

DOCUMENT RESUME

ED 096 431

CE 002 032

AUTHOR Gagni, Arsenio O.; And Others
TITLE Innovative Agricultural Education Secondary School Programs in Southeast Asia.
INSTITUTION University of the Phillipines, College, Laguna. Coll. of Agriculture.
PUB DATE 70
NOTE 61p.; Marginal legibility on some pages

EDRS PRICE MF-\$0.75 HC-\$3.15 PLUS POSTAGE
DESCRIPTORS *Agricultural Education; *Case Studies (Education); Educational Administration; Educational History; *Educational Innovation; Educational Methods; Educational Programs; *Foreign Countries; High Schools; Teacher Education; *Vocational Schools
IDENTIFIERS Japan; Republic of China; South Korea; Thailand

ABSTRACT

In an effort to seek out and describe exemplary and innovative features of agricultural high schools in Asian countries, letters of inquiry were sent to the directors of agricultural education programs in Thailand, Republic of China, Japan, and South Korea informing them of a study tour planned by three members of the University of the Phillipines Department of Agricultural Education. The letters requested information concerning innovative and outstanding local programs, teacher training institutions, and contact persons through whom arrangements could be made. An interview schedule was used in meetings with government personnel in education, agricultural education department personnel at the leading teacher training institution, and the staff of local agricultural schools in each of the four countries. From these, information was gathered pertaining to aspects of the local school program: location, history, main agricultural enterprise in the area, agricultural trends, administration, methods, students, and staff. The case studies of the following schools were reported: Thailand, Chiangmai College of Agriculture; Republic of China, Taiwan Provincial Taoyuan Senior Vocational Agricultural and Industrial School; South Korea, Suwon Agricultural and Forestry High School; Japan, Schizuoka Agricultural Management Public High School. (AG)

BEST COPY AVAILABLE

JUL 02 1974

BEST COPY AVAILABLE

**INNOVATIVE
AGRICULTURAL EDUCATION
SECONDARY SCHOOL PROGRAMS
IN SOUTHEAST ASIA**

**U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION**

**THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRE-
SENT OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY**

by

**ARSENIO Q. GAGNI
DOLORES P. BARILE
HAROLD R. CUSHMAN**

**DEPARTMENT OF AGRICULTURAL EDUCATION
UNIVERSITY OF THE PHILIPPINES
COLLEGE OF AGRICULTURE
COLLEGE, LAGUNA
PHILIPPINES**

1970



ED 096433

E002032

TABLE OF CONTENTS

	<u>Page</u>
HIGHLIGHTS	i
INTRODUCTION	1
Previous Work	2
Purposes	3
Procedures	3
CASE STUDIES	
Chiengmai College of Agriculture (Thailand)	5
Taiwan Provincial Taoyuan Senior Vocational Agricultural and Industrial School (Republic of China)	20
Suwon Agricultural and Forestry High School (South Korea)	32
Schizuoka Agricultural Management Public High School (Japan)	43
AGRICULTURAL EDUCATION LEADERS WITH WHOM CONFERENCES WERE HELD	53
APPRECIATION	54
REFERENCES	55

BEST COPY AVAILABLE

HIGHLIGHTS

*One of the main purposes of this project was to seek out and describe exemplary and innovative features of agricultural high schools in Asian countries. Especially sought were innovations which would meet the criteria of uniqueness; excellence of outcome; viability; and promise for try-out, adaptation, and adoption in other countries seeking to improve their programs of vocational agriculture at the secondary level. Several such ideas of particular merit are noted below. For the convenience of the reader, each is followed by the name of the school where it was observed and the pages in this report where additional information can be found.

*Only those applicants who demonstrate both academic competence and their commitment to engage in the occupations for which training is provided by the school are admitted. CHIZUOKA (46).

*The curriculum is both specialized and flexible, allowing students to elect such options as one of several specialized agricultural programs, a pre-structured general agriculture program, preparation for admission to an agricultural college by means of elective academic subjects, or a program tailor-made to fit the circumstances of the home farm. SUWON (37).

*Specialized technical training is offered at the post high school technical level in animal science, plant science, agricultural business, and agricultural mechanics. Two additional specializations are planned for 1970. CHIENGMAI (11).

*Revision of the agricultural curriculum is accompanied by the development of instructional materials necessary for teacher implementation of the envisioned changes. TAOYUAN (30).

*The efficiency of the teaching staff is enhanced by the employment of numerous teaching assistants and outside lecturers. SCHIZUOKA (51).

*The highest priority is placed on maintaining a close educational connection between each unit of instruction in agriculture and the occupational experience programs of the students. SUWON (41).

*The local Parent-Teachers Association is a vital source of financial support for the school, contributing one-third of the funds for the annual operating budget of the school. SUWON (37).

*The services of an advisory council are utilized to keep the program sensitive to the needs of the agricultural sector. SUWON (35).

*The development of management ability is assigned as high a priority as the development of manipulative skill. Problem solving, student participation in school project management decisions, and individual farming programs are standard features of the program of instruction. SUWON (39).

*Frequent opportunities to obtain in-service training closely related to teacher specializations are provided. Frequent week-long tours and short courses of several days duration are featured. (SCHIZUOKA (46)).

*The policy of enlisting commercial enterprises and government agencies in improving the agricultural schools has resulted in many benefits. CHIENGMAI (19).

*The school is sensitive to the continuing agricultural education needs of the larger community and has responded with programs involving imaginative approaches, flexibility, massive commitment of resources, and cooperation with numerous other agencies. CHIENGMAI (13).

*The school is heavily committed to agricultural development and cooperates closely with other agencies in: testing, demonstrating, propagating, and making available to farmers new varieties, breeds, products, practices, and equipment; establishing mechanical tiller service; providing practical skill and art training classes for the unemployed; holding short courses for farmers; training extension workers, and providing new programs as needed. TAOYUAN (31).

*The very highest priority is placed on involving representatives of the school's main sources of support in program evaluation and improvement. SCHIZUOKA (51)..

BEST COPY AVAILABLE

**INNOVATIVE AGRICULTURAL EDUCATION* SECONDARY SCHOOL
PROGRAMS IN SOUTHEAST ASIA**

- Case studies of vocational agriculture programs in Thailand,
Republic of China, South Korea, and Japan

by Arsenio O. Gagni, Dolores P. Barile and Harold R. Cushman

INTRODUCTION

Despite their geographical proximity there has traditionally been very little professional contact between Agricultural Education leaders in the Philippines and their counterparts along the eastern rim of the Asian mainland. Since World War II and the emergence of the Philippines as an independent nation, occasional visits have been made to the Philippines by Agricultural Educators from other Asian countries. And a number of reciprocal visits (usually) involving staff members of the Bureau of Vocational Education have been undertaken. Unfortunately the observations made during such travels have seldom been published or distributed to other members of the profession. Even the Library of the University of the Philippines, College of Agriculture (UPCA), which is recognized as one of the best of its kind in Asia contains almost no references dealing with Agricultural Education in other countries of the Far East.

However, the number of foreign students enrolled at UPCA has more than tripled during the past ten years. During the school year ending April 1968, a total of 126 such students were in residence at Los Baños. More than 90 per cent were from Asian countries. And approximately one-half were candidates for advanced degrees¹. Foreign students from Asia have been numbered among the advanced degree recipients in the Department of Agricultural Education since the inception of the graduate program in 1957. Of the 48 advanced degrees awarded to majors^{**} in the Department from 1957 through 1969, 18 (or 38 per cent) were earned by foreigners from Asia. Of the 46 degree

* Agricultural Education is used throughout this report to denote that field of study dealing with the teaching, supervision, and administration of vocational agriculture at the secondary school level and the professional preparation of persons to perform such functions.

