, and October, 1981:

<u>Curriculum Programs</u>	<u>No. of Graduates</u>		<u>Total</u>
	<u>Male</u>	<u>Female</u>	
MS	15	13	28
BSA	47	57	104
BSAE	25	70	95
BSA Eng'ng.	7	2	9
BSF	68	31	99
BSAT	27	13	40
BANY	6	2	8
BSHT	-	33	33
Total	<u>195</u>	<u>221</u>	<u>416</u>

2. Post Secondary	No. of Graduates		Total
	Male	Female	
Agri-Mechanics	37	-	37
Forest Ranger Course (FRC)	1	3	4
Total	<u>38</u>	<u>3</u>	<u>41</u>
3. Secondary			
Vocational Agriculture	55	-	55
Home Technology	-	29	29
Special Science	8	13	21
General Curriculum	47	53	100
Total	<u>110</u>	<u>95</u>	<u>205</u>
4. Elementary	<u>58</u>	<u>77</u>	<u>129</u>
GRAND TOTAL	<u><u>395</u></u>	<u><u>396</u></u>	<u><u>791</u></u>

C. Academic and Support Personnel

1. Faculty and Staff Members by Degrees

a. PhD/EDD	15
b. MS/MA	65
c. BS	295
Total	<u><u>375</u></u>

D. Accomplishments, Problems and Recommendations by Departments

1. Graduate Studies

The graduate studies program was organized in 1972. Since then, the Graduate School has been offering specializations in agronomy, agricultural education, agricultural extension, animal science, agriculture, practical arts, and soils.

1.1 Enrollment and Graduates

<u>Term/Semester</u>	<u>Enrollment</u>	<u>No. of Graduates</u>
Summer 1981	99	1
1st Sem. 1981-1982	144	13
2nd Sem. 1981-1982	134	21
Total	<u>377</u>	<u>35</u>

1.2 Graduate Work

Since the Calendar Year 1979, 12 graduate students finished their Master of Science degrees. The names, title of thesis and advisers are:

<u>Name of Student</u>	<u>Title of Thesis</u>	<u>Adviser</u>
Ancheta, L.A.	Flower Induction and Seed Production Study on Peachay	Dr. W.D. Dar
Andrada, A.O.	The Influence of Indole Acid on the Duration and Concentration of Rooting Grape Cutting	Dr.C.J. Oliveros
Andrada, G.F.	The Growth and Yield of Garlic as Affected by the Time of Planting, Nitrogen Levels and Time of Fertilizer Application	Dr. C.J. Oliveros
Arantawong, W.	The Response of Irish Potato to the Different Methods of Planting and Rates of Boron	Dr. C.J. Oliveros
Bawang, F.T.	Effects of Moisture Stress on the Growth, Yield and Some Postharvest Characteristics of Cultivars Concina and Red Pontiac	Dr. C.J. Oliveros

Graduate Work (Continued)

Bilango, G.G.	Effect of Time and Rate of Nitrogen Fertilizer Application on the Growth and Yield of Cabbage	Dr.P.B. Alipit
Cadatal, M.D.	Effect of Tillage on the Growth and Yield of Three Varieties of Potato	Dr. L.B. Victor
Fernandez, R.N.	A Study on Rice Variety and Zinc Application Against Important Pests in Paracelis, Mt. Province.	Prof. F.G. Hermano
Ladilad, A.G.	Effect of Gibberellic Acid on the Acceleration of Flowering of <u>Statice (limonium sinuaton)</u>	Dr. L.B. Victor
Mangaser, V.T.	Growth and Yield Characteristics of White Potato Cultivars as Affected by the Time of Fertilizer Application under Lowland Environment	Dr. W.D. Dar
Somera, A.R.	Effects of Water Stress on Two Varieties of Bulb Onions	Dr. W.D. Dar
Tomas, M.G.	Effects of Varying Time of Fertilization and Frequency of Irrigation on the Growth, Yield and Quality of Barley	Prof. F.G. Hermano

1.3. Innovations introduced

- a. Proper listings of different existing curricula.
- b. Individual requirements of both professors and students to develop independent work among graduate students.

- c. Streamlined the distribution of load to professors.
- d. Systematic guidance of thesis students. Evaluation sheets have been prepared to determine the feasibility of thesis proposals.
- e. Proposed additional MS programs in Home Technology and MS Agriculture majors in Botany, Entomology, Plant Pathology, and Agri-Economics for approval by the Board of Trustees.
- f. Recommended a revised schedule of advisory Thesis Committee fees for approval.

1.4 Statistical correction of undergraduate thesis.

1.5 Problems

- a. Need of a separate building for the Graduate School.
- b. Increase of the regular Graduate School staff to 21 professors.

1.6 Recommendations

- a. Need of additional Master of Science program in Home Technology and Master of Science in Agriculture in Botany, Entomology, Plant Pathology, and Agri-Economics.
- b. Regular staffing for 1962-1963 to include the following:
 - (1) associate Professor as Editor/Managing Editor of Graduate School Research Journal and Bulletin.
 - (2) Assistant Professors as a Textwriter, an English Critic, a Statistical adviser, an Animal Science Researcher, and a Basic and Applied Science Researcher.

- (3) Records Clerk
- (4) Clerk-Typist
- (5) Programmer-Illustrator
- (6) Construction of a Graduate School building in 1985

2. Undergraduate Studies

2.1 Department of Plant Sciences

Instruction

Subjects Offered, Sections and Number of Students

<u>Subjects</u>	<u>2nd Sem., 1980-1981</u>		<u>1st Sem., 1981-1982</u>		<u>Students</u>
	<u>Section</u>	<u>Students</u>	<u>Subjects</u>	<u>Section</u>	
Plant Sc. 11	8	283	Plant Sc. 11	1	43
Plant Sc. 13	7	269	Plant Sc. 12	13	314
Botany 13	1	36	Botany 13	4	133
Agronomy 30	1	54	Hort. 20	2	53
Agronomy 60	1	60	Hort. 21	2	65
Hort. 70	2	88	Agronomy 30	1	11
Agronomy 80	1	77	Hort. 40	2	63
Agronomy 90	1	36	Hort. 50	3	96
Agron/Hort. 99	2	98	Agronomy 60	1	39
			Agronomy 90	1	18
			Agron/Hort. 99	2	66
Total	<u>24</u>	<u>1,001</u>	Total	<u>32</u>	<u>890</u>

Summer, 1981

Botany 13	2	48
Agronomy 30	1	20
Plant Sc. 11	1	5
Total	<u>4</u>	<u>73</u>

The table indicates that in the second semester of 1980-1981 nine subjects were offered with a total enrollment of 1,001 students. Twelve faculty members taught the course. The

faculty-student ratio was 1:83. In the same period, there were 73 thesis students. Eighty-six (86) students graduated.

During summer of 1981, only three subjects were offered. However, it was necessary to offer the courses to accommodate repeaters and graduating students.

In the first semester of 1981-1982, 11 subjects were offered with a total enrollment of 890 students, excluding 81 thesis students. Thirteen faculty members actually taught during the semester. The faculty-student ratio was 1:76.

Performance of Students

Of the 1,001 students enrolled in the various subjects in the second semester of 1980-1981, 825 or 82.4% passed all their subjects, 74 or 7.4% students failed and 103 or 10.3% students got a grade of incomplete. The most common causes of "incomplete grades" were no examination permit, no final examination or one-hour examination, incomplete submission of requirements such as write-up of laboratory exercises, reports or term papers.

In the first semester of 1981-1982, 691 or 77.6% of the 890 students enrolled in various subjects passed, 51 or 5.7% students failed, and 120 or 13.5% students got incomplete grades in some subjects.

Number of students passing, failing, and other deficiencies in each subject.

	Total No. of Students	% Passed	% Failed	% Other De- ficiencies	% Dropped	% Total
<u>Second Semester</u>						
<u>1980-1981</u>						
Plt. Sc. 11	283	79.5	10.5	10	0	100
Plt. Sc. 13	269	85.9	4.8	9.3	0	100
Botany 13	36	61.1	33.34	5.56	0	100
Agronomy 30	54	87.0	9.3	3.7	0	100
Horticulture 70	38	76.12	5.7	18.18	0	100
Agronomy 60	60	90.03	3.3	6.67	0	100
Agronomy 80	77	81.81	3.9	14.29	0	100
Agronomy 90	36	88.9	11.1	0	0	100
Agron/Hort. 99	98	85.71	14.29	0	0	100
<u>Summer, 1981</u>						
Botany 13	48 _x	64.6	18.8	16.6	0	100
Plt. Sc. 11	5	100	0	0	0	100
Agronomy 30	20	90.0	0	10	0	100
<u>First Semester</u>						
<u>1981-1982</u>						
Plt. Sc. 11	43	79.1	14.0	6.9	0	100
Plt. Sc. 12	31 ₄	79.94	7.32	12.74	0	100
Botany 13	122	70.5	10.70	18.8	0	100
Horticulture 20	53	60.4	35.83	0	3.8	100
Horticulture 21	65	98.5	0	1.5	0	100
Agronomy 30	11	90.91	0	9.09	0	100
Horticulture 40	63	82.5	4.8	12.70	0	100
Horticulture 50	96	84.4	5.2	10.4	0	100
Agronomy 60	39	97.4	2.6	0	0	100
Agronomy 90	18	18	82.0	0	0	100
Agron/Hort. 99	66	75.8	0	24.2	0	100

* All repeaters and 2 are graduating.

The toughest subject in which many students failed within the three terms was Botany 13 (Genetics). However, the average of 65.4% passing is considered fair.

In the crop sciences, the basic subjects like Plant Science 11 and 12 had more students failing compared to those in the major subjects.

Effort had been exerted to achieve academic excellence and reduce the number of failing students through:

- a) Reduction of number of students per section from 50 to 34.
- b) Production of course outlines as guides for students.
- c) Closer supervision of instruction through faculty conferences, individual student guidance, and make-up classes.
- d) Senior faculty members were assigned to teach basic subjects.
- e) In-service training among faculty members.

In the regular commencement exercises in March, 1981, 86 graduated in the Plant Sciences Department. During the summer term of 1981 and the first semester of 1981-1982, 11 and 26 students finished their theses and other requirements, respectively.

Department Staff

The Department had 17 faculty members, including the Chairman, one research assistant and one clerk-typist. Of the 17 faculty members, five were assigned to other departments and taught one or

two subjects. One faculty member was a new recruit with the rank of Assistant Instructor.

Three of the 17 faculty members were previously on study leave: two with pay and one without pay. One of those on study leave reported for duty during the first semester and two reported on November 16, 1981.

Within the year, four faculty members finished their Master of Science degrees; three at MSAC and one at UPID.

Professional Growth

Some faculty members in the Plant Science Department attended seminars and workshops at MSAC and other places as follows:

<u>Name of Faculty</u>	<u>Nature of Training</u>	<u>Place and Duration</u>
Dr. Lucio B. Victor	Live-in Seminar Workshop on Evaluation Research	MMYC, Taguig, Rizal Nov. 16-21, 1981
	Research Development Program	MSAC, Oct. 17, 1981
Prof. Franco T. Bawang	FFP-CC Regional Conference	Bolinao, Pangasinan Dec. 2-4, 1981
	Research Development Program	MSAC, Oct. 17, 1981
	Preparation of "Techno- Packs" Garden Peas PCARR-MSAC	MSAC, March, 1981
	Resource Persons De- velopment Seminar	MSAC-RTC-IRD Jan. 21-31, 1981
Prof. Herminio D. Ladilad	Research Development Program	MSAC, Oct. 17, 1981
Mr. Danilo P. Padua	Research Development Program	MSAC, Oct. 17, 1981

Extra Curricular Assignments

Besides teaching and research, some faculty members of the Plant Sciences Department were assigned as advisers of student organization as follows:

<u>Name of Faculty</u>	<u>Student Organization</u>
Mr. Danilo P. Padua	Youth Community Service Club Affiliated to the Students' Assistance Committee - MSAC Unit Adviser, MSAC-Student-Faculty Chess Club Coach, Chess Team Adviser, Agro-Hort. Society
Mr. Macario D. Cadatal	Coach, Volleyball Team
Prof. Franco T. Dawang	Adviser, MFP Collegiate Chapter Adviser, Agro-Hort. Society
Mr. Silvestre L. Kudan	Adviser, Agro-Hort. Society

Problems

The most pressing problems that hindered the establishment of an organized instruction-research linkage in the Department are as follows:

- a. Absence of a field research operation building to serve as field office, storage for supplies and equipment, work room for thesis and laboratory students, tool-room, statistical computing room, conference room, and a drying area.

- b. Need of fixed areas for research, thesis and laboratory purposes. When the College became a chartered institution in 1969, the experiment station of the school had been moved from one area to another.

Recommendations

For the department to be able to function effectively, an additional typist and two research assistants are needed. The typist is needed to help in typing proposals and research outlines while the research assistants are to carry out the research program of the department.

2.2 Animal Science Department

Faculty Development. In 1981, Prof. Domingo Q. Casiwan was sent on scholarship at the Ateneo University Foundation, Manila for a Ph.D. program in the field of Animal Science.

2.3 Home Technology Department

The accomplishments of the Home Technology Department in 1981 were:

- a. The Home Technology staff consisted of nine faculty members. One was on study leave for her MS degree and another was on sick leave during the first semester.

On faculty development, the following professors and instructors of the Department participated in various seminar-workshops (local and national):

<u>Participants</u>	<u>Seminar-Workshop</u>	<u>Period</u>
R.C. Abastilla J.R. Alonzo E.G. Añas L.C. Balaoing H. Guzman E.B. Tolentino E.P. Untalan	Research and Developmental Program of NSAC for 1983	May 14, 1981
L.C. Balaoing E.P. Untalan	Systematic Managerial Analysis	May 14, 1981
R.C. Abastilla J.R. Alonzo	International Federation of Home Economics Congress, Convention Center, Manila	July, 1981
	Phil. Home Economics Association Seminar-Workshop, Manila	June-July, 1981
R.C. Abastilla	Council of Deans and Heads of Home Economics of the Philippines Theme: Home Economics Respect for Life, U.P. Diliman, Quezon City	December 4-5, 1981
H. Guzman	34th Annual Convention (Phil. Assoc. of Nutrition) Theme: Nutrition on Rural Development, St. Paul College, UPLB	December, 1981

Problems and Recommendations

- a. Procurement of additional books and references.

- b. Improvement of equipment and facilities, particularly for baking and food processing classes, working tables and storage space.
- c. Recruitment of an additional clerk.
- d. Employment of male and female student assistants to maintain cleanliness inside and outside the Food Processing, landscaping of the RADC Building premises as well as providing canteen aid for all canteens.
- e. Recruitment of a canteen personnel whose major field is Food Industries.
- f. Give academic ranks to all BSW personnel.

2.4. Agri-Business and Economics Department

Curricular Program. This department handled two curricular programs - the degrees of Agri-Business Management and Agricultural Economics, the latter a major field in the BSA and BSAL programs.

Resource materials prepared during the year under review were:

- a. Syllabus in Economics
- b. Guidelines in the preparation of Project Possibility Studies.

Accomplishments in faculty development were on faculty seminar-workshop in thesis advising, Research and Development Programs of NSAC for 1983 onward.

The following faculty members in the Department completed their Masters Degrees within the year under review:

Herminia A. Francisco	Master of Management U.P., Baguio
Alfredo Rigonan	Master in Agriculture (Extension Education) U.P.L.B.

2.5 Teacher Education and Social Sciences Department

The Teacher Education and Social Science Department took care of the BSLE program. The TESS staff consisted of five faculty members, including the head of the department. Most of the part-time instructors were doctoral holders and heads of offices.

Instruction. Syllabi course outlines and handouts for various social science and education courses were up-dated, produced and distributed to students free of charge.

Through the classes of Prof. Z. Llanes, three copies of books on Philippines Educational System were donated to the MASC Library in September, 1981.

A seminar on taxation and cooperatives was held in October, 1981.

Profs. Villamater and Llanes attended a seminar on 'Filipino Psychology' at U.P. Baguio on November 14, 1981. All the TESS faculty and staff members attended a series of seminars sponsored by the MASC Administrative Staff.

Progress of Faculty Development

The status of the faculty development of the Teacher Education and Social Sciences Department at the end of 1981 is as follows:

<u>Name of Faculty</u>	<u>Progress of Development</u>
Luzviminda A. Villawater	Working on her dissertation toward Ph.D. Major: Education Cognate: Sociology
Zenith D. Llonos	Earned 31 units toward Ed.D. and defended her outline proposal
Artacio T. Laking	Started his Ed.D. program at the University of Baguio
Evelyn B. Singa	Earned 24 units towards MS at MSAC

Bachelor of Science in Agricultural Education Department

Currently integrated with the Teacher Education and Social Science Department, the faculty and staff were of the same set as of the TESS.

BSAE Enrollment

<u>Term</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
1st Sem. 1981-1982 No. of Student Teachers	96	505	601 (41)
2nd Sem. 1981-1982 No. of Student Teachers	87	475	562 (100)
GRAND TOTAL . . .	<u>183</u>	<u>980</u>	<u>1,163</u>

There were 41 student teachers in the 1st semester and 100 in the second semester.

The Department had 8 part-time professors, 5 with doctoral degrees and 3 with masters degrees.

For professional growth, two regular faculty members attended a seminar of the National Agricultural Education Association at UP Los Baños.

2.6 Biological Sciences Department

Instruction. The department offered the regular basic courses in Zoology, Botany, Microbiology, Entomology and Plant Pathology with major fields in Entomology, Plant Pathology and Botany.

A total of 3,705 students were enrolled in 1981. In the major courses, 310 students were registered.

Student Performance. Reflected hereunder is the performance of students in the courses offered:

<u>Course Level</u>	<u>Average Percentage</u>		
	<u>Failure</u>	<u>Incomplete</u>	<u>Dropped</u>
Basic Courses	22	16	5
Major Courses	8	25	0
Average	<u>15</u>	<u>20</u>	<u>2.5</u>

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Professional Growth

Seminar-workshops participated in by faculty members of the Biological Science Department were:

<u>Participants</u>	<u>Title</u>	<u>Date Attended</u>
S.P. Milagrosa J.S. Luis B.S. Ligat E.V. Cordona, Jr. L.G. Lirio P.B. Alipit	Research Development Program, M&C	October 13-17 1981
L.G. Lirio P.B. Alipit	Highland Strategic Research Planning, HARC	February 25-26, 1981
B.S. Ligat	Workshop on Sericulture Research	May 8-10, 1981
	Workshop on Research Program Formulation For Vegetable Crops PCARR	October 30-31, 1981
N.F. Puntawe M.P. Cadeliña	Seminar-Workshop on Genetics	March, 1981

Action Taken to Solve Problems Encountered

- a. Requisitioned laboratory supplies and equipment.
- b. Arranged the use of vacant classrooms in buildings of the department.
- c. Located and utilized vacant lots for experiment purposes.
- d. Hold dialogues with faculty member to thresh out and remove the cause of poor student performance and to improve teaching effectiveness.

Recommendations

- a. Recruit qualified and competent instructor and personnel.
- b. Intensify conduct of seminar-workshop and training of staff.
- c. Institute rigid screening of students for College work.
- d. Institute prompt purchase and delivery of quality supplies, materials and equipment requisitioned for instruction and research.
- e. Speed up completion of the Bio-Plant Sciences Building to accommodate classes, equipment and facilities of the department.
- f. Provide more spacious land area for field/research laboratory, undergraduate thesis and funded researches.

2.7 Agricultural Engineering Department

Instruction. On its sixth year of operation, this department graduated 10 students, two of whom were cum laude.

Notable Accomplishments in 1981

- a. Upgraded course outlines and distributed handouts to students enrolled in Agricultural Meteorology.
- b. Revised the agricultural engineering curriculum to include new subjects with some mathematics subjects and engineering courses to make the curriculum more relevant to the changing needs of our society.
- c. Acquired a number of technical publications worth

3,500.00 from the Philippine Center for Appropriate Technology for the use of the students.

- d. Acquired a number of laboratory equipment worth about 50,000.00

In cooperation with the Philippine Society of Agricultural Engineers (MSAC Chapter), the department held its first assembly in October, 1981 with the NIA Provincial Irrigation Engineer as guest speaker who spoke on the opportunities and challenges of agricultural engineers after their graduation.

For professional growth, the department staff participated in a two-day seminar-workshop on Soil and Water Resources Development in Manila on October 28-29, 1981. Steps were taken to look for scholarship grants available here and abroad.

Problems and Recommendations

- a. Equipment acquired in 1981 was not sufficient in relation to the number of students. It is necessary to purchase additional equipment for the next five years.
- b. Construction of a Hydro-Laboratory Unit is needed to cater to the needs of students not only to the BS.Eng'ing students but also to the BS., B.S. and B.S.M. students.

2.8 Soils and Chemistry Department

Instruction. The faculty members of this department updated

the course syllabi and lecture manuals, prepared exercises for laboratory classes, and made visual aids.

A cross-section of the performance of Soils and Chemistry students during the first semester of 1981 is shown in the following tabulations:

<u>Subject</u>	<u>No. of Students</u>	<u>% Passing</u>	<u>% Failure</u>	<u>% Dropped</u>	<u>% Deficiencies</u>	<u>% Total</u>
Chem 11	587	61.33	18.40	1.87	18.40	100
Chem 13	162	59.88	13.50	1.23	25.31	100
Chem 14	7	42.86	0	0	57.14	100
Soils 11	448	70.98	9.12	2.07	22.73	100
Soils 12	49	51.02	18.37	0	30.61	100
Soils 30	27	81.48	0	0	18.52	100
Soils 40	29	69.97	0	13.79	17.24	100
Soils 24	24	87.00	0	4.17	8.33	100

Professional Growth

Three among these faculty members of the Department finished their Master of Science degrees:

<u>Faculty</u>	<u>Degree</u>	<u>School</u>	<u>Funding Agency</u>
Rogelio D. Colting	MS(Soils)	UPH	PCARR
Thelma C. Villanueva	MS(Chem)	CEU	NSDF
Jose G. Balaoing	MS(Soils)	MSAC	Personal
Julio B. Tukaki	MS(Soils)	MSAC	Personal
Daniilo Licudine	M.T(Chem)	SLU	Personal
Abraham D. Jara	MS(Soils)	MSAC	Personal
Aurelia Marie T. Mioten	MS(Biology)	SLU	Personal
Magddalena D. Pandosen	MS(Soils)	MSAC	Personal
Victoria S. Dona	BSPa	CEU	Personal

For professional growth, the following faculty members attended in-service training activities:

<u>Faculty</u>	<u>Field of Training</u>	<u>Agency</u>	<u>Period</u>
All faculty members of the Department	Research Development of NSAC for 1983 Onward	RES-NSAC	Oct. 13-17 1981
Rogelio D. Colting Tessie M. Nerestela	3rd Resource Persons' Development Program	ETC-RD NSAC	Jan. 13-24 1981
Tessie M. Nerestela	Systematic Managerial Analysis	EMRC- MSAC	May 4, 1981
	Regional Technical Evaluation Review of Research Proposals	EMRC- NSAC	Nov. 10, 1981
	Highland Strategic Research Planning	NSAC	Feb. 25-26, 1981
Rogelio D. Colting	Vermiculture Seminar	D.I.-A.L. ? Rotary Club- Bago City	Nov. 22, 1981
Carolyn B. Dinas Rebecca E. Castillo Evelyn B. Dinas	4th National Convention of the Integrated Chemists of the Philippines	SLU	Nov. 14-15, 1981
Rebecca B. Castillo Darilo Licudine	9th Atomic Energy Week	PAEC	Dec. 7-11, 1981

2.9 Math, Physics and Statistics Department

Instruction. Several regular instructors of this department corrected the thesis computations of undergraduate thesis students aside from their regular teaching assignments.

Other Accomplishments of the Department

- a. Computed the weighted average and ranking of grades for the Office of Admissions.
- b. Three students completed their BS degree major in Statistics and minor in mathematics.
- c. Designed a curricular program for ~~BS~~ degree major in mathematics and physics.

Faculty Development

Four instructors of the ~~Math-Physics-Statistics~~ Department are pursuing their MS/M. degrees under the following scholarship grants:

<u>Faculty</u>	<u>Scholarship</u>	<u>Agency</u>	<u>Duration</u>	<u>School</u>
Marilyn B. Toledo	M. Math	NSDF	1980-1982	UP Diliman
Sergia P. Ilagrosa	MS Stat	PCARR	1980-1982	UPLB
Jonathan A. Bayogan	IST Physics	NSDF	1980-1982	De La Salle
Edna A. Chua	M. Math	NSDF	1980-1982	MLQU

These faculty members participated in summer training institutes:

<u>Faculty</u>	<u>Training Program</u>	<u>Period</u>
Conсорcia D. Aquitania	NSDF Summer Institutes in Mathematics and Physics	2 Summers (1980-1981)
Bernice A. See	NSDF Summer Institutes in Physics	Summer 1981

Problems. The Physics laboratory equipment and books in the library are still inadequate.

Recommendations

- a. Need of a student assistant to serve as a laboratory aid.
- b. Procurement of additional laboratory equipment and books.

2.10 Department of Languages

Instruction. This department was manned by 11 instructors, seven assistant professors, one professor, a clerk and a student assistant.

Accomplishments

- a. Enriched course syllabi in Pilipino, English, and Spanish.
- b. Held faculty orientation seminar which included demonstration lessons in English to acquaint the new instructors with the prepared NST institutional materials.
- c. Celebrated "Idaggo ng Wika" with appropriate programs.

In-Service Training Program Activities

<u>Faculty</u>	<u>Training Program</u>	<u>Place</u>	<u>Period</u>
E.R. Rufana	First National Symposium	UP	Sept. 19-20
R.E. Montec, Jr.	on Philippine Folklore	Diliman	1981
D.P. Mandit			

In-Service Training Program Activities (Continued)

A.C. Degsi C.V. Lubrica D.P. Wandit R.S. Curido	Filipino Psychology in Teaching and the Human Sciences	UP Baguio	Nov. 11-14, 1981
All Faculty Members of the Department	Series of Seminar- Workshops sponsored by HSA-C, PCARR and HSA-C Development Office	MS-C	Within the Year

Problems and Recommendations

- a. Create a Thesis Editing Division under the Research Experiment Station (RES) because of the increasing volume of undergraduate and graduate theses to lessen the load of the instructors.
- b. Purchase an additional micrographing machine for production of instructional materials.

