

**"INITIATIVES FOR ACCELERATING
INSTITUTIONAL GROWTH"**

NINTH ANNUAL REPORT

**MOUNTAIN STATE AGRICULTURAL COLLEGE
LA TRINIDAD, BENGUET**

SCHOOL YEAR 1978-1979



**BRUNO M. SANTOS
PRESIDENT**

LA TRINIDAD, BENGUET

"INITIATIVES FOR ACCELERATING
INSTITUTIONAL GROWTH"

NINTH ANNUAL REPORT

MOUNTAIN STATE AGRICULTURAL COLLEGE
La Trinidad, Benguet

School Year 1978 - 1979

BRUNO M. SANTOS
President

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

July 13, 1979

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

Thru: The Minister
MEC, Manila

S i r :

I have the honor to submit herewith the Ninth Annual Report of the President, Mountain State Agricultural College, La Trinidad, Benguet, pursuant to the provisions of Republic Act 5923, covering the school year 1978-1979.

Very truly yours,



BRUNO M. SANTOS
President

Copy Furnished:

1. The Honorable Minister of Education & Culture
2. The Members of the Board of Trustees
3. The Coordinator, State Colleges & Universities
4. PASUC Office, Ministry of Education & Culture

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

BOARD OF TRUSTEES

JUAN L. MANUEL
Minister of Education & Culture
Chairman

BRUNO M. SANTOS
President
Mountain State Agricultural College
Vice-Chairman

JOSEPH M. ALABANZA
Executive Director
NEDA, Region I
Member

ATTY. ANTONIO G. DUMLAO
Coordinator
State Colleges and Universities

ROMULO Q. APOLONIO
Board and College Secretary

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
OVERVIEW!	1
I INSTRUCTION	9
A. Enrolment	9
1. Enrolment by Levels of Instruction	9
2. Enrolment by Course and Period, Tertiary Level	9
3. Student Origin	10
4. College Scholarship	10
5. Secondary Scholarship.....	11
B. Graduates on March 21, 1979	12
C. Teaching and Support Personnel	13
D. Accomplishments and Problems of, and Recommendations for, Instruction	13
1. Professional Growth	14
2. In-Service Training Sessions Attended	14
3. Accomplishment of Academic Departments.	15
4. Problems Encountered	18
5. Recommendations	18
E. Graduate Studies Program	19
1. Field of Instruction	19
2. Faculty	19
3. Students	19
4. Graduates and Theses	20
5. Problems and Suggestions	21
F. Student Services and Instructional Faci- lities	21
1. Guidance and Counseling Services	21
2. Library Services	23
3. Medical Services	25
4. Dental Services	25
5. Student Housing (Ladies' Dormitory) ...	26
6. Co-Curricular Programs and Activities.	27
7. Alumni Affairs	28
II RESEARCH AND EXPERIMENT STATION	30
A. Capability of College Researchers	30
B. Administrative Researches Completed	30

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
C. On-Going Funded Researches	30
D. Research Publications	34
E. Research and Publications Office	34
1. Personnel	34
2. Accomplishments	34
3. Financial Statement	35
4. Recommendations	36
III E X T E N S I O N	37
A. Extension Program	37
1. MSAC-PESP-OXTAN Extension Project	37
2. MSAC-NMYC-BLNYC National Agricultural Skills Training Program	38
3. Extension Services by Departments	38
4. MSAC/SEARCA Social Laboratory	39
B. Production Projects and Incomes	39
C. Community Environmental Development Activities	40
D. Participation in the National Tree-Planting Program	43
E. Agro-Forestation Special Project	44
1. Accomplishments of the Project	44
2. On-Going Project Activities	45
3. Other On-Going Developments	46
4. Problems and Recommendations	46
F. Rural Services of MSAC Personnel	47
1. MSAC Non-Formal Education Program	47
2. Deployment of MSAC Personnel	49
G. MSAC-RSDC Services	50
IV A D M I N I S T R A T I O N A N D S U P E R V I S I O N	52
A. Fiscal Support	52
B. Personnel Development	52
C. School Sites	52

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
D. Infrastructures	68
E. Board Resolutions Approved	72
APPENDIX A Research Abstracts	78
APPENDIX B Non-Formal Education Program	102
APPENDIX C Ten Year Capital Outlay Program, CY 1979-1988	116

"INITIATIVES FOR ACCELERATING
INSTITUTIONAL GROWTH"

Ninth Annual Report

1978 - 1979

Overview:

This annual report covers the fourth year of implementation of the second five-year Development Program of MSAC.

The year's efforts focused on meeting the challenges of the developing countryside. The initiatives taken include the adoption of new strategies and the introduction of innovative activities and projects designed not only to improve the regular programs but also to increase the competence and capability of the institution/College to effectively respond to its expanding development roles in the region. Special attention was given to the establishment of pilot agro-industrial development schemes calculated to catalyze and galvanize the people, particularly, the farmers and agri-business men into similar action. The impact of the initiatives taken were more than satisfying.

Highlights of Activities and Accomplishments

1. Instruction. The drive for improving the quality of instruction gained ground through the following strategies:

- a) NCEE qualifiers who applied for enrolment were required to take the MSAC entrance examination. Only those who scored above a cut-off score which was determined by the enrolment limits set were admitted.

- b) Total enrolment was maintained at the same level as those of the last two years to give the College Administration the chance to narrow the gap between the number of students and the quantity and quality of instructional facilities, accommodation, and service facilities available.
- c) The faculty development program was intensified and the recruitment of well-qualified staff stepped up. Six faculty members obtained their PhD's and/or EdD's while 4 got their MS or MA degrees during the year. In addition, four teachers completed all the academic requirements for the PhD degree while 6 completed the academic requirements for the MS degree all at the UPLB. Twenty-five other teachers were taking courses toward the masteral and doctoral degrees at the universities in Baguio City.
- d) More and better quality tools, classroom and laboratory equipment, and library books were acquired.
- e) Completion of the Engineering building with 20 classrooms, 8 lecture halls, 7 lab rooms, 9 storage rooms and 8 offices greatly relieved the shortage of classrooms, laboratories and offices for faculty, thus improving the teaching-learning climate.
- f) Participation of several members of the faculty in numerous in-service training programs, seminars and workshops.

The long felt need for offering major fields, of specialization in Entomology, Plant Pathology, Soil Science, and Agricultural Chemistry, both at the graduate and undergraduate levels, was finally realized with the return on campus of the PhD and MS scholars in these fields.

2. Research. The research program of the College was greatly expanded during the year under review.

On-going researches started during the year numbered 17 with total funding amounting to P703,095.40. The research sponsors are:

1. PCARR	- - - - -	P116,103.00
2. NRCP	- - - - -	162,061.40
3. NSDB	- - - - -	424,931.00

In addition to the government funded researches the College also conducted studies supported by (1) San Miguel Corporation-3, (2) Hoescht Philippines - 2, (3) Cyanamide Philippines - 1, and (4) RAMCAR - 3.

Two government funded research projects were completed during the year. Both were studies on white potato - the crop that is receiving international attention because of its potential as a main staple food of millions of people in the developing world.

More research projects have been prepared, submitted and approved for funding in 1980 by PCARR, NSDB, NRCP, and IPB (UPLB).

3. Extension. The extension program of the College shone brightly during the year through its active involvement in numerous training programs, either as (1) trainer institution, (2) sponsoring institution, (3) host institution, (4) consultant institution, and (5) co-sponsor/co-host institution:

- (1) MSAC conducted and co-sponsored with PCARR, UPLB and CIP two training programs on white potato during the year. Both had international participation with participants from India, Sri Lanka, Peru, Mexico, Holland, West Germany, Indonesia, Taiwan, Thailand, and Australia. As a result of these trainings, white potato growing is now being tried in many places of the country such as Quirino Province, La Union, Pampanga, Nueva Vizcaya, Negros Occidental, Bukidnon and Cotabato.
- (2) MSAC (as the Regional Training Center for Rural Development) conducted 6, 3-week training programs for extensionists of Regions I and III. Participants came from the following agencies: MNR, MA, MAR, & MLCGD. The average number of participants per batch was 100.
- (3) As the Regional Staff Development Center for Practical Arts Teachers, MSAC also conducted a 3-week training program during the summer (May 1979) for teachers of agricultural arts, homemaking arts, and fishery arts. Seventy five teachers and 12 supervisors/principals participated in this program. (This program is scheduled only during the summer to enable teachers to attend without disturbing classes).

(4) A major component of the Extension Work of the College is its Non-formal education program. There are three types of this program:

- (a) Social Laboratory project
- (b) Agricultural skills training
- (c) NFE-Community Improvement projects

Of the first type, 3 full-time instructors were fielded on a resident-technician basis for a period of five years. These instructors reside in and work with the people of the five barangay communities embraced by the project. Significant development and improvements in the agricultural, home industry, social and leisure time activities of the people have been attained.

The agricultural skills training program is conducted on a one-year basis. As in the Social Laboratory the instructors are assigned on a full-time basis and reside in the area serviced. There are three centers each with two full-time instructor-technicians.

Group instruction is given once a week. Five days a week are spent by the technicians in visiting the farms and giving individual instruction, advice or assistance to the farmers. The impact of the program can better be seen and appreciated than described on paper.

After one year of instruction and training, the farmers are "graduated" and awarded certificates which they can use to support applications for production loans from local banks. Through this program farmer-graduates have borrowed a total of 1.5 million pesos from the rural banks and the DBP, for expanding their farming or establishing new enterprises. As of this writing repayment is 100 percent; i. e. no delinquencies.

The NFE-Community Improvement projects consist of faculty (team) visits to barangay families within the identified NFE center service area. There are five service centers. To each is assigned a team of three teachers whose job is to relay, transmit, and explain information on farming technology, family planning, health and nutrition, taxation, and population education. To assist these instruction and information dissemination teams are five specialist teams which can be requisitioned for duty by the instruction team on visitation days. Schedule of visits is once a week throughout the year.

Approximately 300 families of 18 barangays have been reached by this program in 1978.

- (5) Technical assistance program. This consists in the rendition of services in the form of technical advice, sharing of information, performing jobs requiring technical and professional skills such as immunizing animals, artificial insemination of animals, distribution of seeds, etc. to farmers.
- (6) The Agro-Forestation project which consist of reforesting the denuded hills of the reservation with fruit trees and planting root crops and vegetables between the trees is attracting attention nationwide. International visitors (scientists, educators, and researchers) who have heard and read about the project have likewise asked to see the project. The Director of CERDAT (Center for Research in Tropical Agriculture), Montpellier, France visited the project last summer, and, impressed by what he saw, promised assistance through SEARCA to accelerate the development of the area. Other visitors who saw the project include educator-scientists from Thailand, Australia, World Bank officials (Bangkok), UNESCO, Rome, and FAO (Bangkok).

Linkages

Through the various training programs, extension activities and research projects the College has established working linkages with many institutions and agencies of the government, including private institutions, both national and international.

Among the foreign institutions with which BMSAC has links are: (1) International Agricultural Center; Wageningen, Netherlands (Holland), (2) CIP (Centro Intenaocional de la Papa), Peru; (3) University of Victoria, Australia; (4) Universiti Pertanian Bogor, Indonesia; (5) Seoul National University, Korea; and (6) Universiti Pertanian Malaysia, Serdang, Malaysia.

Physical Development

The physical development program of the College was boosted by a P5,000,000 capital outlay during the year under review. Out of this were constructed the following:

- (1) Six-door apartment housing for faculty (finished)

- (2) One-storey (with basement) 6-room Agro-Forestry building - 90 per cent finished
- (3) Bio and Plant Science Building, three storey, with 40 classrooms and laboratories, phase I (of 4 phases)- 30 per cent finished
- (4) Two-storey (phase I) Root Crops Building - 30 per cent finished
- (5) Farm Machinery Building - 40 per cent finished
- (6) Concreting of campus roads, 60 per cent finished

Delays in the construction were due to the lapsing (twice) of the CDC's for the projects.

The physical development program of the College for the next ten (10) years envisions the completion of the following:

TEN YEAR CAPITAL OUTLAY PROGRAM
CY 1979 - 1988

<u>Project*</u>	<u>Timetable</u>	<u>Total Cost</u>
1. Training Department Complex	1979-1984	P11,500,000
2. Administration Complex	1/83-12/81	9,500,000
3. Sports Complex	1980-1983	15,000,000
4. Social Science and Language Complex	1/83-12/83	4,500,000
5. Research and Experimental Station	1979-1985	13,000,000
6. Breeder Science Complex	6/79-12/79	2,000,000
7. Student Services Complex	1980-1988	13,000,000
8. Ground and Land Improvement Complex	1983-1987	27,000,000
9. Housing Complex	1980-1988	21,000,000
10. Agricultural Science Complex	1979-1987	<u>25,000,000</u>
Grand Total - - - - -		<u>P141,500,000</u> vvvvvvvvvvvvvv

*See Appendix C for details on the project complex.

Administrative Difficulties

The drive towards academic excellence suffered set backs arising mainly from:

- 1) Insufficient funds for operations and maintenance
- 2) Limited equipment outlays and restrictions imposed on the acquisition of these equipment
- 3) Lack of funds for faculty development
- 4) Restrictions on the use of school income and
- 5) Lapsing of CDC's.

Recommendations:

- 1) Quarterly release of appropriations should not lapse during the year.
- 2) After the end of the last quarter all unobligated amounts and balances of allotments should be reappropriated for badly needed instructional tools, equipment, books, shop and field equipment, and laboratory and classroom equipment.
- 3) Capital outlays should not lapse. These should be available on a continuing basis to prevent losses and costly delays in construction projects.
- 4) All incomes of the College should remain with the institution as special account income or revolving fund account for the College to be used for (1) operation, maintenance and improvement of production projects, (2) purchase of classroom, shop and laboratory equipment, (3) audio-visual equipment, (4) library books, journals, etc., (5) office equipment, etc., (6) campus development (ground landscaping, beautification and maintenance), (7) farm development and improvement.
- 5) The power and authority of the Board of Trustees to create positions and fix salaries for these positions should be honored and respected to enable the College to effectively respond to critical needs. To make this practical, a separate salary scale and standard for state universities and colleges should be evolved.

- 6) Whenever general adjustments in salaries of government personnel are authorized all plantilla positions that are vacant at the time should likewise be upgraded or adjusted. The present practice (if not a policy) of OCPC of refusing to adjust the salaries of these vacant items makes it difficult if not impossible to fill such positions because, as in the case of teaching positions, the existing item would be lower than the authorized hiring rate, hence unattractive to well-qualified applicants.

CHAPTER I

INSTRUCTION

A. Enrolment

The College offers all levels of instruction. The total enrolment was 4,395 pupils and students for this school year under review.

1. Enrolment by Levels of Instruction. The distribution of the enrolment is shown below.

<u>Instructional Level</u>	<u>Enrolment</u>	<u>Percentage</u>
Elementary	724	16.47
Secondary	1,000	22.75
Tertiary	2,671	60.78
Total =====	<u>4,395</u>	<u>100.00</u>

In the secondary level, four types of curricula are offered, namely: Vocational Agriculture, Home Technology, Special Science Education and General Curriculum.

2. Enrolment by Course and Period, Tertiary Level.

<u>Curricular Program</u>	<u>1st Sem.</u>	<u>2nd Sem.</u>	<u>Summer</u>
<u>Graduate</u>			
Master of Science	64	79	62
<u>Undergraduate</u>			
B. S. in Agriculture	1,165	1,959	715
B. S. in Agr. Education	470	378	244
B. S. in Home Technology	136	133	77
B. of Agri-business Management	87	78	42
B. S. in Forestry	352	338	217

<u>Undergraduate (Cont'd...)</u>	<u>1st Sem.</u>	<u>2nd Sem.</u>	<u>Summer</u>
B. S. in Animal Technology	169	180	133
B. S. in Agr. Engineering	163	141	86
<u>Non-Degree Post-Secondary</u>			
1-Year Agricultural Mechanics	15	15	-
2-Year Forest Ranger Course	50	44	17
Total =====	<u>2,671</u>	<u>3,341</u>	<u>1,573</u>

3. Student Origin. The geographical distribution of students enrolled in the tertiary level based on their places of birth is as follows:

<u>Origin</u>	<u>Total</u>	<u>Percentage</u>
Within the Town, La Trinidad and Baguio City	351	13.14
Within the Province of Benguet but outside La Trinidad	834	31.22
Within Region I but outside the Province of Benguet	1,374	51.45
All others (outside Region I including foreigners)	112	4.19
Total =====	<u>2,671</u>	<u>100.00</u>

There were five (5) Thais and four (4) Bhutanese or a total of nine (9) foreign students enrolled.

4. College Scholarship. A total of 255 students enjoyed various types of scholarships granted by the College, the government and private agencies.

<u>Type of Scholarship</u>	<u>No. of Grantees</u>	<u>Total</u>
a. Academic (MSAC)		
1) Resident Honor Student - general weighted average of 1.0 - 1.45 (full); 1.46 - 1.75 (partial)	7	
2) Valedictorians	3	10
b. College Tuitional Scholarships		
1) Glee Club	28	
2) Dance Troupe (KONTAD)	35	
3) ROTC	3	
4) Editor, THE MOUNTAIN COLLEGIAN	1	
5) Student Assistants	19	86
c. Government		
1) Non-Muslim Educational Assistance Program	14	
2) National Integration Study Grant Program	85	
3) Study-Now-Pay Later Plan	25	
4) Philippine Veterans Administration	15	
5) Armed Forces of the Philippines	1	140
d. Other Agencies		
1) National Food and Agricultural Council	2	
2) Baguio-Benguet Petroleum Dealers' association	3	
3) United States Veteran Administration	14	19
	<u>255</u>	<u>255</u>
Total =====	<u>255</u>	<u>255</u>

5. Secondary Scholarship. There were students who enjoyed administrative scholarships in 1978-1979.

<u>Type of Scholarship</u>	<u>No. of Awardees</u>
a) Secondary Agricultural Science Education Scholarship	21
b) CAT Corps Commander (Full Tuition)	1
c) CAT Adjutant (Half Tuition)	1
d) Editor, THE MOUNTAIN BREEZE (Full Tuition)	1
e) Managing Editor, THE MOUNTAIN BREEZE (Half Tuition)	1
f) Exempted from paying school organ fee of P6.00 (associate, news, research, Pilipino, literary, and feature editors)	6
g) Masonic Lodge Scholarship, Baguio City	2
Total =====	43

B. Graduates on March 21, 1979

Tabulated below are figures which show the number of graduates from the different curricular programs of the College.

<u>Curricular Programs</u>	<u>No. of Graduates</u>		<u>Total</u>
	<u>Male</u>	<u>Female</u>	
a) B. S. in Agriculture	36	36	72
b) B. S. in Agricultural Education	22	30	52
c) B. S. in Forestry	18	5	23
d) B. S. in Home Technology	-	19	19
e) B. S. in Animal Technology	2	1	3
f) B. of Agri-business Management	6	-	6

<u>Curricular Programs</u>	<u>No. of Graduates</u>		<u>Total</u>
	<u>Male</u>	<u>Female</u>	
g) Forest Ranger Course	22	13	35
h) Agricultural Mechanics	16	--	16
i) Secondary Vo-Ag & Agricultural Science Education	79	--	79
j) Secondary Agricultural Homemaking	--	53	53
k) General Secondary Education	24	49	73
l) Elementary Education	57	57	114
Totals =====	<u>282</u>	<u>263</u>	<u>545</u>

C. Teaching and Support Personnel

During the year under review, the strength of the personnel was as follows:

<u>Personnel</u>	<u>Number of Personnel</u>	
Teaching Personnel		
Elementary Education	33	
Secondary Education	47	
Tertiary Education	122	202
Support Personnel		
Non-Teaching Personnel	100	
Casuals & Other Laborers	69	169
Total =====	<u>371</u>	<u>371</u>

D. Accomplishments and Problems of and Recommendations for Instruction

1. Professional Growth

Faculty members studied on their own or enjoyed scholarship grants during the year under review. Some finished their graduate courses.

a) Faculty members graduated with

1. Ph.D/Ed. D 6 (Prof. Lucio B. Victor, Ph. D; Alejandro D. Castro, Ph. D; Methodia B. Mercado, Ed.D; Arsenia D. Mamaril, Ph.D; Fermin G. Galeon, Ed.D; and Ursula C. Perez, Ed.D).

2. MS/MA 4 (Mr. William C. Cabrerros, Miss Teresita M. Merestela, Mr. Angel C. Cawat, and Mrs. Marcelina R. Carlos).

b) Faculty members on study leave:

1. Ph. D. 4 (Prof. Conrado Oliveros, Cipriano Consolacion, Percival Alipit, and William Dar)

2. M.S. 6 (Miss Vilma Alejandro, Miss Norma Palispis, Mr. Pepe Toledo, Mr. Rogelio Colting, Mrs. Lorenza Lirio, Mr. Ben Ladilad, Mr. Somwright Maddul, Mr. Edwin Balaki and Mr. Carlos Tuguinay)

c. Faculty members enrolled in various universities for their Ph.D/Ed.D/MA in Baguio City - Several

2. In-service Training Sessions Attended

Faculty members participated in in-service training programs during the SY 1978-1979:

a. Animal Production and Health (Egypt) . . . Dr. R. Galban

b. Six-month Training on Post-Harvest Handling of Vegetables and Fruits (UPCA) Prof. F. Bawang

In-service Training Sessions Attended (Cont'd...)