** Including Agricultural Education, Extension Education, and Community Development.

candidates in residence during the second semester, 1969-70, ten (or 22 per cent) were from other Asian countries.

As the standard of excellence in graduate education continues to develop at UPCA, it can be predicted that other Asian countries will send ever-increasing numbers of their potential leaders to receive graduate training. Such a regional leadership role demands strong professional and personal ties, an expanding literature, and a continuing dialogue among professionals in Agricultural Education. Such a cross-fertilization of ideas can be expected to produce a strong hybrid vigor, of benefit to all concerned. To these ends this study was undertaken and this paper is dedicated.

This report derives from observations made by three staff members of the Department of Agricultural Education, University of the Philippines, College of Agriculture, during a month-long study tour of four Asian countries during October and November of 1969. Conferences were held with Agricultural Education leaders in ministries of education and the universities engaged in the preparation of teachers of agriculture. And intensive interviews were conducted at pre-selected agricultural high schools. The countries visited were: Thailand, Republic of China, South Korea, and Japan. The study tour was conducted under the auspices of the Ford Foundation Sponsored UP-Cornell University Graduate Education Program.

Previous Work

Professor Martin V. Jarmin, Head of the Department of Agricultural Education at UPCA and Visiting Professor Frederick K. T. Tom visited Thailand, Malaysia, and Indonesia early in 1968; and Professors Severino R. Santos and Tom visited Taiwan and Japan later in the same year. The primary purpose of these visits was to study all aspects of the Agricultural Education program including the training of teachers. A secondary purpose was to solicit the cooperation of an individual in each country who would write a "state of the art" description of Agricultural Education in accordance with an outline which was provided.²

In his final report as a Visiting Professor, Tom reported, "... The three visitors undoubtedly benefited professionally from the study tour. They were able to meet the national leaders in Agricultural Education in the countries visited, to see for themselves the progress being made in this field, and to discuss professional problems of mutual concern."³

The cooperative attitude of the professionals visited was later demonstrated by the receipt of the several articles requested. These articles, combined in one publication⁴ give a comprehensive overview of such aspects of Agricultural Education in each country as: history, administration, supervision, nature and scope of

programs, teaching methods, facilities, teacher training, etc.

The second study tour was deliberately structured to build on and extend the initial effort by: sending three staff members not involved in the first tour, including South Korea among the countries to be visited, and by supplementing the written material resulting from the first tour with case study reports of strong local programs in the four Asian countries visited.

Purposes

1. To observe and describe strong innovative programs of vocational agriculture at the secondary school level in various Asian settings.

2. To confirm and extend professional relationships with Agricultural Education leaders in Asian countries.

Procedures

Letters of inquiry were sent on February 27, 1969 to the directors of Agricultural Education programs in Thailand, Republic of China, Japan, and South Korea informing them of tentative plans for the study tour and requesting information concerning: innovative and outstanding local programs, teacher training institutions, and contact persons with whom advance tour arrangements might be made in each country.

As a result of these inquiries official invitations were received from the directors to visit specific innovative and outstanding local programs, teacher training institutions, and ministries of education in all four countries. In each case a central office staff member was designated to coordinate details of the visit and to make internal travel arrangements.

In order to systematize the collection of data, an interview schedule was developed, field tested, and revised. The schedule in its final form provided for the collection of detailed case study information concerning such aspects of a local school program as: location, history, main agricultural enterprises in the area served by the school, trends in agriculture in the area, administration of the school, financing, purposes, curricula, main buildings, description of site, water source, teaching staff, admission requirements, student fees, enrollment, drop-outs, evaluation, methods of teaching, student organizations, land, crops, animals, equipment, practice requirement, and adult education.

In order to obtain maximum benefits at minimum expense, the study tour was made in one continuous journey. The order of visits

was Thailand, Republic of China, South Korea, and Japan. The tour group left Manila on September 22 and returned on October 20, 1969. An average of one week in each country was spent in

1. Briefing by directors of Agricultural Education and the central office staff in the ministry of education.
2. Conferences with the Agricultural Education department staff at the leading teacher training institution.
3. Interviews and conferences with the staff of local agricultural schools and touring their facilities.
4. Between country and in-country travel.

The case study reports were published early in 1970 and distributed to the members of the Department of Agricultural Education at UPCA, the libraries of the agricultural teacher training institutions and the agricultural high schools under the Bureau of Vocational Education in the Philippines, the departments of agricultural education in the land-grant colleges in the United States, and to the host countries and institutions included in the study tour.

CASE STUDIES **BEST COPY AVAILABLE**

CHIENGMAI COLLEGE OF AGRICULTURE

Chiengmai College of Agriculture is located at Mae Joe in the northwestern part of Thailand approximately 600 kilometers by air from Bangkok and somewhat more than 50 kilometers from the Burma border. Regularly scheduled air service between Bangkok and Chiengmai is provided by Thai Airways making the school easily accessible. Travelers preferring to journey by train must plan 18 hours for the 750-kilometer trip if they so by "express". By bus or car the same trip involves 800 kilometers of "all-weather" roads and some 18-24 hours of travel. The 18 kilometers from Chiengmai to Mae Joe are made by car on a predominately hard-surfaced road which traverses the rice fields and small villages typical of this part of Thailand. Although Mae Joe itself is actually a thriving community, foreigners would usually find it more convenient to seek hotel accommodations in Chiengmai which has a population of around 70,000 and is the third largest city in the country. The mailing address of the school is Mae Joe.

Agriculture of the Area

Rice production is the predominant farming enterprise in the area surrounding the school. However, some field crops including soybeans, peanuts, and tobacco have commercial significance as do some fruits such as longan and lichi.

Although small family farms of two to three hectares are the rule, there is some trend toward larger, mechanized commercial farms. It was reported that the use of chemical inputs including fertilizers, pesticides, and herbicides is increasing. Despite high land prices nearly all farmers own the land on which they farm. And, in those cases where this is not true, the tenants portion of the harvest is increasing from a traditional 25 per cent to as much as some cases as 50 per cent.

History of the School

The school was founded in 1934 to provide teacher training in agriculture for the north. A two year training course was offered to achieve this purpose.

From 1937 to 1941, under the names of Mae Joe Vocational Agriculture School (1937) and Mae Joe College of Agriculture (1940) the school undertook the training of persons for the Ministry of Agriculture.

In 1942 the school was designated as the University of Agriculture Preparatory School and was given the mission of preparing

students for entrance into the College of Agriculture at Kasetsart University. The school was renamed the Institute of Agriculture in 1946 and its purpose became the in-service training of agricultural extension agents.

During the period 1947-1955, the school was transferred to the Ministry of Education and designated as the Mae Joe School of Agriculture with the mission of training young people for farming at the higher secondary level.

The present designation of Chiangmai College of Agriculture was given the school in 1955. From 1956 to 1962, the school trained teachers of agriculture in a two-year program at the grade 14 and 15 level and continued the higher secondary program as before. Since 1962 the higher secondary school (grades 11, 12, and 13) has continued to train young men for farming and the purpose of the technical training program (grades 14 and 15) has been to provide training for prospective middle level employees in agriculture.

Administration of the School

Vocational agriculture at the higher secondary level (Maw Saw 4, 5, and 6) is taught in 22 schools throughout the country. Traditionally such instruction has been offered in specialized schools administered by the Ministry of Education through its Department of Vocational Education. Chiangmai Agricultural College is an example of this administrative arrangement.

Within the school, the channels of authority and communication flow downward from the Director to the students in typical "line" fashion. FIGURE 1.