2.11 Forestry DepartmentInstruction

- a. Four newly-hired foresters strengthened the faculty staff of the department.
- b. Eight forestry graduates passed the Board Examination for Foresters.
- c. Teaching facilities were improved through:
 - (1) Purchase of laboratory equipment, supplies and materials.
 - (2) Purchase of a number of references.
 - (3) Construction of a miniature logging model.

- d. Conducted field trip to UPLB College of Forestry to deepen and broaden the students' perspective in forestry.
- e. Labelled forest and ornamental trees in the campus.
- f. Conducted survey at Agapit Forest Reservation to determine the extent of Ips infestation in the area.
- g. Published an article in the MIRC's Highland Express.

Professional Growth

Two faculty members attended a seminar-workshop on "Research and Development Program of MIRC for 1983 Onward" and another two staff members attended the Regional Commodity Team Meeting in the evaluation of proposals.

Problems and Recommendations

Additional two laborers be hired to carry out effectively plans in the Forestry Department and that more instructional equipment, supplies and materials be provided.

2.12 Physical Education and Athletics

Instruction. The staff consisted of two professors, one instructor, and one physical education aide.

Accomplishments

- a. Implemented physical fitness and sports program among students, faculty and employees.

- b. Developed interests of students in play activities.
- c. Provided an athletic library.
- d. Managed intramural meets.
- e. Handled NSAC delegation to the Provincial Meet.
- f. Provided technical assistance to the town, province, district and mining companies in officiating and managing their sports program with the use of the College athletic facilities.
- g. The Department Chairman was tapped by the NCCS, Manila to teach Summer Physical Education at the Baguio Vacation Normal School.

Problems and Recommendations

- a. Need for a more spacious office P.M. personnel.
- b. Need for a storeroom of athletic equipment.
- c. Scholarships for athletics.
- d. Need to update athletic competencies through local, regional and national training seminars.

2.13 Laboratory Schools

Basically, the three laboratory schools serve as training grounds for the Teacher Education Program of USC and the other state colleges and universities in Region I and as feeder schools for the collegiate programs.

a. Vocational and Special Agricultural Science Educ. Department

The enrollment of the department in 1981 is broken down as follows:

<u>Science Program</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
1st Year	17	17	34
2nd Year	3	12	20
3rd Year	6	9	15
4th Year	7	7	14
Total	<u>38</u>	<u>45</u>	<u>83</u>
<u>Vo-Ag Program</u>			
1st Year	87	-	87
2nd Year	76	-	76
3rd Year	71	-	71
4th Year	55	-	55
Total	<u>289</u>		<u>289</u>
<u>Home-Making Program</u>			
1st Year	-	39	39
2nd Year	-	42	42
3rd Year	-	38	38
4th Year	-	31	31
		<u>150</u>	<u>150</u>
<u>GRAND TOTAL</u>	<u>237</u>	<u>195</u>	<u>522</u>

Breakdown of Students' Origin
Based on Respective Tribes

<u>Tribe</u>	<u>No. of Students</u>
a. Ibaloy (Benguet)	151
b. Kankasey (Benguet)	280
c. Bontoc	24
d. Ilocano	52
e. Kalanguya	6
f. Pangasinan	2
g. Marao	2
i. Yogot	1
j. Kalinga	1
k. Ifugao	1
l. Tagalog	1
Total	<u>522</u>

Scholarship Enjoyed by Students

<u>Scholarship</u>	<u>No. of Scholars</u>
a. The Mountain Breeze	7
b. <u>SMARF (1980-1981)</u>	9
1st Year	1
2nd Year	6
3rd Year	2
c. <u>SMARF (1981-1982)</u>	9
1st Year	0
2nd Year	1
3rd Year	6
4th Year	2
d. The aforementioned were exempted from paying their tuition, matriculation, medical-dental, athletic and library fees.	

e. C.C.T. Scholars

Corps Commander Full tuition fee
 Executive Officer Half tuition fee

f. Special Agriculture Science students enjoyed free tuition, matriculation, medical-dental, athletic and library fees but no stipends.

1st Year	34
2nd Year	20
3rd Year	15
4th Year	14
<hr/>	
Total	<u>83</u>

g. U.S. GIP-NL (Veteran Scholarship)

3rd Year 1

Number of Students Expected to Graduate During SY 1981-1982

a. Special Ag. Science Curriculum .	14
b. Vocation Ag. Curriculum	55
c. Home-Making (H.E.) Curriculum .	31
<hr/>	
Total	<u>100</u>

Academic and Support Personnel

a. Teaching Staff	34
b. Clerk	1
c. Janitor	1
<hr/>	
Total	<u>36</u>

Professional Growth

Of the 34 teachers in the department, five were BS degree holders, 12 finished their academic requirements towards MS/M. degrees, and the rest were still pursuing their graduate studies.

Accomplishments

- a. Submitted and implemented an action program for the Vo-Ag Science Education.
- b. Increased output on teachers and students farm projects.
- c. Attended two conferences of the Regional PP/PAHP convention in San Fernando, La Union and Dismaloy, Pangasinan.
- d. Evolved with the faculty some guidelines re policy set by the Administration on student discipline.
- e. Painted the roofings of the Vo-Ag building.
- f. Accommodated demonstration classes in Pilipino and Science during the MECS District Seminar on the teaching of Pilipino, English, and Science to the first and second year high school students.
- g. Accommodated off-campus student teachers from other agricultural colleges, particularly IAC, LAC, WLC, and LC.

Extra-Curricular and Co-Curricular Activities

- a. Conducted the 1981-1982 Second Vo-Ag Science Education Intramural Meet.

b. Scouting

- (1) Seven boy scouts achieved the rank of Citizen.
- (2) Reached 100 per cent registration of scouts for BSP and GSP.
- (3) Fully participated in the Boy/Girl Scouts Camporee provincewide.
- (4) There were 15 students involved in the BSP and GSP Scout Officials for a Day (SOFLAD) in 1981.
- (5) Garnered the highest rank on the Boy Official of the Day, Boy Scout Week in October, 1981.
- (6) Attended 1st BSP-GSP National Scout Football Championship held in Iloilo City, November 24-28, 1981.
- (7) Boy Scouts attended the 1st Northern Luzon Regional Jamboree held at Tapan, Abra on March 2-7, 1981.

Guidance. The guidance program was strengthened through the following activities:

- a. Organized the Homeroom Guidance with emphasis on Career Guidance in the 3rd and 4th year students.
- b. Organized leadership training for homeroom officers.
- c. Conducted individual and peer counseling among high school students.
- d. Administered psychological tests.
- e. Conducted information drives on scholarship and career guidance.

- f. Formalized and implemented the Moral Guidance program.
- g. Supported the BSP Grand Coñao Kick-off Fund-raising activity.

Accomplishments of the Home Economics and Vocational Agric. Education

- a. Updated and enriched course outlines.
- b. Organized the following:
 - (1) Clubs in Social Studies, English and Science.
 - (2) Quiz Bee in Social Studies.
- c. Three instructors attended the District Level Seminar-Workshop to upgrade themselves in the teaching of Filipino, English and Science.

Publication. The department came out with publication of various articles in the Mountain Breeze by the students along developmental journalism.

Behavioral Performance of Students

- a. Third place in the General Championship - 7th FFP/ELHP Work Conference, December 2-4, 1981, Bolinao, Pangasinan.
- b. Most Friendly and Most Behaved group among the different delegates in the FFP/ELHP Work Conference.
- c. Won first prize in the Academic Skills Contest.

- d. Attended the Regional Secondary Press Conference held in Laoag City, Ilocos Norte.
- e. In the College Intramural Sportfest, Vo-Ag Science Education Department won fourth place.

Problems and Recommendations

- a. Vocational Agriculture and Farm Mechanics
 - (1) Need for more tools in Farm Mechanics.
 - (2) Need for a Shop Building for the Vo-ag Science Education Department.
 - (3) Group farming should be an alternative to individual farming due to prohibitive cost of potato seeds.
- b. Agricultural Homemaking (Home Economics)
 - (1) Need to hire one instructor to handle food in the Home Economics Division.
 - (2) Need to buy more sewing machines.
- c. General Secondary Laboratory Education Department

Significant accomplishments of the department were:

Instruction

- (1) Updated course syllabi in all subject areas.
- (2) Enriched the curriculum in Mathematics III and Communication Arts.
- (3) Opened an English Mini-Speech Session on Mondays and Wednesdays, 5:15 P.M. - 6:00 P.M., to minimize dialectical influence among the students.

- (4) English teachers coordinated and helped finance the secondary press conference participation of student delegates to the division and regional conference to enhance technical skills in writing.
- (5) Filipino teachers coordinated the celebration of "Linggo ng Wika" with a program which included contests in Filipino songs, poems, drama, dances and extemporaneous speaking.
- (6) Organized and operationalized the different clubs-English-Pilipino Dramatic, Rhetorics, Science, Homemakers' Club, Rondalla, and Student Body Government.
- (7) Practical Arts Teachers accomplished the following projects:
general carpenters' wooden tool boxes, wooden mallets, labor saving device (bench hook), native wooden planes, wooden stools, dining table, side table, practical electricity - wire joints and splices, electric table lamps, electric water heaters, and improvised electric stoves.
- (8) Homemaking Arts Teachers taught different kinds of garment trappings applied in pajamas project, seams, stitches, embroidered pillow cases, handkerchiefs, runners, towels, patchwork wall panel, bags, curtains, bed covers, quilted baby bags and sofa set covers and other 14 homemaking basic needs.
- (9) Food Trades Teachers taught food preservation and with the scouting movement celebrated the 1981 Nutrition month in

August, 1981 with appropriate contest program and activities.

- (10) The department succeeded in having two disabled student delegates represent the Benguet Council (GSP) in the National Encampment for Disabled Girl Scouts in Davao City on September 19-26, 1981.
- (11) Mathematics and Science Teachers initiated the students' participation in the Provincial Science Fair Quiz.
- (12) Sixty-one Boy Scouts participated in the Benguet Provincial Camporee held at La Trinidad, Benguet on November 12-15, 1981.
- (13) Homeroom periods were utilized to strengthen moral values.

Physical Development. The department accomplished projects to enhance the physical and social features of the premises:

- a. Shop teachers with their students constructed the social hall stage, basketball goals, and road barricades. Required chairs, toilet snuffers, and roofing. Curtain for the stage was sewed by the homecraft arts teachers.
- b. Installed water pipes from the new building to the H.L. room, faculty toilets, boys' and girls' toilet in the old building.

- c. Solicited the following donations from civic-minded citizens:
- (1) School sign board and five sabers for the CAT.
 - (2) Raised funds to procure mini-fences to beautify the facade of the school through the Girl Scouts.
 - (3) Acquired book collection of 180 volumes of assorted titles - History, English, Science, Mathematics, and School Sciences from Asia Foundation.
- d. Purchased a complete public address system from the funds of the Student Body Organization.

In-Service Training/Seminar-Workshop

<u>In-Service Training/ Seminar-Workshop</u>	<u>No. of Participants</u>	<u>Level</u>	<u>Dates</u>	<u>Sponsor</u>
Mathematics analysis Topics in Modern Geometry	2	National	March 30-April 18, 1981	ENPC- UB Ateneo de Manila
Use of <u>EDPILAF</u> textbooks in English, Pilipino II and Science III	3	Division	Sept. 14-18, 1981	MECS- Benguet
Scout Leadership Training (Phase I)	1	Local	Nov. 5-7, 1981	BSP Benguet Council
PEPA-Guidance Strategies in the Face of Crisis in the Family	1	National	Nov. 5, 1981	Phil. Gui- dance Per- sonnel Assoc.
Second Secondary Press Conference and Workshops	1	Division	Nov. 9- 11, 1981	MECS- Benguet

In-Service Training/Seminar-Workshop (Continued)

Seventh National Conference in Filipino Psychology	1	Division	Nov. 9-11, 1981	MCSS- Bonguet
Seventh National Conference in Filipino Psychology	1	National	Nov. 14-16, 1981	(PSS)- Pambansang Samahan ng Scholohiyang Pilipino
Seminar-Workshop in Librarianship in Connection of Filipiana Reading Materials	1	Regional	Nov. 21-28, 1981	LAB 1

The school's rondalla participated in the following activities:

- a. Opening program of the English-Pilipino Seminar, Girl Scout Headquarters, La Trinidad, Bonguet on September 14, 1981.
- b. Filipino Week Celebration, Multi-Purpose Social Hall, September 21, 1981.
- c. Opening program of the Bonguet Science Fair, Provincial Capitol, October 19 and 21, 1981.
- d. Inauguration of La Trinidad Vegetable Training Center, Municipal Grounds, October 21, 1981.
- e. Induction and turn-over ceremonies of Boy-Girl Officials for a Day, Provincial Capitol, October 26-27, 1981.
- f. Opening program of the Bonguet Press Conference, November 9, 1981.

Problems and Recommendations

- a. Procure a water pump, spray pumps, and fertilizers for the instructional garden to be more effective and successful.

b. Hire a student assistant in the library to assist students in the proper selection and acquisition of reading materials.

c. Provide the handicraft classes with the following equipment for better and varied instructions:

- | | |
|-----------------------------|------------------------|
| (1) Three sewing machines | (4) One mannequin |
| (2) Three sewing looms | (5) One flat iron |
| (3) Three knitting machines | (6) One pinking shears |

d. Elementary Laboratory Education Department

Enrollment as of December, 1981. A total of 842 pupils enrolled in the department handled by 35 faculty members and staff.

Pupil Development

- a. Employed remedial instructions to improve weak pupils.
- b. Involved active pupil participation in culminating programs and projects - in the institutional, departmental, community and provincial levels.
- c. Conducted academic contest in mathematics and spelling.
- d. Assigned boy scouts as flag bearers and traffic boys during flag ceremonies, and as gate-guards and school policemen.
- e. Formed the following pupil organizations:
 - (1) Pupils' School Government
 - (2) Pupils' Rondalla

- (3) Boy, K&A and Girl Scouting
- (4) Glee Club
- (5) Childrens' Baseball Team
- (6) Pupils' Toy Orchestra
- (7) Classroom Pupil-Officers

Personnel Development

Nineteen of the 35 personnel attended summer, evening and Saturday classes for their graduate studies:

<u>Faculty</u>	<u>Seminar-Workshop</u>	<u>Dates</u>
A.R. Bernal M.P. Saldo	Music	Sept. 2-4, 1981
I.G. Gaerlan J.B. Pinas	Math IV Science VI	Sept. 14-20, 1981
J.B. Canuto	Social Studies	Sept. 18-20, 1981
H.O. Lubos S.C. Serrano	K&A Scout Training Trainer for Boy and K&A Scouting	Nov. 5-7, 1981
E.O. Lapicte	Credit Cooperative	Nov., 1981
V.B. Basil	Science V Social Studies V	Dec. 14-20, 1981
S.G. Valdez P.S. Coquia H.O. Lubos S.M. Celino A.L. Dayaoen	Math I Social Studies II Math II Science III Science IV	Dec. 21-23, 1981

Other activities held for personnel development:

- a. Teachers' meetings, conferences and dialogues.

- b. Institutional faculty programs.
- c. Teachers' active participation - Banduria Band, Choral Group, and Cultural Dances.
- d. Active participation in the affairs of the MSJTDH, PPTM, Boy and Girl Scouts, Red Cross, PTA, Religious Association, Goodwill Industries for the Handicapped, Women's Club, etc.

Curricular Improvement

- a. Accomplished daily the teachers' logbook to conform with the Work-Oriented annual lesson plans.
- b. Innovated and enriched the annual lesson plans with the additional of more Bibliography and Sample Tests to the content.
- c. Observed the work-oriented activities.
- d. Tried out the team-teaching and departmentalized onward of teaching in the Grade IV classes.
- e. Checked periodic tests and ratings for appraisal purposes.
- f. Integrated different grade subjects as necessary.
- g. Recommended some teachers for in-service training to upgrade academic instruction.
- h. Carried out remedial instruction in Reading, Arithmetic, Composition Writing, and Spelling.

Institutional Facilities and Development

- a. Painted the school concrete wall along the National Highway.
- b. Repaired the canopy of the center building.
- c. Painted the concrete benches in the school ground and the school gate with green and yellow.
- d. Acquired the following Home Economics equipment:
 - (1) One Toshiba Electric Stove
 - (2) Three Mixing Bowls
 - (3) One Olympia, Pica Typewriter
 - (4) Five dozens each of teaspoons, table spoons, and forks
 - (5) One frying pan
 - (6) One set of table knives
- e. PEI donated 2,000.00 for the pupils' banduria, guitar, band, and octavina string instruments.
- f. Mr. Redondo donated one octavina and one band worth 370.00
- g. Acquired 14 new teachers' tables, 10 new classroom aparadors, and a typing table.
- h. PEI donated a four-drawer steel cabinet.
- i. Mrs. Sercia Valdez solicited 20 copies of "Read and Grow Workbook for Grade I."
- j. Mesdames Olga Daza and Aurora Ossago solicited 400.00 for the purchase of visor caps and socks for the Children's Baseball Team.

Work-Oriented Projects

- a. Agriculture Projects. Vegetables planted and harvested by the primary pupils were chayote and onions. Proceeds were spent to buy cleaning materials and equipment.
- b. Home Economics - Grade V and VI
- (1) Harvested onions and amote. Proceeds were used for Home Economics projects and cleaning materials.
 - (2) Manufactured Vinegar. Proceeds were used for their projects such as crocheting and sewing for home accessories and food preservation, making wall decors, door mats, artificial flowers and other household accessories.
- c. Industrial Arts. The shop projects produced the following: Sixty-eight rubber flower pots and five rubber slippers, 40 dust pans, 30 fruit trays, 40 waste baskets, 12 shoe brushes, and eight bottle brushes. Some of the pupils sold their finished projects, but most of them brought home their finished projects for home use. Proceeds were given to the pupils to buy the materials they need for their industrial arts projects.
- d. Elementary Agriculture V. Vegetables planted were totally damaged by typhoons and heavy rains. Whatever was harvested was not enough to cover the expenses incurred.

- e. Varied Christmas Decorations. The pupils made Christmas decorations. They brought home their finished products for home use.

Social Programs and Projects

- a. Continuous innovation, enrichment and appraisal of the Work-Oriented annual lesson plans.
- b. School and community beautification.
- c. Cacti and orchid collection.
- d. Monday culminating programs.
- e. Academic contests for pupil development.
- f. Art painting display and contest.
- g. Food production.
- h. Planting fruit trees.
- i. Teachers' and Pupils' Rondalla.
- j. Collection of different houseplants.
- k. Promotion of cultural dances among teachers and pupils.

Problems and Recommendations

- a. Provide several updated books.
- b. Provide professional magazines for teachers.
- c. Perennial garbage pits of the public.
- d. Provide iron grills for the P.E. Building windows.
- e. Urgent need for more tables, classroom aparador or cabinets, teaching aides/devices/equipment to upgrade teaching effectiveness.

E. Student Services and Instructional Facilities

1. Guidance and Counseling: The Guidance and Counseling Services served the college students in manifold areas geared to the development of the whole personality of the students.

Accomplishments were :

- a. Administered 31 integrated tests given to faculty and employee-applicants.
- b. Assisted in the enrollment of college students.
- c. Assisted in the Senior School Career Guidance Seminar.
- d. Coordinated the Seniors' Seminar on Employment Opportunities.
- e. Evaluated the college faculty.
- f. Surveyed boarding and lodging houses of students in the neighborhood.
- g. Counseled students on emotions and failing grades.
- h. Assisted students who dropped out and transferred on to other schools.
- i. Assisted in the administration of IQ and Achievement Tests to students of the Secondary Laboratory Education.

- j. Spearheaded the seminars on Moral Values and Student Leadership among the DCSM Junior and Senior students.
- k. Coordinated the National DCSM Mid-Year Seminar on Guidance, November 4-8, 1981.
- l. Provided students self-development through group dynamics.
- m. Oriented college freshmen on the NSAC Guidelines and Policies.
- n. Coordinated the Peer Counselor's Training Program.

GCS Statistical Report for 1981 (June-December)

<u>Category</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
a. Drop-outs	19	31	50
b. Marriage	6	17	23
c. Psychological Tests			
(1) Otis Self-administering Tests of Mental Ability	266	554	820
(2) Personality Adjustments Inventory	218	415	633
(3) Entrance Test (S.C.T)			
(a) Qualified	254	416	670
(b) Not Qualified	-	-	-
(4) College Qualification Test (C.T)			
(a) Qualified	254	416	670
(b) Not Qualified	-	-	-

GCS Statistical Report for 1981 (Continued)

d. Excuse Slips issued to College students	41	81	122
e. Home visitations (follow-ups)	34	50	84
f. Referral cases (hospitals)	4	7	11
g. Other Guidance Services/Activities			
(1) Counseling Services			
(a) Emotional and family problems	15	23	38
(b) Causes of low scholastic grades (interviewed)	41	76	117
(c) Causes of drop-outs (interviewed)	28	42	60
(2) Orientation Program to College Freshmen on Guidelines and Policies	151	342	303
(3) Seminar on Employment Opportunities and Human Relation	92	133	225
(4) Survey on Lodging and Boarding Houses occupied by NMAC students	34	50	84

Causes of College Student Drop-outs (Based on Interview)

<u>Causes</u>	<u>No. of Drop-Outs</u>
a. Lack of interest	8
b. Financial problems	13
c. Failing grades	16
d. Vocational misfit	7
e. Marriage	6
f. Poor study habits	2
g. Lack of personal discipline	4

Causes of College Student Drop-Outs (Based on Interview) (Continued)

h. Emotional problem	1
i. Family problem	2
j. Health problem	4
k. Accidents	1
l. Assist mother at home	1
m. Low aptitude and ability	3
o. Tribal war	1
Total	<u>69</u>

Forty-six or 67 percent of the total 69 cases were college freshmen enrolled in the various degree programs; 12 or 17 percent, college sophomores; six or 9 percent, college junior; three or 4 percent, college seniors; two or 3 percent college fifth year students.

2. Library Services. The library is composed of the College main library, two librarians for the secondary level, and one for the elementary.

2.1 Library Collections in 1981

a. Books

College	1,062
Secondary	273
Elementary	230

b. Theses 541

c. Pamphlets 519

Serial Titles:

(1) Gifts	38
(2) Exchange	3
(5) Subscription	2,675
	<hr/>
Total . . .	<u>5,341</u>

2.2 Library Staff Output of Work

a. Technical Services

(1) Titles classified	973
(2) Books accessioned	186
(3) Books posted with date due, pockets	2,374
(4) Added entries	903
(5) Cards typed	4,986
(6) Periodicals indexed	58

b. Business

(1) Incoming correspondence	97
(2) Out-going correspondence	86
(3) Memoranda/Circulars Received	14
(4) MAAC Students using the libraries Library Consortia	155

c. Current Awareness Services 5

d. Library Extension Work (giving professional assistance
to other libraries, July to October, 1981)

2.3 Attendance Statistics of Library Users

<u>Library Unit</u>	<u>November, 1981</u>
a. General Circulation	26,125
b. Research	58,997
c. Serials	38,358
d. References	12,632
e. Secondary	29,786
f. Graduate School	4,372
	<hr/>
Total . . .	<u><u>170,270</u></u>

2.4 Circulation Statistics. Total number of books circulated .. 77,795

2.5 Major Accomplishments

- a. Authored and published a Catalogue of NSAC periodicals distributed to the different academic Departments as references.
- b. Extended professional assistance to the UMA Library consultant from July to October, 1981
- c. Coordinated and organized a lecture-symposium on "Building of a Filipiniana Materials" for the professional growth and continuing education program of the NSAC Library Staff and other librarians in Baguio-Bangor area.

2.6 Major Problems

- a. Restrictions on the purchase of books in LOI 1098 that

hampered the growth of library collections.

- b. Limited space in the Serials and Reserve Sections.

2.7 Recommendations

- a. Exempt state colleges like M.C. from any restrictions regarding purchase of books.
- b. Provide bigger allocation for book/periodical acquisition in the budget.
- c. Convert the veranda of the Library Building into a reading room to house the Serials and Reserve Sections.

3. M.C. Ladies Dormitory

3.1. Social activities

- a. Valentines Party February 13, 1981
 Inspirational Speaker Mr. Joey Josue
- b. Farewell Party March 10, 1982
 Guest Speaker Dr. William D. Dir
- c. Acquaintance Party July 10, 1981
 Guest Speaker Dr. Cipriano C. Consoledon
- d. Christmas Party December 18, 1981
 Guest Speaker Mr. Jose Balaoing

3.2 Other Activities

- a. Accommodated off-campus student teachers from the Pampanga Agricultural College and Laguna, Agricultural College.

- b. Attendance of dormitory residents in the social activities held during trainings at the WAC-RTC-RD.

3.3 Problems and Recommendations

The frequent blowing up of the fuse caused disturbances and inconveniences during the study and cooking hours of the residents. More attention to this problem should be extended.

4. Health Services. The clinic was manned by a part-time physician, a dentist and a nurse.

a. Medical Services, January-November, 1981

Causes Found by Systems

ENT	388
Cardiovascular	6
Respiratory	357
Gastrointestinal	117
Genito-Urinary	56
Integumentary	97
Skeletal-Muscular	4

Communicable Diseases Found

ITD	10
Influenza	28
Chicken Pox	3
Herpes zoster	1
Conjunctivitis	30
Accidents (wounds, burns, hematomas, contusions, sprains, etc.)	113
Laboratory results submitted	50

b. Dental Services

Patients inspected	454
Patients found with defects	436
Patients given treatment	361
Patients given oral prophylaxis	97

Treatment Made

(1) Tooth extractions	
(a) Permanent teeth	224
(b) Temporary teeth	0
(2) Fillings	
(a) Silver Amalgam	73
(b) Zinc Phosphate cement	9
(c) Silicate cement	12
(d) Zinc oxide eugenol paste	146

D.M.F. Survey

(1) Teeth found with decay (D)	1,023
(2) Teeth found missing (M)	716
(3) Teeth found with filling (F)	134
(4) Temporary teeth found with decay (D)	29

5. The Mountain Collegian

- a. Came up with two issues of The Mountain Collegian.
articles were well-written and highly developmental.
- b. The MC advisor and staffers lectured on developmental writing and newspaper in the following places:
 - (1) St. Louis University, Eagle City - August 13-14, 1961.