- c. Journalism(West Germany) Prof. R. Abastilla
- d. Nine-month Post Harvest Technology
Training on Vegetable and Fruits (UPLB) ,... Prof. A. Silvestre
- e. Institute in Refresher Course for
College Teachers (UPCAS) Dr. A. Mamaril
- f. Agribusiness Casewriting (MSAC) Mr. L. Tagarino
- g. National Conference on Pilipino,
Language Teaching, Linguistics,
Spanish, and Bilingualism (UP) S o v e r a l
- h. Project Proposal Preparation
(Manila) Prof. C. Buasen
- i. Organizational Management Mr. L. Cuanguy
- j. Social Science Research (UP Baguic) Miss H. Arocona
- k. ACAP-FAO Population National
Seminar (Cebu) Mrs. R. Abastilla

3. Accomplishments of Academic Departments

- a. Attained objectives of instruction in all levels,
schedules and taught all courses according to the
curricular offerings.
- b. Completed books on:
 - 1) Farm Bookkeeping and Accounting Prof. C. Buasen
 - 2) Home, Social, and Community
Behavior: A Source Book Language and
Social Sciences
 - 3) Pamphlet on Simplified Basic
Rules on Parliamentary Procedures Prof. C. Buason
- c. Plant Science Teaching Guides Completed:
 - 1) Principles of Crop Production Prof. F. Hormano
Edited by Dr. L. B. Victor and Prof. F. Bawang

- 2) General Horticulture compiled by Dr. L. Victor and Prof. F. Bawang
- 3) Principles of Vegetable Production Prof. E. Sano
- d. Published articles in local and national papers, especially on agriculture.
- e. Submitted new curricular programs in Math, Physics and Statistics; offered new courses like ornamental Horticulture.
- f. Improved and updated syllabi; submitted new ones, including lesson plans.
- g. Acquired new books and periodicals for the library by purchase and donations.
- h. Conducted literary-cultural programs on and off-campus; presented the MSAC KONTAD Cultural Troupe through the Minister of Public Information.
- i. Raised funds for continuous improvement of teaching and laboratory facilities.
- j. Held faculty meetings by Departments.
- k. Established a Forest Nursery with 14,916 seedlings and 2,373 ornamental plant cuttings.
- l. Participated in reforestation programs. Detailed account of tree-planting appears elsewhere in this report.
- m. Faculty members served as resource persons on occasions like Lingge ng Wika, Book Week, Baguio Medical Convention, graduation exercises speakers, etc.
- n. Served as rapporteurs and chairpersons in different committees during the 12th PASUC Annual Conference in MSAC.
- o. Acted as team leaders in text writing and rural service and in other non-formal education programs and activities of the College.
- p. Sponsored convocations, PESS Cavalcade, 1978 Cavalcade, Christmas Festival; on Divorce (Social Science Class), Family Planning and Abortion (Home Technology), etc.
- q. Did classroom observations, conducted demonstrations in classes, field trips to UPCU, CLSU, La Union, etc.

- r. Contributed in beautification campaigns and programs on and off-campus; participated in Town Fiesta and Benguet Foundation Day Celebrations.
- s. Exhibited handicrafts, food preserves, cooking, etc. during the FFP-FAHP Regional Convention in MSAC.
- t. Participated in College, Municipal, Provincial and National Athletic Competitions, Faculty members officiated, coordinated, managed, and acted as consultants in Athletic meets.
- u. Recycled old materials in the Home Technology Departments.
- v. Organized Agronomy-Horticultural Science Society.
- w. Staff researches completed were:
- | | |
|---|-----------|
| 1) Plant Sciences | 6 |
| 2) Entomology and Plant Pathology | 5 |
| 3) Agribusiness funded by PCARR | 1 |
| Total ===== | <u>12</u> |
- x. Researches started:
- | | |
|---|-----------|
| 1) PCARR funded researches | 6 |
| 2) Long-range MSAC-IPB researches | 9 |
| 3) MSAC-CIP funded researches | 3 |
| Total ===== | <u>18</u> |
- y. On-going researches: Four (4) in Veterinary and Animal Science Technology.
- z. Student researches: See Research and Experiment Station Department for on-going and completed student researches.
- aa. Projects supervised by faculty members included swine, poultry, cattle, rabbits, vegetables, fruits, mushrooms, canteens, shops, agro-forestation, etc.
- bb. Preserved foods like jams, meat products, etc.

- cc. Class catering projects earned and profits were spent to acquire utensils, equipment and supplies, refrigerator, etc. donated to the College covered by appropriate memoranda.
- dd. Collected and preserved specimens for classrooms and laboratory use.
- ee. In extension activities, the Department of Instruction:
 - 1) Advised farmers on culture of crops, animal care and management, control of pests and diseases, etc.
 - 2) Established farm demonstrations on potatoes, peanuts, vegetables, etc. in Benguet, Quirino, etc.
 - 3) Conducted field practices for students.
 - 4) Conducted the 2nd National Potato Production Course with CIP-BPI.
 - 5) Conducted 1979 Practical Arts Regional Summer Institute.

4. Problems Encountered

- 1) Inadequate classroom, laboratory facilities, shop tools and equipment.
- 2) Lack of office space for faculty.
- 3) Lack of teachers resulting in overloading to as many as 24 unit hours of actual teaching.
- 4) Practically no time available for faculty to conduct research.
- 5) Limited participation by teachers in in-service training program due to lack of funds.

5. Recommendations:

- 1) More funds are needed to:
 - a) construct additional buildings needed.
 - b) procure laboratory equipment and facilities.

MOUNTAIN STATE AGRICULTURAL
UNIVERSITY
LA TRINIDAD, BENQUET

- c) purchase shop tools and equipment.
- d) purchase field equipment for instruction and production.
- e) hire additional teachers and support personnel.
- f) fund professional and educational growth of faculty and support staff.

E. Graduate Studies Program

1. Field of Instruction. - The fields of instruction in the graduate program were Agronomy, Agricultural Education, Agricultural Extension, Animal Science, Horticulture, Practical Arts, and Soils (Soil Science).

The Graduate Bulletin was first printed in early 1979 (see enclosed). This will be revised as need arises.

2. Faculty. - The record shows that 36 teachers have been identified to possess the necessary education, work experiences and other qualifications to teach in the graduate level. Of this number, 17 are in the social science (agricultural education, agricultural extension, agricultural economics, and practical arts); 11 in plant and biological sciences; 4 in veterinary and animal sciences; 3 in soil science; and one in statistics. There are 7 with doctorate, 3 on Ph.D. scholarships; and the rest with master's degrees.

3. Students. - The enrolment figures for the 1978-1979 school year is shown as follows:

M-7997

MAF 024

<u>Term</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
1st Semester	41	23	64
2nd Semester	49	26	75
Summer 1979	27	35	62
	<u>117</u>	<u>84</u>	<u>201</u>

Records show that most of the students came from other state colleges in Regions I and II and other agricultural schools and colleges in Region I. Many are from the various bureaus (i. e., BAEx, BPI, BAI, ES) of the Ministry of Agriculture. Some teachers of the Ministry of Education and Culture are also taking graduate studies at MSAC, particularly in the field of Practical Arts.

4. Graduate Theses. There were six (6) students who graduated on March 21, 1979 and ~~one~~ finished in the summer of 1979.

Their names and theses are:

- a) Cariaga, Concepcion G. - Response of Cobbs and Peterson Chicks on Different Feeds and Feed Supplement.
- b) Directo, Alejandro V. - The Agricultural Manpower Needs of the Agricultural Agencies and Educational Institutions in Region I.
- c) Dulnuan, Manuel G. - Implementing Farming Programs in Agricultural Colleges in Region II.
- d) Gisavaspisal, Cholavit. - The Performance of Newly-Weaned Male and Female Rabbits of Two Breeds on Three Different Forage Crops.
- e) Khumchoo, Silapachai A. - Study on the Best Time to Market some Strains of Broiler.
- f) Versoza, Juan C., Jr. - Growth and Yield Response of Rice to Continuous and Intermittent Irrigation with Minesilted Water.

- g. Felicitas, Avelino, Jr. - The Status of Agricultural Extension Technicians in Region I.

5. Problems and Suggestions

- a. There is a need to acquire more books and periodicals.
- b. The College has to purchase more instructional aids (A-V materials) and laboratory equipment.
- c. Some faculty members need to strengthen their research capabilities to ably advise thesis students.

F. Students Services and Instructional Facilities

1. Guidance and Counseling Services. - The accomplishments of the Guidance and Counseling Services for the year under review are shown below:

1.1	<u>Exit Interview on Drop-outs</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
	a. High School	22	4	26
	b. College	17	25	42
1.2	<u>Marriage Counslees</u>			
	a. High School	0	0	0
	b. College	1	3	4
1.3	<u>Psychological Tests</u>			
	a. High School			
	1) Subject Needs Asses. Survey	237	205	442
	2) Otis-Lennon (Entrance Test)	331	288	619
	b. College			
	1) Mental Ability (I.Q.)	339	403	742
	2) Personal Test (Personality Adjust- ment Inventory)	80	23	103
	3) Entrance Test (SCAT)	416	523	939
	4) Needs Assessment Survey (Freshmen)	339	103	742

c. Faculty Members	<u>Male</u>	<u>Female</u>	<u>Total</u>
1) Bell Adjustment Inventory	8	10	18
2) 16 P. F.	8	10	18
3) Purdue Non-verbal Test	8	10	18

1.3 Psychological Tests

a. High School

1) Subject Needs Asses. Survey	237	205	442
2) Otis-Lennon (Entrance Test)	331	288	619

b. College

1) Mental Ability (I.Q.)	339	403	742
2) Personal Test (Personality Adjustment Inventory)	80	23	103
3) Entrance Test (SCAT)	416	523	939
4) Needs Assessment Survey (Freshmen)	339	403	742

c. Faculty Members

1) Bell Adjustment Inventory	8	10	18
2) 16 P. F.	8	10	18
3) Purdue Non-verbal Test	8	10	18

1.4 Absences of College Students

<u>Course</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
B.S. in Agriculture	57	80	137
B.S. in Agricultural Eduo.	8	28	36
B. S. in Home Technology	0	51	51
B.S. in Forestry	33	8	41
B.S. in Agricultural Eng'g.	5	2	7
Bachelor of Agribusiness Management	3	2	5
Total = = =	<u>111</u>	<u>175</u>	<u>286</u>

1.5	<u>Excuse Slips Issued</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
	a. High School	-	-	-
	b. College	96	142	238
1.6	<u>Home Visitation</u>			
	a. Follow-up cases	12	20	32
1.7	<u>Referral Cases</u>			
	a. Hospital	5	10	15
1.8	<u>Other Services Rendered</u>			
	a. Individual counseling services			
	b. Orientation program to first year College Students			
	c. Career guidance to fourth year high school students			
	d. Film showing on career guidance			
	e. Group dynamics			
	f. Group counseling sessions			
	g. Conference with owners of boarding houses			
	h. Conferences with teachers			
	i. Conferences with parents			
	j. College faculty retreat			
1.9	<u>Amount generated from entrance Examinations.</u>			
	a. College (P5.00 each)			P4,695.00
	b. High School (P2.00 each)			<u>1,238.00</u>
	T o t a l = = = = =			P5,933.00*

2. Library Services

Presented below are the statistical data on and accomplishments of the College Library.

2.1 Library Collections for 1978-1979

a. Books	1181
b. Theses	142
c. Pamphlets	1483
d. Serial Titles	
(1) Gifts	49
(2) Subscription	7
	<hr/>
T o t a l = = = = =	<u><u>2862</u></u>

*Deposited at Cashier's Office

2.2 Library Staff Output of Work

a. Technical Services

1) Titles classified	911
2) Books accessioned	1182
3) Books posted with pockets, due date due ,	5345
4) Added entries	362
5) Cards typed	5862
6) Number of periodicals indexed	816

b. Business

1) Incoming correspondence	92
2) Outgoing correspondence	146
3) Memoranda issued	15
4) Books recommended for purchase	457

c. Current Awareness Services 19

2.3 Number of Clientele Using the Libraries

<u>Library Unit</u>	<u>Summer 1978</u>	<u>1st Sem.</u>	<u>2nd Sem.</u>
a. General circulation	3,499	12,374	13,348
b. Reserved	4,245	44,186	39,673
c. Graduate and reference	2,176	6,483	7,013
d. Serials	2,309	5,898	6,348
e. Secondary	5,377	25,036	26,853
f. Researchers (other agencies and institutions)	39	73	68

2.4 Total number of books circulated 83,897

2.5 Total number of books borrowed but
always out 8,793

2.6 Other Accomplishments

- a. Compiled "Index to the MSAC Periodicals Received."
- b. MSAC was chosen as the Regional Coordinating institution for Region I with the Director of Library Services designated as the Regional Coordinator for all libraries in Region I for the Networking of Scientific Information, to be funded by NSDB.

2.7 Problems Encountered and Recommendations

a. Problems

- 1) Lack of library personnel
- 2) Inadequate funds/facilities

b. Recommendations

Proposed remedial steps will be taken to increase the yearly allotments for library facilities and creation of additional positions.

3. Medical Services

3.1. Number of Cases Seen/Examined

a. ENT	347
b. Chest and other respiratory diseases	217
c. Abdominal diseases	128
d. Genito-Urinary diseases	22
e. Skin diseases	92
f. Others (Boil; burns, sprains, dogbite, IPN, minor injuries, etc.)	<u>425</u>
T o t a l - - - - -	<u><u>1,231</u></u>

3.2 Number of Clientele Seen/Examined

a. Students treated	1,024
b. Faculty & Staff treated	25
c. Referrals to outside agencies	<u>67</u>
T o t a l - - - - -	<u><u>1,116</u></u>

4. Dental Services

4.1. Number of Patients Inspected and Treated

a. Patients inspected	508
1) First visit	393
2) Follow-up	115
b. Patients found with defects	508
c. Patients treated	432
d. Patients given prophylaxis	5
e. Extraction	309
1) Permanent teeth	296
2) Temporary teeth	13

f. Fillings made	298
1) cement	13
2) Zinc oxide paste	285
g. DMF Survey (Permanent)	3,232
1) No. of teeth found defective (D)	2,255
2) No. of teeth found missing (M)	790
3) No. of teeth filled (F)	187
h. No. of teeth found defective (temporary)	48

4.2 Problems and Recommendations

- a. The portable dental engine broke down at the early part of the year, thus the cavity preparation and oral prophylaxis dental services cannot be rendered. The engine needs immediate repair.
- b. The College wants to buy a new set of dental equipment but it could not do so because of the ban on the purchase of equipment by the Office of the President.

5. Student Housing (Ladies Dormitory)

5.1 Number of Student Accommodated

<u>1st Semester</u>		<u>2nd Semester</u>		<u>Summer</u>	
June	102	November	101	April	65
July	101	December	98	May	64
August	101	January	98		
September	99	February	97		
October	99	March	97		

5.2 Dormitory Activities

- a. Cleaning Daily
- b. General cleaning Monthly
- c. Social Activities
 - 1) Acquaintance party and induction of officers July 21, 1978
 - 2) Farewell party September 30, 1978
 - 3) Christmas party December 15, 1978
 - 4) Valentine party February 14, 1979
 - 5) Farewell party in honor of graduating residents March 18, 1979

6. Co-Curricular Programs and Activities

6.1 Supreme Student Council

- a. Elected a new set of officers for 1978-1979
- b. Conducted a symposium on the Parliamentary Form of Government.
- c. Purchased office equipment and supplies worth P8,747.00.
- d. Solicited donations in cash and in kind:

1) Books (183 volumes)	P14,144.50
2) Wall Clock (MSAC Library)	375.00
3) Mr. Alberto Cannaban (Accident Aid)	100.00
4) Prof. Juan Fama (Magic Show)	100.00
5) Miss Hermiana Navarro (Accident Aid)	400.00
6) Mr. Edgar Dollente (Death Aid)	98.00

T o t a l = = = = = P15,181.50*

- e. Encouraged and assisted in having students protected by a student Group Insurance with the Phil-American Student's Group Insurance Assistance.

6.2 Problems and Recommendations

a. Problems

- 1) Lack of office space for the Supreme Council. Up to now the accommodation facilities for offices of the faculty could not be satisfied. Soon, however, this may be remedied.

6.3 College and Secondary YCAP, FEP-FAHF, ROTC-CIVAC, YCSG, CAT-YDT, and Homeroom Organizations

- a. Cleaned the campus and national highway fronting the College.
- b. Participated in college and community socio-cultural programs during the Christmas season; local, district, provincial, and regional meets; town fiesta and Benguet Day Anniversary, and commencement exercises.
- c. Participated in intramural physical fitness and sports program, provincial and regional meets and other college-community athletic games held from time to time at the NSAC Playground.

*Disbursed by the Supreme Student Council.

- 6.4 Other Co-curricular Service Clubs. - Socio-cultural activities in the community and also out of town in other provinces of the region were enlivened by the participation of the MSAC KONTAD, MSAC Glee Club, MSAC Judo Club, MSAC Boy and Girl Scouts, and MSAC 4-H Club.
7. Alumni Affairs.
- 7.1 Accomplishments. - The Mountain State Agricultural College Alumni Association.
- a. Elected a new set of officers for 1978-1979.
 - b. Updated the master list and directory of graduates from 1924 to the present.
 - c. Coordinated the fund-raising activities for the construction of a P3.5-million Alumni Home Center.
 - d. Secured the approval of the incorporation papers of the association from the Security and Exchange Commission.
 - e. Supported the proposed conversion of MSAC to a University.
- 7.2 Present and On-Going Projects. - The Alumni Association is working towards its commitment.
- a. Make available an MSACAA Scholarship Fund for poor but deserving students studying in MSAC.
 - b. Establish a placement office for MSAC graduates.
 - c. Organize MSACAA sub-chapters in the different provinces and cities of the country where MSAC Alumni are found.
 - d. Continue with the fund-raising campaign of the association for the construction of the Alumni Home Center.

e. Work closely with the MSAC administration for a more functional and progressive institution.

7.3 Election of Officers. - The Alumni Association

lected its new set of officers at a general meeting held the last Sunday of April, 1979.

CHAPTER II

RESEARCH AND EXPERIMENT STATION

A. Capability of College Researchers

The Research and Experiment Station Department of the College conducted a seminar-workshop on "Design and Analysis of Experiments and Surveys" on April 5 to May 5, 1979 in cooperation with PCARR. The seminar-workshop strengthened the research capability of the college researchers. Twenty-three (23) MSAC researchers participated.

B. Administrative Researchers Completed

Researchers completed by the school administration during the year under review were:

1. Nutritional Study on White Potato by A. Jara and C. J. Oliveros of the Department of Soils and Chemistry
2. Response of White Potato to the Different Levels of Potassium and Chicken Manure by M. S. Posadas and C. J. Oliveros of the Department of Soils and Chemistry.

Abstracts of the two completed studies are included in Appendix A of this Annual Report.

C. On-Going Funded Researches

On-going researches funded by PCARR, NRCP, and NSDB are outlined below.

1. Department of Plant Science

- 1.1 Project Title : Farmer's Field Test of White Potato
Researcher : L. Victor

- Fund Source : PCARR
 Amount : P4,107.00
 Duration : 1978 - 1979
- 1.2 Project Title : Cropping Pattern for
 Highland Vegetable Crops
 Researcher : L. Victor
 Fund Source : PCARR
 Amount : P20,975.00
 Duration : 1978 - 1980
- 1.3 Project Title : Regional Trial on White
 Potato at High Elevation
 Researcher : E. Sano
 Fund Source : PCARR
 Amount : P8,671.00
 Duration : 1978 - 1980
- 1.4 Project Title : Regional Adaptability Tests on
 Solanaceous Crops (Tomato)
 Researcher : L. Sano
 Fund Source : PCARR
 Amount : P18,762.00
 Duration : 1978 - 1982
- 1.5 Project Title : Regional Adaptability Tests on
 Crucifers
 Researcher : L. Victor
 Fund Source : PCARR
 Amount : P21,874.00
 Duration : 1978 - 1982
- 1.6 Project Title : General Varietal Performance
 Trial of Solanaceous Crops
 (Sweet Pepper and Eggplant)
 Researcher : P. Toledo
 Fund Source : PCARR
 Amount : P23,435.00
 Duration : 1978 - 1982

2. Department of Biological Sciences

- 2.1 Project Title : Preliminary Study on the Post
 Management of Selected Highland
 Vegetables, Flowers, and Fruits
 Researcher : L. Colting
 Fund Source : NRCP
 Amount : P28,930.40
 Duration : September 1978 - October 1979

3. Department of Agribusiness and Economics

- 3.1 Project Title : Repayment of Deficiencies of
Agricultural Loans Among Farmers
in the Mountain Provinces
- Researcher : C. Buson
Fund Source : NSDB
Amount : P37,231.00
Duration : December 1978 - July 1979

4. Department of Home Technology

- 4.1 Project Title : Test of Agaricus in Food
Processing
- Researcher : L. Balaoing
Fund Source : NRCP
Amount : P19,500.00
Duration : 1978 - 1979

5. Department of Animal Science & Technology

- 5.1 Project Title : Establishment of Dairy Cattle
Project in Highland Areas
- Researcher : I. Cattivon
Fund Source : NSDB
Amount : P94,200.00
Duration : 1978 - 1982

6. Department of Soils and Chemistry

- 6.1 Project Title : Soil Conservation and Fertility
Studies of Highland Vegetable Area
- Researchers : C. Oliveros and E. Manaril
Fund Source : NSDB
Amount : P99,000.00
Duration : 1977 - 1980
- 6.2 Project Title : Nutrient Deficiencies in Some
Vegetables and Other Crops
- Researchers : C. Oliveros and T. Herostela
Fund Source : NSDB
Amount : P98,500.00
Duration : 1977 - 1980
- 6.3 Project Title : Trace Element Status of Vegetable
Areas in Benguet
- Researchers : C. Oliveros and M. Colting
Fund Source : NSDB
Amount : P96,000.00
Duration : 1977 - 1980

- 6.4 Project Title : Effect of Different Rates of Organic and Inorganic Fertilizer on the Quality of Seeds of Radish, Pechay, and Chinese Cabbage
- Researcher : C. Oliveros
 Fund Source : PCARR
 Amount : P18,279.00
 Duration : 1978 - 1981
- 6.5 Project Title : Asparagus Research and Production Program
- Researchers : C. Oliveros and E. Mamaril
 Fund Source : NRCF
 Amount : P63,800.00
 Duration : 1978 - 1979
- 6.6 Project Title : Studies on the Effect of Different Factors on the Behavior of Microelements in Intensively Cultivated Soils
- Researchers : C. Oliveros and E. Mamaril
 Fund Source : NRCF
 Amount : P3,038.00
 Duration : 1978 - 1979
- 6.7 Project Title : Studies on Climatic and Cultural Factors of Strawberry Production
- Researchers : T. Merestela and J. Balaoing
 Fund Source : NRCF
 Amount : P41,793.00
 Duration : 1978 - 1979

7. Summary of Research Funds -- Below is the summary of the total amounts given by funding agencies for approved researches of the different departments of the College.