As the chief administrative officer, the duties of the Director include overall responsibility for the academic, business, and student affairs of the school as well as community service activities. Candidates for the position of director, in such schools, are normally required to possess such qualifications as the following: a minimum of five years of experience in teaching agriculture, at least two or three years of experience as farm manager in an agricultural school, a masters degree, and experience as head of academic affairs in an agricultural school. Directors are paid on a 12 months basis and may earn as much as 6,000 Baht/mo. (roughly 1200 Philippine Pesos or 300 U.S. Dollars) depending on such factors as the number of departments in their school, the number of students enrolled, academic degrees earned, and years of service. In addition to cash salary, directors receive certain "in kind" privileges including free housing, electricity, water, and personal use of an automobile (but not free gasoline). Mr. Vipata Boonsri Wangsai, a graduate of the University of the Philippines, College of Agriculture, had served 12 years as Director of Chiangmai Agricultural College as of September 1969.

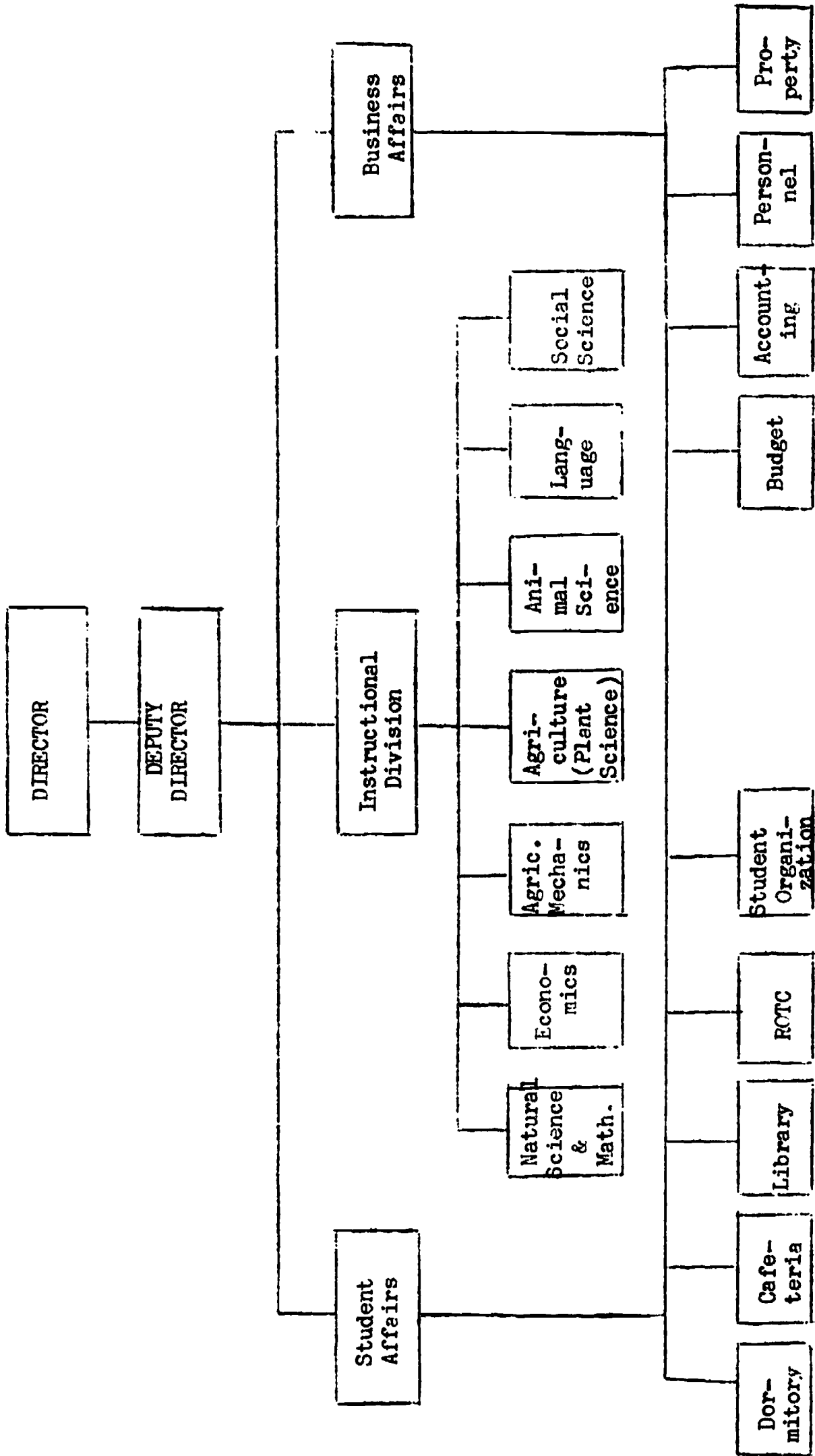


FIGURE 1. CHANNELS OF AUTHORITY AND COMMUNICATION AT CHIENGMAI AGRICULTURAL COLLEGE

The Deputy Director of the school assists the Director in carrying out his responsibilities and acts as officer-in-charge during the Director's absence from campus. He is required to meet the same minimum qualifications as a Director with the exception that the masters degree may be waived. He is paid on a 12-month basis. His salary is determined by the same factors and he receives the same "in kind" privileges as the Director - except that he does not have personal use of an automobile. Mr. Prasong Vorayos had just completed two years in this office as of September 1969.

The position of Head of Academic Affairs and that of the Head of Student Affairs were filled by a single individual as of September 1969. This person serves as officer-in-charge during the simultaneous absence of both the Director and Deputy Director and has immediate charge of academic and student affairs. He is required to fulfill the same minimum qualifications, his salary is determined by the same factors, and he receives the same privileges as the Deputy Director.

Department Heads of the College are in fact "head teachers." Their main administrative function is to coordinate the activities of their respective Departments.

Teaching Staff

The faculty at Chiangmai is composed of 36 male and two female teachers. Eighteen are holders of teaching certificates awarded at completion of a one or two year teacher training course, usually at an agricultural college. Thirteen teachers have bachelor's degrees. The remaining seven have earned both a bachelors and masters degree.

Kasetsart University was the most frequent source of pre-service training for the present faculty - followed by Chulalongkorn University and Prasanmit College of Education. The pre-service training of 40 per cent of the teachers included instruction in "methods of teaching." However, none had experienced "student teaching" prior to employment.

Teachers at Chiangmai conduct a range of from 15 to 25 contact hours per week of classes and carry out a variety of other assigned duties.

Beginning teachers' salaries vary widely depending on degree status and the institution at which they received their training. Holders of teaching certificates, with one or two years of education beyond the higher secondary school, who trained at an in-country college may start at 950 Baht/mo. (roughly 190 Philippine Pesos or 47.50 U.S. Dollars). Holders of bachelors degrees from high prestige universities such as Kasetsart or the University of the Philippines may start at salaries ranging from 1100-1300 Baht/mo. (roughly 220-260 Philippine Pesos or 55-65 U.S. Dollars). Beginners with bachelor's

degrees from high prestige American universities may start as high as 1600 Baht/mo. (roughly 320 Philippine Pesos or 80 U.S. Dollars). In addition to their cash salaries, teachers at Chiangmai enjoy certain privileges including free housing, electricity, and water; occasional distribution of farm produce "at cost", and limited transportation privileges. After the first year, "years of service" is the most important determinant of change in a teacher's salary.

The faculty at Chiangmai is an experienced group. During the school year 1968-69 the faculty counted only one beginning teacher in its ranks, 17 teachers with a range of from two to ten years of service, and 20 teachers with more than ten years of experience in this school. In addition, several teachers had taught for varying periods of time in other schools before coming to Chiangmai.

The main criteria cited by the Director for promotion of teachers in "rank or position" were: achievement of results, conduct, work load, devotion to duty, and cooperation.