- (2) University of Baguio, Baguio City - November 5 & 7, 1981.
- (3) Manaoag High School, Pangasinan.
- (4) Science Foundation of the Philippines, Lingayen,
Pangasinan - September 11, 1981.
- (5) University of Baguio, Baguio City - November 16, 1981.

6. Student Organizations

The Student Supreme Council was composed of 17 elected student leaders and a faculty advisor.

Accomplishments

- a. Conducted election of the SSC officers on July 24, 1981.
- b. Inducted elected SSC officers on August 15, 1981.
- c. Organized the Kabataan Barangay School Chapter (KBSC) on August 28, 1981.
- d. Sponsored a leadership training seminar-workshop for SSC officers on September 19-20, 1981.
- e. Acquired a new permanent SSC office in the Agricultural Engineering Complex on September 30, 1981.
- f. Published Funds through a Folk-Rank Concert on October 17, 1981 at the Provincial Capitol Auditorium.
- h. Made available the use of the SSC Sound System for the different accredited student organizations.
- i. Deposited with the DUE the following SSC fees:

(1) First Semester, 1981-1982	P9,675.00
(2) Second Semester, 1981-1982	<u>8,222.00</u>
Total . . .	<u><u>P17,897.00</u></u>

Summary of Funds and Expenses

Student Supreme Council

Cash in Bank	17,897.00
Add: Interest earned	373.00
Total cash in Bank	18,070.00
Less: Disbursements	4,722.10
Total Cash available	13,347.90
Add: Balance of SY 1980-1981	5,287.31
TOTAL CASH AVAILABLE	18,629.21

7. Alumni Affairs. The office of Alumni Relations in coordination with the MS.C. Alumni Associations, Inc. did the following accomplishments:

- a. Election of a new set of officers for SY 1981-1982.
- b. Ratified the amendments to the articles of incorporation of the association.
- c. Selected three scholars under the MS.C.M.I scholarship funds.

On-Going Plans

- a. Solicit donors to the association's scholarship funds.
- b. Continue soliciting books from local and foreign sources for the College Library.
- c. Work with the College Administration in requesting the BLISS to put up a housing complex to be managed by the association.
- d. Extend help for the conversion of the College into a University.

CHAPTER II

RESEARCH

A. Research and Experiment Station (RES)

1. Design and Analysis of Experiment and Surveys. To continue the programmed research activities of the College, the RES carried out both social and technical researches.

The College carried out its 1981 research program with a budget of 1.3 million pesos. This amount was used in the three major research projects:

- a. The Integrated Cultural Management Project on Garden Pea.
- b. Potato Integrated Research Program.
- c. Cultural Studies on Flowers, particularly Chrysanthemum.

Some outside agency funded researches were started, on-going, or terminated. These were funded by PCARR, NAMICP, and NSDF.

Further expansion of research activities were carried out. This was done by promoting the value of research through a seminar-workshop held in the College on October 13-17, 1981. As a result, research programs and projects/studies were prepared and forwarded to LARC and finally to PCARR.

The RES took the lead in forming the Editorial Board for articles published in the MSAC Research Journal and MSAC Farm News Bulletin.

The RES provided the leadership in the implementation of approved research undertakings. It initiated researches in the preparation of research proposals for funding to agencies such as PMEC, PCARR, NRI, IRCP, and private companies.

As a member in the HACC consortium, MSAC through the RES actively participated in the preparation, formulation and evaluation of researches in the highland crops.

2. Research Projects Completed as of 1981

a. Funded Researches

<u>Title of Research</u>	<u>Agency</u>	<u>Researcher</u>
Effect of Plot Size and Depth of Planting on the Growth and Yield of Three Potato Varieties	MSAC	Micario D. Cadatal
Effect of Sowing Rate and Time of Fertilization on the Yield of Edible Redded Pea	MSAC	Franco T. Lawang Benjamin B. Dimas
Effect of Different Rate of Chicken Manure on the Growth and Yield of White Potato	MSAC	Elmo O. Sano
Variety Trial of White Potato	MSAC	Elmo O. Sano
Variety Trial on Strawberry	MSAC	Elmo O. Sano
Pilot Testing on the Control of Potato Thrips	MSAC	Elmo O. Sano

<u>Title of Research</u>	<u>Agency</u>	<u>Researcher</u>
Farmers' Field Test of White Potato	PCARR	Lucio B. Victor
Socio-Cultural Production in the Highlands	PCARRD	Luzviminda A. Villamator (Project Leader)
Ecological Succession and Population Dynamics of Major Insect Pests and Beneficial Insects of Potato	MSAC-PCARR	Eulogio V. Cardona, Jr.
Insecticide Screening against Insect Pests of Potato	MSAC-PCARR	Nora P. Lucero
Preliminary Study on the Pest Management of Selected Highland Vegetables, Cut Flowers and Fruits	MSAC-PCARR	Lita M. Colting
Control of Potato Thrips with PPT Insecticides	Planter & Products, Inc.	Eulogio V. Cardona, Jr. Percival B. Alipit

b. Undergraduate Thesis Researches (Completed)

<u>Title of Research</u>	<u>Student</u>	<u>adviser</u>
Performance of Broilers on the System of Wet Feeding, with Beer	F. Cape	Samuel S. Arcollana

Undergraduate Thesis Researches (Continued)

Milk Replacer as an Artificial Feed for Puppies	J. Bacdai	Basito S. Cotiw-an
Chopped and Fermented Banana Trunks as a Feed Supplement to Growing-Fattening Pigs	M. Yanes	Sydney E. Moresto
Study on the Performance of Broilers Given Acacia Leaf Meal as Feed Supplement	L. Abenoja	Sydney E. Moresto
Evaluation on the Curative Value of Systamex as an Anthelmintic Agent Against Internal Parasite in Cattle	M. Wagi-an	Basito S. Cotiw-an
Effect of Soybean Meal as Feed Supplement on Growing-Fattening Pigs Under Lowland Condition	A. Nasaraldo	Sydney E. Moresto
Effects of Two Different Commercial Brands of Feeds on the Performance of Broilers	E. En-ocha	Sydney E. Moresto
Effect of Grobic and Sugro-Mix on the Performance of Broilers	B. Saai, Jr.	Sydney E. Moresto
The Effect of Camachile Leaf Meal as Feed Supplement for Broilers	S. Pasalo	Samuel S. Arcellana
Effect of Katuray Leaf Meal as Feed Supplement for Broilers	J. Relosa	Samuel S. Arcellana
Effect of Different Colors of Bulbs on Growth of Breeding Chickens	C. Catayao	Anatalia V. Castrance
The Effect of Ground roasted Peanut and Ground Corn as Feed Supplement for Broilers	M. Rillera	Samuel S. Arcellana
The Effect of Choice Feeding on the Performance of Broilers	D. Basilio	Domingo Q. Casiwan

Undergraduate Thesis Researches (Continued)

The Effect of Malunggay Leaf on the Performance of Broilers	J. Hambon	Samuel S. Arcellana
Study on the Performance of Broiler Given Acacia Leaf Meal as Feed Supplement	L. Abenoja	Sydney E. Moresto
Acceptability Evaluation of Sausage Prepared with More Duck Meat than Pork	L. Ragudo	Samuel S. Arcellan
Effect of Three Antibiotics as Feed Supplement on the Growth and Performance of Broilers under Lowland Condition	L. Aquino	Sydney E. Moresto
Socio-Economic Profile of Farmers in Four Municipalities of Ifugao	P. Mayamao	Luke E. Cuanguey
Acceptability Evaluation of Sausage Prepared with Less Duck Meat than Pork	F. Dela Rosa	Samuel S. Arcellana
Utilization of Available Wastes for Fattening Goat in the Highland Areas	F. Mateo	Sonwright B. Maddul
The Effect of Katuray Leaf Meal on the Performance of Broilers Under Lowland Conditions	R. Refuerzo	Samuel S. Arcellana
Performance of Broilers on the Different Levels of Bean Leaf Meal as a Feed Supplement	E. Cayago	Anacleto D. Magtoto
A Comparative Study on the Effect of Glycerine and Ethanol as Dehydrating Agents Prior to Mounting a Permanent Hookworm Preparation	C. Paycan	Judith M. Gawisan
Effect of Different Skin-a-Day Methods of Feeding on the Growth of Broiler under M&C Conditions	H. Baders	Sydney E. Moresto

Undergraduate Thesis Researches (Continued)

The Effect of Scourex Suspension for the Treatment of Baby Scours	C. Matabye	Basito S. Cotiw-an
<u>Efficacy of Betel Nut (areca catechu) Against Ascaridia Galli</u>	J. Mayamay, Jr.	Basito S. Cotiw-an
The Performance of Broilers Under Different Feeding Managements	R. Ongyod	Domingo Q. Camivan
Study on the Effects of Different Kinds of antibiotics on the Growth and Performance of Broilers	M. Manaois	Sydney E. Moresto
The Effect of Different Level of Dried Cassava Leaves on the Performance of Broilers	M. Gallan	Sydney E. Moresto
The Effect of Legume Leaves on the Performance of Broilers	J. Payemyem	Sydney E. Moresto
A Study on the Efficacy of Valbazen Against Gastrointestinal Parasites of Goats	F. Atinyao	Antalia V. Castronce
Combination of Rice Bran, Commercial Feeds, and Chopped Kangkong in Varying Levels for Growing-Fattening Ducks	P. Cabanayan	Sydney E. Moresto
The Effect of Malunggay Leaf Meal on the Performance of Broilers under Pangasinan Condition	J. Capua	Samuel S. Arcellan
The Effect of Seswood Meal as a Feed Supplement for Broilers	M. Sarioc	Samuel S. Arcellana
Evaluation on the acceptability of Duck Meat and Pork as Sausage	R. De Venecia	Samuel S. Arcellana
The Effects of Different Kinds of Commercial Feeds on the Performance of Quails	E. Piso	Sydney E. Moresto
Study on the Different Levels of Combantrin as an Anthelmintic Against Ascaris suum in Piglets	F. Valdez	Amoleto D. Magtoto

Undergraduate Thesis Researches (Continued)

The Effect of Malunggay Leaf Meal on the Performance of Broilers	M. Vinluan	Samuel S. Arcellana
Study on the Different Levels of Ipil-Ipil Leaf Meal on the Performance of Fattening Goat	P. Jacob	Reynaldo B. Galban
The Effect of Giving Sugar Water on the Growth and Performance of Broilers	E. Ayo	Domingo Q. Casiwan
Effects of Corn and Cassava with and without Cow Manure on the Performance of Broilers	G. Soriano	Sydney E. Moresto
The Effect of Camachilo Leaf Meal on the Performance of Broilers	L. Rarudo	Samuel S. Arcellana
The Effects of Sprouted Mungo as a Protein Supplement for Broilers	E. Ferrer	Sydney E. Moresto
Study on the Efficacy Spectrum of Valbazen Against Gastrointestinal Parasites of Swine	G. Pilién	Anatalia V. Castrence
A Study on the Efficacy of Valbazen Against Gastrointestinal Parasites of Cats	G. Pistula	Anatalia V. Castrence
Study on the Different Levels of Neomycin for the Treatment of Piglets Scours	A. Kubaron	Basito S. Cotiv-an
A Study on the Effect of Starapple Leaves Decoction in White Scours of Piglets	S. Bolona	Anatalia V. Castrence
Study on the Different Levels of Betel Nut Decoction as an Anthelmintic Against <u>Ascaris suum</u>	A. Macusi	Anatalia V. Castrence
A Study on the Different Levels of Shrimp Meal as Feed Supplement for Broilers	A. Alfonso	Sydney E. Moresto

Undergraduate Thesis Researches (Continued)

The Effect of Recycling Pig Manure on the Performance of Growing Pigs	L. Madarang	Domingo Q. Casiwan
Further Study on Epil-Ipil Leaf Meal as Feed Supplement for Broilers	E. Agumo, Jr.	Sydney E. Moresto
Comparative Study on Rice Bran and Soybean Meal as Supplement on the Performance of Broilers	A. Valdrez	Sydney E. Moresto
A Study on the Effect of Ground-Roasted Peanut and Ground-Yellow Corn as Feed Supplement for Broilers	A. Segui	Sydney E. Moresto
The Study on the Effect of Cotton Seed for Broiler	G. Salanmea	Sydney E. Moresto
Study on the Effects of Three Different Kinds of Antibiotics Feed Supplement on the Growth and Performance of Broilers	R. Morales	Sydney E. Moresto
Effects of Ipil-Ipil Leaf Meal and Corn Meal on the Growth and Performance of Broilers	F. Leones	Sydney E. Moresto
The Effect of Dried Chicken Manure as Feed Supplement for Growing Pigs	C. Faculo	Sydney E. Moresto
The Effect of Chicken Dung as Feed Supplement to Growing Pigs	J. Barawa	Sydney E. Moresto
Identification of the Gastrointestinal Parasites of Goats Prevalent in the Selected Municipalities of Benguet	C. Buayan	Reynaldo B. Galban
The Therapeutic Efficacy of Isoniazide Hydrochloride a New Anti-Diarrheal Drug Against Scouring in Piglets	E. Ganga	Basito S. Cotiw-an

Undergraduate Thesis Researches (Continued)

A Comparative Study on the Accuracy of Flotation Technique Using Zinc Sulfate, Glycerine and Sodium Chloride in the Fecal Examination of Dogs	Y. Dista	Judith M. Gawisan
Acceptability Test and Evaluation of Duck Meat and Pork as Sausage	R. Del Campo	Samuel S. Arcellana
Effect of Chopped and Fermented Banana Trunks as a Feed Supplement on the Carcass Characteristics of Hogs	M. Manaois	Sydney E. Morosto
Effect of Different Levels of Humeral Contents as Feed Supplement on the Performance of Growing and Fattening Pigs	F. Novencido	Sydney E. Morosto
Comparative Study on the Operational Practices of Three Cooperative Unions in La Union and Ilocos Sur	M. Arando	Germinia A. Francisco
Marketing Practices of Banana Producers in Sablan, Benguet	N. Anosan	Luke E. Cuanguey
Marketing Practices of Rose Growers in La Trinidad, Benguet	N. Anosan	Luke E. Cuanguey
Palay Marketing on the Farm Level in Tabuk, Kalinga-Ipayao	V. Balwang	Luke E. Cuanguey
Comparative Economics Efficiency of Four Brands of Broiler Feeds Under H.C. Condition	C. Bulayo	Leopoldo N. Reynrino
Status of Employment, Underemployment in La Trinidad, Benguet	F. Caligtan	Darlyn Damasco
Fluctuation of Market (Retail) Price of Selected Salad Vegetables in Dagupan City	M. Daligis	Carlos T. Buasen

Undergraduate Thesis Researches (Continued)

Marketing Practices and Problems of Coffee Growers in Lagawe, Ifugao	M. Dulnuan	Luke E. Cuanguey
Household Income and Expenditure Patterns of Mine Workers in Camp 6, Tuba, Benguet	M. Gaab	Leopoldo N. Tagarino
Evaluation of Storing Table Potato Under Different Storage Structures	S. Gayzo	Julie A. Solisan
Marketing Practices of Tobacco Farmers in Aringay, La Union	J. Napatac	Luke E. Cuanguey
Distribution Contest of Selected Vegetable Commodities Produced in Loo, Buguias, Benguet at the Baguio City Market	C. Mayomis	Carlos T. Buasen
Fluctuation of Market (Retail) Price of Selected Rootcrops in Baguio City	G. Mayos	Carlos T. Buasen
An Economic Analysis of Agricultural Loan Granted by DBP in Dagupan City	P. Posadas	Hermilia A. Francisco
Fluctuation of Market Price (Retail) of Selected Cole Vegetables in Baguio City	J. Pokoyeo	Carlos T. Buasen
Economic Survey on Income and Expenditure Behavior of College Students at the Mt. State Agricultural College, La Trinidad, Benguet	F. Rosales	Leopoldo N. Tagarino
The Socio-Economic Status of the Rice Farmers of Sagada	M. Sito	Hermilia A. Francisco
Economic Analysis of Agricultural Loans Granted by Land Bank of the Philippines, Urdaneta Branch, Urdaneta, Pangasinan	E. Taberos	Hermilia A. Francisco
Commodity Marketing of Selected Vegetables at Baguio City	L. Uclan	Hermilia A. Francisco

Undergraduate Thesis Researches (Continued)

Fluctuation of Market (Retail) Price of Selected Vegetables in Baguio City Market	B. Tacloy	Carlos T. Buasen
Household Income and Consumption Patterns for Food Items in Vigan, Ilocos Sur	E. Villanueva	Leopoldo N. Tagarino
Merchandising Practices and Problems of Market Vendors of Selected Vegetable at the Baguio City Market	L. Tundagui	Herminia A. Francisco
Farm Investment and Income of Rice Farm Operators in Pugo, La Union	R. Lopez	Leopoldo N. Tagarino
A Comparative Study on the Income and Expenditure Patterns of Farmers, Business Owners, and NMAC Faculty at La Trinidad, Benguet	C. Paran	Leopoldo N. Tagarino
Farm Production and Marketing Analysis of Garlic in Sinait, Ilocos Sur	A. Patol	Herminia A. Francisco
Status of Employment and Underemployment in Bakun, Benguet	S. Wangang	Leopoldo N. Tagarino

Graduate Thesis Researches (Completed)

Flower Induction and Seed Production Study on Pechay	L. Ancheta	William D. Dar
The Influence of Indole Acid on the Duration and Concentration of Rooting Grape Cutting	A. Andrada	Conrado J. Oliveros
The Growth and Yield of Garlic as Affected by the Time of Planting, Nitrogen Levels and Time of Fertilizer Application	G. Andrada	Conrado J. Oliveros

Graduate Thesis Researches (Continued)

The Response of Irish potato to the Different Methods of Planting and Rates of Boron	W. Anun-tawong	Conrado J. Oliveros
Effects of Moisture Stress on the Growth, Yield and Some Postharvest Characteristics of Cultivars Cocina and Red Pontiac	F. Bawang	Conrado J. Oliveros
Effect of Time and Rate of Nitrogen Fertilizer Application on the Growth and Yield of Cabbage	G. Bilango	Perceival B. Alipit
Effect of Tillage on the Growth and Yield of Three Varieties of Potato	M. Cadatal	Lucio B. Victor
A Study on Rice Variety and Zinc Application Against Important Pests in Paracelis, Mt. Province	R. Fernandez	Faustino G. Hernaldo
Effect of Gibberellic Acid on the Acceleration of Flowering of <u>Statice</u> (<u>Linonium sinuatum</u>)	A. Indiled	Lucio B. Victor
Growth and Yield Characteristics of White Potato Cultivars as Affected by the Time of Fertilizer Application Under Lowland Environment	V. Manlaser	William D. Dar
Effects of Water Stress on Varieties of Bulb Onions	A. Sonera	William D. Dar
Effects of Varying Time of Fertilization and Frequency of Irrigation on the Growth, Yield and Quality of Barley	M. Tomas	Faustino G. Hernaldo

3. On-Going Researches/Projects

<u>Title of Research</u>	<u>Researcher</u>	<u>Funding Agency</u>
Cropping Patterns for Highland Vegetable Crops	Dr. L.B. Victor	PCARR

On-Going Researches/Projects (Continued)

All-Philippine Coordinated Vegetable Evaluation Trials on Crucifers	Dr. L.B. Victor Prof. F.T. Dawang	PCARR
All-Philippine Coordinated Vegetable Evaluation Trials on Solanaceous (Tomato)	Prof. E.O. Sano	PCARR
All-Philippine Coordinated Vegetable Evaluation Trials on Solanaceous (Pepper and Eggplant)	Prof. P.E. Toledo	PCARR
Effect of Seeding Rate and Spacing on the Growth and Yield of Garden Pea	Prof. F.T. Dawang	MSAC
Effect of Tillage on the Growth and Yield of Sweet Pea	Mr. M.D. Cadotal	MSAC
Effect of Physiological Age of Seed-Tubers on the Growth and Yield of the Irish Potato	Prof. F.T. Dawang Mr. A.A. Hermoso	MSAC
Comparative Study on Transplanted and Direct Planting of Seed-tubers	Prof. E.O. Sano	MSAC
Variety Trial of Strawberry	Prof. E.O. Sano	MSAC
Preliminary Study on Compost Application of Strawberry	Prof. E.O. Sano	MSAC
Weed Control in White Potato	Prof. P.E. Toledo	PCARR
Growth and Flower Improvement of Chrysanthemum thru Supplementary Lighting	Prof. B.D. Ladilad	MSAC-MSAC
Growth and Quality of Potted Chrysanthemum as affected by Growth Retardants	Prof. B.D. Ladilad	MSAC

On-Going Researches/Projects (Continued)

Production and Marketing of Ornamental Crops	Prof. B.D. Ladilad	MSAC
Integrated Potato Research Program	Prof. E.O. Sano (Program Leader)	MSAC
Sweet Pea Coordinated Research Program	Dr. W.D. Dar (Program Leader)	MSAC
Optimum Plot Size for Field Experiment on Sub-Temperate Crops	Mrs. S.Z. Beligan	MSAC
Improvement on Cultural Management of Chrysanthemum	Prof. B.D. Ladilad	MSAC
Establishment of Farming Systems Involving Semi-Temperate Fruit Crops and Vegetables on Sloping Areas of Benguet	Mr. J.G. Balaoing	PCARR
Agro-Forestry Special Project	Prof. B.D. Dimas	MSAC
Effects of Irrigation on the Growth and Yield of Potato	Engr. A.B. Aramin	PCARR
Sweet Pea Integrated	Mr. R.D. Colting	MSAC
Nutritional Requirements of White Potato	Mr. J.N. Balaoing Mr. A.L. Jara Miss J.L. Tukkiki	MSAC
An Ethnographic Study of the Ibalois of Benguet Its Implication to Development	Mrs. N.C. Carantes	NRCP
Socio-Cultural Agricultural Production in Highland (Benguet and Apayao)	Prof. S.C. Serrano	PCARR Project 6100-79-04- 15000

B. Production Projects

The production and self-liquidating projects were maintained for instructional and income purposes. The projects served as laboratory for students and also as demonstration farms of the different extension programs.

The total net share of the College from the different production projects for the year under review amounted to P854,269.09 compared to P309,579.53 of the preceding year.

<u>Production Project</u>	<u>Incharge</u>	<u>Net Income</u>
1. Canteen	Prof. R.C. Abastilla	134,676.02
2. Floriculture	Prof. B.D. Ladilad	24,405.70
3. Cottage Rental & Water Fee	Mr. D.E. Garin	35,282.20
4. Ladies' Dormitory	Prof. B.E. Hufana	17,010.00
5. RSD Guestel	Mr. I.B. Viado	15,128.00
6. Cattle Project	Dr. B.S. Cotiw-an	3,905.50
7. Food Processing	Prof. T.Z. Monroe	756.00
8. Malili Vegetable Farm.	Prof. M.O. Sano	20,150.00
9. Swamp Vegetable Farm	Mr. J.P. Martes	165,422.88
10. Swamp Vegetable Farm	Mr. D.D. Dumpilag	111,710.70
11. Swamp Vegetable Farm	Mr. R.M. Bocalan	83,500.00
12. Pomology & Veg. Farm	Mr. A.C. Tipayno	78,500.00
13. Swamp Vegetable Farm	Mr. C.G. Bilango	59,859.52
14. Swamp Vegetable Farm	Mr. N.T. Tesoro	53,962.57
	Total Net Income	<u>P854,269.09</u>

C. Highland Agricultural Research Center (HARC)

1. Introduction. The Highland Agricultural Research Center, now a regional research consortium among the Baguio Experiment Station (NES), Baguias Experiment

Station (BES), Conifer Research Center (CRC), Baguio Dairy Farm (BFD), National Economic and Development Authority (NEDA) Region I, Ministry of Agriculture (MA) Region I, the Philippine Council for Agriculture and Resources Research (PCARR), the Mountain State Agricultural College (MSAC), the Sericulture Research and Training Center (SRTC) and the Cordillera Studies Center (CSC), is mandated to enhance agricultural development in the MOUNTAIN PROVINCES and in the other highland areas of the country. As a research consortium, it is commissioned to take the lead role in research and development on the following major commodity assignments as follows: root crops; vegetable crops; ornamental/medicinal plants; plantation crops (coffee); pork; farming systems; soil resources; macro-economics; applied rural sociology; reforestation and forest watershed; dairy; bamboo; rattan, fuelwood and other products; park and wildlife; timber and timber products; agro-forestry; and pulpwood; fiberboards and paper products.

To date, MIRC is engaged in various projects and activities. Some of which are the Benguet Technopack Project, the Highland Agriculture Development Project, Agricultural Research Project and Staff Development activities.

2. Projects/activities and accomplishments

2.1 Research Monitoring Program (RMP)

Research Monitoring Program monitors the progress of on-going researches and collates formative and summative reports for data processing and reporting.

- monitoring of on-going research projects
- collection of abstracts of completed researches from member agencies of the HARC consortium.
- consolidation of research proposals.
- preparation of technical bulletins on major highland vegetables.
- assisted in the preparation of the 1985-1987 Regional Development and Investment Program on Agriculture.
- assisted in the evaluation of completed as well as on-going research projects in Region I.
- participated in a budget dialogue with PCJDR staff.
- visited Buñias Experiment Station, particularly the potato production area.
- reprogrammed the 5 year development plan of HARC.

2.2 Research Management Development Services (RMDS)

Research Management Development Services formulates approaches towards an efficient management of the research center as well as human resource development for researchers and staff.