<u>Department</u>	<u>PCARR</u>	<u>NRCF</u>	<u>NSDB</u>	<u>TOTAL</u>
a. Plant Science	P97,824.00	-	-	P97,824.00
b. Biological Science	-	P28,930.40		P28,930.40
c. Agribusiness and Economics	-	-	P37,231.00	P37,231.00
d. Home Technology	-	P19,500.00	-	P19,500.00
e. Animal Science	-	-	P94,200.00	P94,200.00
f. Soils and Chemistry	P18,279.00	P113,631.00	P293,500.00	P425,410.00
Totals	<u>P116,103.00</u>	<u>P162,061.40</u>	<u>P424,931.00</u>	<u>P703,095.40</u>

D. Research Publications

Selected research findings of College faculty, undergraduate and graduate theses abstracts have been published in the MSAC Research Journal.

E. Research and Publications Office

1. Personnel. -- The Publications Office is managed by one chief, one information editor, one photographer, and two clerks (one regular and one casual).

2. Accomplishments

- a. Helped the Department of Languages and Social Sciences in the teaching of Spanish.
- b. Published the first issue of the Bulletin of Graduate Studies in MSAC (1979).
- c. Prepared a revised Bulletin of Information for the whole collegiate department.
- d. Prepared a revised edition of the Student Handbook for 1979-1980.
- e. Published an issue of the MSAC Research Journal and prepared articles for subsequent issues thereof.
- f. Published an issue of the MSAC Farm News Bulletin and prepared articles for subsequent issues.
- g. Took care of correspondence with local and foreign schools and other agencies regarding published researches and journal exchanges.
- h. Distributed complimentary copies of published researches to school visitors, especially those from abroad.
- i. Its chief served as guest lecturer on formal research writing during the first Baguio Medical Seminar on Scientific and Technical Writing of the Federation of Private Medical Practitioners, Inc., Baguio-Bonquet Chapter, on December 3, 1978, and on the

Abra Cultural Minority Case during the Summer Convention of the U. P. (Diliman) Graduate School Anthropological Society "UCAT".

- j. Extended clerical or secretarial and editorial help during seminar-workshops or conferences, like these of the FFP-FAHR-FVLP and the PASUC.
- k. Served as source of information for faculty members and students using the Agricultural Engineering Complex by means of its phone facility.
- l. Helped graduating students in taking pictures of the various stages of their experiments.
- m. Helped some students secure their EOT ID's.
- n. Supplied pictures with captions of various activities of MSAC needed in display booths during on-campus and off-campus fairs, e.g. in Burnham Park, Baguio-Mt. Province Museum, and at the Benguet Provincial Capitol.
- o. Helped edit and/or type student thesis proposals/theses.
- p. Gave assistance in the mimeographing and/or binding of student handouts, including the 1978-1979 Annual Report, etc.
- q. Helped in the preparation and publication of the souvenir program of the occasion of the Commencement Exercises.
- r. Participated in the non-formal education program of the College.
- s. Continued coordinating the student publications, The Mountain Collegian and The Mountain Breeze, to avoid unnecessary duplication of news and assure developmental orientation of articles.

3. Financial Statement

a. Gross Income from production (including photography and cash sales)	P9,516.90
Less: Expenses	<u>9,574.00</u>
Balance	57.30 (Cash loss)

Balance brought forward	P57.30	
Amount of Inventoried Goods as of February 8, 1979	<u>P8,688.70</u>	
Balance	P8,611.40	(Gain in form of goods)
b. Gross Income from MSAC		
Journal subscription	P58,000.00	
Less: Expenses	<u>15,350.00</u>	
Net Income	<u><u>P42,650.00*</u></u>	
	vvvvvvvvvv	

4. Recommendations

- a. One new piece typewriter should be added to the old one in the Publications Office.
- b. A set of bindery paraphernalia to be handled by one formally trained in bindery, if not experienced therein, should be added to the outfit of the Publications Office.

*Estimated amount collected by the Cashier's Office and submitted to the National Treasury.

CHAPTER III

EXTENSION

A. Extension Program

The extension program of the College during the year under review was headed by the Department of Agribusiness and Economics.

Among the Projects were:

1. MSAC-PESP-OXFAM Extension Project. - This project is funded by the Oxford Commission on Famine Relief, a non-profit and private organization of Great Britain. The Program started on September 1, 1978 and will terminate in 1983. Subjects covered in the farmers' training include vegetable production, rice culture, poultry, piggery, and fruit propagation. The training sites at present are Adoyunan and Topdac, Municipality of Atok, and Ambongdolan, Municipality of Tublay, all in the Province of Benguet.

A capsule information about the program follows:

Program	- Agricultural Skills Training
Budget	- ₱95,000.00 per year
Fund Source	- Oxford Commission on Famine Relief
Area of Coverage	- Province of Benguet
Farmers Enrolled (1978-1979):	

Adoyunan, Atok	- 126
Topdac, Atok	- 118
Ambongdolan, Tublay	- 210

T o t a l = = 454

Extension major students underwent actual field practice in this project as a pre-requisite for graduation.

2. NSAC-NMYC-BLMYC National Agricultural Skills Training Program. A project proposal to the NMYC for another Agricultural Skills Training was approved with an initial fund of P10,000.00. Training was organized in Longlong, La Trinidad, Benguet.

3. Extension Services by Departments. -- The Department of Forestry established a forest nursery and cultured some 14,916 tree seedlings and 2,373 ornamental plant cuttings for planting in watersheds of the College and the community.

The Department of Plant Science was engaged in extension work through result demonstration planting, direct advice, training, and mass media on vegetables, potatoes, and peanuts along the Halsema Road (Mountain Trail) and in Madella, Quirino.

The Department of Animal Science and Technology helped in the campaign for animal and avian disease prevention in the rural areas by vaccinating pigs against cholera, chicks against fowl pox and New Cattle disease, dogs against rabies, and cattle against foot and mouth diseases. The Bureau of Animal Industry provided the vaccines. The department also extended services to the rural farmers by assisting farrowing sows, injecting iron preparation, treating sick animals, and deworming livestock. The farmers visited the animal projects of the College and sought technical advice in animal production. They bought stocks at prices within their reach to start their animal projects.

All the other departments of the College extended socio-cultural services to the community whenever and wherever needed during significant occasions..

4. MSAC/SEARCA Social Laboratory. The accomplishment of the Social Laboratory in the year under review was a continuation of the projects started or on-going the previous year plus additional projects in irrigation, fish culture and the introduction of new varieties of rice, vegetables and fruit trees. A variety of strategies were employed to accelerate the transfer of agro-technology.

The pilot project in Nangalisan, Tuba, Benguet, since 1974 was visited by local and foreign visitors connected with or interested in countryside development.

B. Production Projects and Incomes

The total income from the various production projects of the College for Fiscal Year ending June 30, 1979 amounted to P196,437.41 compared to last year's P166,369.30.

<u>Production Project</u>	<u>Personnel In-Charge</u>	<u>Net Income</u>
1. Publications	Mr. B. M. Balweg	P 42,650.00
2. Balili Farm Project	Mr. E. O. Sano	29,100.65
3. RSDC Guestel	Mr. I. B. Viado	20,428.17
4. College Canteen	Mrs. O. N. Estepa	16,653.00
5. Swamp Vegetable Project	Mr. J. P. Martes	16,014.38

<u>Production Project (Cont'd)</u>	<u>Personnel In-Charge</u>	<u>Net Income</u>
6. FAHP Canteen	Miss M. S. Chanfing	₱ 15,180.60
7. Ladies' Dormitory	Miss E. R. Hufana	11,818.75
8. Pomology & Vegetable Project	Mr. A. C. Tipayno	10,126.65
9. Swamp Vegetable Project	Mr. D. D. Dampilag	8,884.17
10. Swamp Vegetable Project	Mr. G. G. Bilango	8,609.00
11. Floriculture Project	Mrs. A. G. Ladilad	6,702.40
12. Swamp Vegetable Project	Mr. R. M. Bocalan	6,005.55
13. Poultry Project	Mr. S. S. Arcollana	2,293.74
14. Piggery & Rabbitry Project	Dr. A. D. Magtoto	<u>1,970.35</u>
T O T A L = = = = =		<u><u>₱196,437.41</u></u>

C. Community Environmental Development Activities

This is the second year of the implementation of the five-year MSAC Development YCAP Plan approved by the Director of National YCAP Coordinating Center of the Ministry of Education and Culture. The plan is entitled "MSAC Community Environmental Development Project."

<u>YCAP Activities & Sectoral Areas</u>	<u>Extent of Completion</u>	<u>R e m a r k s</u>
1. Concreting of two-lane campus road from Gate 4 to Seo. Vo-Ag Related Subjects Building - 1 km. long.	About .65 km of one lane was completed with the help of YCAP students during off-school hours in 1978-1979.	Release of funds for the project with rising prices of construction materials slowed down the completion of the project.
2. Graveling of Balili Farm Road (Animal Projects) to Hanging Bridge near the Mushroom Project 1.5 km.	Graveling was not started. However, the YCAP students maintained the cleanliness of the road.	Gravel & Sand from the Balili River side were used by the BPW retaining wall project.
3. Laying out subdivision roads in Housing Area.	Not yet started, but plans for implementation were made.	The laying out of housing subdivision roads and construction depends on funds available for the project.
4. Cleaning of National Highway (1.5 km) and whitewashing of College concrete fence. - (1.5 km)	Landscape & whitewashed by YCAP Students during SY 1978-1979.	The area has been periodically maintained by YCAP students.
5. Landscaping and cleaning of campus roads-(5 km) & lawns, including drainage system.	Cleanliness of campus roads, lawns, and drainage was maintained.	Periodically maintained by YCAP students.
6. Construction of Main Gate.	Not yet started.	The project will be started as soon as funds are made available.

<u>YCAP Activities & Sectoral Areas</u>	<u>Extent of Completion</u>	<u>Remarks</u>
7. Construction & maintenance of irrigation canals in Balili.	Cleanliness of irrigation canals was maintained.	Periodically maintained by YCAP students.
8. Graveling of Swamp Vegetable Project Farm Roads. (2 km)	No graveling but cleanliness of the farm-to-market roads (2 km) was maintained.	Graveling of road will be done before 1982.
9. Fencing of main campus (5 km)	Concrete fencing along National Highway (2 km) was completed.	About 3 km of main campus areas have not yet been started.
10. Construction of road behind Ag. Eng'g. Bldg. (.5 km).	Not yet started.	Project will be started before 1982.
11. Construction of road from National Highway to Balili Barangay. (.05 km)	The .05 km road had been laid out and filled with gravel & sand.	The projects will be improved until the concreting of the road will be done before 1982.
12. Landscaping & improving Floriculture Project Road deadend (including drainage system) to Laboratory Schools and Balili from National Highway to Balili Suspension Footbridge.	The cleanliness and landscaping of the area was maintained.	Periodically maintained by YCAP students.

D. Participation in the National Tree-Planting Program

The College obtained 52,000 tree seedlings from the Bureau of Forest Development, Paodal, Baguio City and other district nurseries of the BFD in Region I and 4,160 from the MSAC Forest Nursery.

Actual inspection of the trees planted at the close of SY 1978-1979 revealed a 56% survival performance. Some 56,160 forest tree seedlings were planted in July, August and September of 1978.

<u>Departments</u>	<u>No. of Planters Registered</u>	<u>No. of Trees Planted</u>	<u>No. of Ha. Planted</u>	<u>Survival % as of 4/2/79</u>
1. Elementary	724	8,688	Balili River-side, 1.5 ha.	40
2. Sec Vo-Ag & Sc Education	542	6,504	N. Balili Water-shed, 12.5 ha.	30
3. Gen. Sec. Education	458	5,496	S. Balili Water-shed, 12.5 ha.	30
4. College Departments	2,606	31,272	Ampasit Watershed & Agro-Forest Project, 155 ha.	90
5. Personnel	350	4,200	- ditto -	90
Total =====	<u>4,680</u>	<u>56,160</u>	<u>181</u>	<u>56</u>

Each of the MSAC registered tree planters planted 12 or more tree seedlings.

The low percentage of survival of the trees planted was due to the damages done by squatters and their animals in and outside

the school reservation. An occurrence of a forest fire in the Alumni Grove and Ampasit Watershed, allegedly burned by claimants to certain portions of the school forest reservation, did an irreparable damage to the tree-planting program.

E. Agro-Forestation Special Project

The project conceived and started in 1976 as the MSAC/JOCV Experimental Expansion Project, stands on an initial 10-hectare forestal land in Bec-tay, Ampasit, and Puguís, La Trinidad, within the school reservation.

1. Accomplishments of the Project. - The management of the project accomplished the following:

- a. Cleared, terraced, and planted about 4.5 hectares to 4,000 coffee trees.
- b. Planted citrus: (1) Valencia - 60, (2) Sweet Orange - 62, (3) Navel Orange - 51, (4) Mandarin - 37, and (5) Satsuma Orange - 82.
- c. Fertilized coffee and citrus with chicken dung at the rate of one (1) kerosene can per tree and commercial fertilizer 14-14-14 at the rate of one kilo per tree, split application.
- d. Sprayed insect-fungicide monthly to all plants growing in the 4.5 hectares.
- e. Applied lime to all citrus plants, 1.5 hectares.
- f. Constructed tractor roads, foot trails, drainage canals; installed cement pipes in diversion canals along the main road.
- g. Constructed one temporary shed out of salvage materials from the irrigation dam with G. I. roofing. Size of shed - 18' x 20' x 10'.
- h. Constructed one fertilizer shed out of local materials. Size of the shed - 18' x 20' x 7'.

- i. Pricked 5,000 seedlings (calamandarin) for rootstocks.
- j. Maintained main road of the project.
- k. Planted 5,000 alnus, ipil-ipil, bottlebrush, dapdap, and agohe seedlings along the roads, trails, and watershed area.
- l. Completed the Irrigation System, Phase I (Dam, Tank, Storage Pond, Pipe Lines, and Distribution Lines) and the installation of the Super Hydro-Pump with improvised footing.
- m. Continuously patrolled the Forest Reservation in Lots I, II, and III.
- n. Apprehended woodcutters (7 groups) and two (2) persons responsible in forest fires in the reservation.
- o. Planted 105 loquat seedlings.
- p. Did weed control and mulching; hilled up calamansi and coffee trees.
- q. Germinated and potted 4,000 coffee seedlings.
- r. Put out forest fires in three (3) instances.

2. On-going Project Activities

- a. Plant camote between plants as cover crop to minimize soil erosion.
- b. Prepare holes for persimon, loquat, apples, coffee, and citrus.
- c. Conduct experiment on Shading.
- d. Conduct experiment on Pruning.
- e. Conduct experiment on Erosion Control by using rootcrops as cover crops.
- f. Plant ginger between the coffee trees.
- g. Propagate citrus plants.
- h. Construct road, Phase II -- tractor roads, foot trails, and drainage canals.

- i. Maintain care and management of plants planted in 1977 to May 1979.
- j. Operate five or more hectares as expansion areas.

3. Other On-going Developments

- a. Bulldozing of the road from the Bureau of Equipment Junction at Stock Farm to the site of the main building at Bec-tay, Ampasit, a distance of approximately 2.5 kms is already finished.
- b. On-going construction of the Agro-Forestry Building.
- c. Paying claimants' improvements and their eventual relocation.
- d. Tree planting by the faculty and employees and students at the Administration Hill, Faculty Hill, and adjacent hills in Lot I and Di-say in Lot II.
- e. Reforestation of the burned areas in Lots I and II.
- f. Construct a semi-permanent building at Wayas' claim and widen the school grounds of the elementary school at Lot II.

4. Problems and Recommendations

a. Problems

1. Burning of trees in the College reservation and felling of trees for lumber, fuel, charcoal and logs. People caught were brought and reported to the proper authorities. It is frustrating, however, to note that so far no one among the culprits was prosecuted and meted sentence.
2. Lack of personnel to guard the forest reservation and laborers to work and maintain the Agro-Forestation project.
3. Squatters introduce physical improvements in the school reservation area under court litigation in spite of the order of the court for the parties to observe the status quo. The presence of squatters in the school reservation obstruct and hamper development. They burn the mountain, make lawsuits, and destroy plants, trees and property.

b. Recommendations

1. The PC or Army should be deputized and given authority to deal adequately with the protection and conservation of the forest and prevention of squatting on lands of the school. Local law enforcing agencies are at times proven to fraternize and be lax.
2. The school appropriations should be increased so that additional forest guards and laborers could be hired.
3. There is an urgent need to clear the school reservation of squatters in all forms. The school guards and security officers should be clothed with police powers to enable them to enforce the conservation and anti-squatting laws of the country.

F. Rural Services of MSAC Personnel

1. MSAC Non-Formal Education Program. The expanded Non-Formal Education Program of the College for SY 1978-1979 was formally launched on September 2, 1978. (See Appendix B)

- 1.1 Training Center - Eight barangay centers were identified as venue for the NFE program:
 - a. NFE Center 1 - Adoyunan, Atok
 - b. NFE Center 2 - Topdac, Atok
 - c. NFE Center 3 - Ambongdulan, Tublay and Datakan, Kapangan
 - d. NFE Center 4 - Balili, La Trinidad
 - e. NFE Center 5 - Betag, La Trinidad
 - f. NFE Center 6 - Buyagan, La Trinidad
 - g. NFE Center 7 - Pico, La Trinidad
 - h. NFE Center 8 - Wangal, La Trinidad
- 1.2 Task Force Teams. - To service these centers, the faculty members were grouped into seven (7) task force team categories and one Administrative-Supervisory and a Coordinating Team.
 - a. Instruction-Training Team - 8 team leaders, 16 members
 - b. Resource-Demonstration Team - 4 team leaders, 21 members
 - c. Data-Collection and Analysis Team - 4 team leaders, 15 members
 - d. Course/Text Writing Team - 8 team leaders, more than 55 members

- e. Publications and Text Dissemination Team -- 1 leader, 4 members and clerical staff of Publications Office.
- f. Special Activities Team -- 1 leader, 5 members
- g. Consultant-Supervisory-Administrative Team -- 1 leader, 6 members
- h. Monitoring and Reporting Team -- 1 leader, 1 co-leader, 1 liaison, 3 members

The teachers of the Elementary Laboratory and General Laboratory Schools were assigned to NFE Center 4 (Picc) and NFE Center 5 (Betag). The principal of both schools prepared the team assignments and deployment schedules of their faculty members.

- 1.3 Clientele. -- Barangay families and the OSY of the selected NFE program centers were the clientele.
- 1.4 Duties of Various Teams. -- Specific duties of all the teams were spelled in writing. College personnel assigned for duty at the various centers determined which day (Saturday or Sunday) was most convenient for the people of the community to gather in one place for purposes of group instruction, training, and/or demonstration. Each teacher had to render at least 15 Saturdays or Sundays to the NFE program. Teachers who did not render the 15-day rural service for the SY 1977-1978 were required to render service for 30 Saturdays and/or Sundays. Rendition of service was supervised and reported to the College President by the designated leader of each team. These reports had to be certified to by the Barangay Captain and the members of the Coordinating-Supervisory Team concerned.
- 1.5 Subject Area Coverage. -- The Text Writing Teams were assigned to write texts for publication and dissemination to the clientele:
 - a. Team 1 wrote texts on farm crops, fruit crops, vegetable crops, flower and ornamental crops, forage crops (pasture crops), industrial crops, and medicinal plants.
 - b. Team 2 -- Poultry, hogs, rabbit, goat, cattle, and dog.

- c. Team 3 - Handicraft and home industry projects: basket making, bag making, mat weaving, dressmaking, tailoring, woodcarving, bamboo crafts, broom making, etc.
- d. Team 4 - Family planning, food and nutrition, health and sanitation, first aid education, food conservation and preservation.
- e. Team 5 - Taxation education, cooperative education, consumer education, and Constitution of the Philippines.
- f. Team 6 - Forest conservation and reforestation, water conservation, soil conservation and erosion control, sewerage, garbage and waste disposal/recycling system, and environmental pollution control.
- g. Team 7 - Social, home and community behavior, leisure time activities, community civic and improvement activities, accident and prevention and safety education.
- h. Team 8 - Labor laws, land reform (Agrarian Laws), and other laws.