During the year September 1, 1968 to August 31, 1969, five members of the faculty participated in various in-service training programs as:

<u>Subject-Matter</u>	<u>Program held at</u>	<u>Length of program</u>	<u>Number of teachers</u>
Tobacco	Chiangmai	9 days	2
Poultry	Kasetsart University	15 days	1
Fisheries	Dept. of Fisheries, Bangkok	15 days	1
Veterinary Science	Dept. of Livestock, Chiangmai	1 month	1

Admission

Students are admitted to or rejected from the higher level secondary program at Chiangmai Agricultural College on the basis of their performance on the following six criteria.

1. Previous grades in school
2. Entrance examination on general academic subjects
3. Written aptitude test
4. Physical test including an 18 kilometer "walk and run" from Chiangmai city to the school site (nine kilometers for girls).
5. Physical examination and appearance
6. Personal interview.

Student Fees

Although no tuition is charged at Chiangmai the student is required to pay certain fees. On a per school year basis these include:

1. Room	200 Baht	
2. Meals	2000 Baht	
3. Miscellaneous	<u>660 Baht</u>	
Total	2860 Baht	(572 Philippine Pesos or 143 U.S. Dollars)

Enrollment

During the school year 1968-69 some 548 students, including 40 girls, were enrolled in the vocational agriculture program at the higher secondary level. In addition, 218 students (all males) were enrolled in the two year post-secondary technical program. The number of drop-outs reported was extremely low: five from the vocational agriculture program and one from the post-secondary technical program.

School Facilities

The school site consists of 1600 rai (256 hectares or 640 acres)* of flat land located in the open country. This land is utilized as follows:

- Tobacco production	- 150 rai (24 hectares or 60 acres)
- Rice production	- 120 rai (19 hectares or 48 acres)
- Soybean production	- 50 rai (8 hectares or 20 acres)
- Corn production	- 50 rai (8 hectares or 20 acres)
- Vegetable growing	- 15 rai (2 hectares or 6 acres)
- Orchard (longan and guava)	- 30 rai (5 hectares or 12 acres)
- Fish ponds	- 4 rai (1 hectare or 2 acres)
- Permanent pasture	- 100 rai (16 hectares or 40 acres)
- Teak forest	- 800 rai (128 hectares or 320 acres)
- School plant	- <u>281 rai (45 hectares or 112 acres)</u>
Total	1600 rai (256 hectares or 640 acres)

The school has a variety of buildings of varying ages which provide space for administration, classrooms, dormitories, cafeteria, faculty housing, animal housing, agricultural mechanics, etc. Six new buildings have been added during the years 1968 and 1969 as a result of the Loan Project for the Improvement of Vocational Education (referred to as the L.I.V.E. Project). They include administration, classroom, cafeteria, poultry, swine, and cattle buildings. These buildings were designed by Japanese architects and are built of

* Approximate equivalents throughout this paragraph.

permanent building materials. They contrast sharply with the older wooden structures which predominate on the campus. The buildings are widely scattered and the symmetry of their arrangement is not immediately evident to the visitor.

The animal population of the school is quite sizeable and is composed as follows:

Beef Cattle	- 98
Swine	- 65
Goats	- 80
Sheep	- 5
Carabaos	- 20
Chickens	- 2000
Ducks	- 50
Turkeys	- 15

The larger items of farm equipment include four tractors, one hand tractor, a rice harvester, a spraying machine, a feed grinder, a mowing machine, and a rice mill. Additional equipment for the Farm Mechanics Department, recommended by the California State Polytechnic College-AID Contract Team, has been ordered under the L.I.V.E. Project. The Cal-Poly Team has also suggested the purchase of a 900-1200 GPM capacity centrifugal pump with an 80-90 BHP at 2250 RPM, Diesel, six cylinder engine to meet the irrigation needs of the college.

Financing

During the past year the total operating budget of the school (excluding capital improvements) was approximately three million Bahts (600,000 Philippine Pesos or 150,000 U.S. Dollars). It was reported that roughly two-thirds of this amount came from government budget sources and one-third from the earnings of the school.

Purposes and Curricula

It was reported that the purpose of the Higher Secondary Level (Grades 11, 12 and 13) Program in Vocational Agriculture is to train semi-skilled agricultural workers. A uniform general curriculum composed of academic and agricultural subjects is offered throughout the country. At the time of this visit the curriculum was in the process of revision and was not available for detailed study. However, it was reported that the new curriculum may provide for consolidation of several courses now extending over two semesters into courses of one semester duration to allow:

1. More laboratory practice for such courses as chemistry, botany, zoology, and physics.

2. More field practice in agricultural production, agricultural economics, and agricultural mechanics courses.

3. Allocation of class time on a "50 per cent theory and 50 per cent laboratory and field practice" basis.

The purpose of the two year technical program offered at the post upper secondary level (grades 14 to 15) was reported to be the training of technicians for employment in various agricultural occupations. A specialized agriculture curriculum allowing for concentration in either animal science, plant science, agricultural business and economics, or agricultural mechanics is offered. The administration plans to add agricultural extension and home economics as other fields of concentration by 1970.

Teaching Methods Utilized at the Secondary Level

The teachers interviewed at Chiangmai reported that the teaching procedures most often used were (in rank order): (1) lecture, (2) demonstration, (3) laboratory, (4) field practice, and (5) field trips to successful local farms. They further reported that they prepared written lesson plans for about 70 per cent of their units of instruction. These plans were reviewed by their administrative superior. When asked for the titles of the main textbooks used in individual courses they had no difficulty in citing an impressive list of titles and authors.

The teachers said that they considered the discipline in their classroom to be democratic rather than authoritarian.

Notebooks for each course are kept by the students and are considered important to the learning of high grades.

The teachers informed us that the learning of their students was measured most frequently by oral and written tests (in that order). Written examinations for each course are sent out by the Ministry of Education and the outcomes are considered "serious business" by the teachers.

Occupational experience is provided in at least three forms by the school. They are: field practice on the school farm, individual productive enterprise projects conducted at home, and group productive enterprise projects conducted on school land by members of the Future Farmers of Thailand.

Six hours per week of field practice is required of all students enrolled in the higher level secondary school. Technical students are required to perform a total of 200 hours of field practice during the two year period in which they receive training. It was reported that classroom instruction on typical farm jobs such as preparing the

seedbed, transplanting rice seedlings, and applying fertilizer is followed by actual field practice "more than 80 per cent of the time". The person who teaches a given farm job also supervises field practice involving that farm job. However, students seldom if ever participate in making management decisions concerning the school projects. The grade given for field work is determined by: amount of work, quality of work, behavior, seriousness, and punctuality. Students do not receive tangible remuneration for field practice.

Some experimentation is underway at Chiangmai with individual productive enterprise projects conducted on home farms by students commuting to the school from their homes. Teachers reported that they visit each boy's project three or four times a year for supervision purposes using a bicycle for transportation.

Group production enterprise projects were reported as one of the main activities of the local chapter of the Future Farmers of Thailand. Such projects included vegetable growing, rice production, raising various animals, and the cultivation of orchids and other flowers. It was observed that a high proportion of the FFT members reside in separate living quarters which they have constructed from locally available materials and cook their own food.

The Future Farmers of Thailand is apparently a recent innovation at Chiangmai. It was reported that 36 boys comprise the membership. In addition to conducting the group production enterprise projects mentioned above, the group last year built "annexes for school houses" as an extension activity and "sprayed public areas" in the community to control insects. It was reported that the local chapter elects officers, holds frequent meetings, has a written budget, plans and carries out a written program of activities, and keeps treasurer's accounts and written minutes of meetings. No paraphernalia is used in meetings. Decisions concerning which productive projects to conduct and the establishment of work priorities are arrived at in group meetings.