- framed the H.R.C Consortium Policies and Guidelines Manual.
- assisted in the selection of Regions I and II prospective grantees for IC.IB scholarship grants.
- sponsored and co-coordinated the following seminars/workshops:
 - a. Highland Strategic Research Planning participated in by research leaders of the member agencies.
 - b. Regional Consultation Workshop on Agricultural Research participated in by the Technocrats from Regions I, II and III.
 - c. Systematic Managerial Analysis conducted for research executives of member agencies.
 - d. One-day workshop on Technology Packaging for Banquet Countryside Development Project for the technical members.
 - e. 1st Annual IC.IB-H.R.C Coordinated Research Review and Evaluation Seminar participated by research leaders, coordinators and directors.

- introduced the Benguet-Mt. Province Development Program (formerly the Benguet Coordinated Agricultural Development Program or BENGLADEP) in a meeting with M. (Benguet and Mt. Province), Provincial Officers, MPH, MA and MEDA Region I Directors and representatives.

2.3 Regional Agricultural Information Network (RAIN)

As applied communication unit of ILRC, it serves as the "siphoning unit" of all generated research results so as to ensure effective and efficient adoption of newly-developed highland technology for the clientele-the farmers.

- Published:
 - a. Two issues of the Highland Express, a quarterly publication of ILRC.
 - b. The maiden issue of the ILRC P. H. TIPS.
 - c. ILRC Brochure.
- documentation of seminar-workshop proceedings sponsored/co-ordinated by ILRC.
- literature exchange with research and development agencies both in the country and abroad.
- expansion of the ILRC-RAIN mini-library through the acquisition of books, theses books, and other reading materials.

- production/acquisition of visual/training aids such as pictures, illustrations, maps, and slides.
- RAIN linkage with mass media through occasional radio and press releases.
- assisted in the management of seminar/workshops and meetings.

2.4 Administrative Support Unit (ASU)

The primary task of ASU is to make the financial standing of the center sound and healthy. It is also assigned for the custodianship of research facilities, equipment and office supplies.

- solicited financial assistance to various agencies.
- responsible in facilitating release of research funds for the implementation of projects.
- provided clerical/secretarial services to the different programs, projects and activities of HACC.
- prepared the Memoranda of Agreement for the University of the Philippines, Baguio and that of the Philippine Textile Research Institute's affiliation to the HACC consortium.

2.5 Human Resource Development Program

Based on the survey conducted by the center, a number

of grantees are still completing their degree/non-degree programs here and abroad.

2.6 Banquet Technopack Project

The project, "Technology Packaging for Countryside Development", or the Banquet TECHNOPACK Project was implemented on May 5, 1981. It is a collaborative project among the member agencies of the HIRC consortium as follows: ICARR, M.D., M., BIL, German Seed Potato Program, BIL, FORI and M.A.C.

The project aims to formulate and test in farmer's field unified technology recommendations on six commodities namely: strawberry, sweet pea, cattle fattening, rose, agro-forestation, and extension and communication kits for farm technologists and farmers, specifically in Banquet.

2.7 Research Consortium Coordinating Committee

- | | | |
|----|--|----------|
| a. | BENNO M. SUTOS
President
Mountain State Agricultural College | Chairman |
| b. | ALVARO M. MURILLO
Deputy Director-General for Research | Member |
| c. | JOSÉ M. ALBARRA
Executive Regional Director, FIDA | Member |
| d. | EMILIO GIANZON
Director, BIL | Member |

- | | | |
|----|--|------------------------|
| e. | DAMASCIO M. TRINIDAD
Director, BAI | Member |
| f. | FILIBERTO S. POLLISCO
Director, FORI | Member |
| g. | SOPHIE M. CATBAGAN
Dean, U.P. College of Baguio | Member |
| h. | EDUARDO P. VILLANUEVA
Director, PITRI | Member |
| i. | WILLIAM D. DAR
Research Coordinator, HARC | Executive
Secretary |

2.8 Technical Advisory Group

- a. CRISPINO D. ANCHETA
Superintendent, Baguio
Experimental Station
- b. VALENTINO G. BALOING, SR.
Manager, Baguio Experiment Station
- c. FAUSTINO G. HERMANO
Acting Research Director
Research and Experiment Station, MSAC
- d. JOEL MANGALINDAN
Manager, Baguio Dairy Farm
- e. VICENTE P. VERA-CION
Research Coordinator
Conifer Research Center
- f. JOSE DELA CRUZ
Provincial Executive Officer
Ma, Benguet
- g. ANTONIO FELICIANO
Coordinator
Sericulture Research and
Training Center

- h. BENJAMIN C. ABELLERA
Research Coordinator
Cordillera Studies Center
- i. ELMO O. SANO
Director, NPRRTC, MSAC
La Trinidad, Benguet

2.9 Inventory of On-Going Research Projects and Studies^{*}

AGENCIES	No. of Projects	No. of Studies
a. MSAC	14	58
b. MSAC-CIP-PCARR	5	21
c. PCARR-MSAC	1	14
d. BPI, Baguio	-	13
e. BPI, Buguias	6	15
f. <u>1/</u>	-	-
g. UP, Baguio ^{1/} (in the process of complying concertium formalities)	-	-
h. SRPC/PTRI ^{2/}	-	-
i. FORI (Conifer Research Center)		28
Total Number	26	149

* As of third quarter

1/ Not submitted

2/ No compliance

D. Philippine Root Crops Research and Training Center (NPRCRTC)

The NPRCRTC based in the College was established by virtue of PD 1107 primarily to spearhead, coordinate, plan, implement and monitor root crops research and conduct training. The NPRCRTC was mandated to generate technologies in root crops designed to increase yield per unit time per unit area with the least or minimal cost.

Accomplishments: The NPRCRTC has been tied-up with MSAC-CIP-PCARR.

Potato Research Projects:

Project I. Rapid Multiplication Studies

<u>Research Title</u>	<u>Researcher</u>	<u>Remarks</u>	<u>Source of Fund</u>
Percentage Survival of Potato Stem Cuttings as Affected by Four Varieties	I. Carpio E.O. Sano	Completed Trial I	IPDF-MSAC
Evaluation of Local Materials as Rooting Medium of Potato Stem Cuttings	L.J. Harmsworth (Project Leader) E.B. Akiew (Study Leader)		
Evaluation of Local Materials as Rooting Medium of Potato Single Node Cuttings	L.J. Harmsworth R.A. Acasio E.B. Akiew E.O. Sano	Completed Trial I	IPDF-MSAC
Comparison on the Quantity of Planting Materials Produced from Multi-Nodal Against Single-Node Cuttings in a Given Period	R.A. Acasio L.J. Harmsworth E.B. Akiew E.O. Sano	Completed Trial I	

Project I. Rapid Multiplication Studies (Continued)

<u>Research Title</u>	<u>Researcher</u>	<u>Remarks</u>	<u>Source of Fund</u>
A Study on Rate of Rapid Multiplication in Potato by Stem Cutting	L.J. Harmsworth R.A. Acasio E.B. Akiew E.O. Sano	Completed Trial I	IPDF-MSAC
Influence of Age of Stem Nodes on Root Development and Shoot Growth of Single-Node Cuttings	L.J. Harmsworth R.A. Acasio E.B. Akiew E.O. Sano	Completed Trial I	IPDF-MSAC

Project II. Optimizing Potato Productivity Trials

Insecticide Trials Against Thrips on Potato	E.O. Sano E.O. Badol	Completed Trial 2	IPDF
Effect of Seed Size on the Yield of Potatoes (Trial 1)	E.O. Sano et al.	Completed (Study 1)	IPDF
Effect of Seed Spacing and Seed Size on the Yield of Potato	E.O. Sano et al.	Completed	IPDF
Effect of the Seed Size on the Yield of Potatoes	E.O. Sano et al.	Completed (Trial 2)	IPDF
Effect of Seeding Rate on the Yield of Potato	E.O. Sano et al.	Completed	IPDF
Effect of the Depth of Planting on the Yield of Potato	E.O. Sano J.C. Perez	Completed (Trial 1, 2 and 3)	IPDF
Effect of Plot Size on the Yield of Potato (Trial 1)	E.O. Sano et al.	Completed	IPDF
Potato Variety Trials at Bayombong, Nueva Vizcaya	E.O. Sano et al.	Completed	IPDF

Project II. Optimizing Potato Productivity Trials (Continued)

Potato Variety Trials at the Mountain State Agricultural College	E.O. Sano et al.	Completed (Trial 2)	IPDF
Fertilizer Trial on Potato	E.O. Sano A. Basalong	Completed	IPDF
Effect of Seed Size on the Yield of Potatoes	E.O. Sano et al.	Completed (Trial 3)	IPDF
Effect of the Depth of Planting on the Yield of Potato (Trial 2)	E.O. Sano et al.	Completed	IPDF
Potato Variety Trial at the Mountain State Agricultural College, La Trinidad Valley	E.O. Sano et al.	Write-up in progress	IPDF
Comparative Study on Direct Planting and Transplanting of Potatoes	E.O. Sano A. Basalong	Completed	IPDF
Effect of Plant Density on the Yield of Potato	E.O. Sano et al.	Completed	IPDF

Project III. Integrated Potato Storage Trials

The Influence of Dark and Diffused Light Storage Conditions on Dormancy Period and Sprout Growth of Potato Seed	V. Baldezan L. Cuanguey E. Sano	Completed	IPDF
Comparative Study on Potato Seed Stored in Dark Storage versus Seed Stored in Diffused Light Store	E.O. Sano et al.	Completed	IPDF
Comparative Study on the Yield of Potato Seed Stored in Refrigerated Store Versus Seed Stored in Diffused Light	E.O. Sano et al.	Completed	IPDF
The Effect of the Different Dosages of Carbon Disulfide (CS) in Breaking the Dormancy of Potato Seed Tubers	L.B. Loyocan E.O. Sano	Completed	IPDF

Project IV. True Potato Seed Trials

<u>Research Title</u>	<u>Researchers</u>	<u>Remarks</u>	<u>Source of Fund</u>
Comparative Study on the Yield of Direct Seeding and Transplanting of Potato Botanical Seed (TBS)	E.O. Sano et al.	Completed	IPDF
True Potato Seed Trial on Bare-Root Versus Root Covered with Soil	E.O. Sano	Completed	IPDF

2. Coordinated the Integrated Potato Research of the College .

Studies CompletedProject I. Integrated Research on Cultural Production of Potato for Table Use and Seedpieces

Effect of Water Stress on the Growth and Yield of Potato	W.D. Dar A.A. Hermano		MSAC
Off-Season Culture of Potato Under Plastic Tunnels	L.B. Victor A.A. Hermano		MSAC
Effect of Plot Size and Depth of Planting on the Growth and Yield of Three Potato Varieties	M.D. Cadatal A.A. Hermano		MSAC

Project II. Nutritional Requirements of White Potato

Effect of Different Rates and Kinds of Organic Fertilizer on the Growth and Yield of White Potato	E. Macaril P. Jaramillo		MSAC
Effect of Frequency of Watering, Rate and Time of Applying Fertilizer for Potato	J. Takaki P. Jaramillo		MSAC

Project II. Nutritional Requirements of White Potato (Continued)

<u>Title of Research</u>	<u>Researchers</u>	<u>Source of Fund</u>
Effects of Different Nutrients and Method of Fertilizer Application on Growth and Yield of Potato	J. Balzoing P. Jaramillo	MS.C
Response of Different Varieties of White Potato to Levels of Potassium	A. Jara P. Jaramillo	MS.C

Project III. Crop Protection Studies on Pests and Diseases of Potato

Insecticide Screening Against Important Insect Pests of Potato	N.P. Lucero A. Otculan	MS.C
Evaluation of Fungicides Against Late Blight	S. Milagrosa A. Otculan	MS.C
Ecological Succession and Seasonal Abundance of Insect Pests Associated with Potato	E. Cardona A. Otculan	MS.C

Project IV. Product Development and Processing of Potato

Effect of Different Methods of Preparation in the Quality of Potato Flour	E. Tolentino R. Toledo	MS.C
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Project V. Integrated Research on Storage Technology of Seedand Table Potato

Comparative Study of Potato Seed Stored in Dark Versus Seed Stored in Diffused Light (Trial 1)	E.O. Sano E. Badol	MS.C
Effect of Dark Seed Stored and Lighted Seed Stored on Tuber Sprout Growth and Yield of Potato	E.O. Sano E. Badol	MS.C

Project V. Integrated Research on Storage Technology of Seed and Table Potato (Continued)

Variety Evaluation of the Length of Dormancy Period and Storage Losses of Potato Under Ordinary Storage Method	E.O. Sano E. Badol	MSAC
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Project VI. Verification of Updated Technology in the Farmer's Field to Maximize Productivity

Pilot Testing on the Control of Potato Thrips	E.O. Sano P. Acop	MSAC
Pilot Testing on Seed Size Technology	W.D. Dar P. Acop	MSAC

3. Production income generated from research - 720,150.00

4. Leveling and making drainage of 5 hectares at the swamp area.

E. MSAC-BLISS II Livelihood Project. This program is a joint project of the College with the Ministry of Human Settlement created as per Memorandum of Agreement dated July 23, 1979. It was designed by the MSAC to develop and upgrade the livelihood skills, standards, and organization of Philippine communities, particularly that of the communities around MSAC.

As conceived, the projects undertaken were strawberry production and processing. Involved in the production of strawberries were 172 student-guardian farmers, 128 of whom availed of the soft loans in the amount of 354,800. Of the said loans, 97% was already paid.

Below were the salient features of the projects in 1961:

<u>Strawberry Production</u>	<u>Quantity (Kg)</u>	<u>Value</u>
Processed	155,536.8	762,130.32
Sold	94,566.45	455,233.44
Spoiled	11,554.00	46,632.32
Total	<u>261,657.25</u>	<u>1,263,996.08</u>

Processing

Processing I c/o T. Monroe	68,517.00	335,733.30
.	33.05	231.35
Processing II c/o V. Tambanga	57,830.50	283,369.45
Strawberry House Corporation	16,328.00	80,007.20
Pines Food Products	12,861.30	63,220.37
Total	<u>155,569.85</u>	<u>762,561.67</u>

Processing Output:

<u>Product</u>	<u>No. of Bottles</u>	<u>Value</u>	<u>Unit Cost</u>
Jam-Processing I	190,038	1,017,103.06	
- Processing II	148,448	810,802.00	
- Strawberry House Corp.	44,086	216,218.20	
- Pines Food Products	36,840	174,542.29	
Total	<u>419,412</u>	<u>2,218,665.55</u>	<u>5.29</u>
Syrup-Processing I	2,397	4,997.00	
- Processing II	2,109	3,725.55	
Total	<u>4,506</u>	<u>8,722.55</u>	<u>1.94</u>

Unlike the operation in 1980, the area cultivated in 1981 was limited to only 10 hectares of which 5 hectares were planted to strawberry and 3.48 hectares to Irish potato.

In the strawberry and potato production, 76 student-guardian farmers were extended interest free loans. The breakdown are as follows:

1. Strawberry Production

Fertilizer and farm chemicals	69,203.13
40% in cash for labor	<u>60,172.00</u>
Sub-Total	<u>129,375.15</u>

2. Potato Production

Fertilizer and farm chemicals	21,728.00
Potato Seeds	21,825.00
40% in Cash for labor	<u>46,176.00</u>
Sub-Total	<u>89,729.00</u>

GRAND TOTAL	<u>219,104.15</u>
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CHAPTER III

EXTENSION

A. Extension Activities of the Academic Departments

As in previous years, the activities of the countryside extension program in 1981 was spearheaded by the Department of Agri-Business and Economics.

Likewise, all extension activities of each department accomplished during the year under review were:

1. Plant Science Department

The Plant Science Department extension program was not fully organized to serve the expected clientele in a full-time basis. Those in instruction performed part-time extension jobs. The extension jobs or services carried out during the period under review were:

<u>Nature of Extension Service</u>	<u>Date</u>	<u>Faculty Involved</u>
Briefed and guided around the College campus Japanese seed traders and producers	December 11, 1981	Dr. L.B. Victor Prof. E.O. Sano Prof. F.T. Bawang
Briefed and guided around the College campus Americans from Wisconsin University, USA	September 9, 1981	Dr. L.B. Victor Prof. E.O. Sano Prof. A.C. Tipayno Staff from other Departments
Served as judges and resource persons during Garden Day Celebration, University of Northern Philippines, Vigan, Ilocos Sur	October, 1981	Dr. W.D. Dar Prof. B.D. Ladilad

<u>Nature of Extension Service</u>	<u>Date</u>	<u>Faculty Involved</u>
Lectured on commodity familiarization on vegetables to BAlcon market reporters and supervisors training/seminar for Luzon, DFI, Baguio City	August 10-15, 1981	Prof. F.T. Bawang
Lectured on post harvest handling practices of major vegetables commercially produced in the highland, SHARCA sponsored TEMA training program, RSDC, MSAC.	August 27-28, 1981	Prof. F.T. Bawang
Lectured on suppression of sprouting with maleic Hydrazide, 2nd International Potato Storage Course, HPC-RO, MSAC	February 2-15, 1981	Prof. F.T. Bawang
Lectured on post harvest technology on vegetables to extensionists and supervisors of Mountain Province and Benguet, HPC-RO, MSAC	December 13-19, 1981	Prof. F.T. Bawang
Lectured on vegetable and fruit production techniques to farm technicians and extension supervisors from Benguet and Mountain Province	December 17, 1981	Dr. L.D. Victor Prof. F.O. Sano Prof. J. C. Tipayno

2. Animal Science Department

According to records of the Department, the faculty and the senior students treated and vaccinated the following livestock against hog cholera, FMD, rabies, and fowl pox.

Cattle	176
Swine	82
Goats	38
Dogs	57
Chickens	<u>1,200</u>
Total . . .	<u>1,553</u>

3. Home Technology Department

The Department conducted a non-formal education integrating population education and graduated the following:

Tailoring	9
Processing and Baking	23
Total . . .	32

The FAJP and HT organizations sponsored a Popularity Contest to raise funds for books and equipment needed in the department.

4. Agri-Business and Economics Department

Rural community services extended in 1981 were on skills training, organization of consumers cooperatives, and registration of cooperatives with the Bureau of Cooperative Development.

Skills Training Conducted

<u>Course</u>	<u>Place</u>	<u>Enrollment</u>	<u>Graduates</u>	<u>Budget</u>	<u>Financier</u>
a. Swine Production	Topkac, Atok	100	100	14,000	NYC
b. Crop Production:					
(1) Cabbages	Labuog, Kapanan	74	74	3,505	NYC
(2) Peas Peanuts	Codal, Kapanan			-do-	
c. Broiler Production	Basil, Tubley	98	95	4,000	NYC

Skills Training Conducted (Continued)

d.	Engine Trouble Shooting and Overhauling	MBAC	21	21	14,000	NIYC
	Sheet Metal Works and Welding	MBAC	16	16	--do--	NIYC
e.	Crop & Animal Production	Labey- Nalseb, Tublay	85	66	121,000	OXFAM

On-Going Skills Training

a.	Broiler Production	Bila, Bokod	61		2,330	NIYC
b.	Crop - - - Animal - - Production	Baptayan, Bokun	61 81		121,404 --do--	OXFAM

The department organized the following consumer's cooperatives:

- a. Topdac Consumer's Cooperatives
- b. Adoyunan Consumer's Cooperatives
- c. SAI-A Consumer's Cooperatives

The following cooperatives were registered with the Bureau of Cooperative Development:

<u>Name of Cooperative</u>	<u>Place</u>
a. PAM (Peking, Alapanit, Labueg, Longboy) Cooperative	Labueg, Kapangan
b. Topdac Consumer's Cooperative	Topdac, Atok
c. Adoyunan Consumer's Cooperative	Adoyunan, Atok

5. Teacher Education and Social Sciences Department

The EESE Department in collaboration with the EEAC Student Pastorate Council sponsored a two-day seminar on "Effective Extension Communication" on October 21-22, 1981 at the NTC-RD Conference Hall.

For extra-curricular participation, two regular faculty-members were advisers of the Student Supreme Council and EEAC Dissemination Club, respectively.

The EESE faculty and staff members participated in community service activities in tree-planting, Alay Lakad, Banquet Day Celebration, La Trinidad Town Fiesta and Lion's Convention. They acted as speakers and consultants in allied activities.

6. Biological Sciences Department

Extension services rendered were:

- a. Identified vegetables and fruit crop diseases and insects in the locality and neighboring areas and recommended control measures.
- b. Identified plant species and their uses (Botany Division).
- c. Provided guidance to mushroom growers in the establishment and maintenance of their projects.

Allied Projects. Projects undertaken by the department were:

- a. Mushroom - This project was in commercial French and Shitake mushroom production. Spawns were locally made. The project served as a demonstration and training center for mushroom growers.
- b. Arboretum - The Botany Division started and maintained a botanical garden where collections of different species of important plants are cultured.
- c. Demonstration Farm - The department maintained areas where experiments were conducted on the behavior and control of insects and diseases.

7. Agricultural Engineering Department

The faculty members participated in the college and community tree-planting activities during the first semester of 1961. From time to time, farmers from the service areas of the College, particularly areas previously served by the WJCS-SARAGA Social Laboratory Project, consulted with the department staff regarding their plant-soil requirements.

8. Soils and Chemistry Department

Varied extension services rendered were:

- a. Several of the faculty members were invited to give training programs as resource speakers or resource persons.

- b. Analyzed some soil samples from Clark Air Base.
- c. Participated in the FFMCC Local Convention as judges in soil samples.
- d. Participated in the College and community tree-planting and other civic activities.

9. Department of Languages

Extension and community services rendered were:

- a. Participated in the College and community tree-planting and local socio-economic activities.
- b. Professor Rodolfo T. Abastilla was invited as a Resource Person, Guest Speaker, and Lecturer in the following seminars and conferences:
 - (1) First Division Secondary Press Conference (6P, Benguet Division, December 4, 1981.
 - (2) Division Secondary Press Conference, Division of Benguet, March 19, 1981.
 - (3) Guest Lecturer - Journalism Workshop, November 14-16, 1981.
 - (4) Second Division Secondary Press Conference, November 9-11, 1981.
 - (5) Resource Speaker, Division Seminar on Science Journalism, Calasiao, Pangasinan, October 23-24, 1981.

- (6) Resource Speaker, Science Club Advisers Association, Inc., August 13, 1981.
- (7) Resource Speaker, "The Style and Language of Science Journalism", Regional Workshop, September 26-30, 1981.
- (8) Resource Speaker, "Elements of Technical Writing" UPI Experiment Station, Baguio City, August 13, 1981.
- (9) Speaker, General Secondary School Press Conference, Baguio and Benguet, 1981.

10. Department of Forestry

A total of 13,402 seedlings of different species were raised in the MAC Forest Nursery. These are alibangbang, fire tree, ipil-ipil, alnus, and mahogany. Some 355 seedlings were distributed free to private individuals and the rest were planted by YCAF students in the campus.

11. Physical Education and Athletic Department

The Department as in previous years was actively involved in the promotion of sports on the local, provincial and national programs, in officiating, conducting seminars, administration and supervision of athletic meets.

12. Laboratory Schools

a. Vocational and Special Agricultural Science Education Department

Under YCAP activities, the department cleaned the premises of the Vo-Ag Science Education building, National Highway, pathways and parks, constructed and cleaned irrigation drainages in the campus and field production projects; took care of trees along the Talili River, helped in the preparation of the athletic field for the Intramural Meets of the College and Provincial Dual Meet, and worked by group rotation at the Agro-Forestation Project at Ampasit, La Trinidad, Benguet.

In FFP-FMST activities, the department maintained the Supervised Farm Projects and were actively involved in the training of delegates to the local and regional conventions.

b. General Secondary Laboratory Education Department

School and community services rendered by the faculty and students were as follows:

- (1) An H.M. teacher assisted in fund raising for the Philippine National Red Cross, Baguio Chapter; Balikatan sa Kaunlaran; Scholarship

Aid for PE/IDP lady members to give tailoring courses in NAC; organized non-formal education for adults in cosmetology from October to April, 1981.

- 2) Girl Scouts rendered community services along the National Highway and Dalili River.
- 3) CAT cadets and cadettes rendered services at Sta. Ina, Bayagan, La Trinidad, Benguet.
- 4) Reactivated the Parent-Teachers Association. One steel cabinet was acquired out of PTA funds.

c. Elementary Laboratory Education Department

Extension and Community Services

- 1) The chairman served as treasurer of the Goodwill Industries for the Handicapped of Dagupan-Benguet and staff member of the Leadership Training Course held on December 5-7, 1981 at Mangalisan, Tuba, Benguet.
- 2) The Practical Arts teacher helped in the repair of the water pipe line at Pinsao, Pilot Project, Guisad, Dagupan City.
- 3) Mrs. Angelina Dayoben, worked with the Dalili Barangay residents in April, May and June, 1981 for the reconstruction of the Dalili suspension bridge.
- 4) Visited pupils in their homes and held dialogues with the parents on the pupils' progress and development.

- 5) Actively participated in several community activities such as Alay Lakad and tree planting.
- 6) Conducted special remedial instruction during off-school hours.
- 7) Teachers actively participated in the Teachers' Konkalla.

D. Non-Formal Education

The Non-Formal Education Program of the College was integrated with the activities of the different departments as a contribution to the Paglilingkod Bayan.