1.6 Publication and Dissemination of Information. - The Publication and Text Dissemination Team was assigned to print (mimeograph) the materials written by the text writing teams and to distribute the printed materials to all the centers through the instruction-training teams and/or the resource-demonstration teams.

2. Deployment of MS&C Personnel. Fielded for rural service to the depressed countrysides of the Province of Benguet pursuant to LOI 559 for the period September 16, 1978 to September 15, 1979 were:

<u>Personnel</u>	<u>Number Deployed</u>
a. Faculty Members (Teaching) Thru NFE Program	212*
b. Staff (Non-Teaching)	69
c. Supportive Staff (Casuals)	50
Total	<u>331</u>

C. MSAC-RSDC Services

The Regional Staff Development Center of the College served as a training and re-training center for a continuing professional, technical, and socio-cultural development of staff and rural farmers by way of conferences, seminar-workshops, and symposia on a local, regional, or national level. The following are some representative activities under the MSAC-RSDC services:

<u>Theme of Conference and/or Seminar-Workshop</u>	<u>Number of Participants</u>	<u>Local/Regional or National</u>	<u>Inclusive Dates</u>
15th Seminar-Workshop for Regional Planning and Project Development Staff	70	Regional	June 4-30, 1978
Case Writing Workshop- Seminar	17	Local	Sep. 1-10, 1978
Buklod Leadership Echo Training	50	Local	Sep. 10-17, 1978
2nd National Potato Production Course	55	National	Nov. 13-21, 1978
4th Regional FFP-FAHP 2nd FVLP Convention	600	Regional	Jan. 15-17, 1979

*Of this number, 33 are elementary school education teachers; 22 general secondary education teachers; and 157 secondary vo-ag & science education and college faculty members.

<u>Theme of Conference and/or Seminar-Workshop</u>	<u>Number of Participants</u>	<u>Local/Regional Inclusive or National</u>	<u>Dates</u>
11th Regional Conference of COA Auditors- Constructive Changes in the Commission on Audit	87	Regional	Feb. 15-16, 1979
14th Society for the Advancement of Vegetable Industry (SAVI)	80	Local	Mar. 29-31, 1979
12th Annual PASUC Conference Seminar	90	National	April 19-21, 1979
12th UPLB-PCARR Seminar- Workshop on Design and Analysis of Experiment and Surveys	35	Local	April 16-May 5, 1979
2nd Practical Arts Regional Summer Institute	60	Regional	April 23 - May 12, 1979

CHAPTER IV

ADMINISTRATION AND SUPERVISION

A. Fiscal Support

The National Government supported the Mountain State Agricultural College for the period from July 1, 1978 to June 30, 1979 with a total appropriation of P5,468,402.00. The amount represented the expenditures from the budgetary allotments for the period stated in the calendar years 1978 and 1979 respectively. This amount was spent for personal services, maintenance and operation, and equipment outlay.

B. Personnel Development

The personnel growth and development during the year under review were:

1. Scholarship Grants	8
2. Promotions	35
3. Accretions	<u>15</u>
Total	<u><u>58</u></u>

Five (5) faculty members finished their doctoral degrees, and two (2) completed their masteral studies. Two (2) of the personnel who joined the College in 1978-1979 had master of Arts degrees.

C. School Sites

1. Relocation of Squatters and/or Claimants. -- As stated in the 1977-1978 annual report, eight (8) squatter/claimant family heads at the Agro-forestation Project and Northern Philip-

pinos Root Crops Research and Training Center agreed to be relocated and be compensated for their improvements.

1.1 Appraisal of Improvements of Squatters and/or Claimants.

As requested by the College, the improvements were appraised by the Provincial Appraisal Committee chaired by Engr. Romeo J. Gomez, Provincial Assessor.

In a meeting held in the Provincial Assessor's Office on August 29, 1978 by the Provincial Appraisal Committee and the squatters/claimants, the latter accepted the appraised value of their improvements, to wit:

<u>Name of Squatter/Claimant</u>	<u>Value of Improvements</u>
1. Palos Batani	P 11,788.00
2. Sabas Dianas	5,358.00
3. Heirs of Turo Batani, namely, his widow Vicenta Bag-on Vda. de Batani son Pedro Batani, and daughter Rose B. Alangco, all represented by the widow	12,122.00
4. Bensa Bayete Elary	4,122.00
5. Constancia Morales	14,996.00
6. Adeline Bernard	2,723.00
7. Consalao Balanoy	18,747.00
8. Albert Turo	<u>3,129.00</u>
Total	<u>P 72,925.00</u> vvvvvvvvvvvvvv

Two of the squatters were given financial assistance for the exhumation and transfer of the remains of their dead kins from the areas to be vacated by them, at P1,500.00 per deceased, as

follows:

<u>Name of Relocates</u>	<u>Name of Deceased Relative</u>	<u>Relation to Relocatee</u>	<u>Amount of Assistance</u>
Consalán Balanoy	Cabinta Balanoy	Father	P1,500.00
-do-	Dinep Alwa	Grandmother	1,500.00
-do-	Dadpa-as (and name)	Grandfather	1,500.00
Constancia Morales	Mendoza Bengay	Father	<u>1,500.00</u>
T o t a l			<u><u>P6,000.00</u></u> vvvvvvvvvv

The total value of the improvements and the cost of transferring; the three (3) graves amounted to P78,925.00.

1.2 Survey of Resettlement Site. -- On the request of the College, Regional Land Office No. 1 sent a special survey team to set aside the proposed resettlement site, some 400 meters west of the squatter and/or claimed area. Initial work on the survey started on October 16, 1978.

The special survey team was headed by Felino M. Perez, Junior Geodetic Engineer, as Chief of Party. Members were Aurelio Gapasen, Cartographer I, Rodrigo A. Galvez, Cartographer I; Teofilo Quibote, Survey Aide I; Reynaldo Dalupan, Survey Aide I; and Nester Q. Marzan, Casual Laborer.

However, on October 24, 1978, Geodetic Engineer Joseph Pastor took over as officer-in-charge of the special survey team vice Engr. Perez, who accepted a scholarship to study Applied Geodesy and Photogrammetry at the University of the Philippines, Diliman, Quezon City. On November 6, 1978, Alfonso Laron, Cartographer I, replaced Mr. Gapasen, who was given another assignment.

The relocation site, containing an area of 10,489 square meters, was surveyed on October 27, 1978 under plan Swo-1-000792, which was approved on December 15, 1978.

1.3 Subdivision Survey of Relocation Site. -- The relocation site described in plan Swo-1-000792 was divided into 30 lots, of which Lots 1-29 have an average area of 300 square meters each. Lot 30 has an area of 1,075 square meters, which may serve as open space or mini-park.

The subdivision of the relocation site is covered by plan Swo-1-000877, surveyed on December 17-31, 1978 and approved on March 13, 1979.

1.4 Cost of Segregation and Subdivision Surveys in Resettlement Site. -- The College underwrote the traveling expenses and the cost of gasoline and oil used by the jeep of the special survey team. Free lodging was provided the team at the MSAC Guestel.

Below is the breakdown of expenses for the segregation and subdivision surveys:

Traveling expenses of survey team	P2,650.00
Traveling expenses of Administrative Officer in following up action on the two surveys at the RLO-1, San Fernando, La Union	141.25
Survey computation forms, field notes, tracing cloth, drafting film, wax paper, reproduc- tion of documents as reference, etc.	194.30
Value of free lodging for 24 days of 6-man survey team at P8.00 per head a day	<u>(1,152.00)</u>
Total	<u><u>P3,369.63</u></u> vvvvvvvvv

Had the two survey plans been undertaken by a private geodetic engineer, who will be charging P300.00 per lot, the segregation survey and the subdivision survey covering 30 lots and a road lot would have cost the College no less than P9,600.00. Additional expenses would be incurred in following up action to the approval of the two surveys.

In having the Regional Land Office undertake the two surveys, the College realized a saving of P6,230.37. However, if the value of the free lodging is taken into account, the saving would be P5,078.37.

1.5 Allocation of Residential Lots. - - During a conference held on April 10, 1979 in the Office of the College President, the eight squatters/claimant family heads drew by lottery the residential lots that they will occupy in the relocation site. Following is the result of the lottery.

<u>Name</u>	<u>Lot No.</u>	<u>Area (Sq. M.)</u>
1. Heirs of Tuac Batani		
a. Rose B. Alangco	1	312
b. Pedro Batani	12	300
c. Vicenta Bay-on Vda. de Batani	13	300
2. Consalán Balanoy	9	300
3. Palos Batani	11	300
4. Albert Tuao	15	300
5. Adelinda B. Bernard	16	300
6. Bensa Bayote Elary	17	293
7. Sabas Diamas	18	300
8. Constancio Morales	19	294

1.6 Quitclaim and Payment of Improvements. -- The squatters and/or claimants executed in May, 1978 separate quitclaim deeds, renouncing their claims of ownership of the tracts of land occupied by them at the sites of the Agro-Forestation Project and Northern Philippines Root Crops Research and Training Center. In consideration of their waivers, they were paid for their improvements based on the appraised values made by the Provincial Appraisal Committee.

As some of the squatters and/or claimants had mortgaged their improvements for bank loans, they made use of the payments to settle their debts. Said mortgagors were made to understand that unless they secured discharges of mortgages, they will not be awarded their residential lots in the relocation site.

1.7 Proposed Proclamation of Relocation Site. -- In a letter dated April 5, 1979, the College requested the President of the Philippines, through the Minister of Education and Culture, to set aside by executive proclamation the proposed relocation site described as Lot 1-A-2, plan Swc-1-000792.

The same letter suggested that a letter of instruction governs the disposition of the relocation site, which was subdivided into 3 lots with an access road. Among the recommended provisions is that the lots shall be transferred only through hereditary succession. In case a lot is no longer used for the purpose it has been proclaimed, it shall revert to the College.

The proposed proclamation was forwarded to Malacñan; in a 4th Indorsement, dated June 7, 1979, of Honorable Jose J. Leido, Jr., Minister of Natural Resources.

2. Decided Court of Appeals Cases. - - The Court of Appeals affirmed the judgment of the lower Court in ordering, among others, the reconveyance of the land titled by Mathew Buteng to the Republic of the Philippines, in a decision promulgated on January 15, 1979 on the following two cases jointly heard:

- a. CA-G. R. No. 54090-R, for recovery of possession and damages, Mathew Buteng, Plaintiff-Appellant, versus Mountain Province Development Authority, Republic of the Philippines and/or Mountain State Agricultural College, Dependents-Appellees; and
- b. CA-G. R. No. 54091-R, for cancellation of title, reconveyance and damages, Republic of the Philippines, Plaintiff-Appellee, versus Mathew Buteng, Andres Payson and Philippine National Bank, Dependents-Appellants.

The disputed property has an area of 15.1876 hectares situated at Tabangsoen, Eastern Pico (now Dalili), La Trinidad, Benguet. In the MSAC consolidation plan of its properties and reservations, the parcel of land is identified as Lot 16.

As pointed out in the Court of Appeals decision, the land was purchased in 1917 by the Republic of the Philippines from Louis O. Hibbard. After its purchase the land was included with others as a school reservation by virtue of Executive Order No. 64, dated September 5, 1919.

On October 20, 1955 President Ramon Magsaysay issued Proclamation No. 209 declaring certain parcels of land of the reservation open to disposition under the Public Land Act.

Although the land was released as disposable public land, the College continued its possession and occupation even as it sought an amendment to Proclamation No. 209 in order to recover said land.

Meantime, Mathew Buteng filed a free patent application for the land. By virtue of Free Patent No. 320815, issued on December 1, 1966, he was subsequently issued on December 1, 1966, original Certificate of Title No. P-405.

On August 22, 1967, or about eight months later, Buteng mortgaged the land in favor of the Philippine National Bank to guaranty a loan of P100,000.00. The real estate mortgage was registered on August 28, 1967 with the Bureau of Registry of Deeds.

When Andres Payson, son-in-law of Mathew Buteng, started to fence the property in March, 1969, the College filed on March 21, 1969 Civil Case No. 765 in the Municipal Court against him and Buteng for forcible entry and detainer. The case was decided in favor of the College on May 5, 1969. They lost on appeal to the Court of First Instance.

Civil Case No. 2033, for recovery of possession, was filed on April 14, 1969 by Mathew Buteng against the Mountain Province Development Authority. The complaint was amended on January 6, 1979 to include the Republic of the Philippines and the Mountain State Agricultural College.

Civil Case No. 2075, for cancellation of title, reconveyance and damages was filed on September 24, 1969 by the Republic of the Philippines against Mathew Buteng, Andres Payson and Philippine National Bank.

Both Civil Case Nos. 2033 and 2075 were jointly heard, and the Court of First Instance rendered on May 31, 1973 a decision the dispositive portion of which reads:

IN VIEW OF ALL THE FOREGOING CONSIDERATIONS, judgment is hereby rendered as follows:

In Civil Case No. 2033 -

a) the complaint is hereby dismissed without pronouncement as to costs; and

b) defendant's counterclaim is dismissed for lack of sufficient proof.

In Civil Case No. 2075 -

a) Mathew Butong, defendant, is ordered to reconvey the land in favor of the Republic of the Philippines covered by Original Certificate of Title No. p-405 cleared of the mortgage in favor of the Philippine National Bank;

b) the Cross-claim by the Philippine National Bank against Mathew Butong and the spouses Andres Payoen and Faustina B. Payoen is granted and they are ordered, jointly and severally to pay the Bank the amount of ₱110,846.61 plus interest on the ₱100,000.00 from October 15, 1969 until the amount is fully paid;

c) defendant Mathew Butong is ordered to pay attorney's fees in the amount of ₱5,000.00;

d) the complaints against the Philippine National Bank is dismissed;

e) the complaint as against the Director of Lands, District Land Officer and the Register of Deeds is dismissed; they being mere formal parties; and

f) costs against Mathew Butong.

Let copies of this decision be furnished the Philippine National Bank and the Director of Lands, both of Manila not only as parties in this case but principally to look into the circumstances leading to the loan and issuance of the title, respectively.

The Court of Appeals affirmed the aforesaid judgment of the lower Court with costs against appellants Buteng and Payoen. The Solicitor-General is also directed to attend to the implementation of the lower Court's suggestion that the Director of Lands and the Philippine National Bank, if they have not yet done so, investigate the circumstances leading to the loan and the fraudulent issuance of the patent and title.

Associate Justice Hugo E. Gutierrez, Jr. penned the decision, with the concurrence of Associate Justices Lourdes F. San Diego and Serafin R. Cuevas.

3. Pending Court of Appeals Cases. -- In connection with CA-G. R. Nos. 58156-57-R, Manuela B. Pinas, et. al., Applicants-Appellants, versus Director of Lands, et. al., Oppositors-Appellees, which cases are pending in the Court of Appeals, the College filed on October 28, 1978 a motion for contempt and/or restraining order against, Messrs, Madona Carantes, Joseph Ogas, Peter Ogas, Moldino Malas and Walsi-on Dible.

The motion enumerated several instances wherein Madona Carantes by himself and as attorney-in-fact of Joseph Ogas, Peter Ogas, and Walsi-on Dible sold to third persons portions of the land subject of the aforesaid pending cases.

Also mentioned in the motion is that the spouses Madona Carantes and Dina Carantes mortgaged portions of the land in question to the Baguio-Mountain Province Development Bank.

CA-G. R. Noss. 58156-57-R appealed the joint decision, dated October 4, 1974, of the Court of First Instance of Baguio and Benguet in LNC Nos. N-160 entitled "Manuela B. Pinas, et al., vs. Director of Lands, et al." and N-330 entitled "Manuel Nolasco, et al., vs. Director of Lands, et al.", denying the applications for registration of the applicants; dismissing the opposition of the various private oppositors; and declaring the parcels of land subject of both cases "reserved for the Mountain State Agricultural College."

Messrs. Madona Carantes, Joseph Oyas, Peter Oyas, Moldino Malas and Harsi-on Dible belonged to the group of oppositors referred to as the "Carantes Group" in the aforesaid decision of October 4, 1974.

While the other groups of oppositors have appealed to the decision to the lower Court, the said Carantes Group did not appeal the adverse judgment against them. The decision has, therefore, become final as to the Carantes Group, according to the motion.

The motion also prayed that a restraining order be issued to prevent the aforementioned persons from further selling and/or mortgaging the lands in question or portions thereof, or from encouraging third persons to enter the premises and/or to make constructions thereon.

4. Administrative Case Against Madona Carantes. -- Mr. Madona Carantes is the Barangay Captain of Balili, where the lands described in CA-G. R. Nos. 58156-57-R are located. His act of selling portions of said lands while still under court litigation was viewed by this College as constituting official misconduct.

In a letter, dated May 5, 1978, the College filed with the Ministry of Local Government and Community Development, a complaint

for misconduct against Mr. Carantes in his capacity as barangay captain, to wit:

- a) Squatting on school sites;
- b) Sale of portions of school sites under litigation;
- c) Non-cooperation in implementation of PD No. 1153; and
- d) Leading squatters/claimants petitioning for revocation of approved survey plans of the College.

The Ministry of Local Government and Community Development received the letter-complaint on May 17, 1978. It was entered as Complaint Docket No. E-5568.

5. Land Reformed School Site. -- A portion of Lot 1-A, plan II-11965 Amd. covered by Original Certificate of Title No. 23 in the name of Benguet Province but being used by the College for its educational purposes, was ordered segregated under the Land Reform Program of the government for certain Igerot families under Letter of Instruction No. 758, dated October 28, 1978.

The segregated portion is identified on survey plan (LRC) Psd-35170 as Lot 1-A-2 to Lot 1-A-9 inclusive, containing an area of 6.7848 hectares, situated at Banig, Balili, La Trinidad, Benguet.

In LOI No. 758 President Ferdinand E. Marcos observed that the above-described portion of land has been "occupied from time immemorial by several Igerot families and cultivated for vegetables and other crops."

The President stated that occupant-tillers in lands owned by the government or its instrumentalities, or lessees, as the case maybe, deserve to be extended the benefits of the Land Reform

Program of the government by making them owner-cultivators of their respective landholdings.

LOI No. 758 directed that the above-described portion of land be transferred by way of sale at nominal cost to the actual occupant-tillers in accordance with their areas of occupancy and cultivation.

Instructed to carry out LOI No. 758 were the Minister of Agrarian Reform, Provincial Governor of Benguet, Sanguniang Panlalawigan of Benguet, and Register of Deeds of Benguet.

On being furnished on November 20, 1978 a copy of LOI No. 758, the College wired the President of the Philippines, praying for the deferment in its implementation because the principal beneficiaries, who had organized themselves as the Balili Farmers Cooperative, are not landless but registered property owners.

In separate letters dated November 23, 1978 and December 1, 1978, the College requested the President of the Philippines to order a reinvestigation and verification of the facts in the petition of the occupants of the above-described portion of land. The side of the College was overlooked in the investigation of the District Office of the Ministry of Agrarian Reform.

The aforesaid portion of land is part of Lot 1-A, plan II-11965 And., with an area of 21.5650 hectares, which lot, together with Lot 2-A, also of the same plan, having an area of 17.8070 hectares, are covered by Original Certificate of Title No. 23, in the name of the Province of Benguet (originally Mt. Province).

The Province of Benguet became the registered owner by virtue of R. A. 4695, which divided the old Mt. Province into four (4) provinces, namely, Benguet, Ifugao, Mt. Province, and Kalin-og-Apayao.

Lots 1-A and 2-A, II-11965 Amd. were unregistered parcels of land acquired through purchase in 1919 for the use of the Trinidad Farm School, predecessor-in-interest of the Mountain State Agricultural College.

As the Trinidad Farm School had no legal personality to own lands, Lots 1-A and 2-A, II-11965 Amd. were registered through judicial proceedings in the name of Mt. Province pursuant to Decree No. 87479, and then issued Original Certificate of Title No. 23 on January 29, 1920. Although Mt. Province (later Benguet) is the registered owner, the College in the concept of beneficial owner has been using both parcels of land for its educational purposes since their acquisition.

Taking advantage of the chaos and uncertainties brought about by World War II, the Heirs of Adriano Balancio, who are the principal beneficiaries of LOI 758, squatted on the above-described portion of Lot 1-A, OCT No. 23, with an area of nearly seven (7) hectares.

Not contented with the occupancy of that aforesaid portion of Lot 1-A, OCT No. 23, the Heirs of Adriano Balancio filed on January 10, 1966 Civil Case No. 1640, for reconveyance with damage, covering Lots 1-A and 2-A, II-11965 Amd., of OCT No. 23, against the Mountain Province and the Mountain Agricultural College, now the Mountain State Agricultural College. The Heirs are Mrs. Manuela

B. Pinas, Alberto Adriano, Mrs. Teodora B. Lambis, Adriano T. Gibson, Carlos B. Safra (nephew of Adriano Balancio), and Mrs. Clara B. Calucas.

In a decision rendered on January 22, 1969, the Court of First Instance denied the petition of the plaintiffs in Civil Case No. 1640, and ordered them to surrender their possession of the two (2) parcels of land covered by OGT No. 23, to the defendants. The plaintiffs appealed the decision. The Court of Appeals in CA-G. R. No. 4321-R affirmed the decision of the lower Court on February 2, 1976.

During the election campaign for members of the Interim Batasan Pambansa, the Balili Farmers Cooperative composed of the Heirs of Adriano Balancio and other alleged "occupants" appealed for help in a petition addressed to Agrarian Reform Secretary now Minister, Conrado F. Estrella. The petition was given due course.

As mentioned earlier, the College in two letters asked the President of the Philippines for a reinvestigation and verification of the facts in the petition of the Balili Farmers Cooperative, particularly in its contention that the members have occupied the land, now covered by LOI No. 758, "since time immemorial."