Training Program for Hill People

During the period September 1, 1968 to August 31, 1969, two different groups of hill people received intensive training at Chiangmai Agricultural College. Since the clientele and the procedures utilized in organizing and conducting the two training programs were essentially the same, only the second program held from March 20-April 25, 1969 is described here.

About a week prior to the beginning of the course, 45 village leaders and/or other young men selected by village leaders of the Mao, Yao, and Karen hill peoples arrived at the college. Ranging in age from 16 to 36, the enrollees represented villages in three provinces of northwestern Thailand located along the Burma border.

During the first weeks of their stay at the school, the enrollees built living quarters from readily available local materials, attended orientation sessions, participated in recreational activities, and contributed ideas for the instructional program.

The course of study actually followed was evolved from a three step process.

1. The school officials obtained the advice of the border police serving in the provinces from which the enrollees were drawn.

2. The enrollees and other village leaders were invited to contribute their ideas concerning instructional needs.

3. The Director of the college, using his intimate knowledge of the human and physical resources of the school, made the final decision.

The course of study for the second training session emphasized:

- Preparation of seedbeds
- Propagation of plants
- Use of fertilizers
- Use of fungicides and insecticides
- Backyard vegetable gardening
- Backyard fruit production
- Raising poultry
- Swine production
- Cattle husbandry
- Animal diseases
- Use of vaccine serum
- Thai language

Classes were held on the following daily schedule:

- 8:00 a.m. - 12 noon Agricultural classes
- 1:00 p.m. - 4:00 p.m. Agricultural classes
- 8:00 p.m. - 9:30 p.m. Thai language

Three factors had a direct influence on the teaching procedures utilized in the training sessions. (1) Communication problems existed between the enrollees drawn from the different hill peoples as well as between the teachers and enrollees. These difficulties could be only partially overcome by "within the group" interpreters. (2) The previous formal education of the enrollees was variable and at best limited. (3) It was hoped that at least some of the enrollees would teach new skills and knowledge upon their return to the village. As a result, demonstrations, practice, use of live materials, and discussion in that order were most commonly used in teaching the course. Lectures in this setting proved quite ineffectual and were replaced by brief explanations and instructions given as a supplement

to other teaching techniques.

In addition to instruction the group engaged in a number of recreational activities including soccer, movies, sight-seeing, and a dinner party given by the Director. No attempts were made to organize the group in any formal way beyond the necessities of the above instructional and recreational pursuits.

Follow-up of the two programs is being carried out by the "area anti-communistic activities coordinator" and four helpers. It was reported that they hold meetings in the villages from which the enrollees (village leaders and their nominees) are drawn. The meetings are followed by inspection of the agricultural projects with the village leaders at which time on-farm instruction, including suggestions for improvement, are given.

The Director reported that the program has been well received by both the village leaders of the hill people and the government. Plans are in progress to (1) continue the training program for hill people with emphasis on serving young farmers and (2) to create a "Center for Vocational Training" for new recruits of the Department of Community Development "who aspire to become rural development agents". The trainees will be university graduates who have been selected for training in agricultural techniques to be used in up-country districts in helping each community develop local resources.

Young Farmer Class

During the period June 10, 1968 to March 15, 1969, the school conducted a special program for 18 "young farmers" between the ages of 16-20 years. Most of these young men were school drop-outs who wished to pass entrance examinations so they could continue their education. They have lived at the school and devoted full-time to their studies.

The course of study for this group was determined by (1) the nature of the entrance examination with its emphasis on academic subjects, (2) practical training which will be useful in earning a living in case of failure on the entrance examinations, (3) the wishes of the enrollees, and (4) the final decision of the Director. As a result of the interplay of these factors the course of study has emphasized: chemistry, biology, english, mathematics, vegetable gardening, soils and fertilizers, fruit crops, poultry and food preservation.

The group has followed a schedule which included classwork from 8 a.m. to noon and field work from 1 p.m. to 4 p.m. each day. The main teaching procedures used with this group have been (in order of frequency): lecture, practice, field trips, and examinations.

In addition the group has engaged in certain recreational activities such as soccer, basketball, and attending occasional movies or slide showings.

This program was described by the Director as an attempt by the school to meet the needs of a particular out-of-school group interested in the broad field of agriculture. It is an example of the schools flexibility and willingness to serve the special needs of the local citizenry.

Participation in L.I.V.E.

The Loan Project for the Improvement of Vocational Education, involves ten agricultural schools in Thailand including Chiangmai Agricultural College. Directed by the Department of Vocational Education of the Ministry of Education, with technical assistance from California State Polytechnic College working under contract with USAID, the project has undertaken a massive upgrading of the schools involved.⁵ Some of the highlights of the L.I.V.E. project thus far are:

1. Erection of much needed buildings.
2. Procurement of equipment needed for the improvement of instruction and farming programs.
3. Development of farm plans including irrigation installations.
4. Holding of numerous workshops for teachers on such subjects as lesson planning, crops, agricultural mechanics, poultry, dairy, etc.
5. Revision of the curriculum for the higher level secondary schools.
6. Enlistment of private commercial enterprises and government agencies in improving the agricultural schools through such contributions as teaching aids, product samples, seeds, plant materials, fertilizers, pesticides, resource persons, and loan of equipment and resource persons for workshops, etc.

Evaluation (By the Director)

Progress toward achievement of the purposes of the school is determined by:

1. Follow-up studies of graduates
2. Annual program reviews by the Ministry of Education
3. Scores made by students on Ministry of Education examinations.

The most recent follow-up study conducted by the school, through the auspices of the alumni association, concerned the 200 graduates of the higher level secondary school in 1968. Although analysis of the data, obtained by means of questionnaires, was incomplete as of this visit early computations indicated that 60 per cent of the graduates had been accepted for two year technical

training programs in various agricultural colleges, 35 per cent were employed by government ministries, and five per cent were engaged in farming.

Previous experience indicates that of the 69 graduates of the two-year technical program (in 1968), one-third will continue their education at an advanced educational institution while two-thirds will seek employment. Technical graduates from Chiangmai have no difficulty in obtaining government or private employment commensurate with their training, it was reported.

The Director said that he considered the outstanding strengths of the educational program to be:

1. The opportunity for the students to pursue specialized programs during the technical training course.
2. The preparation received by the higher secondary level graduates for either further agricultural education or for employment in agriculture.

By the same token he considered the main weaknesses of the program to lie in the

1. Need for extending the specialized program of the technical training program to include a third year.
2. Need for a one year teacher training program to follow a three year technical program.
3. Greater emphasis on science, mathematics, and other basic subjects.
4. The attempt to train secondary students for farming at such an immature stage of their lives.

Exemplar and Innovative Features (As viewed by the study-tour participants)

Several features of the program at Chiangmai Agricultural College were particularly noteworthy. Each contributed a unique dimension to the quality of the vocational agriculture program. Each was based on an idea which has proven particularly viable under Thai conditions. And each appeared to hold considerable promise for that wide spectrum of persons - including teachers, teacher trainers, administrators, researchers, and others - seeking innovative ideas for try-out in, adaptation to, and ultimate adoption for the improvement of vocational agriculture in their own countries.

1. The school is sensitive to the continuing agricultural education needs of the larger community in which it is located and

has responded with programs involving

- Imaginative approaches
- Flexibility
- Massive commitment of resources, and
- Cooperation with numerous other agencies of the government.

The excellence of the school's efforts in the area of continuing education is attested to by

- The training program for hill people
- The special program for school drop-outs
- Plans for a young farmer program, and
- Plans for training recruits of the Department of Community Development who aspire to become rural development agents in up-country districts.