C. Community Environmental Activities

In terms of target goals of the Five-Year MWC Development YCAP Plan on its fourth year of implementation, the accomplishments were:

<u>YCAP Activities and Sectoral Areas</u>	<u>Extent of Completion</u>	<u>Remarks</u>
1. Main Campus Road Pavement		
a. Concreting of two lane campus road from gate 4 to Eco. Vo-Ag. Sc. Education Building, 1 Km. long	Completed	a. Funds were available with YCAP students helping in the completion of the project

<u>YCAP Activities and Sectoral Areas</u>	<u>Extent of Completion</u>	<u>Remarks</u>
b. Continued concreting the two-lane campus road from the Vo-Ag Sec. Education Bldg. to the Lab. schools, 1.5 Km. long.	Started but not continued.	b. No funds available because of priorities given to the on-going Bio-Plant Science Bldg. construction.
2. Graveling of the Balili Farm Road to the Foot-bridge near the mushroom project, 1.5 Km.	Road graveling was not started, but YCAP students maintained the cleanliness of the road.	No funds for gravel and sand.
3. Laying out of subdivision roads in the housing areas.	Not yet started, but plans for implementation were made.	Work on the project depends on funds available.
4. Cleaning and landscaping the national highway (1.5 km. long) and whitewashing of College concrete fence.	Completed and improved highway landscape with Virginia Creepers by YCAP students.	YCAP students have maintained the beautification and cleanliness of the national highway fronting the College.
5. Construction of Main Gate.	Not yet started.	No funds available.
6. Construction and maintenance of irrigation canals in Balili Farm, 1 Km. long.	Completed.	YCAP work helped in periodic maintenance of the project.
7. Graveling of Swamp Vegetable Project Farm Roads, 2 Km. long.	No graveling but cleanliness of the farm-to-market roads (2 Km. long) was maintained.	Graveling of the roads depends on funds available.

<u>YCAP Activities & Sectoral Areas</u>	<u>Extent of Completion</u>	<u>Remarks</u>
8. Fencing of the Main Campus, 5 Km.	Completed concrete fencing of Main Campus along National Highway 2 Km. long .	Concrete fencing of a 3 Km. stretch depends on funds available.
9. Construction of road behind A ric. Eng'ng. Complex 0.50 Km. .	Barely started.	YCAP students maintained cleanliness and landscaping of roadsides.
10. Construction of road from National Highway to Balili Bayangay, 05. Km.	Completed.	YCAP students maintained cleanliness and landscaping of roadsides.
11. Landscaping and improving Floriculture Project Road deadend (including drainage system) to Lab Schools and Balili Suspension Foot-bridge, 1 Km. long.	Completed.	YCAP work periodically maintained the cleanliness and landscape features of this sector.

In addition to the aforementioned YCAP accomplishments, the following extra environmental improvement activities were done:

1. Maintained the cleanliness of College street No. 1 and its shoulders planted with alnus trees as far as the deadend of the street 500 m.
2. Maintained the cleanliness of campus concrete road and its shoulders planted with alnus trees and agoho trees from Gate 4, WVC Clinic. 1,500 m.
3. Ringweeded and took care of 200 African tulips and 500 bottlebrush planted three meters away from College concrete fence from Vol'g Science Educ. Building frontage to Langkat Division Office 5,000 m.

4. Maintained cleanliness and landscaping of main campus lawns and premises of buildings and all YCAP sectoral areas 10 ha.
5. Ringwood and took care of 2,000 ipil-ipil and alnus trees planted on both sides of the Dalili River 2,500 m.
6. Ringweeded and took care of 100 alnus and bottlebrush trees behind the Soils-Chemistry and Agri-Economics Buildings and 2,000 alnus trees from these buildings through the old Amphitheater and Pomology Project, Mushroom Project, and Dalili Creek Dam to the end of the Alumni Grove 5,000 m.
7. Ringwood and took care of 60 alnus trees planted on both sides of the canals along Barangay Betag Road. 60 m.
8. Helped in the maintenance of cleanliness of the National Highway fronting private business establishments in La Trinidad, Capital town of the Province of Benguet, where the College is situated. 10,000 m.
9. Helped in the land preparation and cleanliness of field research, production, and extension areas of the College 10 ha.
10. Assisted in the creative and productive odd jobs in both laboratory and field activities of the College and the community 5 ha.
11. Laid out 18 concrete study seats, donated by the Student Body Government, under the trees on the lawn fronting the College Library, Bio-Sciences, Administration Building 125 m.

To round off the evaluation of the 1978-1982 Five-Year

MSAC Development YCAP Plan on its fourth year of implementation,

only the laying out of the roads in the housing area and construction of campus main gate were not started for lack of funds available due to priorities on infrastructure development.

To offset the projected YCAP activities in the aforementioned projects not yet started according to plan, the YCAP students have been maintaining the environmental requirements as itemized in the 11 additional accomplishments of YCAP in the campus and community.

From 1979 since the MASC YCAP started up to 1981, it is visibly noticeable that where there were no trees on both sides of the main campus roads and Balili Riverside, now the main campus and farm road are treelined with fast-growing alnus, agoho, ipil-ipil, bottlebrush, and African tulips. The campus and immediate locality are relatively cleaner and more beautiful than they were before 1979.

D. Tree-Planting Program

Alnus, guava, ipil-ipil, and pine tree seedlings were procured from the Bureau of Forest Development, Davao City and the MASC Forest Nursery. A total of 57,000 trees were planted in a 35-hectare area in the campus and College forest reservation during the months of August and September. As of December, 31, 1981, the percentage of survival was 92.3%. The tree planting is broken down by groups as follows:

<u>Departments</u>	<u>No. of Plants</u>	<u>No. of Trees</u>	<u>Area Planted</u>	<u>Percentage of Survival</u>
Elementary Education	651 (10-Yr. old and above)	7,812	Balili River-side 3 ha.	85*
Gen. Sec. Education	526	6,312	Balili River-side 3 ha.	94
Voc. Sc. Education	427	5,004	On-Campus Alumni Grove to H. Balili Mt., 10 ha.	95
Tertiary Education	2,705	32,460	Amponit watershed Agro-Forestation Project 12 ha.	96
MSAC Staff/Personnel	451	5,412	Adm. & Faculty Hill, Campus 7 ha.	94
	<u>4,270</u>	<u>57,000</u>	<u>35 Ha.</u>	<u>92.0%</u>

B. Agro-Forestation Special Project. Some of the notable activities were:

Accomplishments

- a. Concreted a storage pond.
- b. Re-aligned the irrigation pipes in the coffee area.
- c. Sowed 5,000 coffee seeds for expansion.

* 15% of the trees planted were destroyed by typhoon "Anding."

- d. Constructed one kilometer road from Gate 3 to the main buildings and the dam.
- e. Potted 520 guava and 2,000 coffee seedlings.
- f. Propagated 300 apples for research work.
- g. Installed 15 big culverts in two strategic portions of Road No. 3.
- h. Installed 30 small culverts in three strategic portions of the same road.
- i. Contoured about 12 hectares for expansion area.
- j. Harvested and pulped 40 cavans of coffee beans at 25 gantas per cavan.
- k. Pruned and capped 3-year old coffee trees.
- l. Pruned and topped shade trees in the coffee area.
- m. Did general maintenance work.
- n. Excavated the basement of the dormitory for storage and expansion.
- o. Landscaped the main grounds; placed sod walls and planted Jerusalem berries.
- p. Constructed fire lanes in strategic portions in Lot No. 1.
- q. Planted ipil-ipil seedlings along Road No. 3.
- r. Retolled Lots. I, II, III, and IV.
- s. Informed squatters to refrain from introducing improvements in the College reservation, pending resolution of their cases.
- t. Campaigned for prevention of forest fires.

On-Going Activities

- a. General maintenance work.
- b. Pumping water to the storage tank.
- c. Harvesting and pulping and drying of coffee beans.
- d. College reservation patrol.
- e. Re-drying of the dried coffee beans.

Plans for 1982

- a. Expand towards the stock farm and Lots II.
- b. Construct more roads, trails, paths, storage ponds and bench terraces.
- c. Propagate more fruit trees, apples, loquat, persimmon, citrus, coffee, avocado and jackfruit.
- d. Concrete the quadrangle.
- e. Erect a flag pole.
- f. Repair of the storage Pond No. 2.
- g. Improve the gates to the project.
- h. Fence portions of the project.
- i. Improve the whole project (operation and management and the physical state of the project).
- j. Acquire more facilities for the project.
- k. Employ more laborers and students.

Problems and Recommendations

- a. No electric light. Request Ed CO to connect the electric wires.

- b. Security of the project. Employ security guards.
- c. No farm shop, greenhouse, and pulping sheds. Construct these buildings.
- d. Need for more laborers. Employ more laborers for expansion work.

F. Agricultural Mechanics and Motor Pool

This department handled non-formal education and rendered extension maintenance services for the College and the community.

Accomplishments

a. Instruction

- (1) Graduated 35 agri-mechanics students in March, 1981.
- (2) Enrolled 11 agri-mechanics students for SY 1981-1982.
- (3) Enrolled 36 students in the Two-Year Agri-Forestry Curriculum.
- (4) Enrolled and graduated 21 trainees for the short evening and Saturday courses in Engine Trouble Shooting and 15 trainees in the Welding Course.

This is a joint WFL and HACC-NWCC extension program.

b. On-Going Researches

- (1) Methane gas production from sunflower bushes.
- (2) Improvising a storage battery charger.
- (3) Improvising a car paint heater.

c. Extension

- (1) Extended maintenance services to the offices of the H.A.C., HEC-ARD, Agro-Forestry, and other government agencies connected with H.A.C.
- (2) Plowed research and production farm areas of H.A.C., I.T.I., Root Crops Center, Production Division, Animal Technology Department and other students' research areas.
- (3) Extended repair services to privately-owned vehicles with a total cash collection of ₦3,990.00 for labor charges. These extension services served as on-the-job training of the students.
- (4) Did miscellaneous repairs of farm tools of H.A.C. students.
- (5) Hauled construction materials for on-going building repairs and constructions on the campus.
- (6) Did regular mechanized lawn mowing, hauling of grass feeds and water for the cattle projects and other projects of the College.

d. Problems and Recommendations

- (1) A One-Year Course in Electronics and Motor Pool Rewinding is recommended to be offered with the creation of a new position for one Electronics Instructor for SY 1982-1983.
- (2) Urgent need to manufacture or recycle the scrap metals into engine parts and hand tools at the same time teach

students. Recommended a one-year course in Lathe Machine Work with the hiring of one lathe machine instructor for SY 1982-1983.

- (3) Additional positions recommended are: Two heavy equipment/tractor operators; one carpenter/utility man; and one laboratory aide/janitor.
- (4) Need for one Agri-Mechanics Instructor to teach the Second Year Agri-Mechanics Curriculum for SY 1982-1983.

G. Regional Staff Development Center (RSDC)

The RSDC was established for the continuing education of staff and personnel in the region. The center served as a multi-purpose complex which has been housing temporarily the offices of the RARC, Development Planning, Graduate Department, Audit Unit, the PC RR Communications System, and the Management Information Center.

The RSDC Complex accommodated also the classrooms and laboratory rooms of the Home Technology Department. The guestel, canteen, and the little theater were fully utilized for conferences, conventions, seminar-workshops, and open forums. These were held on the institutional, student and professional levels of all government and private agencies in the community and in the region.

H. Food Processing Center

Established in 1980, it is intended to process food obtaining within the community. As in the past, it processed strawberries into jams and jellies in a linkage with the MSAC-BLISS II Livelihood Project. A sizable income was realized from the center as indicated elsewhere in this report.

I. Regional Training Center for Rural Development (RTC-RD)

This center served Regions I and III as farmers training center for rural development with a branch in Sta. Barbara, Pangasinan.

1. Summary of Training Course Operation Outputs (TCO)

a. TWP-RD(ML/HL) (Region I)	513
b. Specialized TCOD (DPE-DFM) (Region I)	229
c. Specialized FID(DPO)	375
d. Third Resource Persons Development Program (RHP) (Region I)	33
e. Third Resource Persons Development Program (Region III)	46
f. Area Development Action Programs (ADAP) Review	144
g. Trained Participants by Ministry/Agency and Operational Level	1,144

2. Accomplishments on Other Center Projects (Both Centers)

- a. Continued adaptation of pretested Ilocano JIS farms.
- b. Translated production and social technology handouts into Ilocano.
- c. Involvement of local governments:
 - (1) Strengthened established linkage with mayors, NDC's Sangguniang Bayan members regarding their participation in the training activities, action program preparation and evaluation and
 - (2) Financed DPO's transportation and allowances for those who had no alternative financial sources.
- d. Acted as resource persons/facilitators in other trainings outside PTCRD.
- e. PTC Center Director was a member of the Municipal Development Council in Sta. Barbara, Pangasinan, re KKK Livelihood Program.
- f. PTC Administrative Assistant participated in the seminar on PD 1146, and also the staff joined the 1981 Alay Lakad held in July 17, 1981.
- g. RTC-IFS Unit, the Center Director as Project Officer, conducted a special training on Vegetable and Fruit Trees Projection for Mountain Province and Benguet extension workers on December 15-18, 1981.

- h. FTC staff participated in the CDDC.
- i. RTC staff was on staff exchange with PTC.
- j. Other Center Linkages within the year under review:

(1) RTC-RD Summary of other training activities of Ministries/
agencies.

Number of Days	102
Number of Individuals	1,274
Total Proceeds for 4 Quarters .	44,232

(2) FTC-RD:

<u>Dates</u>	<u>Ministry/Agency</u>
May 25-27, 1981	M. Seminar on Vet. Continuing Education
June 1-7, 1981	N. Bureau of Cooperatives
August 28-31, 1981	HLGCD/HR Monthly Conference
September 1-4, 1981	N.F. Conference
September 8-9, 1981	PTRTC Consultation Workshop with Outstanding Tobacco Growers
September 14-29, 1981	PCC-HP German Intensive Training of Cotton for S.M.S
September 30, 1981	PCC Monthly Conference
December 16-18, 1981	M. Regional Anniversary

CHAPTER IV

ADMINISTRATION AND SUPERVISION

A. Fiscal Support

For the period from January 1, 1981 to December 31, 1981, the National Government allocated ₱12,719,000.00 for the maintenance and operation of the College.

1. Current Operating Expenditures

Advanced Education	₱365,000.00
Higher Education	3,386,000.00
Secondary Education	909,000.00
Elementary Education	578,000.00
Research	1,313,000.00
Extension Services	186,000.00
Auxiliary Services	579,000.00
General Administrative and Support Services	2,403,000.00
Total	<u>9,719,000.00</u>

2. Construction of Permanent

Improvement	3,000,000.00
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GRAND TOTAL	<u><u>12,719,000.00</u></u>
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B. Development Planning

- Instruction. Measures taken up were in terms of faculty development programs included in this report under Personnel Development.

2. Research. Project proposals were submitted to funding agencies:

a. Project proposals submitted to ICAR:

- (1) The Highland People: A Study on Family Formation, Child Upbringing and Their Value System.
- (2) The Degree of Lowland Integration and Its Effect on the Socio-Economic Life of the Highlanders.
- (3) The Concept of Leadership and Fellowship Among the Highland People.
- (4) Economics of Multiple Cropping in the Highlands.
- (5) Economics of Organic Farming in the Highlands.
- (6) Marketing System of Ornamental Plants in Baguio and Benguet.

b. Research Proposals submitted to other agencies:

- (1) Identification of Possible Projects in the Mountain Province. This was submitted to the Central Bank.

3. Extension. Extension research proposals were submitted to agencies concerned:

- a. MSAC Research and Extension Substations. It was proposed to Asia Foundation that MSAC should have Extension Substations where it can further verify technology in the farmer's field.
- b. Feasibility Study on Tree Farming in the Mountain Province. This study was endorsed through the MSAC

program. No action as of this writing was taken yet.

4. Student Services. A study was prepared on BSIC Student Expenditure Patterns. If pushed through and conducted, the results would be used for granting aid programs in the future.

5. Management

- a. Performance target sheets for SY 1981-1982 were collected from various Departments and Divisions of the College. This would be analyzed at the end of the school year to see whether each department came up with expectations for the year.

- b. Statistical Bulletin was published.

6. Physical Plant. The proposed budget of the 5-year development plan for 1983-1987, including capital outlay, was prepared and submitted.

7. Personnel Development

- a. Starting October 14, 1981, weekly seminars on personnel development were conducted on Wednesday (5:00-6:00 p.m.) for BSIC personnel.
- b. Many colleges and universities here and abroad were tapped for fellowship and scholarship grants. Some institutions responded.

Applicants could apply for fellowship on the following for SY 1983-1984:

- (1) The Woodrow Wilson Fellowship for History, Culture

and Society on a postdoctoral level.

- (2) Colombia University Society of Fellows on Humanities on a doctoral level.
- (3) Andrew W. Millan Postdoctoral Fellowships in the Humanities at Stanford University.

At present, follow-up is being done on the Philippine-American Educational Foundation (PAEF) scholarships.

8. Evaluation of the 10-Year Development Plan

- a. Infrastructure.. Except for the Women's Residence Hall, all buildings slated to be constructed in 1981 are on-going.
- b. Personnel Development. So far three professors were on training abroad in their respective fields. They were: Domingo Q. Casiwan, - Denmark; William D. Dar - Washington, USA; and Herculano V. Sabas - University of Wisconsin, USA.

Instructors who were on graduate scholarships returned. Two more scholars for 1981 were sent for graduate work: Thelma Villanueva in Chemistry and Lory Balaoing in Home Technology.

Many personnel who studied on their own, finished their graduate work in 1981.

9. Enrollment

Enrollment for 1981 in the collegiate level fell short of

487 students for the first semester for various reasons.

The Graduate School had more than what was expected. Technical courses fell short also of the expected as shown in the data:

<u>Level</u>	<u>Actual</u>	<u>Projected</u>	<u>Difference</u>	<u>% Difference</u>
Technical	49	75	-26	35
Collegiate	2,313	2,820	-487	17
Graduate	136	110	+26	19

10. Faculty Recruitment

Most of the faculty recruited for 1981 were as substitutes for those who were on maternity and study leaves. However, some were given permanent appointments based on the need of the service:

<u>Department</u>	<u>Number of Faculty Hired</u>
Elementary	3
Home Technology	1
Forestry	4
Animal Sciences	1
Soils-Chemistry	1
Languages	2
Biological Sciences	2
Agri-Mechanics	2

Agric. Engineering	2
Vocational Agriculture	5
Plant Sciences	1
Total	<u>24</u>

11. Other Accomplishments

Published a Statistical Data for Planning and Development which provided data about MSAC covering:

- a. Student Population
- b. Personnel
- c. Physical Structure
- d. Programs
- e. Sites

General features contained in the bulletin were:

a. Status of the Land Area of MSAC in Hectares:

Reserved Land Area	465.4381
Unregistered Land	112.3051
Titled Land	75.8428
Total	<u>653.5863</u>

b. Utilization of the Land Area of the College in Hectares:

Forest and Watershed	309.9511
Cultivated-Vegetables	124.4511
Pasture Land	47.9579

Agro-Forestation	50.0000
Main Campus	27.7409
Animal Projects	6.0000
Floriculture	3.0000
Rabbitry, Mushroom Sericulture	15.1830
Undeveloped Area	69.3023
Total Area	<u>653.5863</u>

c. Number of Existing Buildings

Permanent	5
Semi-Permanent	20
Temporary	45
Total.	<u>70</u>

d. Enrollment and Graduate of Degree Programs (SY 1979-1980)

Total Enrollment	2,801
Total Graduates	262

e. Distribution of Enrollment by Provinces

The first five leading provinces from where the college students came from were:

Benguet	1,330
Pangasinan	376
Mountain Province	324
La Union	169
Ilocos Sur	163

These were followed by Ikalanga-Apayao, Ifugao, Nueva Vizcaya, Abra, Ilocos Norte, Zamboales, Isabela, Tarlac, Oriental Mindoro, Maranao, Catangas, Quezon, Quirino, Davao, Bulacan, Negros Oriental, Manila, Cagayan, Agusan del Sur, Pampanga, Bohol, Rizal, Aurora, Cavite and Marikinaque.

f. Faculty Work

Professors	8
Associate Professor	4
Assistant Professors	48
Instructors	94
Assistant Instructor	67
Total	<u>221</u>

g. Supportive/Facilitative Employees 144

i. Faculty Profile

Ph.D/Ed.D.	16
MS/Ed.	65
BS	295
Total	<u>376</u>

h. The Development Planning Office prepared a projection of the past, present, and future demands (1975-1995) on the following:

Student Housing Demand

Housing Demand of Faculty

Members and other employees and also from cited sources in tabulated population, population change and annual rate of increase by province in Region I for 1970-1980; land area, population density by province in Region I; number of establishments, by major industry group and province in Region I (1978); and consumer prices index by year in Region I (1972-1979).

C. Personnel Development

1. Recruitment. To fill the need for additional manpower during the year in review, the College employed:

a. Teaching

Instructor	14
Assistant Instructor	8
Total	<u>22</u>

b. Non-Teaching

Supervisory	1
Non-Supervisory	1
Total	<u>2</u>

2. Personnel Development

a. Scholars

Abroad	1
Local (new and on-going)	16
Total	<u>17</u>

b. Training

Abroad	3
Local	95
Total	<u>98</u>

3. Promotions

a. Teaching

Professor	5
Associate Professor	1
Assistant Professor	11
Instructor	18
Regular item from Substitute Status	14
Total	<u>49</u>

b. Non-Teaching 3

c. Merit Promotion (Teaching
and Non-Teaching) 30D. Management Information Center

1. Introduction. The MIC completed its first year of operation composed of three units:

- The Public Relations Unit
- The Printing/Duplicating and Visual Aids Services
- The Documentation and Publication Unit

The Office has been housed at the RSDC and the Agricultural Engineering Complex. There are seven staff members.

The MIC was established with the following purposes: Collect, collate, document, process, store, package, retrieve, disseminate data and information relative to the various activities of the College, the students, government agencies, and the community.

Each office of the MIC presented its report separately on its accomplishments, projections, and problems.

2. Documentation and Publication Unit

In addition to the measurable output of the unit were those activities wherein the unit functions in an intermediary or advisory position. Examples of these kinds of activities were the editing of the MIC Code, the editing of the Research Journal, advising on layout formats and presentation of data. These activities involved time and effort and were not always identifiable as outputs. Therefore, the Documentation and Publication Unit was identified as direct and indirect output for 1981.

a. Direct Output (Production)

(1) MIC Facts and Figures

(2) General Information Bulletin (1981-1982)

- (5) The MSAC Research Journal (Quarterly)
- (4) Para News Bulletin (monthly)
- (5) Commencement Programs
- (6) MSAC Personnel Data Bank
- (7) MSAC Audio-Visual Program (MSAC Story)
- (3) Cover Preparation

In Progress

- (1) College Catalogue
- (2) Student Handbook
- (3) Student Data Bank
- (4) Personnel Directory
- (5) Student Directory
- (6) Up-dating the MSAC Story
- (7) Up-dating the Facts and Figures
- (8) Up-dating the General Information Bulletin
- (9) Preparing outside directory of campus

b. Indirect Output (Production)

- (1) Editing/Proofreading/Revising/Publishing
 - (a) MSAC Code
 - (b) MSAC Researches 1970-1980
 - (c) MSAC Research Guidelines
 - (d) PLS form

3. Public Relations Unit (PRU)

This unit deal mostly with the dissemination of information about the College by means of communication media

and direct output-input by way of orientation and tours about the campus. The activities have been:

- a. Presentation of the M.C. story by slides.
- b. Orientation of M.C. students.
- c. Orientation of visitors.
- d. Conducting tours of main campus and college projects.
- e. Conducting tour off-campus
- f. Preparing press releases
- g. Liaison with different government offices.
- h. Orientation of civic, government, religious, high school and college groups about M.C.
- i. Coordinating various financial aid and scholarship programs.
- j. Number of persons passing through and oriented by PRU in 1981:

(1) Foreigners/Local.

Filipinos	3,535
Southeast Asians	110
Europeans	14
North Americans	27
South Americans	7
Africans	13

(2) Students

M.S.C students	637
Student from other schools	1,423

(3) Government agencies (National and International)

National	226
International	111

4. Printing/Duplicating and Visual Aids Services Unit

This unit provides supportive and auxiliary services to the College with the following activities:

a. Typing, stencilling and proofreading	250 Units
b. Binding	260 "
c. Scanning	32 "
d. Mimeographing	350 "
e. Artwork	120 "
f. Photography	Variable

Some accomplishments were too numerous to be presented in this report.

5. Problems, Needs and Concerns

- a. Information Editor. With the increase in written materials submitted to MIC, the editing process is slowed due to sheer numbers and could hardly be handled in order to meet deadlines.

- b. Equipment. Up to this point, it has been possible to share the use of the projectors, cameras, and recorders of the ETC-RD and E.R.C.

However, it is becoming increasingly difficult especially if such are in use by said offices.

- c. Casual Salary Rate. Over the years, a number of casual personnel have left or transferred from MIC after having been trained and integrated due to low salaries.
- d. Pica Typewriter. The MIC Office needs an office typewriter with pica types. This is for the convenience of the proof-readers and editors of articles for the printing press.
- e. Additional Typist. To cope with the typing and retyping of articles for the Research Journal, there is an urgent need to recruit a typist.
- f. Electronic Data Processing. The present needs of the College do not suggest a major capital outlay for an extremely sophisticated electronic data processing unit. However, as more data input are accumulated and stored, the retrieval of these data become more difficult. It is in the interest of the College to look into the possibility of acquiring a small but functional machine such as the apple III type.

E. School Sites

1. Land Swap With Benguet - A formal exchange of land titles between the Government of the Province of Benguet and the Mountain State Agricultural College took place in a program held on July 4, 1981 in the College.

Dr. Bruno M. Santos, President of the College, turned over to Provincial Governor Ben Palispis Presidential Proclamation No. 2086, dated May 18, 1981, excluding Lot 1-B, Swo-1-000288, with an area of 54.0421 hectares, from the College Stock Farm reservation. The newly segregated provincial reservation is intended as a government center.

In exchange for the 54.0421 hectares, Governor Palispis turned over to Dr. Santos the titles for six (6) parcels of land registered in the name of the Province of Benguet covered by original Certificate of Title No. 23 and Transfer Certificate of Title Nos. 179, 374, 6264, 11151 and 13487, with an aggregate area of 39,6627 hectares. These titled parcels of land shall be used by the College for its varied educational pursuits.

2. History of Land Swap - The exchange of land titles between the Province and the College resolved the controversy of ownership over the six (6) parcels of land registered in the name of the then Mountain Province and later the Province

of Benguet, following the division of the old Mountain Province under R.A. 4695 into four (4) provinces, to wit: Benguet, Ifugao, Mountain Province and Kalinga-Apayao.