The College also stressed the fact that the Heirs of Adriano Balancio are individually the registered owner of several parcels of land in La Trinidad, with a total area of 34,356 square meters, worth not less than P3.5 million. They are also the co-owners of a registered property in the same municipality. One realtor said

that P3.5 million is too low. He said the properties can easily command a total market price of P10.5 million.

As gathered by the College, however, its two letters to the President of the Philippines, were referred by the Presidential Executive Assistant Jacobo C. Clave to Agrarian Reform Minister Conrado F. Estrella for comment.

Hon. Clave received from Minister Estrella a memorandum for the President of the Philippines, dated January 3, 1979, requesting for appropriate action to be taken in the proper and further implementation of LOI No. 758.

In a letter dated January 30, 1979, addressed to Minister Estrella, Presidential Executive Assistant Clave opined that there is no need for further action from the Office of the President to implement the order under LOI No. 758. Hon. Clave said that LOI No. 758 is clear, explicit and complete in itself when it provides that the Register of Deeds of Benguet has to immediately distribute the transfer of certificates of title to the 46 tenant-tillers of Barangay Balili, La Trinidad, Benguet, after the Ministry of Agrarian Reform is through with its duty in the consolidation-subdivision survey of the lands.

The College received on February 19, 1979 a copy of Hon. Clave's letter of January 30, 1979 as an enclosure to the February 6, 1979 letter of Agrarian Reform Assistant Secretary Benjamin R. Laboyen.

The transfer certificate of title were distributed by Minister Estrella to the beneficiaries of LOI, No. 758 in a program held in the afternoon of February 24, 1979 at barangay Balili.

In view of the foregoing facts it is strongly recommended that the protest of MSAC be properly investigated to determine the validity of the claims of the "awardee" and their qualifications as recipients of the lots under the Land Reform Law.

6. Water Rights. -- With a view to protect its sources of domestic and irrigation water, the College prepared sketches of the locations of springs on its school sites, preparatory for application for water rights.

The College had already obtained from the National Water Resources Council, Quezon City, Water Permit No. 3509, dated February 14, 1978, to draw water not exceeding 1.5 liters per second from the Bectey Spring, Amposit to be used for irrigation purposes at its Agro-Forestation Project.

D. Infrastructures

1. Classroom/Laboratory Buildings & Facilities. -- As of the close of SY 1978-1979, the classroom/laboratory buildings and facilities provided to facilitate the teaching-learning situations in the agricultural, natural, physical, and other sciences were:

<u>Bldg. No.</u>	<u>Type</u>	<u>Condition</u> (<u>Old/New/Repaired</u>)	<u>Description</u>
1	Regional Staff Development Center (Originally intended as Home Technology Building)	New	1 Food Process Lab, 1 Food & Nutrition Lab, 1 Clothing & Textile Lab, 1 Loom Weaving & Handicraft Lab, 1 Little Theater, 1 Mess Hall

<u>Bldg. No.</u>	<u>Type</u>	<u>Condition</u> <u>(Old/New/Repaired)</u>	<u>Description</u>
			Lab, 1 Canteen, 10 Guest Rooms, 1 Drafting Lab Room, & 5 Bunk Rooms for overnight guests.
2	Soils and Chemistry Building	New	1 Soils Lab, 1 Soils Stockroom, 1 Chemistry Lab, 1 Chemistry Lab Stockroom, 1 Lecture Lab Room, & 1 Soils Conference Room.
3	College Related Sub-Building	Old	1 Physics Room, 1 Patho. & Biological Science Lab, 1 Botany Lab Room, 1 Bio-Sc. Faculty Room, 1 Vet. Lab Room, 1 Microbiology Lab Room, & 1 Chemistry Lab Room.
4	College Library Building	New	1 Lab Room for Off-Campus Teaching, 1 room for Guidance & Counseling, 4 Reading rooms, Reference rooms.
5	Agricultural Eng'g Building	New	9 Lab Rooms (For Agric'l. Eng'g Agronomy, Animal Husbandry, Agric'l. Eco. Forestry, etc.), 1 Multi-purpose Hall, 3 Drafting Rooms, & 24 Class/Lab rooms.
6	Secondary Voc-Ag Building	Old	1 Lab Room for P.E. Fitness & Lecture/Laboratory Rooms.
7	Secondary Science Building	Old	1 Canteen & Handicraft Room, 2 Lecture/Lab Rooms (Biology & Physics), 1 Projection Room, and 1 Chemistry Lab Room.

<u>Bldg. No.</u>	<u>Type</u>	<u>Condition</u> <u>(Old/New/Repaired)</u>	<u>Description</u>
8	Home Management Building	Old	1 Food Room, 1 Living Room, 2 Bedrooms, 1 Stockroom for Lecture/Lab Instruments, & 6 Lecture/Lab Rooms.
9	ROTC Office and Armory	Old	1 Office & Conference Room, 1 Armory, 1 Stage and Lab Room.
10	Pomology	New	1 Lecture/Lab Room, 1 Stockroom, and Office.
11	Dairy Farm	Old	6 Stanchions & 1 Lecture/Lab Room.
12	Farm School Bldg.	Old	1 Farm Shop Room, 1 Office & Toolroom, 1 Farm Shop Room, & 1 Metal Shop Room.
13	Machine Shed	Old	-- do --
14	Mushroom Laboratory Building	Old	1 Cold Storage Lab Room and 1 Lab Room
15	Agriculture Meteorological Bldg.	New	1 Lecture/Lab Room and 1 Office.
16	6 Pageda Type greenhouse	Old	Seedbeds and 6 Office/Lab Rooms.
17	2 Piggery and Poultry Buildings	Old/ Repaired	4 Lab Rooms and 2 Offices
18	Slaughterhouse Building	Old/ Repaired	1 Lecture/Lab Room

These teaching-learning facilities have become inadequate due to the ever-increasing enrollment, a phenomenon which the school administration has been limiting through rigid screening of enrollees in order to strike a happy balance between the adequacy of facilities and the school population.

2. Buildings Construction Projects. - Building construction during the year under review are described hereunder:

<u>Fund Source</u>	<u>Type</u>	<u>Estimated Cost</u>	<u>% of Completion</u>
2.1 National Funded			
a.	6-Door Faculty & Staff Housing; Apartment Type 2 storeys	1,580,000	Completed July 1979
b.	Biological & Plant Science Bldg. Reinforced Concrete under construction since December	17,000,000	10% Completed
c.	Agro-Forestry Bldg. Reinforced Concrete, 1 Storey, 1 basement under construction since March 1979	7,000,000	90% Completed
2.2 World Bank Funded			
a.	Regional Training Center for Rural Dev. (Training Center), 1 storey, each dormitory 2 storeys under construction since December 1978	3,200,000	88% Completed
b.	6-Door apartment, 2 storeys under construction		25% Completed
c.	Director's Cottage, 1 storey		40% Completed
2.3 UPLB-PCARR Funded			
a.	Institute of Plant breeding Greenhouse under construction since May 1978	P250,000	90% Completed

3. Campus Concrete Road Construction. - The two lane concrete vehicular road in the shape of a loop linking Gate 2 to Gate 4, was completed. As of the year under review, the two-lane concrete vehicular road (about 3/4 km stretch) from Gate 4 through the frontage of the Agricultural Engineering Complex, Ladies Dormitory, faculty cottages, east side of the College Playground, College clinic, and Secondary Homemaking Building to the Intersection of the old Secondary Voc-Ag Building and Old Secondary Science Education Building was completed, except for about 100 meters of the left lane of the road by the Lalili Riva Site which is being propped up by the College. Estimated cost for the concreting of the two-lane campus road is ₦130,000.00

E. Board Resolutions Approved

The MSAC Board of Trustees, on recommendation of, and presentation by, the College President, passed and approved sixty-five (65) resolutions in its seven (7) meetings from June 1978 to May 1979.

The most important resolutions that relate to policies and salient programs are:

Series of 1978

<u>Res. No.</u>	<u>Subject</u>
50	= Approved the Guidelines for Faculty Recruitment and creation of a Faculty Recruitment Committee composed of the College President as Chairman, the Vice-President for Development, Vice Chairman, the Dean of Undergraduate Studies, the Administrative Officer, and the Department Chairman concerned, as amendment to Res. No. 67, s. 1971, subject to further refinement as need arises.

Res. No.	<u>Subject</u>
51	= Approved an extended authority for the College President to approved the study leaves and extension thereof, with or without pay of members of the faculty and staff whose scholarships are funded either by the College or outside agencies; Provided, the grantees/awardees request for it, the sponsoring agency is amenable, and that the scholars' previous performance warrant the same.
53	= Approved in principle the MSAC Code, subject to further refinement, and provided the same shall be considered as complimentary to the omnibus code to be evolved by the Ministry of Education and Culture for all state universities and colleges.
54	= Approved the Faculty Promotion Scheme subject to further polishing whenever need arises, and provided the College President is delegated the power and responsibility for the proper implementation of the Scheme.
55	= Confirmed the Labor Contract for the construction of six (6) dorms (units) of faculty and staff housing at a cost of 1103,600.00.
56	= Approved the study leaves with pay of the above-listed members of the faculty; Provided that henceforth, such routine matters on personnel recruitment, promotion, and development, and all other matters for implementation of approved general policies and programs of the College shall be delegated to the College President who is ultimately responsible to the Board as Chairman of the College Administrative and Academic Councils.
66	= Authorized the use of the amounts collected by the College Library from or out of fines and ID cards, and other miscellaneous incomes of the Library for the purchase of fiction and other reading materials. Provided, the Chief Librarian is authorized to make the proper selection and procurement of the same.
72	= Approved the report of the Provincial Appraisal Committee on the evaluation of the improvement made by some squatter-claimants on certain portions of the school reservation, particularly on the sites of the Rice Crops and of the Agro-Forestation Project, with a total valuation of P72,975.00; Provided, the valuation of the plants or trees shall further be determined by the MSAC Appraisal Committee before actual payments for the trees are made.

Series of 1978

- | Res. No. | <u>Subject</u> |
|----------|--|
| 71 | = Approved the trip of the MSAC President to Malaysia in connection with the 3rd Biennial Conference of the Asian Association of Agricultural Colleges and Universities to be held on October 24-30, 1978. |
| 73 | = Approved the payment of P1,500.00 to the family of Mr. Constancio Morales, and P4,500.00 to the family of Mr. Consolan Baloney, in connection with the transfer of the premises of their dwellings in the school reservation to the relocation site. |
| 78 | = Approved the decision to send a Memorandum to His Excellency President Ferdinand E. Marcos through the Honorable President Executive Assistant Jacobo C. Clave anent the issuance of Letter of Instruction No. 758 dated October 28, 1978, requesting reinvestigation and/or verification of the allegations made by the supposed beneficiaries of the said LOI, and requesting that the implementation of the provisions of the said LOI be held in abeyance pending verification of the same. The Memorandum shall be signed by the Minister of Education and Culture as Chairman of the MSAC Board of Trustees. |
| 79 | = Approved the authority to pay the permanent improvements of certain farmer-claimants on portions of the school reservation, subject to the issuance of a Presidential Proclamation and/or appropriate Letter of Implementation. Payments shall be based on the Committee report as approved by the Board under Res. No. 72, s. 1978. |
| 81 | = approved the reclassification of the positions of Library Assistants, Librarians, and/or Research Assistants to Junior College Librarian, Instructors, and Research Instructors, or simply Instructors; Provided, that this policy shall be applied to future positions in the Pla. Milla of Personnel of the College; & Provided further that this shall be effective January 1, 1979. |
| 82 | = Favorably endorsed the draft of the proposed Proclamation and Letter of Implementation for the segregation of 1.0489 hectares from the MSAC reservation as relocation site for certain farmer-squatters at Barrio Wangal, Municipality of La Trinidad, Province of Benguet, under the guidelines set in the proposed proclamation and letter of implementation. |

Series of 1979

- | Res. No. | <u>Subject</u> |
|----------|---|
| 3 | = Referred the proposed MSAC Development Plan to the NEDA Region I for review and synchronization to the development plans for the Region. |
| 4 | = Approved the 5-year infrastructure projects of the College with the notation that as much as possible the proposed vertical, and cluster (complex) systems be adhered to, so as to economize on land space, and construction materials. |
| 5 | = Approved the implementing guidelines for the operation, management, and supervision of the Student Financial Aid Office. The SFAO shall henceforth operate under the guidelines hereby approved, provided that regular reports are submitted to the Board. |
| 6 | = Approved the authority for the MSAC to change a uniform laboratory fee of P20.00 per lab subject in the Agricultural Engineering and other allied courses, effective the Summer Term 1979. |
| 9 | = Approved the proposed grant of incentive/bonus to all the personnel of the College effective CY 1978, and following years thereafter, subject to availability of funds, and under the following schedule: for student assistants, P50.00 each, for casual supportive staff, at P100.00 each, and for the regular members of the faculty and employees, one-half ($\frac{1}{2}$) month pay each. |
| 10 | = Approved the graduation of some 538 candidates from the various curricular offerings of the College, for Summer Term 1978, 1st and 2nd Semesters, SY 1978-1979, subject to the completion of all requirements for each pertinent degree, diploma, or certificate. |
| 11 | = Confirmed the approved referendum dated January 15, 1979, re the creation of 54 new positions, and upgrading of 66 assistant instructor positions to instructor I in the Plantilla of Personnel, effective January, 1980. |
| 12 | = Confirmed the Deed of Quitclaim made and entered into by and between the MSAC and one, Antonio G. Lucas, over a parcel of land, 371 square meters, at the Poblacion, La Trinidad, Benguet, for and in consideration of P7,500.00 paid to MSAC in exchange of the Quitclaim. |

- | Res. No. | Subject |
|----------|--|
| 15 | = Approved the request for authority to hire an engineering firm in Baguio City on contractual basis to make the plans and specifications for proposed buildings- complete and ready for submission to meet any government requirement for public buildings. |
| 16 | = Approved authority to hire a physician and a legal officer on part-time basis, provided that the terms and conditions are spelled out in the contract for professional services, including their fringe benefits, if any. |
| 19 | = Approved the amendment to Board Res. No. 79, s. 1978, and granting authority to the Mountain State Agricultural College to pay the improvements of certain farmer squatters on portions of the school reservation at Ampasit, even pending the issuance of the proposed presidential proclamation segregating the resettlement area for the squatters from the school reservation. Payments shall be based on the report of the Appraisal Committee as approved by the Board under Res. No. 72, s. 1978. |
| 20 | = Granted authority to the College to merge the Plant Science and the Biological Science Buildings into one, to be known as the Dic-Sciences Complex. |
| 21 | = Indorsed the proposed Presidential Proclamation and Letter of Implementation for the release from the school reservation of some 10,489 square meters, covered under survey plan No. Swc-1-000877 for the resettlement of farmer-squatters at the Ampasit site of the school reservation. |
| 25 | = Confirmed the approved increase in the testing fees for applicants for enrolment in both the secondary and collegiate levels, from P2.00 to P5.00 and P5.00 to P10.00 respectively, as recommended by the Department of Student Affairs. |
| 27 | = Approved authority for NSAC, represented by its President to sign an agreement with the Philippine Council for Agriculture and Resources Research (PCARR) for the establishment of the International Potato Development Fund in the College, and authorizing the College to contribute from fifty to one hundred Thousand (50 to P100,000.00) Pesos to the Fund; |

Series of 1979

- | <u>Res. No.</u> | <u>Subject</u> |
|-----------------|---|
| | Provided that the mechanism for implementing the proposed linkage shall be spelled out in the Memorandum of Agreement between NSAC and PCAAR. |
| 28 | = Premises, submitted the list of four (4) citizens from the Province of Benguet and of Baguio City, and indorsing Messrs. Damaso M. Bangcoet and Victor P. Singsa, to and for appointment by the President of the Philippines as Members of the Board of Trustees of the Mountain State Agricultural College, pursuant to Section 1, of PD No. 1437. |
| 30 | = Approved the recommendation of the College President for NSAC to accept the application of Atty. Francis A. Buliyet for the position of Legal Officer on a part-time basis, with the initial rate of P8,400.00 per annum, effective upon assumption of duty. |
| 31 | = Confirmed the promotion of some twenty-nine (29) members of the faculty, made by the College President on recommendation of the College Promotion Board; Provided, the effectivity shall be on May 16, 1979, as recommended and presented. |

A P P E N D I C E S

RESEARCH ABSTRACTS
July 1978 - June 1979

A. Administrative Researchers

JARA, A. and C. OLIVEROS 1979. Nutritional Study on White Potato. Department of Soils and Chemistry. MSAC, La Trinidad, Benguet.

It was observed that the plants supplied with complete macro, secondary and microelements (T_1) did not show any abnormality symptoms while the plants that were not applied with essential elements showed several abnormality symptoms. The plants that showed abnormality symptoms were as follows: T_2 (-N) gave stunted growth and yellowing of leaves. The plants that did not receive phosphorous (T_3) exhibited browning and finally drying of leaves while potassium deficient plants (T_4) showed drying of leaf margin.

Small leaves and marginal necrosis were observed in the plants that were not supplied with calcium (T_5). The plant that was not treated with boron (T_6) showed unhealthy apical buds and cracking of stems. The plant not supplied with chlorine (T_7) had smaller leaves and the mature leaves brown; chlorotic leaves and drying of leaflets were observed in the plant that was not treated with manganese (T_{12}).

The nitrogen and phosphorous deficient plants (T_{15}) showed stunted growth, rolling of leaves and the leaves turned yellow to brown. The plant that was not treated with nitrogen and sulfur (T_{18}) had yellowing of leaves and stunted growth. The plant not treated with phosphorous and potassium (T_{22}) exhibited rolling downward of the leaves coupled with bluish green color and short internodes. The phosphorous and copper deficient plant (T_{23}) was observed to have dark green leaves at the early stage, then turned to brown as the plant grew older.

The plant that was not applied with phosphorous and sulfur (T_{25}) exhibited dark green leaves at the early stage, then turned to brown and dried. Drying of the leaves as well as the new shoots was observed in the plant that was not treated with phosphorous and boron (T_{26}). The phosphorous and iron deficient plant (T_{27}) showed stunted growth and drying of the leaves. The plant that was not supplied with potassium and calcium (T_{28}) showed curved leaflets and browning and drying of leaves which started from the tips. The plant that was not supplied with microelement (T_{33}) exhibited unhealthy and stunted growth of the plant.

The effects of the different treatments on the weight of the haulm were highly significant as shown in the analysis of variance. The plant that was not treated with calcium (T_5) was observed to

have the highest weight of haulm of 165 gms. while the lowest weight was observed in the plant that was not treated with NPK (U_{33}) with an average weight of 8.0 gms.

POSADAS, H. C. and C. J. OLIVERO. 1979. Response of White Potato to the Different Levels of Potassium and Chicken Manure. Department of Soils and Chemistry. ISAC, La Trinidad, Benguet.

A study on the response of white potato to the different levels of potassium and chicken manure was conducted at the Mountain State Agricultural College Research Farm. The study was mainly conducted to know the effect of potassium and chicken manure on the quality (size) and quantity of tubers.

Results revealed that the different levels of potassium had no significant effect on the number of large tubers. However, rates of chicken manure showed significant effect on the number of large tubers. Both chicken manure and rates of potassium showed no significant effect on the number and total weight of marketable and non-marketable tubers as statistically analyzed. Nevertheless, plants applied with 250 kilograms per hectare of K_2O and 3 tons per hectare of chicken manure registered the highest mean weight of 9.24 kilograms per four square meters of marketable tubers while those supplied with 5 tons per hectare of chicken manure and no potassium gave the least mean weight of 0.18 kilograms per four square meters, of non-marketable tubers.

B. Graduate Thesis

SILAPACHAI KHUNCHOO. July 1978. A Study on the Best Time to Market some Strains of Broiler. Mountain State Agricultural College, La Trinidad, Benguet.
Adviser: Prof. S. E. Moresto

Three hundred twenty straight run 3 y-old broiler chicks composed of two strains, Peterson (B_1) and Cobbs (B_2), were randomly distributed into four treatments, as follows: Treatment 1 - marketed at seven weeks old; Treatment 2 - marketed at eight weeks old; Treatment 3 - marketed at nine weeks old; and Treatment 4 - marketed at ten weeks old.

Data on food consumption, rate of growth, feed conversion efficiency, feed cost, rate of mortality and dressing percentage were gathered and statistically analyzed.

Except for the weekly feed consumption, feed conversion efficiency, feed cost and dressing percentage per bird of Peterson and Cobbs, all were affected by breeds. The Cobbs strain was signifi-

cantly better than Peterson in total food consumption, gain in weight and rate of mortality.

The average final body gain in weight per bird was highly significant. The average mean weekly food consumption per bird, average feed conversion efficiency per bird and average feed cost were not affected by breeds. The differences were not significant.

The birds in the Cobbs group had a slightly better performance in terms of rate of growth, total food consumption and rate of mortality.

Except for rate of mortality, all were affected by age at marketing and the difference were highly significant which indicate that marketing should be between seven months to eight months old.

There were no interaction between breeds and age of marketing in all the performance analyzed except weekly feed consumption.