2. The instructional programs offered to in-school students at both the higher secondary and the technical training levels are

- Dynamic in orientation
- Developmental in nature
- Oriented to the future needs of the learners, and
- Spiced with experimentation.

These characteristics are evidenced by

- A growing dissatisfaction with the disparity between the maturity level of students and their enrollment in preparation for farming at the higher secondary level.

- The school's participation in the curriculum revision efforts of the L.I.V.E. Project.

- The earnest attempts by the school to supplement classroom instruction with meaningful practice.

- The presence of innovations such as the Future Farmers of Thailand.

- Plans for extending the specialized technical program to include more extensive training and new emphases such as teacher training, agricultural extension, and home economics.

3. Serious attempts are being made to provide educationally meaningful practice which will supplement classroom instruction. Of special note in this connection are

- The current efforts, in concert with other schools in the L.I.V.E. Project to improve student laboratory experience through more appropriate scheduling, purchase of needed equipment, erection

of new buildings, and in-service training of teachers.

- The utilization of three distinct types of occupational experience programs including field practice, individual productive enterprise projects, and group productive enterprise projects.

- The orientation of field practice to the educational needs of students so that classroom instruction on a given farm job is followed by actual field practice under the supervision of the same classroom teacher.

4. The policy of enlisting private commercial enterprises and government agencies in improving the agricultural schools, carried out by the L.I.V.E. Project, has resulted in many direct and indirect benefits:

- It has made the latest developments of research agencies and business available to school personnel.

- Farming practices and teaching materials have been constantly updated.

- Better field trips, demonstrations, and workshops have been made possible.

- Observation, practice, and use of new equipment, materials, and practices have resulted.

- It has shown that "Everywhere in Thailand people are interested and willing to help improve education. This interest ... can be a major help to the vocational agriculture program."

TAIWAN PROVINCIAL TAOYUAN SENIOR VOCATIONAL AGRICULTURAL AND INDUSTRIAL SCHOOL

Taiwan Provincial Taoyuan Senior Vocational Agricultural and Industrial School is located at Taoyuan, Taiwan, Republic of China. Taoyuan is a city of approximately 55,000 people in northern Taiwan, some ten miles to the southwest of Taipei. Foreigners visiting the school find it convenient to lodge at one of the hotels in Taipei and to utilize taxi service to and from the school. Despite the somewhat more rural scene in Taoyuan, the foreigner travelling the excellent hardsurfaced roads between the two cities has difficulty in recognizing his departure from one city and his entry into the other. The school site is surrounded by a blend of suburban and farming activities. The mailing address of the school is: No. 144 2nd Section, Chengkung Road, Taoyuan.

Agriculture of the Area

The main commercial farming enterprises in the area bordering the school are rice, oranges, vegetables, and swine. About five years ago (1964), a large reservoir was completed near the school site which supplies irrigation water to the school and nearly all of the farms in the area. A number of trends have accompanied the availability of irrigation water including the use of higher yielding varieties of rice, increased use of commercial fertilizers and insecticides, and increased mechanization: (one-third now use tractors). As a result, higher yields are obtained than in the past. However, due to the increase in population density and the use of land for purposes other than farming, the proportion of farmers in the population in the Taoyuan area is decreasing. In addition there is a trend to pursue farming as a part-time job and many farmers are simultaneously engaged in off-farm employment.

History of the School

This school was initially founded by the Japanese on April 25, 1938 as the Hsin Chu County Taoyuan Vocational Agriculture High School. After the restoration of Taiwan to China, a new program was introduced featuring a three-year junior department and a three year senior department. At that time the junior department followed a general agricultural curriculum but the senior department was divided into two divisions: horticulture and agronomy. In 1952, the 4-H club was formed and the divisions of animal husbandry and of veterinary were added. Two years later (1954) the school was reorganized as a pilot school and the process of converting the horticulture division into comprehensive agriculture was initiated. The farm mechanics division was established in 1960. Since then the practical skill and art training center was added in 1962.

Because of its excellent facilities, scenic campus, outstanding faculty, and location, the school has become a show place for visitors and guests from both Taiwan and abroad.

Administration of the School

In December 1932 separate laws were promulgated by the Ministry of Education for high schools, normal schools, and vocational schools. As a result, the regular high school and the vocational school were separated. This system is still followed. A total of 41 agricultural vocational schools were reported in 1963 by the Ministry of Education.

The Principal is the chief administrative officer of the school. He is expected to follow the principles of education, economics, integration of discipline and teaching, and integration of employment and education. As the leader of his staff he should do his utmost in promoting educational programs and set a good example for all others. His main duties are: (1) to plan, improve, and develop the school program, (2) to prescribe and screen school regulations, (3) to appoint teachers, (4) to appoint administrative staff members, (5) to supervise and guide teaching work, (6) to encourage teachers to conduct research work and to help teachers in pursuing advanced studies, (7) to study student's scholastic records and their conditions of health and personal thoughts, (8) to inspect school buildings and facilities, (9) to handle official correspondence, (10) to prepare school budgets, (11) to preside over school meetings; and (12) to provide liaison with other agencies.

Senior high school principals must be physically and morally sound and outstanding in general academic knowledge. They must have at least one of the following qualifications (required of junior high school principals):

(1) Graduated from the education department of education college of a Chinese or foreign normal university, or from department of college of the same university having completed 20 academic credits of educational courses. They must have served more than two years in the educational field with outstanding records.

(2) Graduated from any department of a Chinese or foreign university or senior normal department or special normal department and served more than three years in the educational field with outstanding records.

(3) Graduated from a Chinese or foreign technical institute and served more than five years in the field of education with outstanding records.

In addition the senior high school principal should have at least one of the following qualifications:

(1) Served as professor or full-time lecturer at college of art and science or college of education of a national university for more than one year.

(2) Served as senior officer of provincial or city educational administrative organizations with outstanding records.

(3) Served as principal of junior high school for more than three years with outstanding records.

(4) Served as dean of studies or dean of students at public high school (with senior department) for more than four years with outstanding records.²

The total cash salary and allowances of high school principals may be as high as 2800 N.T. Dollars/mo. (280 Philippine Pesos or 70 U.S. Dollars). Aside from salaries and allowances in cash there are also "in-kind" rations, such as rice, kerosene oil, edible oil, salt, etc. In addition the Principal receives free housing and the use of a motor vehicle (for business only).