Since the acquisition of these parcels of land through judicial decree or purchase, they have been used for the educational purposes of the College and its predecessors-in-interest, namely, Trinidad Farm School, Trinidad Agricultural School, Trinidad Agricultural High School, Trinidad National Agricultural School, Mountain National Agricultural School, and Mountain Agricultural College.

At the time of the acquisition of the titled tracts of land as school sites, the College was then a Provincial Agricultural High School having no legal personality to be a registered landowner, it being merely an instrumentality of the then Department of Public Instruction or the Department of Education. Hence the defunct Mountain Province (and later the Province of Benguet) became the registered owner.

As early as 1963, Dr. Bruno M. Santos, as Superintendent of the then Mountain Agricultural College, saw the need of preventing future conflict of ownership over the titled school sites registered in the name of the old Mountain Province. He wrote to the province, requesting for the transfer of titles to the College or National Government. However, the request was denied.

When the Province of Benguet became the registered owner of the titled school sites, its officials expressed the view that since the parcels of land being used as school sites are patrimonial property of the province, the latter can exercise all the prerogative of an absolute owner.

This view became evident in the official acts of the Province regarding the use and disposition of Parcel 1 with an area of 106,972 square meters of Transfer Certificate of Title No. 140, issued on April 23, 1918, situated at Betag, La Trinidad, Benguet.

The Province ceased the subdivision of Parcel 1 of TCT No. 140 into five (5) lots under subdivision plan (LRC) Psd-141255, surveyed on May 11, 1971 and approved on May 21, 1971. Separate transfer certificates of title, all dated August 3, 1971, were issued for the five (5) lots, all in the name of the Government of the Province of Benguet, to wit:

<u>Lot No.</u>	<u>Title</u>	<u>Area (Sq.M.)</u>
1-A	TCT No. T-6250	12,817
1-B	TCT No. T-6251	20,000
1-C	TCT No. T-6252	500
1-D	TCT No. T-6253	500
1-E	TCT No. T-6254	<u>73,125</u>
	Total . . .	<u><u>106,972</u></u>

2.1 Filing of Civil Case No. 2307, Recovery of Possession

Upon learning of the subdivision of Parcel 1 of TCT No. 140, and after being informed by the Province that it intends to leave only one (1) hectare out of Lot 1-B, TCT No. T-6254, the College filed against the Province on September 6, 1971 Civil Case No. 2307, Recovery of Possession, Injunction and Preliminary Injunction. The case was decided in favor of the College on July 11, 1973.

However, prior to the decision, the Province had already donated Lots 1-C and 1-D, Parcel 141215, of TCT Nos. T-6253 to the Boy Scout of the Philippines and Girl Scout of the Philippines. Said titles were respectively cancelled by TCT Nos. T-6718 and T-6625 in favor of the donees on April 6, 1972 and January 26, 1972.

The Province appealed the decision to the Supreme Court which, in its Resolution No. UKD-1534 dated November 12, 1973, required the former to pay the docket fee and local research fund fee and to file a petition for review on certiorari since question of law is being raised.

2.2 Supreme Court Resolutions - In its Resolution No. L-37950 dated February 11, 1974, the Supreme Court informed the Province that no petition for review on certiorari has been filed, it appearing that the petitioner failed to file petition for review within the period which expired on December 14, 1973.

2.3 Motion for Execution of Judgment - The College filed on April 15, 1974 a motion for execution of judgment. In an order dated April 29, 1974, the Court of First Instance issued a writ of execution.

In a motion dated August 2, 1974, the College prayed for the issuance of an order to divest the defendant of title to TCT Nos. T-6250 to 6254 and for an alias writ of execution directing the sheriff to oust the defendant from the property, and to cause the Register of Deeds to cancel said titles and issue in lieu thereof new certificates of title in the name of the plaintiff.

2.4 Province's Opposition to Issuance of alias writ of

Execution - The Province filed on August 13, 1974 an

opposition to the issuance of an alias of execution on the following grounds:

" a) That the cause of action of this case as may be shown by the title and the prayer is for recovery of possession. What was only sought for in the complaint of plaintiff was possession over the property in question, not ownership thereof. To order the cancellation of the titles in the name of the defendant would tantamount to transferring ownership of the same to the plaintiff.

" b) That the certificates of title mentioned above sought to be cancelled by the plaintiff are Torrens Titles and under Land Registration Act (Act 496), said titles are indefeasible and assailable.
x x x; and

" c) That there are legal complications that have to be

thrashed out before the same should be effected. There are, for instance, several permanent improvements introduced in good faith by the defendant on the land in question, namely: the Benquet General Hospital with a bed capacity of about 100, the Municipal Hall of La Trinidad, the Boy Scout building, the Girl Scouts building, the various market stalls and others with a total value of which all amount to 8 million pesos. Considering that defendant introduced these improvements in good faith, it cannot be deprived or divested of possession and ownership without proper compensation pursuant to the provisions of Article 448 of the New Civil Code."

2.5 Court Order Suggesting Settlement - Acting on the August 2, 1974 motion of the College, the Court of First Instance, in its order dated October 9, 1974, noted that "the decision has already become final and executory and in fact a writ of execution was already issued. The Provincial Fiscal, despite the finality of the decision has come up opposing the issuance of the alias writ of execution when during the hearing of the case he did not present any evidence about the existence of the several permanent improvements introduced in good faith he contends that the defendant cannot be divested of them without proper compensation pursuant to the provisions of article 448 of the New Civil Code."

The CFI order of October 9, 1974 went on to say that "There is merit in his (Provincial Fiscal's) contention and in view of this development there is a need to reiterate the observation of the court in the last paragraph of its decision..."

Said last paragraph of the decision reads as follows:

"In passing, it may be suggested that the parties being government entities and that defendant should make representations with the office of the President to exclude the area needed by it from the school reservation."

"In the meantime and in view of the necessity of further hearing to determine the value of the improvements," as stated by the CFI order of October 9, 1974," the parties are again urged to sit in a conference to arrive at a reasonable settlement inasmuch as both parties are government entities and, in the meantime, the issuance of an alias writ of execution is held in abeyance."

By way of comment to the allegation of the Province that the permanent improvements on the land in question were introduced in good faith is open to debate. Except for the municipal market, the College had opposed the introduction of other improvements. The establishment of the municipal market was approved in 1952 by Public Schools Director Benito Pangilinan, upon recommendation of the Superintendent of the College's predecessor-in-interest, Mountain National Agricultural School.

2.6 Implementation of Court Advice - In line with the CFI order of October 9, 1974, Provincial Fiscal Albert C. Caoili wrote on November 21, 1974 to President Jesus H. Santos, informing the latter that the Provincial Governor and Members of the Provincial

Board, taking the initiative to give meaning and effect to the advice of the Court, have instructed the Provincial Fiscal to invite the College President for a conference on November 26, 1974, at 9:00 A.M. at the Office of the Provincial Fiscal.

In his letter of December 2, 1974 to the Provincial Fiscal, President Santos requested that the conference be held on December 5, 1974, at 10:00 A.M., at the Session Hall of the Provincial Board. The President also asked that the Provincial Governor, members of the Provincial Board, and the Municipal Mayor of La Trinidad be present during the conference. However, instead as scheduled, the conference actually took place on January 24, 1975 in the Session Hall of the Provincial Capital.

Representing the Province were Vice Governor Samuel M. Dangwa, Board Members Baltazar Fernando, Alfredo B. Alumno, Simson M. Campus, Provincial Fiscal Albert C. Coilli, and Assistant Provincial Fiscal Asterio Ferrero.

The College was represented by Dr. Bruno M. Santos, President, Lawana T. Batacan, Administrative Officer II; and Atty. Soliven of the Coronel Law Office, 27 Malinaap Street, Diliman, Quezon City, Counsel for the College.

Also present were Municipal Mayor Cipriano Abalos and Eugene C. Pucny, Jr. Administrative Officer, Donruct General Hospital.

Following an ocular inspection of the land in question, the

parties agreed as to the portion of the land that will be left to the College and the extent of the proposed site for the Benguet General Hospital and the Regional Veterans Memorial Hospital Annex. However, there were still several points of disagreement.

In a letter dated January 30, 1975, Vice Governor Samuel M. Danaya submitted a report on the results of the January 24, 1975 conference. For purpose of the on-going dialogue between the parties, he suggested the creation of a Provincial Committee.

2.7 Position Paper of Province - As Chairman of the said Provincial Committee, the Provincial Fiscal presented in a letter dated July 7, 1975 to the MSAC Board of Trustees a proposed subdivision plan of the land in question for the College, Benguet General Hospital, Municipal Building, Municipal Public Market, Philippine National Bank Branch, Boy Scout of the Philippines, and Girl Scouts of the Philippines.

The position paper of the Province was taken up during the meeting of the MSAC Board of Trustees on July 10, 1975 in Manila. Provincial Fiscal Casili presented the proposed subdivision plan of the land in question. With him was Geodetic Engineer Victor H. Cosalan, office of the Provincial Registrar. Also present was Roberto G. Santos, Vice President, Philippine National Bank (Northern Luzon).

In its Resolution No. 39, s. 1975, the MSAC Board of Trustees deferred action on the proposals of Benguet Province, and requested

that the Province, thru its Provincial Fiscal, submit in the next Board meeting a history of and pertinent decision on the case (referring to Civil Case No. 2307).

2.8 College Stand on Province Position Paper - Commenting on the position paper of the Province, President Santos submitted a memorandum dated August 12, 1975 to the Board of Trustees, recommending acceptance of the proposals of the Province, subject to the following conditions:

- a. That Benguet Province shall sign a document recognizing ownership by the college of the parcels of land (per the proposed subdivision plan); and
- b. That the College, instead of the Province, shall execute deeds of donation to or memorandum of agreements with the various agencies concerned.

The position paper of the Province was taken up in the November 27, 1975 meeting of the College Board of Trustees at N.S.C.

Presiding Chairman was Hon. Narciso Albarracín, Undersecretary, Department of Education and Culture. The Province was represented by Governor Ben Polispis and Provincial Fiscal Albert C. Caoili.

Opposing views were expressed as to whether it is the College or the Province that will execute the deeds of donation. One proposal was that the Province and College will each prepare its version of the proposed deeds of donation, from which would emerge

the final draft.

During the conference, exchanging the school sites registered in the name of the Province for 100 hectares of the College Stockfarm cropped up, but was not discussed further, because the subject was the disposition of Parcel 1 of TCT No. 140 (which parcel as mentioned earlier, was already subdivided into five (5) lots under plan (LRC) Psd - 141255 and issued separate titles).

As agreed upon, the amount to be donated by the PNB for its proposed site shall be shared on a 50-50 basis by the Province and College.

2.9 Package Deal - Subsequent meetings led to the formulation of a package deal, consisting of three (3) stages, to wit:

a. That the subdivision of Parcel 1 of TCT No. 140 shall be changed to conform to the agreed disposition thereof, which, among others, envisions the retention of a portion for the College.

b. That aside from what is segregated for the College out of Parcel of TCT No. 140, the Province shall turn over the its titles to five (5) other parcels of land to the College. In exchange for these, the College shall hand over about 54 hectares of its Stockfarm reservation to the Province as a government center. Originally, the proposed was 100 hectares.

c. Since the Ilang Elementary School and the Benguet Provincial High School are situated on a provincial-titled land

involved in the proposed land swap both schools shall be integrated into or absorbed by the College.

2.10 New Subdivision and Disposition of Lot 1 of TCT No. 140 -

As agreed upon by the College and Province, the portions of Parcel 1 of TCT No. 140 already donated to the Province shall be respected. These are Lots 1-C and 1-D, Psd-14155 of TCT Nos. T-6252 and T-6253, respectively cancelled by TCT Nos. T-6718 and T-6675 in the names of the Boy Scouts of the Philippines and Girl Scouts of the Philippines. Each lot has an area of 500 square meters.

Lot 1-A, Psd-141255, of TCT No. T-6250, with an area of 1.2847 hectares shall be the municipal market.

Lots 1-B and 1-E, Psd-141255, of TCT No. T-6251 and T-6254 with a combined area of 9.3125 hectares shall be consolidated and then submitted for the municipal capitol, Bonquet General Hospital, and the College.

The consolidation survey of Lots 1-B and 1-E, Psd-141255 was carried out under plan (LRC) Pcs-21375, surveyed on August 5-6, 1976 and approved on September 7, 1976. The consolidated two (2) lots under plan Pcs-21375 were subdivided and titled on September 10, 1976 in the name of the Province, to wit:

<u>Lot No.</u>	<u>Title No.</u>	<u>Area (Sq.M.)</u>
1	TCT No. T-11151	33,112
2	TCT No. T-11152	32,529
3	TCT No. T-11153	23,133
4	TCT No. T-11154	4,049
	Total	<u>93,125</u>

Recipients of the subdivision lots were supposed to receive their titles through joint donations to be executed by the College and Province. However, the Register of Deeds for Barroet ruled that the College cannot be party to the proposed joint donations because it is not a registered owner of the parcels of land involved in the transactions. Hence, the Province emerged as the sole owner.

Donated to the Government of the Municipality of La Trinidad were:

- a. Lot 1-a, Psd-141255, TCT No. T-6250, with an area of 1.2847 hectares, to serve as municipal market, non-titled in the name of the municipality under TCT No. T-11585 issued on December 14, 1976.
- b. Lot 3, Psd-21355, TCT No. T-11153, having an area of 2.3455 hectares, to serve as site for the municipal capitol, non-titled in the name of the municipality under the TCT No. T-11586 issued on December 14, 1976.

To the Republic of the Philippines for the Department of Health was donated Lot 2, Pcs-21325, TCT No. T-11152, as site of the Benguet General Hospital, TCT No. T-11152 is cancelled by TCT No. T-12069 issued on June 15, 1977.

Lot 1, Pcs-21375, TCT No. T-11151, with an area of 3.3112 hectares, was retained for the College. Its conveyance to the College, however, was deferred because the College prefers to receive the title to it together with the titles of the Province to five (5) other parcels of land all at one time on a later date.

The proposed donation of Lot 4, Pcs-21375, TCT No. T-11154, as PHD site has not yet taken place.

2.11 Integration of Two Schools With M.C. - Under Unnumbered Office Order, dated April 15, 1977, DEC Undersecretary Marciso Albarracín ordered the integration of the Ilang Elementary School and the Provincial High School effective January 1, 1977.

The integration of the Benguet Provincial High School with M.C. was approved by the Sangguniang Panlalawigan of Benguet under Resolution No. 229, dated June 9, 1976.

The two schools are situated on Parcel 2, II-2947, with an area of 1.9143 hectares, covered by TCT No. T-6264 issued on August 31, 1975.

3. Segregation Survey for Provincial Government Center - The proposed provincial government center was segregated from the MSA-C Stockfarm reservation, more particularly described as Lot 1-B, Swo-1-000288, with an area of 54,0421 hectares.

3.1 Memorandum of Agreement - With the delimitation of the proposed provincial government center, the College and Province entered into a memorandum of agreement on July 27, 1979 for the exchange of six (6) parcels of land registered in the name of the Province with Lot 1-B, Swo-1-000288.

Originally, the total area of the six (6) parcels of land was 46.4485 hectares. However, LOI No. 756 dated October 28, 1978, reduced one of the lots by 6.7848 hectares to be awarded to 46 Igorot families under the Land Reform Program. Hence, the final aggregate area for the proposed land swap was 39.6627 hectares.

The six (6) parcels of land registered in the name of the Province are covered by OCT No. 23 and TCT Nos. 179,374, 6264, 11151 and 13487. These will be transferred to the College only after the latter will have obtained an executive proclamation setting aside Lot 1-B, Swo-1-000288 for the Province.

3.2 Proclamation No. 2086, s. 1981 - The College with the assistance of the Province worked for two (2) years to effect the issuance of Proclamation No. 2086, dated May 18, 1981.

4. Conveyance of Six (6) Parcels of Land to NSC - In view of the loss by the Province of the owner's duplicate copy of TCT No. 6264, only the titles to five (5) lots were transferred by the Province to the College.

Separate transfer certificates of title, all dated September 18, 1981, were issued to the College as the registered owner of the five (5) parcels of land to wit:

<u>Title No.</u>	<u>Location</u>	<u>Area (Ha.)</u>
TCT No. T-16374	Bani, Balili	17.8070
TCT No. T-16375	Betag	3.3112
TCT No. T-16376	Bani, Balili	14.7802
TCT No. T-16377	Cabanao, Balili	0.4875
TCT No. T-16378	Tabanmoon, Balili	1.3625
Total		<u>37.7484</u>

Replacement of the lost owner's duplicate copy of TCT No. T-6264 was necessary in order to effect the registration of the deed of donation covering said title in the Office of the Banguet Register of Deeds.

On November 3, 1981 the College filed a petition for issuance of a new owner's duplicate certificate of title, which was docketed as Adm. Case No. 1920 in Branch III of the Court of First Instance for Bayuic and Banguet.

F. Infrastructures

1. Completed Projects in July and October, 1981
 - a. Camp Dormitory of the NPRCRTC
 - b. Animal Science Laboratory Clinic Bid in 1980
 - c. Four Units - Greenhouses of the NPRCRTC Bid in 1980
2. On-Going Projects
 - a. Bio-Plant Sciences Building, Bid in 1980
 - b. Research Building Phase II of the NPRCRTC in 1980
 - c. Auditorium of the NPRCRTC Bid in 1980
3. Construction Started in 1981-Bid in 1981
 - a. Four Units - Faculty and Staff Housing
 - b. Community Food Processing Building (Phase II)
4. Plans Completed in 1981 Ready for Construction
 - a. Sports Complex I Gymnasium
 - b. Nursery Headhouse
5. Plans for 1982 Under Preliminary Design Scheme
 - a. Administration Building
 - b. Women's Dormitory
 - c. Men's Dormitory
 - d. Research Complex of Agro-Forestry at Ampasit
 - e. Bailey Bridge 1 and 2

G. Board Resolutions Approved. The Board of Trustees held six (6) regular (60th-65th) meetings during the Calendar Year 1981. It adopted and passed seventy (70) Resolutions apropos of the College's operation, maintenance, and development. Five of the same meetings were held at the Ministry of Education and Culture, Arcecosos, Manila, and one (1) at M.S.C, La Trinidad, Benguet.

Pursuant to MEC Memorandum No. 34, s. 1980, the MEC Minister as Chairman of the Board, was represented by the Honorable ANTONIO C. DUMLAO, DED Director, The Honorable JOSEPH H. ALABRIZAL, Executive Director, Region 1, and Honorable SYMMONE A. AQUINO, Director, MESA, Central Office, Manila, alternately represented the National Economic and Development Authority (NEDA) in the meetings.

Among the important resolutions adopted and approved by the Board that bear on policy, fiscal management, and matters related to the various curricular and special projects of the College are the following:

Series of 1981

<u>Res. No.</u>	<u>Subject</u>
4	- CONFIRMING the appointments/promotions of all the seventy (70) members of the faculty and employees made by the College President pursuant to and in accordance with the authority extended to him under Board Res. Nos. 37 and 47, s. 1971, and 56, s. 1973, all as presented above.

Res. No.

- 5 -- CONFIRMING the Owner-Contractor Agreement made and entered into by and between the Mountain State Agricultural College, represented by its President, Dr. Bruno M. Santos, as the Owner, and the Renaissance Builders Co., Inc., represented by its President and General Manager, Mr. Joaquin G. Go, as the Contractor, for the construction of the Animal Science Laboratory Clinic, for a total contract price of 468,000.00 executed and acknowledged on February 1, 1981, as Doc. No. 138, Page 30, Book I, in the notarial register of Atty. Francis A. Dulliyat, Baguio City.
- 6 -- CONFIRMING the Owner-Contractor Agreement made and entered into by and between the Mountain State Agricultural College, represented by its President, Dr. Bruno M. Santos, as the O & R, and the Renaissance Builders' Co., Inc., represented by its President and General Manager, Mr. Joaquin G. Go, as the Contractor, for the construction of the Auditorium for the Northern Philippines Rootcrops Research and Training Center, with a contract price of 1,448,000.00 executed and acknowledged on February 1, 1981, as Doc. No. 139, Page 30, Book No. I, s. 1981, in the notarial register of Atty. Francis A. Dulliyat of Baguio City.
- 7 -- CONFIRMING the Owner-Contractor Agreement made and entered into by and between the Mountain State Agricultural College, represented by its President, Dr. Bruno M. Santos, and the Renaissance Builders' Co., Inc., represented by its President and General Manager, Mr. Joaquin G. Go as the Contractor, for the construction of the Four (4) Nursery Green Houses of the NPRODDC, with a contract price of 270,600.00 executed and acknowledged on February 6, 1981, in the notarial register of Atty. Francis A. Dulliyat, Baguio City.
- 8 -- RATIFYING the Supplementary Contract made and entered into by and between the Mountain State Agricultural College, represented by its President, Dr. Bruno M. Santos, as the Owner, and the Renaissance Builders' Co., represented by its President and General Manager, Mr. Joaquin G. Go, as the Contractor, for the construction of the

Phases II and IV of the Biological Plant Science Building, now called the Agricultural Science Complex, with a contract price of 12,324,000.00 executed and acknowledged on March 5, 1960, as Doc. No. 108, Page 23, Book No. VI, s. 1980 in the notarial register of Atty. Narciso U. Bolislis, Laguito City.

- 9 - APPROVING the Financial Work Plans (Principal Special Budget) of the Mountain State Agricultural College, for Calendar Year 1981, in the total amount of P12,719,000.00, less the sum of P498,000 for GSIS Premiums which are directly sent by the Budget Commission to the GSIS, for Formal Instruction and Other Services, and Construction of Permanent Improvements.
- 10 - APPROVING the grant of a monthly representation allowance to the Dean of Graduate Studies at 200.00 as a amendment to Res. No. 60, s. 1977.
- 12 - APPROVING the grant of the request of the Legal Officer for local transportation and representation allowance at P200.00 per month, effective January, 1981, subject to the usual accounting and auditing rules and regulations.
- 14 - APPROVING the graduation of all 848 candidates from the various curricular offerings of the College, and the conferment/awarding of their diplomas/certificates, as of the end of the term they have completed all the academic to completion of the same as of March 28, 1981.
- 16 - CONFIRMING the approved referendum, dated 16 March 1981 on the request of Dr. Saturnino W. Ocampo, Jr., Vice President and concurrent RTC-RO Director for a 3-month vacation leave with pay, from April 1 to June 30, 1981.
- 17 - CONFIRMING the approved referendum, dated April 10, 1981 on the request of Mr. Domingo G. Casiwan, Assistant Professor, to go on study leave with pay (official time) for one (1) year from April 1, 1981 to March 31, 1982, to pursue a Ph.D. degree in animal science.

- 20 - APPROVING the request of Mrs. Emma B. Keith for a study leave of absence with pay (official time), from June 1981 to May 1983, subject to the condition that she reports for duty for one-half (1/2) day during the period of the study leave.
- 21 - NOTING the Resolution of the M. S. C. Alumni Association on its request for the implementation of the pertinent provision of PD 1437, with the information that the matter is with the Office of the President of the Philippines, and that any follow-up, representation, or inquiry on the matter be made thereof, inasmuch as the MEC Minister, as Chairman of the Board has endorsed the nominees earlier recommended by the College.
- 22 - APPROVING the amendment of Board Res. Nos. 23, s. 1975 and 31, s. 1978, providing for a moderate increase in the rates and schedules of honorariums of members of the faculty, officials, and employees of the College for overtime, overload/extra teaching/work rendered during the regular as well as summer terms for members of the faculty, and summer sessions only for officials and employees of the College as indicated in the accompanying inclosure to this Resolution.
- 23 - APPROVING the grant of academic rank equivalent to Associate Professor to the Chief, Agricultural Projects Coordinator, as authorized under National Compensation Circular No. 15, s. 1981, and the change/conversion of the plantilla position of junior librarians to assistant instructors, as presented and justified above.
- 24 - GRANTING authority to the Mountain State Agricultural College to open a Two-Year Agri-Forestry Curriculum leading to a Certificate of Proficiency, effective the first semester, school year 1981-1982, approving the proposed curriculum thereof, and the fees for the same as proposed and presented above.
- 26 - CONFIRMING the appointments, as presented, of all the above-listed personnel made by the College President in pursuance to authority extended to him under Board Res. Nos. 37 and 47, s. 1971, and No. 56, s. 1978.

- 27 - AUTHORIZING the College President, Dr. Bruno M. Santos to make, sign, execute, deliver and accept documents, agreements, and other writings of whatever nature and kind with/from the Government of the Province of Benguet to effect the final conveyance and acceptance of all the torrens titles covering six (6) parcels of land containing a total area of 39.6627 hectares more particularly described and listed in the premise above, pursuant to the Memorandum of Agreement between the Mountain State Agricultural College and the Government of Benguet Province, executed on July 27, 1979, and to Proclamation, No. 2086, dated May 18, 1981 whereby the College (M.S.A.C.) agreed to exchange some 54.0421 hectares of its reservation at the Stackfarm area at Bayagan-Vangal, La Trinidad, Benguet.
- 28 - APPROVING the request of Professor Esteban B. Arivon for the extension of his study leave under the Colombo Plan from 3 to 4 years, so as to allow him pursue a Ph.D. program in Plant Pathology at the University of Adelaide, Waite Agricultural Research Institute, Glen Osmond, South Australia. Accordingly, his study leave shall be from August 1980 to July 1984, as an amendment to the scholarship agreement he signed with the College, dated June 27, 1980.
- 29 - ALLOWING the increase in the College President's representation and transportation allowances from P500.00 to P550.00 per month each type respectively, effective January 1, 1981 in accordance with Sec. 42 of the General Provisions of the General Appropriations Act, BP Blg. 80, for Calendar Year 1981.
- 30 - GRANTING a two-step merit increase in the salary of the College President, M.S.C., from P66,187.00 to P72,805.70 per annum, effective January 1, 1980, in accordance with existing guidelines under Sec. 5 of NCC No. 12, as revised by Executive Order No. 667, subject to review and post-audit by the COFC of the Ministry of the Budget.
- 32 - APPROVING a moderate increase in the commutable representation and transportation allowance of the Chairman and the Members of the Board of Trustees, as an amendment to Res. No. 62, s. 1977, from P300.00 to P450.00 per month, effective January 1, 1981, in consonance with Sec. 42 of the Special Provisions of the General Appropriations Act, Batas Pambansa Bilang 80 for Calendar Year 1981.