DIRECTO, ALEJANDRO V. October 1978. The Agricultural Manpower Need of the Agricultural Agencies and Educational Institutions in Region I. Mountain State Agricultural College, La Trinidad, Benguet.
Adviser: Dr. E. C. Alonzo

This study was designed primarily to determine the agricultural manpower needs of the agricultural agencies and educational institutions in Region I from 1977-1981. More specifically, the objectives were: 1) to determine the positions needing agricultural manpower; 2) to determine the degree or course qualifications fitted for the positions; 3) to determine the field of specialization most preferred; 4) to estimate the number of agricultural manpower needed by the provinces and cities per year; 5) to estimate the number needed by the agricultural agencies and educational institutions per year; 6) to determine the possible positions to be created wherein agriculture graduates could be accommodated; 7) to know the problems met by employers in recruiting agriculture graduates and among their agricultural employees; and 8) to know the special training that agriculture graduates should undergo to make them effective in their present and future assignments.

The data were gathered by means of a survey questionnaire supplemented by personal interview of some respondents.

The Chi-square test was used in testing the significance of the different hypotheses. Almost all of the seven hypotheses were highly significant except for hypothesis No. 3 which states that the vocational agro-technical schools in the region do not differ in the number of agricultural manpower needs.

The important findings were:

1. The need for agricultural graduates is increasing every year.
2. The top five provinces needing the most number of agriculture graduates are Ilocos Sur, La Union, Pangasinan, Abra, and Ilocos Norte.
3. Among the agricultural agencies and educational institutions, the first five would-be employers of agriculture are the Bureau of Agricultural Extension, Philippine Virginia Tobacco Administration, Bureau of Elementary and Secondary Education, Vocational Agro-Technical Schools and the Bureau of Plant Industry.
4. In five years, the seven agricultural agencies will be needing a total of 9,337 agriculture graduates; Bureau of Elementary and Secondary Education, a total of 2,014 agriculture graduates and the Vocational Agro-Technical Schools, a total of 671 agriculture graduates.
5. The positions needing the most number of agriculture graduates in the different agricultural agencies are farm management technicians, tobacco grader/classifier, rural youth officer and agronomist. For Vocational Agro-Technical Schools, the positions needed most are College instructors, vocational agriculture teachers, researchers and practical art teachers.
6. The yearly agricultural manpower needs are as follows: in 1977, the region needs 1,723 agriculturist; 2,149 in 1978; 2,352 in 1979; 2,736 in 1980; and 3,026 in 1981.
7. The degree of course qualifications preferred by the agricultural agencies and educational institutions are B.S. in Agriculture; Master of Science in any field of agriculture; B.S. in Agricultural Education; and B.S. in Agricultural Engineering.
8. The field of specialization most preferred are the following: agronomy, horticulture, animal husbandry, agricultural education, clothing and textile and agricultural economics.
9. Forty-four job openings are proposed wherein agriculture graduates could be accommodated. Graduates of two-year agricultural technology and agricultural high schools can only work as nursery aides, tobacco grader/classifier or animal caretaker.
10. The most serious problem posed by the respondents in recruiting agriculture graduates is the "lack of applicants."
11. The respondents claimed that agriculture graduates are poor in both oral and written communications, hence upgrading com-

potencies through attendance in seminars, in-service trainings and vacation classes were highly recommended.

Recommendations:

1. Guidance programs and personnel of schools and colleges should be strengthened so that students will be guided accordingly in choosing courses that offer more prospects for employment.

2. Agricultural colleges should enrich or revise their curricular offerings to jibe with the needs of the region. Communication arts both oral and written should be given emphasis in undergraduate courses. Vocational subjects should emphasize the acquisition of both theory and practice since imparting knowledge and information to the students, farmers and homemakers, the teacher or extension worker should above all be knowledgeable and should be able to demonstrate.

3. Agricultural colleges should offer courses leading to a master's degree in any field of agriculture because of the growing demand for highly technical and specialized personnel.

4. In-service training, seminars and workshops should be initiated and conducted by agricultural colleges in cooperation with agricultural agencies and other educational institutions to make Agriculture graduates more efficient and effective in their work assignments and to keep abreast with the modern trends in agricultural technology.

DULNUAN, MANUEL G. October, 1978. Implementing Farming Programs in Agricultural Colleges in Region II, Mountain State Agricultural College, La Trinidad, Benguet.
Adviser: C. C. Consolacion

This study aimed to analyze how the farming programs were implemented in agricultural colleges located in Region II during the school year 1976-1977, as follows: Cagayan Valley Institute of Technology, Isabela State College of Agriculture, Ifugao Agricultural and Technical College, Nueva Ecija State Institute of Technology and Northern Luzon State College of Agriculture.

The important findings of the study included the following:

Of the 30 respondents, 47 per cent received their degree of Bachelor of Science in Agriculture, 3 per cent, Bachelor of Science in Agricultural Education; and 3 per cent Bachelor of Science in Agricultural Education and Master of Arts. The respondents had average units in Master of Science ranging from 10 to 36. Their experience in farming programs ranged from 2 to 10 years.

The types of farming programs adopted by 63 per cent of respondent colleges were the independent farming program and 77 per cent the directed type of farming program. These types were adopted in one or two curricular years by the five agricultural colleges studied. None of the respondent colleges adopted the supervised farming program.

The crops grown and the total area where they were produced were as follows: vegetables-32,481 sq. m.; legume-42-482 sq. m.; cereals-405,550 sq. m. On the other hand, the number of heads in animal projects was as follows: poultry - 2,206; swine - 63; and carabaos-21.

The average net profit in vegetables ranged from P55.00 to P399.00; legumes from P1.50 to P200.00; cereals from P275.00 to P700.00; poultry, from P20.00 to P380.00; and swine, P240.00 per production time.

The sources for funding the different farming programs came from the school, parents, vo-ag students themselves and teacher's club.

The records in farming programs in which students were required to accomplish were project plans, financial, budgetary, production, agreement and daily accomplishments.

The respondent colleges got 25 per cent share of the products raised in farming programs while the vo-ag students got 75 per cent after deducting the cost production from the gross income.

The methods used in marketing the products were retail, wholesale, contract and consignment.

In farming programs, the following teaching strategies used were: lecture, discussion, laboratory, field trips, programmed instruction, with the use of resource persons in the laboratory and the combinations of two or three of these teaching strategies.

As claimed by the vocational agriculture teachers, lack of fund was their number one problem in implementing the farming programs.

Vocational agriculture teachers perceived their roles to include teaching various knowledge related in agricultural education and manipulative skills in farming programs with varied teaching strategies.

VERZOSA, JUAN JR. C. March 1979. Growth and Yield Responses of Rice to Continuous and Intermittent Irrigation with Mine-Silted Water. Mountain State Agricultural College, La Trinidad, Benguet.
Adviser: Prof. C. J. Oliveros

Eight different irrigation treatments of mine-silted water were studied to determine their separate effects on the growth and yield of rice. The site selected was in close proximity to the main irrigation canal and represented an area directly irrigated by mine-silted water supplied by the Agno River Irrigation System. The field was prepared in plots of 40 square meters each. The plots measuring 5 x 8 meters each were arranged in three replications and upon which the different irrigation treatments were randomly applied following the randomized complete block design (RCB).

The continuously flooded plots consistently showed higher grain yields, higher tiller counts and taller plants than those intermittently irrigated and continuously saturated plots. Straw-yield however was not significantly affected by the different irrigation treatments.

It was observed that the plants in the flooded plots exhibited slight sensitivity to mine siltation at their early development stage as shown by their slower growth, lower tiller counts than those of the saturated plots which gradually became resistant thereafter to the silted condition as indicated by the higher tiller counts, taller plants and higher grain yields. Plots drained and reflooded gave the lowest grain yield, lowest tiller counts, and the smallest plants which were due partly to the sudden change in water regime, increased silt and reduced oxygen concentrations that affected growth activity of the plants, nutrient and water conductivity of rice roots which they were accustomed to.

In general, continuous flooding or continuous saturation was better than intermittent irrigation of mine-silted water because draining and reflooding affected a lower nutrient supply, lower root conductivity and efficiency.

However, further study on the growth of IR-36 rice variety on the same type of soil is recommended to verify these results.

C. Undergraduate Thesis

VICENTE, BALAO Y. May 1978. Effects of Spacing on the Root Size and Yield of Carrot. Mountain State Agricultural College, La Trinidad, Benguet.
Advisers: Prof. Lucio B. Victor
Mr. Franco T. Bawang

The effect of spacing on the yield, weight of vegetative parts, weight of marketable roots, peso value of marketable roots and other horticultural characters of carrots were studied. The spacing used were: control (broadcast), 4 x 4 cms, 6 x 6 cms, 8 x 8 cms, 10 x 10 cms, and 12 x 12 cms.

Result of the study revealed that plants spaced at 6 x 6 cms produced the highest yield and weight of marketable roots which were highly significant over treatment 6 spaced at 12 x 12 cms, and it differed slightly with the other treatments. In terms of peso value, carrots spaced at 8 x 8 cms had the highest returns which was significant over control, 4 x 4 cms and 12 x 12 cms spacings.

Increasing the distance of planting tends to decrease the number of plants thus, a corresponding increase in the number of marketable roots were obtained.

The highest average weight of roots was obtained from 12 x 12 cms spacing which was highly significant over the control. In the length of roots, it appeared that 8 x 3 cms spacing produced the longest roots which was significant over T_7 . However the other treatment did not differ significantly.

BORJA, PIDEAL S. October, 1978. The Effects of Frequency of Watering and Rates of Fertilizer on the Growth and Yield of Cabbage.
Adviser: Prof. Faustino C. Hermoso

An area of 192 sq. m. at the Mountain State Agricultural College Experimental Farm was utilized from December, 1977 to February, 1978. The Emerald Cross variety was used in the study. The plants were subjected to three watering frequencies: every two days (F_1), every three days (F_2), and every four days (F_3). Rates of fertilization were: $R_0 = 200-100-150$, $R_2 = 250-150-200$, and $R_3 = 300-200-250$ NPK per hectare.

There was a slight difference in the stem growth between the cabbage plants fertilized with 200-100-150 (R_1) and 300-200-250 NPK (R). Compared to the control, plants fertilized at 200-100-150 (R_1), 250-150-200, and 300-200-250 NPK (R_3) per hectare grew very tall and gave high yields. Plants watered every two days (F_1) and

fertilized at 300-200-250 NPK (R_2) attained the tallest height, widest leaf area, and the highest growth rate while the plants watered every two days (F_1) and fertilized at 250-150-200 NPK per hectare (R_2) registered the highest yield, most solid and biggest heads in terms of weight.

The best watering frequency recommended for cabbage is every two days and the best rate of fertilizer application is 250-150-200 NPK per hectare.

GARCIA, CARLOSITA L. October, 1978. Response of Carrot on the Frequency of Watering under La Trinidad Conditions.
Adviser: Prof. Elmo O. Sano

This study was conducted at the Mountain State Agricultural College Experimental Farm from December 1977 to April 1978 to determine the best time and frequency of watering carrots for optimum yield.

The treatments used were: T_0 - (plants watered daily in the morning), T_1 - (plants watered daily in the afternoon), T_2 - (plants watered once in two days), T_3 - (plants watered once in 3 days) and T_4 - (plants watered once in 4 days).

Twenty plants from each treatment were selected at random as sample plants and 200 mature roots were taken per plot at random to represent the weight of marketable and non-marketable roots.

Plants watered once a day, morning and afternoon (T_0 and T_1) showed slightly better performance in all the aspects studied, except for the mean weight of marketable non-marketable and quality of edible roots. Plants watered once in 3 days (T_3) gave the highest and lowest mean weight of marketable and non-marketable edible roots, and enhanced better quality of edible carrot roots.

Different frequencies of watering did not significantly affect the diameter and length of the roots, and the weight of marketable and non-marketable roots per plot.

The interval of 3 days watering tended to enhance optimum yield, produced tender roots and plastids with yellow or red pigments (carotene), and lessened labor and volume of water applied.

HERMIANO, ALEXANDER A. November, 1978. Effect of Stem Pruning on the Yield of tomato.
Adviser: Prof. Elmo O. Sano

The effect of stem pruning on the yield of tomato (Lycopersicon esculentum Mill) was studied. There were five treatments, namely:

control (no pruning) T_0 , single stem pruning (T_1), double stem pruning (T_2), three stem pruning (T_3), and four double stem pruning (T_4), three stem pruning (T_3), and four stem pruning (T_4).

The pruned plants with single stem per hill grow taller than the unpruned plants. However, the difference was not significant.

More fruits were harvested from the pruned plants with double stem per hill than in unpruned plants. Unpruned plants produced the lowest total yield and lowest marketable yield. Single stem plants produced the largest fruits and least non-marketable fruits.

It was observed that bacterial wilt and symptoms of virus diseases were abundant in unpruned plants. There were occasionally observed in the pruned plants. Based on personal observation, pruning plants lessens the occurrence of diseases.

TANGUILIG, FELIPE, R. February, 1978. The Effects of Depth and Position of Planting on the Growth and Yield of Irish Potato. Adviser: Prof. Faustino C. Romano

A study on the effects of depth and position of planting on the growth and yield of Irish potato was conducted at the Mountain State Agricultural College, Experiment Station, La Trinidad, Benguet, from December 1977 to February, 1978.

Results of the study revealed that there was a significant difference on the growth increment, number of days of emergence of sprout and number of days of tuberization as affected by the depth of planting.

The effect of position of planting also showed a significant difference on the growth increment, number of days of sprout and number of days of tuberization.

On the other hand, the number of days of emergence and average weight of medium tubers showed a slight significant difference as affected by the two factors (interaction of depth and position of planting).

The effect on the yield as well as on the average weight of harvested tubers, weight of non-marketable tubers, size of tubers and number of tubers per plot, was not significantly influenced by the depth and position of planting. However, the interaction of depth and position of planting on the growth increment, number of days of tuberization, average weight of harvested tubers (categorized as large, medium and small), size of tubers and number of tubers per plot did not show any significant difference both at 5% and 1% levels.

NAGUN, JOSEPHINE C. March, 1979. Effect of Deflowering on the Yield of White Potato.

Adviser: Prof. Elmo O. Sano

A study on the effect of deflowering on the yield of potato was conducted at the MSAC Experiment Station, Mountain State Agricultural College, La Trinidad, Benguet, from November 1, 1978 to January 18, 1979.

Deflowering has affected significantly the maturity of potato plants. Plants which were deflowered right after the appearance of flowers matured earlier than the controlled plants (no deflowering) and plants deflowered during the opening of flowers.

The yield of potato, however, was not significantly affected by deflowering. No significant differences were observed on the average weight of small tubers, average number of tubers per plot, weight of marketable and non-marketable yield per plot and computed marketable yield in tons per hectare of potato. The results further showed that deflowering of potato plants has no economic value and importance to potato producers. However, this needs further study.

PAKIPAC, LUISITO T. March, 1979. Effect of Different Farm Manures Combined with Commercial Fertilizers on the Growth and Yield of two Varieties of Potato.

Adviser: Prof. Lucio B. Victor

The effect of different farm manures combined with commercial fertilizer on the growth and yield of two potato varieties was studied at the Mountain State Agricultural College, La Trinidad, Benguet, from November 1977 to January 1978.

The results revealed that plants fertilized with chicken manure plus triple "14" gave the highest average weight of tubers per hill in kilograms, the highest total weight of tubers per treatment, the highest mean height of plants and less non-marketable tubers.

Between the two varieties (Fina and Arta) Fina responded better to fertilizer application in terms of total number of tubers, number of tubers per hill, and average heights of haulm.

CASABAR, VIRGINIA Q. March, 1979. The Effects of Delaying Harvesting Delahum Potato Varieties on the Market Quality and Storageability of Tubers.

Adviser: Prof. Faustina G. Herano

This study was conducted to determine the effect of delaying harvesting delahum potato varieties on the market quality and

storageability of tubers.

The three varieties used were: Pine (V_1), Cosima (V_2), Red Pontiac (V_3). The cutting interval of vines was: no cutting (C_0), cutting 7 days (C_1), cutting 14 days (C_2) and cutting the vines 21 days before harvest (C_3). The study followed the split-plot design with the varieties as the main plot and the cutting intervals as the sub-plot.

Results revealed that Cosima had tubers less injured after harvesting and after transportation. It also had the best market quality, less number of infected and sprouted tubers compared to the two varieties used. However, Red Pontiac (V_3) had thicker skin as compared to Cosima and Pine.

Potatoes harvested with the vines cut 21 days before harvest gave the lowest degree of injury. Likewise, tubers with vines cut earlier before harvest together with no cutting had lower respiratory rate than those with vines cut three weeks before harvest.

RILLORTA, TERESITA M. March, 1970. Effect of Seed Tuber Size on the Yield of Potato.

Adviser: Prof. Elmo O. Sano

The effect of different sizes of seed tubers was studied. The different sizes used in the study were: small (25 grams), medium (50 grams), big (100 grams), and extra big (150 grams).

Plants from big-seed tubers produced the tallest, the greatest number of tubers, weight of marketable and non-marketable tubers, and number of main stem per hill. Those from small tubers produced the least number of tubers and yield. The study showed that plants from extra-big tubers had significantly better growth and yield than those from big, medium, and small tubers.

OTCULAN, ANTONIO B. November, 1978. Response of White Potato to Time of Fertilizer Application.

Adviser: Prof. Elmo O. Sano

The response of white potato to time of fertilizer application was studied at the Mountain State Agricultural College, La Trinidad, Benguet, from December 1977 to February 1978.

The study was primarily aimed to determine the best stage of applying organic and inorganic fertilizer within the growth crop period in relation to tuber yield.

There were 24 plots that had been prepared covering an area of 12- square meters. The amount of fertilizer used were 1/2 kerosene can chicken manure and 500 gram commercial fertilizer (14-14-14)

per plot measuring 1 x 5 meters. Potato seedpieces were planted in a double row bed in mixture of sandy and clay loam soils.

The treatments used were: T_0 - (control) chicken manure as basal and commercial fertilizer (14-14-14) at hilling up time (25 days after planting), T_1 - chicken manure and 14-14-14 applied as basal at planting time; T_2 - chicken manure and 14-14-14 applied at emergence; T_3 - chicken manure and 14-14-14 applied at post-emergence (25 days after planting); T_4 - chicken manure and half amount of 14-14-14 applied as basal and the remaining half at hilling up. A Randomized Complete Block design was used in the study.

Results show that basal application of chicken manure and 14-14-14 produced the tallest plants, bigger tubers and had the highest computed yield per hectare. However, statistical findings show that there were no significant differences on the height, number and weight of tubers and tuber yield produced by plants provided with fertilizer basally with supplement at hilling up and plants fertilized with organic and inorganic fertilizers at emergence. Apparently, fertilizer application done after emergence and at the late stage produced short plants, smaller and lesser number of tubers, and lowest yield per hectare.

MARZAN, NORMA A. January, 1979. The Effect of Frequency of Watering on the Growth and Yield of White Potato.

Adviser: Prof. Elmo O. Sano

A study on the effect of frequency of watering on the growth and yield of white potato was conducted at the Mountain State Agricultural College, La Trinidad, Benguet, from February 1978 to April 1978. The experiment was conducted to determine the effect of frequency of irrigation on the size and number of tubers per plant/unit area, height of plant at harvest time, and total computed yield of marketable and non-marketable tubers per hectare.

The different treatments used were: T_1 - plants watered with 2 big kerosene cans once a day, T_2 - plants watered with 4 big kerosene cans once in two days, T_3 - 2 plants watered with 6 big kerosene cans once in three days, and T_4 - plants watered with 8 big kerosene cans once in four days.

An area of 120 sq. m. was sub-divided into 20 plots measuring 1 x 6 meters. Four treatments replicated five times were laid out on a Randomized Complete Block design (RCB).

The difference among treatments did not show any significant effects on the frequency of watering on the growth increment, yield and quality of the tuber crop, number of days required for the plants to mature. However, plants watered with 6 cans once in

three days gave the highest mean growth and those plants watered with 4 cans in two days gave the best yield. Plants watered with 2 cans once a day gave the most number of tubers produced per plot. Plants watered with 8 cans in four days outyielded the other treatments.

MONANG, JOHNNY Q. April, 1979. The effect of Three Dosages of Gibberellic Acid on Runner and Crown Production of Three Strawberry Varieties
 Adviser: Prof. Faustino G. Hermano

The effect of dosages of gibberellic acid on runner and crown production of three strawberry varieties, Sequoin, Fresno and Gem, was studied at the MSAC Balili Experimental farm from July 1978 to November 1978. Split-plot design was used in the study.

The characters of the plants observed and analyzed were height of the plant, number of runners, length of runners, number of daughter plants, flowering occurrence, mean weekly growth of runners, and sucker development.

At the end of the study, Fresno, was taller than either Sequoin or Gem. The highest runner producer was observed in Gem. However, runner development was greatly initiated by GA_3 particularly on Fresno. Length of runners was longer in Gem which also had the highest mean weekly growth of runners. On the other hand, Fresno was the most prolific in flower and sucker development.

Among the dosages of GA_3 the plants treated with 40 ppm were tallest. Plants treated with 20 ppm showed significant effect over the control, 10 ppm and 40 ppm in terms of length of runners, weekly growth of runners and number of daughter plants per runner.

Plants treated with 40 ppm produced the most number of flowers formed per plant. The control plants produced the most number of suckers per crown, except in Fresno where sucker development was initiated when treated with 40 ppm.

BALLIANO, CRISTINA B. April, 1979. The Effect of Direct Seeding, Pricked and Unpricked Transplants Started with $(NH_4)_2SO_4$ (21% N) Solution on the Growth and Yield of Chinese Cabbage.
 Adviser: Prof. Franco T. Bawang

The effect of direct seeding, pricked and unpricked transplants started with $(NH_4)_2SO_4$ on the growth and yield of Chinese cabbage was studied from January to April, 1979. The split plot design was used in the study where starter solution was the main plot and methods of planting were the sub-plots. The methods of planting were: (1) direct seeding, 2) pricked transplants. The

Chinese cabbage cultivar Taki-is hybrid was used as the test plant.