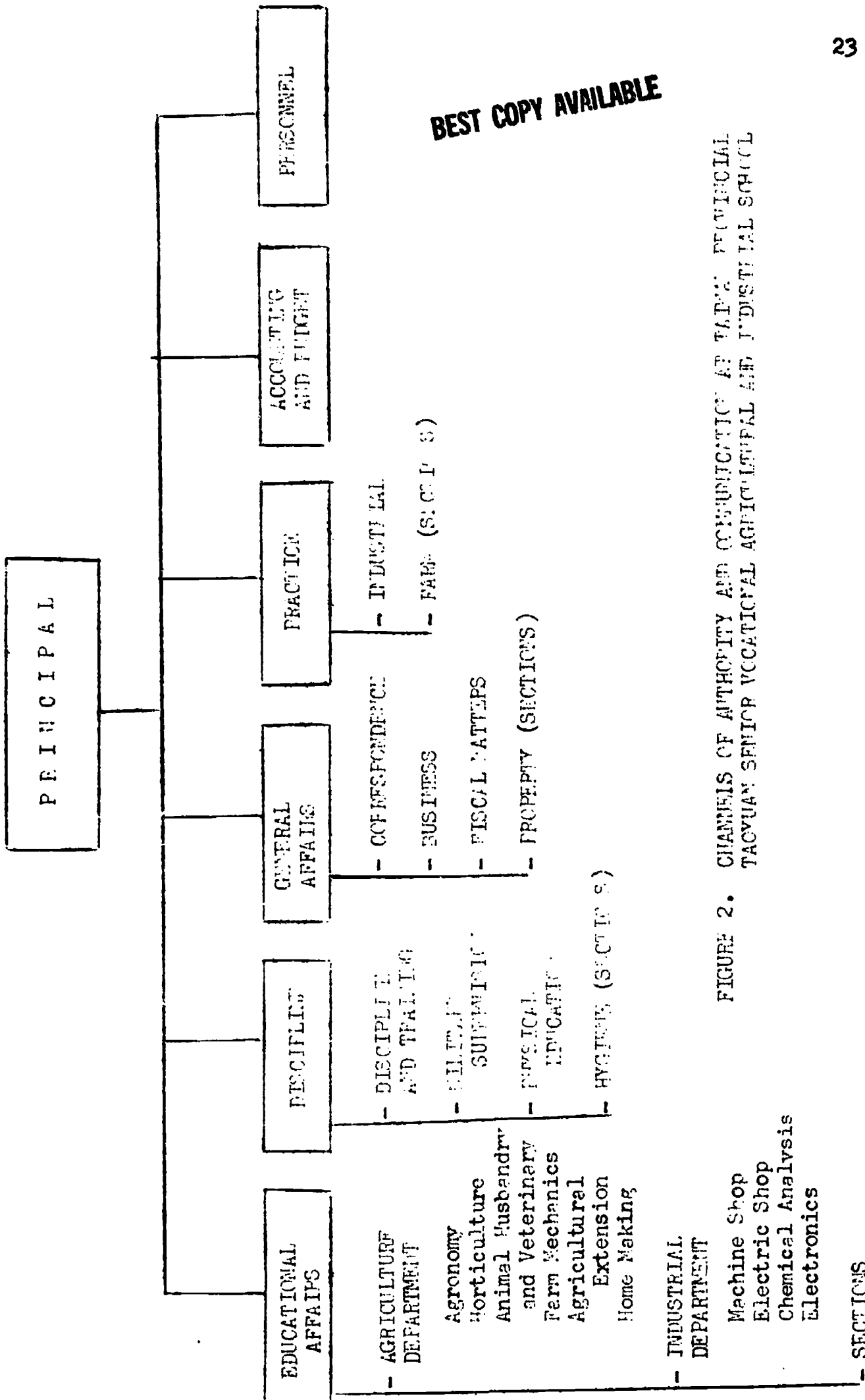
Mr. Wang Nien-Lieh had served 13 years as Principal at the time of this visit in late September, 1969.

The channels of authority and communication within the school flow downward from the Principal through department heads to teachers and staff in typical "line" organization. The six departments of the school are: educational affairs, discipline, general affairs, practice, accounting and budget, and personnel. FIGURE 2. The head of the department of educational affairs serves as Acting-Principal during necessary absences of the Principal. In the event that both are absent the head of the department of discipline acts as the officer in charge.

Teaching Staff

The faculty at Taoyuan consists of 50 male and 20 female teachers. Twenty of the males from this group are agriculture teachers. Of this 20 it was reported that 15 are holders of bachelor's degrees and that five are not.

Chung Hsing University was the most frequent source of pre-service training for the present faculty - followed by National Taiwan University and Ping Tong Junior Agriculture College. Thirty-five per cent of the teachers (seven trained by the Agricultural Education Department of Chung Hsing University) were trained in "methods of teaching" and experienced "student teaching" during their



BEST COPY AVAILABLE

FIGURE 2. CHANNELS OF AUTHORITY AND COMMUNICATION AT THE PROVINCIAL TACVUAN SENIOR VOCATIONAL AGRICULTURAL AND INDUSTRIAL SCHOOL

pre-service preparation.

Teachers at Taoyuan conduct a range of from 16 to 25 contact hours per week of classes and carry out a variety of other assigned duties.

The starting salaries of high school teachers are fixed in accordance with the person's academic records. One step increase is made each year in accordance with the number of years of service up to the ceiling. The range of cash salaries and allowances for senior high school teachers is 1600 to 2500 N.T. Dollars per month (160 to 250 Philippine Pesos or 40 to 62.50 U.S. Dollars). "Aside from salaries in cash, there are also in kind-rations, such as rice, kerosene, edible oil, salt, etc." Most schools provide housing for teachers. Teachers are employed for 12 months of the year.

Of the 20 agriculture teachers at Taoyuan, 12 had taught more than ten years at this school, six had taught there from two to ten years, and only two were first year teachers.

The **main** criteria cited by the Head of the Department of Educational Affairs for promotion of teachers in "rank or position" were: length of service, degree, and administrative duties performed. Department heads (except for accounting and personnel) are appointed by the Principal after approval by the supervisory educational agency. The appointment of Chinese high school teachers follows the "invitation" system. In principle, the first "invitation" is for a period of one semester and subsequent ones are for a period of one year. The Principal selects the best qualified persons as teachers and submits their names to the supervisory educational agency for approval.

During the past five years, four or five teachers from Taoyuan have attended workshops of from one to four weeks duration at Chung Hsing University. The workshops have dealt with such subjects as forestry, soil and water conservation, and supervision of student teachers.

Admission

In order to gain admission as a regular student at Taoyuan a student must:

1. Be a graduate of the junior high school or equivalent.
2. Have good health and be free of abnormalities.
3. Take an entrance examination on academic subjects - and if he has previously studied at a junior vocational agriculture school he must take an examination on agricultural subjects.

Student Fees

According to Articles 68 and 69 of Section 11 of the Revised Vocational School Regulations, "Vocational schools, in principle, shall not charge tuition unless with the approval of the superior educational agency... if necessary, vocational schools may collect a minimum amount of fees for materials used for practical training."

At Taoyuan it was reported that the current fees per year are approximately

1. Tuition and fees	1700 NT Dollars
2. Meals	2400 NT Dollars
3. Room	500 NT Dollars
4. Books	<u>200 NT Dollars</u>
Total	4800 NT Dollars (480 Philippine Pesos or 120 U.S. Dollars)

However, in practice only about 15 per cent of the current student body room and board at the school. Thus, for a student living at home and commuting to Taoyuan the total fees are 1900 NT Dollars per year (190 Philippine Pesos or 47.50 U.S. Dollars).

Enrollment

The current enrollment for the school year 1969-70 was reported to be 974 boys and 35 girls. Of this number 625 boys and 35 girls were enrolled in agriculture. This latter group was distributed among the several agricultural curricula as follows:

1. Animal husbandry and veterinary . . .	200
2. Farm mechanics	143
3. Comprehensive agronomy	98
4. Agricultural extension	97
5. Horticulture	87
6. Homemaking	<u>35 (girls)</u>
Total	660

The number of drop-outs was reported to be low. During the school year 1968-69, only 38 (five per cent) of the 710 students enrolled in agriculture did not complete the school year.

School Facilities

The school site occupies a total of 43 hectares (106 acres)*

* Approximate equivalents throughout this paragraph.

of land which is utilized as follows:

- Rice, vegetables, citrus, papaya, ornamentals, and pasture 18 hectares (45 acres)
- Forest 13 hectares (32 acres)
- Pond (nominal)
- School plant and others 12 hectares (29 acres)

There are 27 classrooms, six offices, two libraries, two laboratories, and one visual hall, specimen room, apparatus room, food processing laboratory, office of physical and moral training, first aid station, coop store, and auditorium. Also a training center for practical skill and art, farm mechanics shop, clinic for domestic animals, greenhouse, armoury, lath house, and incubation room. There are four warehouses, seven cowsheds, two compost houses, one deep well, 25 faculty housing buildings, four farm-hands housing buildings, one dormitory for students, and various shops for the industrial training program.