- 31 - CONFIRMING the appointments of the nine (9) members of the faculty and employees of the College as presented above, on the assurance of the College President that the same have been made in accordance with existing policies.
- 35 - CONFIRMING the training grant for Prof. Domingo Q. Casiwan, Assistant Professor, in the FAO/DANIDA Teachers Training Course on Clean Milk Production in Dalum, Denmark, from August 10 to September 26, 1981; the same being approved by the College President in pursuance to authority extended to him under Board Resolution No. 56, s. 1978.
- 36 - CONFIRMING the seven (7) contracts/agreement made and entered into by and between the Mountain State Agricultural College and the various contractors/firms for the construction and/or repair of infrastructure projects, as listed and presented above.
- 37 - APPROVING the creation of new and conversion or modification of certain existing positions in the Plantilla of Personnel of the College as presented above, in accordance with the authority granted to state universities and colleges under NOC No. 15, dated February 10, 1981 of the Ministry of the Budget.
- 38 - APPROVING the merit increase in the salary of Professor Evelyn B. Dimas from 15,264.00 to 16,040.00 per annum, effective January 1, 1981; and of Mr. Venancio Mananday, Cook II, one step each for CYs 1980 and 1981, from 4680.00 to 5382.00, and from 5382.00 to 5640.00 per annum respectively, as presented and justified above.
- 39 - APPROVING a one-step adjustment to the salary of the College Legal Officer, from 14,532.00 to 15,264.00 per annum, effective January 1, 1981, as presented and justified above.
- 40 - APPROVING the grant of representation allowance at 150.00 per month, effective August 1981 to the NIC Coordinator, in consideration of his public duties as documentation, publication, information, promotional, and briefing and reception officer of the College.

- 43 - CONFIRMING the appointment of Mrs. Sergio P. Milagrosa and Mrs. Maria Corazon A. Sonyden, Assistant Professor and Assistant Instructor respectively, at, under, and effective as presented and indicated above.
- 45 - CONFIRMING the promotion of Drs. Percival A. Alipit, Cipriano C. Consolacion, William D. Dar, Marcelino T. Delson, all Assistant Professor, and Dr. Ursula C. Perez, Associate Professor to Professor; and Dr. Caroline B. Dimas, Assistant Professor to Associate Professor, at rates, and effective as indicated and presented above; Provided, the suggestions/observations above be adhered to in the consideration of future promotions; subject to the suggestion that each professor concerned show evidence of scholarly works done along his/her field of specialization after completion of his Ph.D. or Ed.D., and that all submit summary of their accomplishments done in their present assignments.
- 46 - CONFIRMING the promotion of the ten (10) Instructors to Assistant Professors, and eighteen (18) Assistant Instructors, at rates, and effective as indicated and presented respectively under items 3.3 and 3.4. above.
- 47 - CONFIRMING the assignment of plantilla positions as assistant instructors to the above-listed members of the faculty who were hired as substitutes at the beginning of the current school year, effective September 1, 1981, as recommended and presented.
- 48 - CONFIRMING the promotion of the four (4) employees in the Supply and Property Divisions effective, and as recommended and presented above.
- 52 - AFFIRMING the selective merit salary increases granted to the above-listed members of the faculty recommended under Section 4(a), (b), and (c) of the guidelines set under Budget Circular No. 286, and CS Memorandum No. 3, implementing LOI No. 562; Provided, that future recommendations, particularly for "outstanding performance" be individually documented in support of the recommendation of the department/division heads, and affirmed by the deans, and finally approved by the College Merit/Promotion Boards, and recommended by the College President; Provided, further that the merits approved in this Resolution be effective September 1, 1981.

- 53 - APPROVING the request to drop one, Conrado J. Oliveros, Associate Professor, P.B.C, from the roster of college personnel, effective May 19, 1981, for failure to report for duty after the expiration of his approved vacation and sick leaves of absence; and, for continued absence despite repeated calls for him to report; Provided, that a copy of this action of the Board of Trustees be sent to the Civil Service Commission; Provided further, that no formal clearance be issued to him until and unless he is cleared of all property and financial accountability to the government,
- 54 - APPROVING authority to provide a monthly allowance of P100.00 to the Project Monitoring Officer of the College, effective July 1, 1981; and the grant of P100.00 honorarium for every actual attendance in meetings to the representative of the Benguet Engineering District to the P.B.C of the College, effective October 1, 1981, as proposed and presented above, subject to the usual accounting and auditing rules and regulations.
- 55 - APPROVING authority for the College to negotiate and enter into contract with the Philippine Duplicators, Inc. to secure a Gestetner Plain Paper Copier Model 2010, at P4,104.30 per month, on a 12-month lease-purchase basis, subject to availability of funds, and the usual accounting and auditing rules and regulations.
- 57 - CONFIRMING the appointments of Miss Leonila B. Sito as Assistant Instructor, Mr. Diego A. Waguay, as Junior Statistician, Mr. Aurelio Tacban as Assistant Instructor, and Miss Thelma A. Kwan, as Private Secretary I, all at rates and effective as indicated in the presentation above.
- 58 - CONFIRMING the referendum about the promotion of Mr. Rogelio D. Colting from Instructor to Assistant Professor, and the grant of authority to the College to appropriate and use the sum of P15,000.00 to defray expenses of the P.B.C delegation to the Benguet Provincial Athletic Meet, which is slated for January 5-6, 1982.
- 59 - CONFIRMING/NOTING the Financial Work Plans (PSB) of the Mountain State Agricultural College, in the amount of P20,140,000.00 for the Calendar Year beginning January 1 to December 31, 1982; subject to any reserves that may be declared or imposed by the Office of the President of

the Philippines; Provided, that the College is authorized to make adjustment/realignment if necessary to its various projects/programs and activities; Provided further, that the same is confirmed by the Board of Trustees.

- 60 - AUTHORIZING the Mountain State Agricultural College to appropriate and use the sum of \$60,000.00 to defray cost for the participation of its athletes as part of the Benguet Provincial delegation to the 1982 IRL Meet at San Carlos City on January 31 to February 6, 1982, subject to the promise as indicated above.
- 61 - APPROVING the study leave of Mrs. Lita M. Colting - extension for one (1) semester, 2nd of SY 1981-1982, i.e. from November 1981 to March 1982, and the grant of a monthly stipend at \$300.00 for the same period.
- 62 - APPROVING the request to pay honorarium to the chairman and the members of the graduate thesis advisory committee on the basis of a 3-unit subject for 54 hours, at \$15.00 per hour, to be apportioned as follows: Advisor - \$300.00, English Critic - \$135.00, Statistician - \$135.00, and two Members - at \$120.00 each, or a total of \$810.00; Provided, that \$400.00 of which shall be paid by the thesis student upon enrolment in thesis writing, and for one semester only, as thesis advisory committee fee, and \$410.00 to be underwritten by the College; Provided further, that the thesis panel fee under the Special Trust Funds in the School fees be amended to thesis advisory committee fee, and construed as one of the regular school fees as partial amendment to Board Res. No. 68, s. 1979; Provided finally, that the committee shall be paid only on or after the final oral defense of the thesis.
- 63 - APPROVING the graduation of the 207 candidates from the various curricular offerings of the College as of the end of Summer Term 1981 and of the first semester, school year 1981-1982, as indicated and presented in the inclosure to this Resolution.
- 64 - APPROVING the opening of Master of Science in Home Technology (MHT), and the addition of (1) Botany, (2) Entomology, (3) Plant Pathology, and (4) Agricultural Economics as majors in the Master of Science in Agriculture program of the College effective the summer term 1982.

- 65 - ENDORSING the recommendation of the College to maintain its school sites under the latest relocation surveys covered by Swo-1-02-00003, sheets 1-5, Swo-01-02-00003, sheets, 1-3, and Swo-1-02-00002 in relation to Proclamation No. 209, s. 1955; and DISAPPROVING the proposal of the local team of the Ministry of Agrarian Reform (MAR) to segregate portions of TCE-T-16376 and TCE-T-16374 at Danig, Dalili, La Trinidad, Benguet, in the interests of the general public, and in view of the needs of the College for the expansion of its instructional and research programs, and its desire to maintain the contiguity of its landholdings; and it being also the case that the subject lots are still under litigation; and ENJOINING the College to make a purposeful information campaign and make a representation with the Offices of Minister Conrado Estrella of the MAR and of the President of the Philippines through the Minister of the MEC.
- 67 - APPROVING the creation of a new item of Chief Legal Officer in the Plantilla of Personnel of the Mountain State Agricultural College as recommended and justified, effective Calendar Year 1982.
- 68 - APPROVING the amendment to Board Res. No. 22, s. 1981 to include specifically the College President and the Vice President as administrators of the Graduate Programs to be paid honorariums for overtime and extra work rendered during the regular as well as summer sessions in accordance with the approved rates indicated in the inclosure to the same Resolution.
- 69 - WITHDRAWING the authority for the grant monthly stipends to scholars who request for extension of study leaves over and above the approved period covered by their scholarship agreement with the College, or sponsoring agencies; Provided, that future requests for extension of study leaves with or without pay, with or without stipends be considered on a case to case basis; Provided further, that this shall apply to all scholars either funded by the College or by other agencies; Provided finally, that the request of Instructor Lita M. Colting approved under Res. No. 61, s. 1981, be the last within the purview of Res. No. 58, s. 1978.

70 - AUTHORIZING the College President to negotiate with Mr. JOCK DUFFY, an Australian national, and a retired government specialist on irrigation systems, who offered to donate to the College irrigation machinery under condition that the College provide him with free quarters in return for his free services; Provided finally, that a contract is prepared and presented to the Board for its action, either during its next meeting or through referendum.

A P P E N D I C E S

SELECTED THESIS ABSTRACTS

A. Graduate Thesis

GARCIA, FELICIANO P. Mountain State Agricultural College. March 1961. "Cultural Practices of Virginia Tobacco Growers in La Union."

Adviser: Dr. Cipriano C. Consolacion

The objectives of the study were: (1) to determine the actual cultural and management practices employed by the Virginia tobacco growers in La Union; (2) to identify the sources of capital by the farmers in the tobacco industry; (3) to determine the relationship between the adopted cultural and management practices that were recommended on the following factors: (a) age, (b) educational attainment, (c) land tenure, (d) farming experience, and (4) to identify some problems by the growers themselves.

A total of 210 Virginia tobacco growers from the 14 towns of La Union where Virginia tobacco is grown and intensively cultivated served as respondents. They were selected from the list of farmers actually growing Virginia tobacco from the selected towns of La Union. A simple random sampling technique was followed in choosing the respondents.

An interview schedule was used to gather the data. At the same time of the interview the different items in the questionnaire were explained in Ilocano.

The Virginia tobacco growers are 43 years old, on the average. Most of them are married, have finished elementary grades, leaseholders and have engaged in tobacco farming for 11.2 years.

Majority of the respondents plant Golden Harvest, follow cultural and management practices in seed production, care and management of seedlings, application of fertilizers, and control of pest and diseases. On the other hand, majority of the farmers do not practice deauckering.

In flue-curing processes of tobacco leaves, majority of the tobacco growers follow the recommended management practices except that a little over one-half seemingly do not follow the procedure in color fixing.

Majority of the farmers classify their flue-cured leaves based on size and color and sold them to Chinese businessmen, on contract basis.

Majority of the tobacco farmers obtain credit from the rural banks for their capital.

Characteristics of the respondents are not significantly related to the adoption of any of the recommended cultural and management practices in Virginia tobacco farming.

The most common problems identified by majority of the farmers include: low price for flue-cured tobacco leaves, lack of price information, lack of transportation facilities, fluctuating prices of cured tobacco leaves, and high cost of firewood. Less serious problems are irrigation facilities, fertilizers and classification of flue-cured tobacco leaves.

This study seems to point out the need for the Philippine Virginia Tobacco Administration and other institutions involved in Virginia tobacco industry to encourage and to conduct more training programs on the improved Virginia tobacco production technology for tobacco growers. Aside from providing training, the extension workers should be encouraged to work closely with farmers in the community to teach them the new and improved culture of Virginia tobacco and assist them in the marketing of their flue-cured tobacco leaves as well as in the acquisition for their production inputs.

BCA-1, HELEN S. Mountain State Agricultural College. July 1961.
 "Marketing Systems of Vegetable Farmers in Mountain Trail."
 Adviser: Dr. Cipriano C. Conculacion

The study aimed to find out how producers of cabbage and white potato in Mountain Trail of Benguet and Mountain Province disposed their vegetables to the different marketing channels.

Results showed that a greater volume of cabbage and white potato was channeled and delivered to Dagupan and Manila markets. Smaller quantities were picked-up by buyers from the farm, a situation showing that marketing tie-up with buyers is a waning practice and is foiling abuses and unethical marketing practices.

The terms of sale of both crops showed a significant result in cash payment over that of advance, consignment and a combination of cash and consignment basis.

Proper grading and storing of cabbage and white potato was significantly practiced by every farmer. However, only a few used standard weights and proper packaging.

Wholesalers or bulk buyers were significantly the favorites of most gardeners. Nevertheless some farmers sold their crops to contract buyers who offered higher price, collected products from the farm and gave cash or advance payment.

The current prices of vegetables were disseminated by agents and traders and the mass media, particularly radio.

Loaning from relatives was preferred by most gardeners, than from the banking institutions like the Philippine National Bank, Development Bank of the Philippines, Rural Bank, Chinese wholesalers, money lenders and vegetable traders. Result showed that loan was paid upon harvest.

The most common problems of vegetable producers in the Mountain Trail included the following: relatively low farm-gate price, poor road conditions, inadequate transport system, prohibitive cost of transportation, buyers dictate prices, and lack of trained manpower.

TOMAS, MARLENE G. Mountain State Agricultural College. November 1981. "Effects of Varying Time of Fertilization and Frequency of Irrigation on the Growth, Yield and Quality of Barley." Advisor: Prof. Faustino G. Hermanso

The effects of various time of fertilization and frequency of irrigation on the growth, yield and quality of barley was studied from December 1980 to February 1981 at Sta. Barbara, Pangasinan. The irrigation intervals were: 4 days interval; 6 days interval; 8 days interval and 10 days interval. The time of fertilization were: basal (full amount of fertilizer was applied before planting); basal + before tillering (one half of the whole amount of fertilizer was applied before planting and the remaining amount was before tillering or 25 days after seeding), and basal + before tillering + before panicle initiation (one third was applied basally and the remaining two-thirds was applied before tillering and panicle initiation).

The irrigation intervals used had significantly affected growth, yield and some grain qualities of barley. The marked reduction in plant growth and yield of barley were observed plants irrigated at intervals of 8 and 10 days. Irrigation intervals of 4

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TONGS, WILLIAM G. Mountain State Agricultural College. November 1981. "Effects of Varying Time of Fertilization and Frequency of Irrigation on the Growth, Yield and Quality of Barley." .adviser: Prof. Faustino G. Hermano

The effects of various time of fertilization and frequency of irrigation on the growth, yield and quality of barley was studied from December 1980 to February 1981 at Sta. Barbara, Pangasinan. The irrigation intervals were: 4 days interval; 6 days interval; 8 days interval and 10 days interval. The time of fertilization were: basal (full amount of fertilizer was applied before planting); basal + before tillering (one half of the whole amount of fertilizer was applied before planting and the remaining amount was before tillering or 25 days after seeding), and basal + before tillering + before panicle initiation (one third was applied locally and the remaining two-thirds was applied before tillering and panicle initiation).

The irrigation intervals used had significantly affected growth, yield and some grain qualities of barley. The marked reduction in plant growth and yield of barley were observed plants irrigated at intervals of 8 and 10 days. Irrigation intervals of 4

and 6 days made barley plants grow better and produce more yield with good quality grain. These were further shown by more tillers (productive and non-productive), longer spikes, more percentage filled grains per spike, dry weight of straw, heading date and plumpness score of seeds.

On the other hand, growth in terms of height, yield and some grain qualities of barley were not affected by time of fertilization. However, heading dates were greatly affected by time of fertilizer application. Basal application significantly enhanced heading dates. This observation was due to immediate availability of food nutrients to plants for faster growth and development.

BARUAON, MELDY, J. Mountain State Agricultural College. La Trinidad, Benguet. June 1981. "The Effects of Length of Darkness and Skip-Feeding on the Performance of Broiler Chicks.
Advisor: Prof. Sydney E. Morasto

The study aimed to find out the performance of broiler chicks subjected to varying length of darkness and skip-feeding methods.

Data on initial weight, total feed consumption, final weight, gain in weight, feed conversion ratio and feed cost required per kilogram gain in weight were gathered and statistically analyzed.

Results of the study showed that length of darkness greatly affected the performance of the broilers. Birds subjected to 12 hours of darkness (natural-length) had significantly lower (1% level) final weight and gain in body weight as compared to 10, 14 and 16 hours of darkness. The cost of feeds required to produce a kilogram gain in weight was also significantly higher in birds under natural length (12 hours) although feed consumption did not differ significantly compared to the other treatments. As a result, the net return from 12 hours of darkness was the lowest with 12.53 per bird as compared to the highest net return of 13.59 per bird from 10 hours of darkness.

From these results it seems that altering the natural night-length by either shortening or prolonging darkness, improves the performance of the broilers in terms of final weight, gain in weight, feed cost per kilogram body weight, and net return per broiler. However, 10 hours of darkness proved to be better than the other treatments in terms of all the parameters used.

As regards skip-feeding methods, continuous feeding was economical of the rest of the treatments. While the birds in this

treatment had significantly higher food consumption, they were also significantly heavier. As a result gain in body weight was also significantly higher, yet the cost of feeds required to produce a unit gain in body weight did not differ significantly with the other treatments. In terms of the net return, continuously fed broilers registered a net of 4.4 as compared to the lowest return of 2.35 derived from broilers skip-fed every other day.

In conclusion, 10 hours of darkness in combination with continuous feeding improved the performance of the broilers in terms of all the parameters used. It is the most economical treatment combination. Since this is the first study conducted along this line, it is recommended that further experiment be done to verify and confirm the results.

ANONITA, LUCRECLA A. Mountain State Agricultural College, La Trinidad, Benguet. November 1981. "Flower Induction and Seed Production Study on Pechay."
Adviser: Dr. William D. Dar.

The response of pechay to vernalization and gibberellic acid (G_1) and varying N-levels was studied at DARSU from December 1980 to April 1981.

Vernalization treatment and gibberellic acid foliarly applied to two-week old plants induced early flowering of pechay. The inductive effect of vernalization was significantly better than G_1 . There was no significant effect of the levels of nitrogen used in the flowering of pechay plants.

The highest number of pods and seed yield was obtained from plants grown from vernalized seeds and fertilized with 160 kg N. per hectare.

On the other hand, high seed yield and seed vigor index were also obtained as an effect of the interaction of vernalization and an application of 160 kg N. per hectare.

There was positive correlation between average weekly growth increment, number of days to flowering, percentage of pods per plant to that of seed yield.

LALI, ANITA P. Mountain State Agricultural College, La Trinidad, Benguet. March 1981. "The Machine Knitting Industry in La Trinidad, Benguet and Baguio City."
Adviser: Prof. Jose B. Lubrica, Sr.

This study was conducted primarily to assess the status of the

machine knitting industry in La Trinidad, Benguet and Dagupan City. Specifically, the study aimed to: (1) find out the socio-demographic profile of machine knitters in La Trinidad, Benguet and Dagupan City in terms of age, civil status, educational attainment and number of years of experience in the trade; (2) find out the working status of the knitters in terms of source of capital, machines used, quantity of materials produced, marketing and net profit; (3) know the major problems of the industry; and (4) determine the implication of the findings of the study to the Practical Arts Curriculum.

An interview schedule was used to collect the needed data from the 225 knitter-respondents. The respondents were classified into three categories, namely: knit shop owners, individual home knitters and traders and paid labor knitters.

There was a significant difference on the socio-demographic profile of the three categories of respondents in terms of age, civil status, educational attainment and number of years of experience in the trade.

Majority of the respondents were 21-40 years old, married and literate and have been engaged in knitting for more than ten years.

Most of the respondents did not have training in machine knitting but learned the skill through observation and practice. All the respondents used Brother Knitting machines although some own brands of knitting machines, like Singer, Toyota, Pegasus, etc.

As regards selection of the paid labor knitters of the knit shop owners and individual home knitters and traders, there was no other criterion followed, nor any standard set as to the kind of knitters they employed. The basis for employment was the individual's knowledge to operate a knitting machine and to knit.

Most of the knit shop owners and individual home knitters and traders used limited capital. Nevertheless, some of them resorted to bank loans and consignment.

All the materials used were purchased in Dagupan City. The most common thread material was Vonal followed by Cash-million, Lamolon, and Beslon which are imported from Japan, hence they are costly and sometimes difficult to obtain especially some colors that are preferred by the buyers.

Finished products were sold directly to consumers and through consignment by middlemen. The market outlets were not concentrated

only in Baguio City but even as far as Manila, Cagayan, the Visayas, and Mindanao.

Some big business establishments like the Easter School Weaving Room in Baguio City and Narda's Knit Shop in La Trinidad, Benguet export their products.

Three major problems hamper the industry, namely: low capital, stiff competition and poor quality and standard of knitted products.

On the basis of the specific problems stated in this study and in the light of the findings, it is recommended that to make the knitting industry more progressive, the government should help the knitters organize an association.

Moreover, to effect further improvement and progress on the machine knitting industry on its impact on the socio-economic development of the country, machine knitting should be integrated in the work education subject of the elementary and secondary students especially in Benguet and the Mountain Province where the industry is located.

MILES, HENRIEZ S. Mountain State Agricultural College, March 1981.

"Influence of Plant Spacing and Levels of NPK Fertilizer on the Growth, Yield and Quality of Virginia Tobacco (*Nicotiana tabacum* L) var. Golden Harvest."

Adviser: Dr. Conrado J. Oliveros

A field experiment was conducted to determine the response of Virginia tobacco to different plant spacings and levels of NPK fertilizer. Golden Harvest Variety was used as test plants, with spacings of 105, 85, and 65 cm between rows and 65, 50 and 35 cm between hills. The NPK fertilizer (6-9-15) treatments were 0, 14 and 28 g/hill.

Plant height, plant canopy diameter, and stem diameter were found higher in plants that received 28 g/hill in all plant spacings. The quality of cured leaves when fertilized with 28 g/hill was higher. Percent grade 1 leaf was not significantly correlated to specific leaf weight, burning rate, and hygroscopicity.

Yield was observed to be positively correlated to high leaf quality and crop value. Production of dry matter, plant characteristics such as leaf area in all leaf positions and midrib lamina ratio were highest when spaced at 85 cm between rows and 50 cm between hills with a fertilizer rate of 28 g/hill. Crop values

were generally higher among plants fertilized with 28 g/hill.

Harvest index or the ratio of economic yield to total dry weight was highest in the control plot and lowest when fertilized with 28 g/hill. Specific leaf weight and burning rate increased as fertilizer level increased. Hygroscopicity decreased with increasing levels of NPK fertilization. Plant spacing did not significantly affect specific leaf weight, burning rate and hygroscopicity, but specific leaf weight was lowest in closely spaced plants. There was a strong and negative association of specific leaf weight to burning rate and significant positive correlation with hygroscopicity.

Chemical constituent of the cured leaves were not affected by plant spacing. NPK application increased total alkaloid as nicotine, total sugar, nitro, cu, and phosphorus content. There was no significant correlation of total alkaloids as nicotine and some leaf physical characteristics like specific leaf weight, burning rate and hygroscopicity.

Available soil moisture was higher in closely spaced plants and soil temperature was lower.

Generally plants spaced at 85 by 50 cm with a fertilizer rate of 28 g/hill of 5-9-15 NPK gave optimum yield and quality of Virginia tobacco. Nevertheless, further studies should be conducted to evaluate extensively the physiological changes on the different stages of growth of tobacco planted at different plant spacings.

C.D.M.L, M.CARLO D. March 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Effect of Tillage on the Growth and Yield of Three Varieties of Potato."
Adviser: Dr. Lucio B. Victor

The effect of tillage practices on three varieties of potato was studied. The different tillage practices were: redigging (two diggings), one digging, loosening the top soil and not digging. The cultivars used were Jaerla, Cosima and Greta as representatives of early, medium and late maturing varieties, respectively.

Redigging plots consistently gave significantly higher yield than the other tillage practices. This result can be attributed to the significant and three days after watering which are contributory to increased average and total weight of and number of tubers per hill and per treatments of marketable tubers. Results proved that the practice of not digging plots leads to a very much reduced yield.

Cosima, the medium-maturing variety, had the highest yield. The difference in the yield of the three varieties used were due to varietal characteristics.

Significant interactions between variety and tillage were noted in the average weight of tubers per hill and the computed yield per hectare.

BAWANG, FRANCO T. 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Effects of Moisture Stress on the Growth, Yield and Some Postharvest Characteristics of Cultivars, 'Cosima' and 'Red Pontiac'".
Adviser: Dr. Lucio B. Victor

The effect of moisture stress on the growth, yield, and some postharvest characteristics of cvs 'Cosima' and 'Red Pontiac' was studied from December 1979 to June 1980. The moisture stress periods where these two potato varieties were subjected to were: S_1 -10-day stress from the 11th to the 20th day after haulm emergence; S_2 -10-day stress period from the 21st to the 30th day after haulm emergence; S_3 -10-day stress from the 31st to the 40th day; S_4 -10-days from the 41st to the 50th; S_5 -10-day stress from the 61st to the 70th day; S_7 -control (regular watering twice a week); and S_8 -10-day stress from the 11th to the 20th day after haulm emergence, and another 10 days from the 31st to the 40th day.