Direct seeding had the highest yield, weight of marketable heads and percentage of heading and appeared to be the best method for planting Chinese cabbage. Pricking seedlings before transplanting tended to interrupt the growth and development of Chinese cabbage; hence, there was a delay in the maturity of the plant.

ACOP, PAULINA L. May, 1979. Communication Analysis of Vegetable Farmers in Daclan, Tublay, Benguet, 1978-1979. Mountain State Agricultural College, La Trinidad, Benguet.
Adviser: Dr. Eriberto C. Alonso

This study was conducted to know the degree of communication antecedents, influence of communication participation toward science and toward the mass media, group influence in individuals and on communication of the vegetable farmers of Daclan, Tublay, Benguet, from October 1978 to December 1978.

A prepared survey questionnaire was distributed by the researcher to the farmers who could understand the questions; those who could not understand the questions were interviewed. Percentage and the Chi-square test were applied to analyze the result of this research work.

The data were obtained from 75 respondents who ranged in age from 30 years and above. Most of the farmers were members of farmer's association.

The findings of this study showed that majority of the vegetable farmers were married and had low educational attainments. In farm size, the majority owned farms measuring 1000 to 6000 square meters. On the length of gardening experiences, most of the respondents had 10 to 20 years. On the size of households, the majority belonged to families of one to six members and the rest belonged to families of seven or more members.

The majority planted beans twice a year in areas of 400 square meters or more. The amount of bean seeds planted in an area of one hectare was six gantas or more. The materials they used for packing their beans for market were baskets and sacks. On the average, the majority of them harvested from 5 to 15 sacks of the areas planted to beans.

Aside from beans, other vegetables were planted by the farmers. The number of kilos they harvested from these vegetables was within 400 kilos or more depending upon the yield of the crop.

Of the 75 respondents, only 36 per cent have other means of livelihood aside from being a gardener. Their computed annual income from these jobs ranged from P900 and above.

Other findings show that 91 per cent of the respondents owned radios from which they listened to daily. A large majority of them go to movies once in two weeks and monthly. About half of them were buyers and readers of newspapers and read daily, weekly, and other papers. Forty per cent of them were buyers of comics and magazines.

One-half or 50 per cent of the respondents often discussed with their fellow farmers about farming/gardening matter while they often talked with any person including their family members, friends or neighbors about non-farming/gardening matters.

The vegetable farmers in Doonan, Tubley, found difficulty in buying chemicals. Most of them claimed that Benlate was effective on bean rust and powdery mildew. The best spraying program they followed, was the use of two or more chemicals in rotation. Eighty per cent of them understood that the meaning of the numbers indicated on fertilizer bags was the percentage of the N-P-K in the bag.

Almost all of the vegetable farmers kept records of all market trends. All of them burned their farm wastes for fertilizers. They compute their profits/yields by figuring out first their expenses and incomes. In addition, they observed the availability of water supply, demand or weather to decide on what crops to plant in a given planting season. Very few tested their soils.

There were 55 household members of the farmer-respondents who had primary education, 46 of which were sixth grade graduates; 62 high school/college (agricultural and non-agricultural) graduates; and 50 were pre-school age while 15 had no formal education at all.

Regarding age brackets, the majority agreed that they should use new farming practices. Most of them felt uncertain on the belief that foreign farmers do affect them. No one disagreed on the belief that there would be changes and that they could adjust with such changes.

The respondents claimed that they hardly earned enough money even for their family needs, because market prices of their crops most often were so low. About 63 per cent of them disagreed that organization is essential in marketing their products. Only a few of them did not care to know other methods of farming being followed by others. Still most of them believed that low harvest/yield was caused by fate.

Only 7 or 9.3 per cent of the vegetable farmers agreed that benefits derived from newspapers are exaggerated/over stated. All disagreed that radio makes too much noise. More than one-half of the respondents believed that children should have the habit of reading newspapers early. However, one-third of them claimed that information from radio are not dependable.

Of all the age brackets, 57 per cent of the respondents said newspapers and magazines is essential to them as farmers. They did not waste their time. Likewise, for the moviegoers, most of them agreed that the things seen from movies expanded their knowledge about their country and the other countries; most buyers and readers of newspapers agree/believed that they could derive many things from reading newspapers.

ASUNCION, FILEMION T. November, 1978. The Agricultural Development Programs of Government Agencies in Sta. Catalina, Ilocos Sur. Mountain State Agricultural College, La Trinidad, Benguet. Adviser: Prof. Cipriano C. Consolacion

This study had the following objectives: 1) to find out the development programs in Sta. Catalina, Ilocos Sur; 2) to determine the impact of their projects in terms of: a) area planted, b) animal raised, c) projects introduced, d) production practices employed, e) yield per unit area, f) net profit; 3) to study the patterns of program implementation of the different government agencies in Sta. Catalina, Ilocos Sur; 4) to know some factors affecting the transfer of agro-technology; and 5) identify some problems and solutions offered by the different government agencies to problems met by their technologists.

The data were obtained from 15 technologists from four government agencies assigned in Sta. Catalina, Ilocos Sur, namely: Bureau of Agricultural Extension (BAEx), Bureau of Plant Industry (BPI), Department of Local Government and Community Development (DLGCD), and Bureau of Animal Industry (BAI).

This study was limited to the four agencies stationed in Sta. Catalina, Ilocos Sur, during the school year 1977-1978. The data were analyzed using the chi-square, t-test, correlation, ranking and percentage rating techniques. The closed-ended type of questionnaire in collecting the necessary data was used.

The "before" in the study covered the period before the implementation of program development of the agencies: the "present", considered simultaneously development program implementation.

It was found out that majority of the technologists just graduated from college. Majority of them were married. Generally, their educational background was agricultural. Few were considered not qualified in their present job.

All the agencies had projects on food production and its related areas. They had the same basis of agricultural development.

It was found that successful result of introducing scientific practices brought higher yield per unit of area and increased profit per harvesting season.

The agencies practically employed the same strategies in the implementation of their projects.

The respondents were encouraged from people to utilized the facilities including the credit assistance program.

It was suggested that adequate vehicles must be provided, favoritism and influence of politicians should be minimized to have equal opportunities for promotion.

CARSOLA, HENRI A. June 1979. Strategies of Program Implementation of Agricultural Projects of Government Agencies in Abra. Mountain State Agricultural College, La Trinidad, Benguet
 Adviser: Prof. Cipriano C. Consolacion

The main objective of this research work is to study the strategies of program implementation of agricultural project of the three government agencies in Abra. The government agencies studied were: the Bureau of Agricultural Extension (BAEx), Bureau of Plant Industry (BPI), and Bureau of Soils (BS).

The data were collected by means of a survey questionnaire distributed to the respondents during the summer of 1978. The chi-square test, percentage, ranking, mean and standard deviation were the statistical methods used in the analysis and interpretation of the data.

There were 20 respondents from the agencies, namely: 15 from the Bureau of Agricultural Extension, 4 from the Bureau of Plant Industry and 1 from the Bureau of Soils. These respondents were farm management technicians, soil technologists, provincial agriculturist and supervisors. Among the respondents, nineteen finished Bachelor of Science in Education (BSE). Based on their educational background all the respondents were qualified in their present position.

Most of the respondents are married and very few are single. There were more males than females; the youngest is 23 years old and the oldest is 40 years old.

The government agencies studied had projects such as rice production, vegetable production, fruit tree and other crops, animal production, and fishery projects. The Bureau of Agricultural Extension had the most number of agricultural projects, the Bureau of Plant Industry had four agricultural projects while the Bureau of Soils had only three.

The government agencies used several strategies like farmer-cooperators, farm-family cooperators, farmers' association, demonstration projects and mass media. The Bureau of Agricultural Extension employed all of the enumerated strategies in implementing their agricultural development program while the Bureau of Plant Industry and Bureau of Soils utilized four (farmer cooperators, farm-family cooperators, farmers' association, and demonstration projects) and one (demonstration project) respectively.

Demonstration projects were frequently utilized by all the government agencies. Almost all respondents considered their strategies were slightly effective and very few indicated their strategies to be very effective.

Funds for agricultural projects of the government agencies were derived from different sources. There were six among the respondents who stated that they used barrio funds for their projects, two used national funds and eight used both provincial and national funds for their projects. Four respondents claimed that they did not have any funds to use in implementing their agricultural development programs.

In implementing their agricultural development programs, the government agencies used varied approaches which include coordination, linkage, demonstration projects, extension education service, and field technicians.

Most of the respondents conducted their agricultural projects from one to three towns of Abra and few covered the whole province.

Some problems met by the government agencies in their program implementation were the insufficiency of funds and problems in measuring the efficiency of their projects.

Many of the respondents claimed that it was hard to measure extension program efficiency, besides there is no measuring device to use. Some revealed that there was lack of knowledge on efficiency measurement and they inaccurate accomplishment reports.

The government agencies measured the efficiency of their technicians through reports, efficiency rating, field visitation and field activities. The respondents claimed that their salaries were good enough. Eight of them claimed that their salary was low while two said it was enough.

The involvement of the agricultural projects of the government agencies is commonly done by conducting lecture demonstration, giving tree planting materials, organizing farmers association and coordinating with other agencies.

In working out their agricultural projects, the agencies establish projects with other people and give technical assistance to the farmers.

DUMO, MELLY E. June 1979. The Farming Operations of Bauang Farmers. Mountain State Agricultural College, La Trinidad, Pangasinan.
 Adviser: Dr. Eriberto C. Alanzo

This study was conducted to: 1) determine sources of income and pattern of expenditures of farm families; 2) know the cropping patterns being practiced and the level of technology of farmers; 3) determine the farmers' sources of information for crop and animal production and management; 4) know the farm families' level of living indicators, and market outlets for products produced; and 5) know common problems encountered by farmers and solution applied to their farming business.

The data were gathered from 70-farmer operators in eight different barangays of Bauang, La Union, by means of an interview with a prepared questionnaire from October 1978 to February 1979. The statistical methods used in the analyses of the data were percentage, ranking, mean standard deviation and chi-square.

The selection of respondents was based on the following background of the farmers; he must be a farmer-operator operating no less than one-half hectare of land; a head of a family; engaged continuously in farming; for no less than five years, has work animals, and a permanent resident of the community where he is farming.

The findings showed that majority of the respondents were within the age range of 36-40 years; 93% were married and with four to six dependents; 3% reached high school. All of them experienced farming since childhood. All the farmers get their income from a variety of crops like rice, tobacco, vegetables, fruit trees, peanuts, grapes and others. Grapes set a very high income of P9,000.00 although it is still in its developing stage. Rice has been a permanent source of income of most of the respondents. Livestock is raised by farmers for work and home consumption except for a few animals which were sold to add income. Bigger expenses were incurred mostly on fertilizers and pesticides and only a small amount was spent on animals because they are fed locally and of the native stocks. The pattern of rice-tobacco and rice-vegetables were established by majority of the farmers which are claimed to be suitable to the local conditions and the seasons. Bauang farmers still cannot have three croppings a year due to insufficient irrigation; and the "daper" system has not been adopted yet. Artificial insemination has not been adopted by many of the respondents. Majority of the farmers consult government technicians for information concerning crop and animal production. Majority of the respondents have radios to

inform them about recent findings and trends in farming). Almost all the farmers have plows and harrows as their major equipment. Farmers disposed of their products through three major outlets, namely: local market, trading center and middlemen.

Problems of majority of the respondents were: lack of capital, insufficient irrigation, pests and diseases, lack of labor force, lack of technical information and experience, low cost of farm products, high cost of feeds and medicines, and prevalence of pest and diseases of livestock.

Among the solutions employed were: save money until the next planting season, wait for the rain, spray when signs of pests and diseases appear, hire laborers, apply on the things they know, and market all the products just the same. Solutions of problems on animals were to use purely local feeding and do the job yourself.

LANDAYAN, ZENAIDA C. June, 1979. The Successful Rice Farmers of Pozorrubio and Sison, Pangasinan. Mountain State Agricultural College, La Trinidad, Benguet.
Adviser: Prof. Cipriano C. Consolacion

This study was conducted: 1) to know the educational attainment of the successful rice farmers of Pozorrubio and Sison, Pangasinan; 2) to determine the cultural practices employed in rice production by successful rice farmers in Pozorrubio and Sison, Pangasinan; 3) to know the factors why these farmers are regarded as successful; 4) to know what month registered high rice production; and 5) to know the problems regarding rice production met by these successful rice farmers and how they solve these problems.

This study, conducted during the second semester of the school year 1978-1979, was limited only on the successful rice farmers in the municipalities of Pozorrubio and Sison, Pangasinan. A prepared interview schedule was used to collect data and information. The tools used for statistical analysis were percentage, ranking, mean and standard deviation.

The data were obtained from 10 respondents, the majority of which were farmer-leaders, 30 per cent were barangay councilmen, 20 per cent were barangay secretaries, and 10 per cent were presidents of irrigation association.

The findings of this study showed that one-half of the successful farmers were young and the other half were old farm workers. Almost all of them were married and all had gone to school. They believed on having a few number of children in a family in order that they could have formal education.

Almost all the farmers indicated that they had several positions in their own barangay. Most of them indicated that their farms were located near their houses. They had just enough land-holdings to cultivate. With regard to yearly total harvest in cavans, the highest number obtained by these farmers was from 221 to 240.

Most were tenants and a few were owner-operators and were renting. Sixty per cent described their ricefields as rainfed and 40 percent, as lowland ricefield. On irrigation in farms, most depend on rainfall and gravitational irrigation.

Rice was raised from January to February and from June to August.

All rice farmers used fertilizers, pesticides, and insecticides.

Ninety per cent of the respondents have permanent houses and almost all of the household possessions enumerated in the survey were checked by them.

The farmer's common problems about rice production included inadequate irrigation system, insect and pest control, bad weather and high cost of fertilizer. However, they claimed that they could solve these problems. They brought their problems to the assigned technicians in their barangays/town, relatives and friends. Most of them brought their problems weekly and the assigned technician in their place was ready to help them.

Government technologists helped or guided them by farm and home visits, conferences and dialogues and results and demonstrations.

The farmers claimed that their sources of information about farming came from government technician, radio, relatives and friends and some of them from local barangay and from government officials.

Most farmers travelled monthly outside of their community to observe some farming activities.

They indicated that they could loan from rural banks the amount of from ₱1,000 to 1,200 and from ₱1,201 to ₱1,400 per cropping season and they paid in cash just after the harvest.

PUYAO, WILFRID P. May, 1979. The Peace Pact Between Matonin, Mountain Province and Nanang, Tabuk, Kalinga-Apayao. Mountain State Agricultural College.

Adviser: Prof. Cipriano C. Consolacion

This study aimed: 1) to gather information about the peace-pact that exist between Nanang, Tabuk, Kalinga-Apayao and Matonin, Mt. Province; 2) to find out what are observed or practised "before" and "during" and "after" the peace-pact making ceremonies; and 3) to determine some important effects of the peace-pact in the community concerned.

This study was limited to the peace-pact of Matonin, Mt. Province and Nanang, Tabuk, Kalinga-Apayao; it was conducted during the second semester of school year 1976-1977.

The data gathered were obtained from 10 persons who were well-versed (or experts) on the peace-pact and 10 persons knowledgeable about peace-pacts.

The data were statistically analyzed with the use of percentages, mean, and standard deviation.

The researcher personally interviewed the respondents with a prepared guide questionnaire.

Results show that the peace pact stimulates a local democratic government. It is known in Matonin as pekan-and, in Kalinga as bedong. It is a "pact" between two or more tribes wherein they laid their thinking, ideas, principles and code of decorum, (Philosophies established in a peace pact).

The peace-pact is done through sarwag, sordip, and inom. When the two tribes (people who want to make peace-pact) have gathered, they discuss ideas, exchange opinions and define one's duties and obligations, including rules and regulations as well as the punishments. In their deliberations they include certain problems in agriculture and or how they can help their communities progress.

Respondents claimed that the peace-pact greatly helps in the maintenance of peace and order and discipline, brings about solidarity, and motivates people to be agriculturally productive. They also claimed that with it, the people promote personal discipline and security and initiates progress.

They mentioned benefits from the peace-pact which includes smooth interbarrio relationship which initiates prompt settlement of conflicts and trade or prosperity and discipline among tribes.

These advantages, they claimed could be realized through the leadership of the peace-pact holders.

The peace-pact, as also claimed, encouraged the development of agriculture, their basic industry. The respondents also claimed that the peace pact is needed to promote the objectives of the New Society, such as the promotion of peace and order, discipline, brotherhood, as well as individual rights.

Since it does not run counter to the aims of the New Society, it is recommended that the holding of peace pact be encouraged, and that to hold firmly their principles, they must be oriented toward development.

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

August 28, 1978

MSAC MEMORANDUM
 No. 4, s. 1978

SUBJECT: NON-FORMAL EDUCATION PROGRAM OF MOUNTAIN STATE AGRICULTURAL COLLEGE

TO : All College Personnel

1. The expanded Non-Formal Education Program of MSAC for school year 1978-1979 will be formally launched on September 2, 1978.

2. Eight barangay centers have been identified as venue for this school year's NFE Program, namely:

- | | | |
|--------------|---|--|
| MFE Center 1 | - | Adoyonan, Atok |
| " " | 2 | Topdac, Atok |
| " " | 3 | Arbongdulon, Tublay & Datekan, Kapanaganan |
| " " | 4 | Bolili, La Trinidad |
| " " | 5 | Batas, " " |
| " " | 6 | Duyayan, " " |
| " " | 7 | Pico, " " |
| " " | 8 | Mangal, " " |

3. To service these centers the faculty has been grouped into seven task force team categories and one Administrative-Supervisory and Coordinating Team: (1) Instruction-Training Teams; (2) Resource-Demonstration Teams; (3) Data-Collection and Analysis Teams; (4) Course or Text Writing Team; (5) Publication-Dissemination Team; (6) Special Activity Team; and (7) Monitoring and Reporting Team. Both teaching and non-teaching personnel who are assigned duties and/or deployed to the selected barangay communities in connection with the NFE program are exempted from rendering the 15-day rural service in accordance with DEC Memo. No. 230, s. 1977. So as not to disrupt the regular programs of the College service in the NFE program will be rendered on Saturdays or Sundays only. However, the Specialist-Technician Teams may be fielded on weekdays if the exigencies of the service demand.

4. College personnel assigned for duty at the various centers should determine which day (Saturday or Sunday) is most convenient for the people of the community to gather in one place for purposes of group instruction, training, and/or demonstration.

5. Each teacher is expected to render at least 15 Saturdays (or Sundays) to the NFE program. However, teachers who have not rendered the 15-day rural service in school year 1977-1978 will be required to render service for 30 Saturdays and/or Sundays.

6. Rendition of service will be supervised and reported to the College President by the designated leader of each team. These reports must be certified to by the Barangay Captain and the member of the Coordinating-Supervisory team concerned.

7. The details of the NFE Program are shown in the attached Inclosure to this Memorandum.

8. The cooperation of all concerned is enjoined.

(SGD.) BRUNO R. SANTOS
President

Inclosure to MS&C Memo
No. 4, s. 1978

NON-FORMAL EDUCATION PROGRAM

of

MOUNTAIN STATE AGRICULTURAL COLLEGE

PROGRAM GOAL:

Economically prosperous and socially progressive rural communities.

PROGRAM THRUST:

1. Human resource development
2. Economic development
3. Natural resource development

LONG RANGE OBJECTIVE:

A well balanced countryside development with respect to resources, people and income.

SHORT RANGE OBJECTIVES:

1. To stimulate productivity and accelerate economic and social growth in the target communities
2. Improved living conditions

STRATEGY:

1. Adopt pre-selected beneficiary communities as socio-economic laboratories of MS&C.
2. Organize and conduct non-formal education program classes in these communities.

ACTIVITIES:

1. Agricultural skills training
2. Handicraft and home industry training
3. Population education

METHODOLOGY:

1. Group instruction
2. Demonstration/Practicum
3. Application/Home visitation
4. Dissemination of printed information

AREA COVERAGE (Geographical)

- NFE Center No. 1 Adayonan, Atok
 No. 2 Toodao, Atok
 No. 3 Ambarodolo, Tublay & Datanon, Kapanayan
 No. 4 Balili, La Trinidad
 No. 5 Batao, La Trinidad
 No. 6 Buyagan, La Trinidad
 No. 7 Pico, La Trinidad
 No. 8 Wangal, La Trinidad

CLIENTELE:

Largely families and the OSY of the selected NFE Program Centers

SUBJECT AREA COVERAGE:

- A. Agricultural skills training
1. Farm Crops production
 2. Fruit crops production
 3. Vegetable crops production
 4. Forage crops production
 5. Flower production
 6. Plantation crop
 7. Mushroom production
 8. Poultry raising
 9. Hog raising
 10. Goat raising
 11. Cattle raising
 12. Rabbit raising
 13. Dog raising
- B. Handicraft and home industry training
1. Food processing and packaging
 2. Dress making and tailoring
 3. Crocheting and loom weaving
 4. Basket making
 5. Bag making
 6. Broom making
 7. Hat weaving
- C. Population education, etc.
1. Family planning
 2. Nutrition education
 3. Health and sanitation education
 4. Food preparation

5. Taxation education
6. Cooperative education
7. Consumer education
8. Forest Conservation & reforestation
9. Water conservation
10. Soil conservation & erosion control
11. Sewerage, garbage and waste disposal
12. Social and leisure time activities
13. Traffic safety education
14. Fire safety education
15. Anti-narcotics education
16. First aid education
17. Constitution of the Philippines
18. Etc., etc.