Moisture stress applied in all stages of growth in the potato affects growth, yield and some postharvest qualities of the tubers. The greatest reduction in haulm growth and yield due to moisture stress occurs when the potato is not irrigated twice for ten days each at the early stages of growth or, if subjected to water stress from the 21st to the 40th day after haulm emergence. Suspended irrigation when the haulm is 10 days old appears to enhance greater yield. These were evidenced by highly significant differences on the number of tubers per plot, marketable tuber number, yield per hectare, number of tubers per hill, and weight of extra-big tubers. Significant variations in haulm height, total yield per plot, weight of marketable tubers, average weight per tuber, and weight of small tubers were also observed.

Cultivars 'Cosima' appears to be more resistant to moisture stress than cv 'Red Pontiac' as shown by significant differences on tuber number per plot and marketable tuber, number of tubers per hill, and number of days to sprout emergence.

Varietal nature can be reinforced by the effect of moisture stress in the proliferation of medium and small tuber grades as indicated by significant variations on computed yield per hectare and weight of small tubers, and significantly different weight of medium tubers and number of marketable tubers per plot.

Irrigating the potato twice a week from planting up to the 49th day from haulm emergence, after which watering will be done once a week will save on labor cost without reducing the yield.

GOLOC N, FRANKLIN B. September 1981. Mountain State Agricultural College, La Trinidad, Benguet. "The Adoption of Technologies by the Farmer Trainees Assisted by the Agricultural Skills Training Program of Mountain State Agricultural College Philippine Business for Social Program and OXFORD Commission on Famine Relief."

Adviser: Dr. Cipriano C. Consolacion

This thesis on the adoption of technologies by the farmers assisted by the agricultural skills training program by the Mountain State Agricultural College was undertaken generally to study the adoption by the assisted farmers of the technological skills which they have been trained by the Mountain State Agricultural College. Specifically, this study aimed to:

1. Find out the socio-economic and demographic profile of the farmer-trainees of the MSAC-PBSP-OXFAM agricultural skills training program;
2. Identify the previous agricultural skills of technologies introduced by the trainees;
3. Determine the extension methodologies and strategies employed by the projects; and
4. Identify the problems met and solutions employed by the farmer trainees and the trainers.

The respondents consisted of 84 assisted farmers picked out at random from a list of 140 farmer-trainees who completed the course. Personal interview with the use of interview guide questions was used to collect the data.

Results reveal that the age of majority of the farmer-respondents ranged from 22 to 33 years old, averaging five children each and had finished elementary or high school.

The common reasons for adopting agricultural skills learned were suitability to areas, income producing, useful and necessary. On the other hand, lack of needed cash capital on expensive cost of production and having forgot the technology taught were the constraints for not adopting some of the technology practices taught to the farmer-respondents.

Most of the assisted farmer-respondents practiced seed selection, proper land preparation, proper application of fertilizer, right procedures in planting, effective control of pest and diseases, selecting the type and breeds of animals, proper house and housing, proper feeds and feeding and scientific breeding.

The relationship between age, educational attainment, number of years in farming and income level and the adoption of agro-animal technology was substantial. Most of them were more or less on the same point of not adopting some of the technology practices taught to them.

The assistance of an agricultural extension worker and the field worker of the Ministry of Local Government and Community Development is needed to organize the farmers in the municipalities of Kapangan, and Tublay. There is also a need to form a cooperative or credit union which could lend them cash capital in order to avail of the Kilusang Kabuhayan sa Kaunleran (KKK) program of the government.

Furthermore, a follow-up program is recommended to reinforce the skills on food production.

ZARDIANO, JUANITA C. November 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Training Needs of Out-of-School Youth in Three Benguet Municipalities."
Adviser: Dr. Cipriano C. Consolacion

This study was conducted primarily to assess the training needs of the out-of-school youth in the three Benguet municipalities. Specifically, the study aimed to: (1) find out the socio-demographic profile of the out-of-school youth in La Trinidad, Tublay and Bokod; (2) know that areas of training do the out-of-school youths need; (3) determine the reasons why these out-of-school youths are not in school; (4) derive policy guidelines in the designing of out-of-school youths training in Benguet.

An interview schedule was used to collect the needed data from 319 out-of-school youth respondents. The respondents were from the municipalities of Tublay, La Trinidad, and Bokod.

There was no significant differences on the socio-demographic profile of the out-of-school youth in terms of age, sex, occupation and educational attainment. Only in civil status of the respondents did they differ significantly.

Most of the respondents are within the age range of 7-21 and few were married, thus the numerical differences between sexes was not statistically significant.

The biggest number of children in the family of the respondents was 4-6 and the lowest frequency was 7-9, and most of the out-of-school youth were in farming which could be attributed to the fact that most of their parents are farmers.

All the respondents were literates. The expressed reason for being out-of-school youth was lack of financial support.

Most of the respondents did not have any training but were interested should the government line agencies conduct trainings in their respective municipalities.

The out-of-school youth in the three municipalities were very much interested in having several trainings. Most of them preferred livestock production, vegetable production, and handicraft, among other skills.

There seemed to be a need on the part of the government to help the out-of-school youth by organizing skills training projects that they need for their self-growth and development.

ARISM, VIVENCIO P. March 1971. Mountain State Agricultural College, La Trinidad, Benguet. "Job Placement of Graduates of the Ilocos Norte Agricultural College."
 Adviser: Dr. Cipriano C. Consolacion

This study attempted to find out the job placement of graduates of the secondary, the two-year Agricultural Technology Course and the Bachelor of Science and Agriculture of Ilocos Norte Agricultural College, Pasuquin, Ilocos Norte.

Five hundred fifty-four graduates were randomly chosen to serve as respondents.

More than one-half of the graduate respondents were back in school; one-third were employed; one-tenth were self-employed; and only about 5 percent were unemployed.

Of those employed, less than one-half were in jobs related to their fields of specialization; others were employed in jobs not related to their specialization and training.

Financial problem was a dominant factor for those who could not continue their college education. Lack of capital, lack of farm area, immature age, and inadequate experience were considered serious problems of graduates who did not engage in farming in its related fields. On the other hand, no promotions, insufficient training, low salary, remote place of assignment and poor work environment were regarded problems of employed graduates.

The secondary graduates did not like the plant and animal protection courses, the YAP and the worktest given to prospective first year students. The College graduates did not like Spanish, Rizal and Filipino courses.

The respondents recommended the improvement of basic educational facilities of the school to meet their needs; they also endorsed having a strong placement bureau, information service center and PTA organization.

Lack of capital, inadequate farm area, immature age, and inadequate experience were the reasons why the graduates did not engage in farming.

There seemed to be an urgent need on the part of the school to improve further its basic educational services, restructure and update its curricular offerings. At the same time, there should be closer cooperation among school officials, teachers, students, parents, the community and the employment agencies in order to attain national educational goals and objectives via the graduates.

B. Undergraduate Thesis

MANALO, GEMARO B. March 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Perceptions and Attitudes of the People in Tabuk, Kalinga-Apayao Regarding the On-Going River Irrigation Project."
Adviser: Mrs. Luz C. Debad

The study aimed to know the perceptions and attitudes of 60 respondents who benefited from and/or whose properties were affected by the establishment of the Chico River Irrigation Project at Tabuk, Kalinga-Apayao.

Results showed that the respondents were bonafide residents of the considered areas of services of the Chico River Irrigation Project. Most of them considered the project advantageous and developmental because of the changes and community activities established in the community by the project agency. This perception was backed up by friendly relation with the personnel of the agency.

Using the existing communal irrigation system, almost all respondents claimed that their farming practices and way of living were improved. They said that eventually, all the people in the province would directly use the irrigation water from the project and would have electricity from the National Powers Corporation.

TAD-AMM, BERNARD S. April 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Comparison and Evaluation of Different Rooting Hormones in the Production of Pathogen-Free Potato Stem Cuttings at La Trinidad, Benguet."
Adviser: Mrs. Janet S. Luis

This study was conducted to determine the effects of IBA, Restorer, Alpha-NAA and GA₃ at 0, 10, 20 and 30 ppm.

Highly significant differences were obtained among the treatment combinations used on root growth, stem height increment, percentage of cuttings with roots and root number.

The results showed that stem cuttings treated with IBA at 20 ppm had the best rooting performance. Treatment with GA₃ at 20 ppm gave the highest stem height increment.

No significant interaction effects between growth regulators and concentrations were found in leaf area and number of aerial tubercles.

TUNDAGUI, LEIDA B. 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Merchandising Practices and Problems of Market Vendors of Selected Vegetables at the Baguio City Market."
Adviser: Mrs. Herminia A. Francisco

This study was conducted to: (1) describe the merchandising practices of market vendors of four selected vegetables, (2) determine the average weekly volume of four selected vegetables; (3) determine the prices paid and prices received by vegetable vendors; and identify concomitant problems.

This study found that farmer and assembler-wholesalers were the major sources of vegetables by vendors. Of the 30 respondents, 58% purchased their vegetable merchandises from farmers and the remaining 42% from assembler-wholesaler-retailers. Majority claimed that they prefer to buy from the farmers because of price discount and credit tie-up. Both the retailers and wholesalers-retailers sold their vegetable merchandise either in cash or on credit basis.

The average weekly volume of vegetables purchased by vendors was 2,100 kg. 72% of which were picked up 28% were delivered. Vendors first trimmed their vegetables before they were sold. After the trimming, the remaining volume sold for all vegetables was 1,863 kg. Sixty per cent were sold within Baguio City market and 40% were sold outside Baguio City. A weekly average of 237 kg. from the four vegetables were lost due to trimmings and damage or injuries. The highest percentage of loss was on wongbok (Chinese cabbage) of 34%; pepper, 25%; cabbage, 21% and carrots 20%.

The average prices paid by the vendors for picked vegetables in 1980 were: cabbage P2.00; carrots, 1.85; wongbok, P1.40; and pepper, P2.50. Likewise, average prices paid by vendors for delivered vegetables were: P2.20 for cabbage, P2.00 for carrots, 1.55 for wongbok and P3.00 for pepper. Vendors received different prices for vegetables sold in Baguio; for cabbage, P2.40; carrots, P1.75; wongbok, P2.20; and pepper, P2.50. For vegetables sold outside Baguio City, vendors received P4.50 for cabbage; P5.00 for carrots; P3.50 for wongbok; and P4.50 for pepper.

The five major merchandising problems of vegetables vendors were: unimproved roads, high cost of packaging materials, high perishability of vegetables, delay of credit payment of customers and price fluctuation.

NUDO, ANDREW B. and TILKAYONG, MANUEL N. March 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Varietal Screening of Potato Against Thrips." Adviser: Mrs. Nora P. Lucero

Varietal screening of potato against thrips was conducted at the Mountain State Agricultural College, La Trinidad, Benguet from March to May, 1980.

Twenty varieties of potato namely, Arka, Conchita, Draga, Desiree, India, Inia, Jorla, Kananok, Romanos, Siro, Spunta, Vinseg, Wasion, DTC-10, T.-37, 51478 and 5804-14 were studied against

the attack of thrips. The data gathered was the population count of thrips, damage inflicted by thrips and marketable yield.

Conchita had the least number of thrips, was least infested and was the best yielder. Draga and Arko were comparable to Conchita in terms of degree of damage and yield. Vinsog and TM-37 had considerably higher yield than the rest of the varieties used. All other test varieties were extremely populous of thrips and damaged and had the least yield.

GAS-IB, JONES A. July 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Assessment of Potato Yield Loss Due to Root-Knot Nematode (Meloidogyne incognita). "
Adviser: Prof. Sergia P. Milagrosa

In a pot experiment, the response and yield loss of 3 varieties of potatoes to varying levels of M. incognita inoculum were determined.

Results revealed that root-knot nematode of potato caused a significant decrease in the yield potential of almost all varieties. The disease was capable of causing high losses on yield particularly on susceptible Red Pontiac and moderately-resistant Conchita. Yield losses of resistant Cosima were not as high as those in the other 2 varieties. This indicates that nematode is pathogenic and is a potential pest of potato.

GUINTO, FERNANDO S. January 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Assessment of Yield Losses Due to Phytophthora infestans. "
Adviser: Prof. Sergia P. Milagrosa

This study was conducted to assess the yield losses due to Phytophthora infestans on potato 'Red Pontiac' at the Mountain State Agricultural College Experimental Farm, La Trinidad, Benguet from March to May 1980. The percentages of blight infection were 100, 75, 50, 25 and 0. No fungicide was applied to plants with 100% infection. Plants with 75% infection were applied fungicides at a rate of .50% a.i./ha.; plants with 50% infection: .75% a.i./ha.; plants with 25% infection, 1.00% a.i./ha.; and plants without infection, 1.25% a.i./ha. Two fungicides, Daconil and Parzate, were used.

The results showed significant differences on percent infection on leaves and tubers as affected by fungicides application. It was

observed that as the rate of fungicides was increased, the rate of infection was increased, the rate of infection correspondingly decreased. Plants with lower percentage of infection survived throughout the duration of the experiment, but control plants survived for no longer than 2 months.

Yield, which consisted of bigger-sized tubers, was highest in plants with less foliage infection. Control plants had the highest mean yield of small and medium-sized tubers.

All the treatments gave varying differences on the losses of gain in weight. However, plants with 100% infection had the highest gain in weight and biggest loss in weight of medium and small tubers; plants without infection had the highest gain in weight in big and small tubers. Other treatments had close differences in losses and gain in weight on the different sizes of tubers.

L.S.DACAN, EDWIN T. October 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Incidence of Five Potato Viruses and the Yield Losses Effected in Six White Potato Varieties."

Adviser: Mrs. Janet S. Luis

This study aimed to determine the incidence of five potato viruses and assess the yield loss effected in 6 uncertified white potato varieties.

Only 3 single viruses-potato virus X (PVX), potato virus Y (PVY) and potato virus S (PVS)-were detected by the latex flocculation test to infect the 6 uncertified white potato varieties. Among the 3, PVY was the most prevalent and virulent. Virus combinations detected were PVX \neq PVS, PVY \neq PVS, and PVX \neq PVY \neq PVS.

There were no significant differences among the percentage virus infections in the test varieties. High tuber weight loss in 'Conchita' and 'Fino' was highly significant over the loss in 'Cosima', 'Isola', 'Gradifolia' and 'Granola'. However, 'Cosima' the most infected variety, had significantly the least tuber weight loss.

GONZALES, FLORENCIA V. 1981. Mountain State Agricultural College, La Trinidad, Benguet. "The Effect of Mulberry Leaf Meal as a Food Supplement on the Performance of Broilers."
 Adviser: Mr. Samuel S. Arcellana

The study was conducted to find out the effect of mulberry leaf meal as a food supplement on the performance of broilers.

A total of 160 1-day-old broiler chicks was randomly allocated into four treatments, each treatment containing 40 chicks for each replication.

Results of the study showed that birds that received mulberry leaf meal as feed supplement consumed significantly lower feed as compared to the control. However, the lower feed consumption by the treated birds did not affect their performance in terms of final weight, gain in weight, and feed conversion. While the control birds exhibited better performance in terms of the above parameters, the differences were not significant. These results show that mulberry leaf meal can be added in the broiler feeds up to 10% without adversely affecting the performance of the broilers. However, a follow-up of this study is recommended to confirm the results.

MARINO, FORTO S. March 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Utilization of Available Vegetable Wastes for Fattening Goat in the Highland Areas."
 Adviser: Mr. Sonwright B. Maddal

Used in the experiment were 15 3-to-5 months-old locally bred goats which were mostly under apparently poor management condition. Feedlot performance and carcass traits were determined based on the goats' utilization of vegetable wastes; kikuyo grass alone, purely vegetable wastes, equal part of kikuyo grass and vegetable wastes.

Results showed that goats on an all-vegetable-wastes diet had difficulty maintaining their weights. They require the greatest amount of feeds for every unit of body weight gain (124.9g) as compared with those fed 50% kikuyo grass and 50% vegetable wastes (42.1 g). Also, vegetable wastes as the only component of the ration was less than satisfactory due to their high moisture content. Feeding them along with a bulky feed like grass seemed necessary for satisfactory performance on vegetable wastes rations. However, the experiment demonstrated that wastes from vegetable farms can provide a portion of the ruminants diet especially during the dry season when little or no grasses grow.

FIGUERO, CHRISTINE MARIE T. 1981. Mountain State Agricultural College, La Trinidad, Benguet. "The Effect of Dried Chicken Manure as Food Supplement for Growing Pigs."
 Adviser: Prof. Sydney R. Morcoto

The study was conducted to find out the effect of dried poultry manure on the performance of pigs and to determine the best level of chicken dung to be given to swine. The study was conducted at the pigery project of the Mountain State Agricultural College, La Trinidad, Benguet.

Results showed that on final weight, pigs given 100% pure commercial feeds had the highest, followed closely by pigs given 15% dried poultry manure. Pigs given with 25% dried poultry manure had the lowest.

Statistical analysis showed that there were no significant differences in the initial weight, final weight, gain in weight and feed conversion efficiency among pigs fed with 100% commercial feeds and with 25 and 15% dried poultry manure. This means that dried chicken manure may be used as food supplement for growing pigs to reduce the cost of feeds.

ROSALLES, FLORENTINO L. JR. March 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Economic Survey of Income and Expenditure Behavior of College Students at the Mountain State Agricultural College."
 Adviser: Miss Darlyn A. Damasco

The study aimed to determine the sources and the average level of income of M.S.C. College students, their average rate of expenditure, the relationship between income and expenditure, and the differences between expenditure behavior and personal and environmental factors.

The majority of the respondents were supported by parents who were farmers; the rest, by parents who were businessmen, laborers, pensioners, landlords, policemen, clerks, drivers and operators. Very few were supported by educational subsidies. The monthly income of every student was ₱180.70 monthly or ₱903.50 semestrally. The average semestral expenditure was ₱1,653.00.

The greatest portion of the students' allowance was spent on food followed by personal items, and payment of school fees; books and equipment sliced off the least amount from income.

Income and expenditure on school fees had no significant relationship possibly since students, regardless of income, paid definite school fees. Similarly, no significant relationship existed between income and expenditure on food, between other basic items as clothing and books and equipment, between expenditure behavior and personal and environmental factors, and between expenditure behavior and place of origin. However, a significant relationship existed between transportation and personal effects, and a slight differences between expenditure behavior and educational level in college.

Finally, a highly significant difference existed between expenditure behavior and sex: Male students spent more than female students on all items.

ELIZABETH, TRINIDAD, S. 1961. Mountain State Agricultural College, La Trinidad, Benguet. "Performance of Tomato in Soils Amended With Mine Tailings and Chicken Dung."
 Advisor: Prof. Tessie M. Neresstela.

The effect of mine tailing and chicken dung, applied at different rates was studied on the performance of tomato. The rates of applied mine tailings were: 0, 1, and 2 tons per ha.; and the rates of applied chicken dung were: 0, 1, and 3 tons per ha.

Tailings combined with chicken dung significantly affected the growth and yield of tomatoes. Plants in soils amended with mine tailing and chicken dung had vigorous growth and high quality yield but plants not applied with mine tailings and chicken had inferior growth and lesser yield. Sto. Niño Mining, Inc., tailing at 2 tons per ha. and chicken dung at 3 tons per ha. gave the highest growth and yield. This combination gave a total yield of 7.38 kg. per plant.

The pH of the soil, N, Ca and Mg content of tissues and soil significantly increased as the rates of mine tailings and chicken dung were raised. The combination of Black Mountain tailing at 2 tons per ha. and chicken dung at 3 tons per ha. gave the highest pH, N, Ca and Mg contents.

NILO, VICTORIA C. August 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Effect of Leaf Pruning and Fertilizer Application on the Growth and Yield of Baguio Bean." Adviser: Dr. Lucio B. Victor

The study determined the effect of pruning 3, 6 and 9 pairs of old leaves after full development and the effect of 30-30-30, 60-60-60, and 90-90-90 kg NPK / 5-7 m³/ha. chicken dung.

Results of the study showed that pruning 6 pairs of old leaves effected the highest weight, highest number of pods, heaviest weight of marketable pods and a high percentage of fruit setting. Beyond 6 pairs of old leaves, yield decreased. However, 9 pairs of old leaves pruned produced the longest pods.

Among the fertilizer treatments, 60-60-60 kg of NPK effected the highest yield. Beyond this rate, yield decreased.

Interaction between pruning and fertilizer application showed that 3 pairs of old leaves pruned with 90-90-90 kg NPK and 6 pairs of old leaves pruned with 60-60-60 kg NPK effected almost the same yield. However, there was a great difference in the amount of fertilizer applied. Economically, therefore, 6 pairs of old leaves pruned and with 60-60-60 kg NPK/ha. was the best combination.

TRIBWA, MILAGROS T. 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Evaluation of Chemical Weed Control in White Potato." Adviser: Mr. Pepe E. Toledo

Results indicated that linuron, diuron, atrazine, and prometryne in combination with trifluralin, effectively controlled weeds in potato; hence, the tuber yield (weight) obtained from these treatments was numerically higher than although statistically insignificant from that of the yield of the single application of these herbicides. Likewise, insignificant differences were obtained when they were compared to metribuzin. In terms of tuber number produced, plots treated with trifluralin / prometryno, and metribuzin at higher rates had the highest. However, they did not differ significantly from each other and from the other treatments except with the unweeded plots which insignificantly differed from the other herbicide-treated plots.

Herbicides used provided adequate control of E. indica., D. sanguinalis and G. parviflora for 30 days after treatment. However, trifluralin failed to control satisfactorily G. parviflora. Visual observations indicated that the crop was tolerant to those chemicals. No difference was observed on the morphological condition of the plants in the treated and untreated plots.

Among the herbicides evaluated, metribuzin (0.25-1.00 kg/ha) most effectively controlled weed growth and linuron and atrazine in combination with trifluralin were promising.

TELLERIN, HOMER D. October 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Induction of Drought Resistance in White Potato."
Adviser: Dr. Percival B. Alipit

The effect of irrigation frequency and techniques of inducing drought resistance in white potato was studied at the Experimental Station of the Mountain State Agricultural College from December 7, 1980 to February 27, 1981.

Results showed that weekly irrigation gave higher soil moisture content, but comparable vegetative growth and yield were obtained from plants irrigated weekly, bi-weekly, tri-weekly, and no subsequent irrigation after planting the soil at field capacity.

Plants grown from pre-sprouted seed tubers or those treated with 2% boric acid had significantly better haulm development and higher total and marketable yield.

CHAN, MAGDALENA G. November 1981. Mountain State Agricultural College, La Trinidad, Benguet. "The Effect of Leaf to Flower Ratio on Chrysanthemum Outflower Quality."
Adviser: Prof. Ben D. Ladlad

The study aimed to determine the effect of leaf to flower ratio on the development, quality and vase-life of chrysanthemum outflower. The flower buds were about 1/4 cm size when the plants were defoliated to 6, 8, 10, 12, 14, 16 and 20 leaves per plant respectively in accordance with the treatments.

Control plants with no defoliation were the earliest to reach anthesis from flower bud formation and displayed the biggest flower size and deep yellow colored blooms. On the other hand, among the

defoliated plants, samples with 16, 18 and 20 leaves retained per plant outgrew the control plants. Plants with 20 leaves had the highest mean height, were the earliest to reach anthesis from flower bud formation, had the biggest bloom and produced the most number of suckers. Although deep yellow color was observed from plants defoliated to 20 and 18 leaves, defoliation treatments did not significantly affect the stem and sucker production.

Defoliation treatments, however, had significantly affected the vase-life of chrysanthemum cutflowers. They lengthened the keeping quality of cutflowers, apparently observed from those of plants defoliated from 6 and 8 leaves.

DELA CRUZ, MODesto V. 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Effect of Method and Frequency of Irrigation on the Control of Thrips in Potato."
adviser: Mr. Danilo P. Padua

Different methods (surface and overhead) and frequencies (2 x and 3 x a week) of irrigation treatments were studied for their control effect on thrips of potato.

The different methods and frequencies appeared to have reduced thrips population, a result which subsequently allowed normal growth of potato plants. The degrees of infestation on leaves by thrips ranged only from 26.07 to 43.97%. Better growth of plants due to proper method and frequency of irrigation lessened the damage inflicted by thrips. The best method and frequency was combination of 3x a week surface irrigation and 3x a week overhead irrigation- as evidenced by greater yield obtained from potatoes grown under this treatment.

GUITELAN, CYNTHIA B. August 1981. Mountain State Agricultural College, La Trinidad, Benguet. "Varietal Evaluation on the Yield and Keeping Quality of Six Strawberry Cultivars."
Advisers: Prof. Franco T. Bawang
Prof. Alfredo C. Tipayno

Strawberry cultivars 'Gen', 'Fukuba', 'Fresno', 'Missionary', 'Sequin', and 'Torcy' were evaluated as to their yield and keeping quality after harvest.

Among the six varieties studied cvs 'Torcy', 'Missionary' and 'Fresno' were the highest yielders, while cv 'Fresno' was the

earliest to initiate flowers. Cultivars 'Gem' had the highest percentage of sugar content and produced the lowest yield.

As to the keeping quality, cvs 'Fresno', 'Gem' and 'Torcy' were less susceptible to weight loss and rotting and can be kept for a long period during storage than the other varieties under the conditions of the study.

FAKINGAS, BIBIANA M. 1961. Mountain State Agricultural College, La Trinidad, Benguet. "Suppression of Greening and Sprouting on Table Potatoes Using Different Kinds of Oil."
Adviser: Prof. Franco T. Bawang
Co-Adviser: Mr. Dario D. Daapilag

Suppression of greening and sprouting on table potatoes from different cultivars using different kinds of oil was studied at the Mountain State Agricultural College, La Trinidad, Benguet.

Results of the study showed that the oil studied greatly suppressed the greening of tubers. The greatest effect was obtained from pork oil and vegetable oil treatments. On sprouting, oil treatment had no significant effect.

Red Pontiac had the longest storage period before manifesting greening and sprouting.

Oil treatments appeared to influence the rotting of tubers during storage as indicated by the greater number of tubers that rotted from oil-treated tubers than from the control.