DEPLOYMENT OF PERSONNEL:

- I. Instruction - Training; Teams:*/
 - Team 1 - Center No. 1, Adyornan, Atok
 - Team 2 - Center No. 2, Toploc, Atok
 - Team 3 - Center No. 3, Ambongdolan, Tublay
 - Team 4 - Balili, La Trinidad
 - Team 5 - Betag, La Trinidad
 - Team 6 - Buyagan, La Trinidad
 - Team 7 - Pico, La Trinidad
 - Team 8 - Wangal, La Trinidad

II. Resource - Demonstration Teams

- Team 1 - Centers 1 and 2
- Team 2 - Centers 3 and 4
- Team 3 - Centers 5 and 6
- Team 4 - Centers 7 and 8

Note: Any team member may be "requisitioned" for duty in any of the Centers to which he or she is not assigned whenever needed.

III. Data Collection and Analysis Teams

- Team 1 - Centers 1 and 2
- Team 2 - Centers 3 and 4
- Team 3 - Centers 5 and 6
- Team 4 - Centers 7 and 8

*/ May be rotated as the need requires.

IV. Text Writing Teams and Subjects or Topics

- Team 1 -- Farm crops
- Fruit crops
 - Vegetable crops
 - Flower and ornamental crops
 - Forage crops (pasture crops)
 - Industrial crops
 - Medicinal plants
- Team 2 -- Poultry
- Hogs
 - Rabbit
 - Goat
 - Cattle
 - Dog
- Team 3 -- Handicraft and home industry projects:
- Basket making
 - Bag making
 - Mat weaving
 - Dress making
 - Tailoring
 - Wood carving
 - Bamboo crafts
 - Broom making, etc.
- Team 4 -- Family planning
- Food and nutrition
 - Health and sanitation
 - First aid education
 - Food conservation and preservation
- Team 5 -- Taxation education
- Cooperative education
 - Consumer education
 - Constitution of the Philippines
- Team 6 -- Forest conservation and reforestation
- Water conservation
 - Soil conservation and erosion control
 - Sewerage, garbage and waste disposal/recycling system
 - Environmental pollution control
- Team 7 -- Social, moral and community behavior
- Leisure time activities
 - Community civic and improvement activities
 - Accident prevention and safety education

- Team 8 - Labor Laws
 - Land reform (Agrarian laws)
 - Tax Laws
 - Other laws

V. Publication and Text Dissemination Team

The PTDT will service the entire program by:

1. Printing (micrographing) the materials written by the text writing teams, and
2. Distributing the printed materials to all the Centers through the Instruction-Training Teams and/or the Resource-Demonstration Teams.

DUTIES OF VARIOUS TEAMS:

1. The Instruction-Training Teams are assigned to specific centers. They will perform the following tasks:
 - a) Gather base line data about the center to which each is assigned through group interviews and farm visits.
 - b) Collect, summarize, and analyze the information.
 - c) Prepare course syllabi on the basis of the base line data gathered.
 - d) Meet with the people of the barangay to present results of survey and plan with them what topics or problems should be included in the training courses.
 - e) Decide with the barangay families the schedule of the courses and the meeting day (Saturday or Sunday).
 - f) Organize and conduct the classes.
 - g) Put up demonstration projects
 - h) Make follow-up farm visits to check application and adoption of learning.
 - i) Render progress report to College Administration.
2. The resource and demonstration teams:
 - a) Give lectures and act as resource persons to the instruction-training teams in their fields of specialization.
 - b) Assist the instruction teams to set up demonstration projects and in solving problems of management and planning.
 - c) Pitch in for any member of the instruction team who may not be able to perform his/her duties.
 - d) Assist the text writing teams by contributing text materials and their expertise (experiences).

3. Data Collection and Analysis Team

- a) Assist the instruction-training teams in gathering general and statistical information and data about the:
 - (1) population
 - (2) occupations of the people
 - (3) resources of the community
 - (4) customs, traditions and mores, beliefs and superstitions
 - (5) family per capita income
 - (6) living conditions:
 - a) kind of homes
 - b) water supply
 - (7) service facilities (community)
- b) Analyze the information
- c) Make proposals for development projects and/or training programs.
- d) Conduct evaluation studies to determine the impact of the NFE program.

4. Text Writing Team

- a) Gather materials or information about assigned crops, animals, etc. from printed media and from people with reliable experience or expertise.
- b) Organize and write these information according to the prescribed format.
- c) Submit the write-up to the appropriate specialist for "technical editing".
- d) Write in final form for publication and dissemination.

5. Publication and Dissemination Teams

- a) Edit text write-ups submitted to it by text writing team.
- b) Mimeograph or print the text material.
- c) Allocate and distribute the printed material.
- d) Keep enough copies of the material for distribution to students and others interested.

6. The Special activity Team will conduct training or demonstrate or organize activities such as social and cultural programs and athletics whenever requested.

7. The monitoring and reporting team - is in charge of monitoring information on the progress or status of the program in each center and submit the report for submission to higher authorities.

8. The Administration -- Supervisory and Consultant Team -- oversees the total NFE program.

COMPOSITION OF TEAMS:

I. INSTRUCTION-TRAINING TEAMS:

- ITT No. 1 -- Dario Dampilar -- Leader
Samuel Arcollana
Ofelia Lago
- ITT No. 2 -- Ramon Bocalon -- Leader
Sonwright Maddul
Mary Chanfina
- ITT No. 3 -- Gregorio Bilando -- Leader
Reynaldo Galban
Remedios Garcia
- ITT No. 4 -- Franco Bawan -- Leader
Rosa Abastilla
Judith Gowisan
- ITT No. 5 -- Carlos Tuquincy -- Leader
Gloria Castro
Anatalia Castrence
- ITT No. 6 -- Juan Martos -- Leader
Lory C. Balmain
Anacleto Martate
- ITT No. 7 -- Macario Cadatal -- Leader
Estela Manjoot
Perseveranda So
- ITT No. 8 -- Domingo Casiwan -- Leader
Alfredo Tipayno
Victoria Tambaya

II. RESOURCE-DEMONSTRATION TEAM:

- RDT -- 1 Basito Catiwan -- DVM
Esteban Akiew -- Pl. Patho.
Elmo Sano -- Agron.
Josefina Alonzo -- H.E.
Erna Mamaril -- Soils
Sergio Francisco -- Ag. Eng'g.

RDT 2 --	Conrado Oliveros	- Soils
	Sydney Moroste	- Ani. Husb.
	Faustino Hermoso	- Pl. Breeding
	Theodore Monroe	- H.F.
	Aurora Ferrer	- Pl. Patho.
	Artensio Vasallo	- Ag. Engrg.
RDT 3 --	Adriano Aromin	- Ag. Engrg.
	Nora Padriago	- Entom.
	Lita Coltin	- Soils
	Francisco Bibal	- Forestry
	Daniilo Padua	- Pl. Breeding
	Herminia Aroccna	- Ag. Econ.
RDT 4 --	Beatriz Dar	- Forestry
	Eulogio Cordona	- Entom.
	Leopoldo Tegarino	- Ag. Econ.
	Jose Balaoing	- Soils
	Emma Ruth Valdez	- Hort.
	Manolita Alvares	- Med. Tech.
	Luciana Villanueva	- Pl. Patho.

III. DATA COLLECTION and ANALYSIS TEAM

Over-all Coordinator - Nethodia Mercado

DCAT - 1	Juanito Orallo	- Leader
	Edna Chua	
	Segfredo Serrano	
	Nancita Puntawe	
DCAT - 2	William C. Macres	- Leader
	Conchita Perez	
	Julia Soliman	
	Thelma Villanueva	
	Alfredo Tuffilo	
DCAT - 3	Consercia Aquitania	- Leader
	Darlyn Damasco	
	Alfredo Rimanan	
	Manuela Cadelina	
	Marilyn S. Tolcao	
DCAT - 4	Marcos Buliyat	- Leader
	Jonathan Bayogun	
	Luke Cuangoy	
	Natividad Andes	
	Lolita Milan	

IV. TEXT WRITING TEAMS

- (Crops)
- TWT - 1 Lucio Victor - Leader
 Francisco Canute
 Caroline Dimes
 Erlinda Tolentino
 Estanacio Silvestre
 Lorenza Gonzalez-Lirio
 Tessie Herastela
 Gloria Lee
 Adeline Dogsi
 Dominador Gerin
 Arceeli G. Ladilla
 Vilma A. Alejandrero
 Pope E. Toledo
- TWT - 2 Basito Cotiw-an - Leader
 Noemi Sobrino
 Erlinda Bestro
 Adela Ocampo
 Orlando Ocampo
 Manuel Balcita
 Jose Jesus
- TWT - 3 (Handicraft & Home Industry)
 Rosa Abastilla - Leader
 Jose Lubrico, Sr.
 Arthur Paron
 Willie Binay-an
 Philip Bando-ay
 H. E. Teachers of Lab. Gen. H.S.
- TWT - 4 (Home and Family, etc.)
 Josefina Alonzo - Leader
 Rosita Gambo
 Felicidad Fernandez
 Isabel Rabina
 Wilfredo Mina
 Virginius Dimasano
- TWT - 5 (Forest Conservation, etc.)
 Arriano Arosin - Leader
 Ursula Perez
 Luz Nabalot
 Evelyn Dimes
 Hilarión Fabianar
 Liway Vergara
 Vilma Villanar
 Marcia Gibo

- TWT - 6 - (Taxation Education, etc.)
 Hortencio Patroasil, Sr. - Leader
 Carlota Lubrico
 Emma Keith
 Ricardo Bacul
-
- TWT - 7 (Social, Home & Comm. Behavior, etc.)
 Arsenia D. Hamiril - Leader
 Francisco Aquino
 Esther R. Ilufana
 Luzviminda A. Villanator
 Salvadora Serrano
 Oscar Maurera
 Teodora Dulatao
 Zenith Llanos
- TWT - 8 (Labor Laws, etc.)
 Tomas E. Bayagan - Leader
 Lolita E. Milan
 Lily D. Squella

Note: All the Library Staff are ex-officio members of the
 TWT (Text Writing Team)

V. Publication & Text Dissemination Team

Bienvenido Dulwot - Leader
 Josefina Botacion
 Redolfo Abastillo
 Esther Gonzales
 Josefina Eleuria
 Clerical Staff of Publication

VI. Special Activities Team

Remigio Monroe - Leader
 Noemi Sobrino
 Salvadora Sarmano
 Oscar Maurera
 Antonia Cuenco

VII. Consultant-Supervisory-Administrative Team

College President
 Vice President
 Dean of Instruction
 Dean of Student Affairs
 Assistant-to-the President
 Carlos Durson
 RIC-RD Director

VIII. Monitoring and Reporting Team

Lowana T. Batocagan - Leader
 Marcelina T. Anatep - Co-leader
 Reynaldo Alquiros
 Estrella Ramos
 Emilia Esteban
 Benjamin Dimas Liaison

The teachers of the Laboratory Elementary and General Secondary Schools are assigned to NFE Center 4 (Pico) and NFE Center 5 (Bctar).

The principals of both schools should prepare the team assignments and deployment schedules for submission to the office.

A separate program is being prepared for all the teachers and employees not assigned to the Non-Formal Education Program.

The above team assignments and deployment scheme may be changed for any teacher, employee, or team as the exigencies of the program demand.

LIST OF CROPS TO BE WRITTEN ABOUTA. Farm Crops

- | | |
|---------------|---------------|
| 1. corn | 10. arrowroot |
| 2. rice | 11. ginger |
| 3. sorghum | 12. peanut |
| 4. sugar cane | 13. mungo |
| 5. cassava | 14. cowpea |
| 6. camote | 15. wingbean |
| 7. taro | 16. bush bean |
| 8. ubi | 17. cotton |
| 9. gabi | 18. tobacco |

B. Plantation/Industrial Crops

1. coconut
2. coffee
3. cacao

C. Vegetable Crops

- | | | |
|--------------------|--------------------------|-------------------|
| 1. cabbage | 11. Kentucky beans | 21. amargoso |
| 2. wongbok | 12. pepper (green) | 22. string beans |
| 3. pechay | 13. green onions | 23. cowpea |
| 4. cauliflower | 14. asparagus | 24. green peas |
| 5. radish | 15. tomatoes | 25. broccoli |
| 6. lettuce | 16. eggplants | 26. Bermuda onion |
| 7. brussel sprouts | 17. cucumber | 27. garlic |
| 8. carrots | 18. squash | |
| 9. Bayugo beans | 19. mard (upo) | |
| 10. alno beans | 20. sponge mard (patola) | |

D. Fruit Crops

- | | | | |
|------------|--------------|---------------|----------------|
| 1. mango | 6. jackfruit | 11. persimon | 16. breadfruit |
| 2. orange | 7. lanzones | 12. tiosa | 17. strawberry |
| 3. apple | 8. rambutan | 13. guayabano | 18. pineapple |
| 4. peaches | 9. atis | 14. loquat | 19. bananas |
| 5. avocado | 10. pears | 15. figs | 20. calamansi |

E. Flowering and Ornamental Crops

- | | |
|-----------------------|---------------------|
| 1. roses | 6. zinnias |
| 2. chrysanthemums | 7. gladiolus |
| 3. daisies | 8. dahlias |
| 4. bachelor's buttons | 9. poppies |
| 5. asters | 10. marigolds |
| | 11. larkspurs, etc. |

F. Pasture Crops

- | | |
|------------------|--------------|
| 1. Paragrass | 6. Ipil-ipil |
| 2. Napier grass | 7. clover |
| 3. Johnson grass | 8. etc. |
| 4. Carabao grass | |
| 5. Kikuyo grass | |

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

Ten Year Capital Outlays Program
CY 1979-1988

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
<u>I. Training Department Complex</u>			
1. Training Department Bldg.	6/79-12/79	P1,500,000	The present training department building is old and dilapidated as it was constructed in 1946.
2. Teacher Education Bldg.	1/84-12/84	2,500,000	Presently there are enough facilities to train future teachers in agricultural and vocational education. These buildings are needed to provide better training (pre-service) to mentors of tomorrow.
3. Regional Staff Division	1/84-12/84	2,000,000	
4. Agric'l Science & General Science High School Bldg.	1/84-12/84	2,500,000	
5. Sec. Voc. Agric'l Home Eco. Bldg.	1/84-12/84	1,500,000	
6. Elem. Lab. School Bldg.	1-84-12/84	1,500,000	
<u>II. Administrative Complex</u>			
1. Administration Building	1/81-12/81	2,500,000	These are needed to facilitate business and administrative functions of the institution. Health services should be available to serve the needs of the students and personnel.
2. Student Union Building	1/81-12/81	3,000,000	
3. Supply and Property Bldg.	1/81-12/81	1,000,000	
4. Library Building	1/81-12/81	3,000,000	

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
<u>III. Sports Complex</u>			
1. Auditorium Gymnasium	1/80-12/80	P5,000,000	This complex is a must as it is impossible for the athletic activities of students to continue and be conducted in the open air during the rainy season.
2. Athletic Field Grandstand	1/82-12/82	5,000,000	To provide a well-rounded training of the students. The facilities will also be opened to the general public.
3. Field Sports Facilities	1/83-12/83	2,000,000	To provide for additional athletic facilities and enhance the physical fitness programs.
4. Indoor Sports Facilities	1/83-12/83	3,000,000	- do -
<u>IV. Social Science & Language Complex</u>			
1. Social Science and Language Building	1/83-12/83	3,000,000	At present, the buildings for these do not exist, yet these are basic requirements of the various curricular offerings.
2. Biological Science Bldg.	1/83-12/83	1,500,000	- do -
<u>V. Research and Experimental Station</u>			
1. Research and Experimental Station Bldg.	6/79-12/79	1,500,000	The intensive research programs and projects need separate buildings to ably carry the College objectives.

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
2. White Potato Training Bldg.	1/85-12/85	P1,500,000	Research as a major function of the college needs to have even the minimum physical plant requirements to generate useful research results. There is no such facilities at present despite the strategic location of the institution to conduct researches which could not be done in any other place of the country.
3. Highland Agric'l Research	1/85-12/85	3,000,000	
4. Nurseries and Glass House	1/85-12/85	1,000,000	
5. Post Harvest Technology	1/85-12/85	6,000,000	
<u>VI. Breeder Science Complex</u>			
1. Glasshouses and Digesting Room	6/79-12/79	P2,000,000	This is a special type of building mainly for the soils and chemistry departments.
<u>VII. Student Services Complex</u>			
1. Men's Dormitory	1/80-12/80	3,500,000	The male students find hardship and difficulty in looking for lodging.
2. Ladies' Dormitory	1/80-12/80	3,500,000	The female students find difficulty in looking for lodging. La Trinidad is saturated with students studying in Baguio City. Hence housing is acute.
3. Library Complex Library, museum, Publication, and Bookbinding	1/88-12/88	6,000,000	A college can not serve well the students its teaching functions without a library (learning resource center). Research could not be undertaken without a well-equipped library.

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
VIII. <u>Grounds and Land Improvement Complex</u>			
1. Two Concrete Bridges	1/83-12/83	P2,000,000	The bridges are important links to the farms at the other side of the Balili River from the main campus.
2. Roads and Bridges	1/86-12/86	2,000,000	These will provide protection to college properties and better access to the different projects and buildings.
3. Concrete Roads	1/86-12/86	2,000,000	- do -
4. Asphalt Roads	1/86-12/86	1,000,000	
5. Flood Control			
a. Concrete dikes & walls	1/86-12/86	P10,000,000	Flood and erosion often destroy the experimental and production farms. Without these structures the yearly destruction will not be contained and in the long run many portions of the campus will be eroded and unproductive.
b. Straightening & deepening of the Balili River	1/86-12/86	2,000,000	
c. Concrete line drainage	1/86-12/86	2,000,000	
d. Water System	1/86-12/86	1,000,000	
6. Waste Disposal & Garbage System			
a. Garbage, composting and Incinerating Plants	1/87-12/87	3,000,000	These projects will help control environmental pollution and recycle waste materials for agricultural and other useful purposes.
b. Central Sewerage Recycling Tanks and Pipes	1/87-12/87	2,000,000	
			- do -

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
IX. <u>Housing Complex</u>			
1. Staff Housing	1/80-12/80	₦3,000,000	There is a need of a continuing program for staff and faculty housing facilities. Most of the members of the staff and faculty live outside the campus. Only five per cent live in the campus.
2. Faculty and Employee Housing	1/81-12/81	5,000,000	Housing facilities are badly needed to attract and retain personnel with good standing and expertise. A decent house at a low cost rent will do a long way while they are serving well the government.
3. Faculty and Staff	1/82-12/82	1,000,000	This is a continuing annual project to provide housing facilities to staff and employees.
4. Faculty and Staff	1/83-12/83	1,000,000	
5. Faculty and Employees	1/83-12/84	1,000,000	-- do --
6. Faculty and Employees	1/86-12/86	1,000,000	-- do --
7. Faculty and Employees	1/87-12/87	1,000,000	-- do --
8. Faculty and Employees	1/88-12/88	8,000,000	This is a continuing project to provide all employees from all levels housing facilities in line with the aims and objectives of the Ministry of Human Settlements.

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
<u>X. Agricultural Science Complex</u>			
1. Home Technology Processing Bldg.	6/79-12/79	500,000	This will be used in the processing of foods , fruits, vegetables, fish, etc.
2. Plant Science Bldg.	6/79-12/79	2,000,000	The laboratories and classrooms of the Department of Plant Science will be housed in this building.
3. Agri-Economics Bldg.	6/79-12/79	500,000	At present, there is no existing building for the Agri-Business department.
4. Forestry Nursery Bldg.	6/79-12/79	500,000	At present, there is no existing forestry nursery building.
5. Agricultural Science Complex	1/80-12/80	4,000,000	The present buildings are now condemnable. There are no buildings for the BSAT and BSF courses. There is also an urgent need to provide a building for the Extension and non-formal Education.
6. Root Crops Bldg.	1/80-12/80	1,000,000	This is to provide for Phase II of this building.
7. Animal Veterinary Science Bldg.	1/82-12/82	3,000,000	These buildings will be used by the Animal Veterinarian Department and the Forestry Science Department.
8. Forestry Science Bldg.	1/82-12/82	3,000,000	- do -

<u>Project</u>	<u>Timetable</u>	<u>Cost</u>	<u>Justification</u>
9. Central General Utility Bldg.	1/83-12/83	P1,500,000	This building is intended to serve the people engaged in industrial crops, etc.
10. Extension and Continuing Education Bldg.	1/83-12/83	3,000,000	To serve as a demonstration project in reforestation and production using the rolling hills of the College reservation.
11. Agro-Forestation Project			The whole project will generate income and prove as an alternate source of income of the people hereabouts due to the extensive vegetable industry in Benguet.
a) Fencing	1/87-12/87	300,000	
b) Farm Roads	1/87-12/87	300,000	
c) Buildings	1/87-12/87	200,000	
d) Irrigation System	1/87-12/87	200,000	
12. Engineering Complex			
a) Engineering Shops	1/87-12/87	500,000	This complex will be in support to the other projects (i.e. environment pollution, reforestation, eco-system management) and in answer to the manpower needs in these areas of engineering which became very attractive and important recently.
b) Forest Engineering Bldg.	1/87-12/87	2,000,000	
c) Environment Engineering	1/87-12/87	2,500,000	

Prepared by:

(SGD.) EVERLINO S. RAMOS
Budget Officer

Approved:

(SGD.) BRUNO M. SANTOS
President