Animals for instructional purposes include 14 pigs, nine cattle, two carabaos, 200 chickens, ten rabbits, nine ducks, and four turkeys.

When asked to list the major items of farm equipment, the farm manager reported one four wheel tractor, four hand tractors, and four power sprayers.

Financing

The total operating budget of the school, excluding capital improvements, for the previous school year was reported to be approximately three million NT Dollars (300,000 Philippine Pesos or 75,000 U.S. Dollars). This sum was entirely from government sources.

Purposes and Curriculum

The educational aims of agricultural vocational schools adopted by the Fourth National Education Conference (1961) follow:

1. To teach students knowledge and skills required by modern farmers and to train basic farm technicians in order to facilitate agricultural improvement and accelerate farm production.
2. To cultivate the spirit of service and leadership of the youth in order to improve the living standard of rural people, and to strengthen rural reconstruction.
3. To make the agricultural vocational school a reconstruction and education center of the local rural community to improve farmers' modern knowledge and skills.⁶

The Taiwan Provincial Taoyuan Senior Vocational Agricultural and Industrial School offers six specialized curricula (divisions of study) related to agriculture. They are:

1. Comprehensive agronomy
2. Horticulture
3. Animal husbandry and veterinary
4. Farm mechanics
5. Agricultural extension, and
6. Home economics.

The October 1963 revision of Chinese vocational school curriculum standards set the total number of weekly teaching hours for all vocational schools at 40 and stipulated the course of study for each division. In each case 33 per cent of the weekly teaching time in the three-year program is devoted to: civics, Chinese, English, and three people's principles. A total of 14 per cent is assigned to mathematics, biology, chemistry, and physics. The remaining 53 per cent is set aside for specialized agricultural instruction and practice in the respective curricula.

Teaching Methods Utilized

The teachers interviewed at Taoyuan reported that the teaching methods most frequently used were in rank order: (1) lecture, (2) discussion, (3) laboratory, (4) demonstration, and (5) field trips. Younger teachers are required to prepare written teaching plans for all units of instruction but older teachers are not. The teaching plans are reviewed by the department head.

Discipline in the school was reported to be democratic in nature by the teachers.

Students at Taoyuan are required to keep notebooks in each course. The textbooks used in teaching agriculture are written by Chinese authors and based on conditions within the country. Student learning is assessed by means of written examinations, oral participation in class, and practical examinations.

Occupational experience is provided primarily in the form of farm practice. Most curricula (divisions of study) require six hours per week of farm practice of all students throughout the three year training program. It was reported that classroom instruction on typical farm jobs such as preparing the seedbed, transplanting rice seedlings, and applying fertilizer is followed by actual field practice "more than 80 per cent of the time." The teacher giving instruction on a given farm job also supervises the practice of the students on the school farm. More than half of the time, students participate in making management decisions concerning the school projects where practice is obtained. The practicum grade at Taoyuan is based on results, behavior, and quality of work. Students do not receive

remuneration for work done during farm practice.

Another type of occupational experience is being tried out at Taoyuan. Students with suitable facilities are encouraged to conduct individual production projects at home. Those who do are visited monthly by a teacher from the school for the purpose of assisting the students with problems encountered. Time spent by students on individual production projects at home is not counted as part of the six hours per week farm practice requirement.

The publication Secondary Education-Republic of China contains two references to a third possible type of occupational experience program. Describing the course of study for the division of animal husbandry and veterinary of senior vocational high schools in agriculture is the following remark, "1st year - farm practice; 2nd and 3rd year -pasturage and veterinary hospital practice including internal medicine and surgery and obstetrics."⁶ And again under the heading Employment "The current ways of placing vocational school graduates may be summarized as follows... (3) through the practical training of vocational school students in factories, mines, farms, and hospitals during vacations. Such training usually offers the opportunity of employment after their graduation."⁶ Whether or not the implications of these two statements have been embodied in a functional program for placing students with commercial firms for occupational experience was not learned.

The 4-H Club at Taoyuan was reported to have a membership of 234 boys and six girls. This group carries out such activities as: contests, camping, field trips, and community service ventures. The club elects officers, develops a written program of work and a written budget, keeps minutes of meetings and treasurer's accounts and using 4-H paraphernalia in meetings. Plan for activities are made in group meetings of the club.

Young Farmer Classes

During the period September 1, 1968 to August 31, 1969 the school offered three intensive training programs for young farmers: vegetable production, fruit production, and fish culture. An average of 50 local young farmers participated in each program.

In each case the young farmers were allowed to select the subject-matter content to be emphasized. All-day meetings, scheduled at the convenience of the young farmers, were held at the school. The teachers reported that the usual teaching procedure followed was to present lectures to the young farmers and then go to the field for observation and discussion. The meetings usually continued day after day until the end of the program. Most programs did not exceed four days.

Follow-up of the classes depended on the initiative of the enrollee. The teachers reported that the young farmers were inclined to go to the farmers association for supplementary assistance. However, some class members returned to the school for further assistance with problems encountered on their farms. If it appeared advisable to do so, the teacher visited the young farmer's farm and gave first hand assistance.

Evaluation (By the Head of Educational Affairs)

The Head of Educational Affairs reported that progress toward achievement of the objectives of the school is determined by follow-up studies of graduates and the outcomes of final examinations.

Each fall in September the school conducts a follow-up study of the previous school year's graduates. These studies show, in general, that 33 per cent of the graduates are employed by the government or some public enterprise, 57 per cent are employed by private enterprise including farming, and ten per cent are enrolled in agricultural college. Since the graduates are awaiting induction into military service* at the time of the follow-up study their first job employment is often of a temporary nature. For this reason attention was called to a 1968 study of 1950-1964 graduates from senior middle agricultural schools in Taiwan⁷ which indicated that 20 per cent were in agricultural professional, semi-professional, and specialist jobs; 18 per cent were in non-agricultural clerical and sales; 15 per cent were in non-agricultural professional, semi-professional, and specialist jobs; 10 per cent were farming; eight per cent were non-agricultural managers, officials and proprietors and four per cent were in agricultural extension.

The Head of Educational Affairs said that he considered the outstanding strengths of the school to be its excellent teachers, outstanding students, and the specialized vocational agriculture program. He also said that the school is proud of its record in connection with the "Agricultural Technical Contest" which it always wins. He further said that Taoyuen is without doubt "the best agricultural school" in the country.

"The greatest weakness of the school lies in its physical facilities. More modern machinery, teaching equipment, and buildings (which can be maintained at low cost) are badly needed," he said.

*Graduates from senior middle schools are eligible for compulsory military service after reaching the age of 18 but are not usually inducted into service until they reach age 20. They serve two or three years depending on branch of service and other factors. Graduates who enter higher education institutions must complete ROTC in colleges and still have one year of active duty after graduation.

Exemplar and Innovative Features (As viewed by the Study Tour Participants)

Four features of the Taoyuan program especially impressed the study tour participants. Not only were these four aspects of the Taoyuan program serving well in the Taiwan setting but it appeared that they had merit for consideration and try-out in, adaptation to, and possible adoption in other countries seeking to improve their program of vocational agriculture through the introduction of innovations.

1. The purposes and specialized curricula of vocational agriculture are dynamic and oriented to agricultural development.

a. The 1961 statement of educational aims of agricultural vocational schools emphasizes preparation of both modern farmers and agricultural technicians, improvement of the living standard of rural people, rural reconstruction, and the training of technicians to meet the needs of agricultural industry.

b. The specialized curricula of the agricultural vocational schools has proven an effective means for the training of specialized technicians. These curricula are frequently revised. Furthermore new specializations are added as the need for them becomes apparent.

c. The specialized agricultural school has proven to be a rich source of students for agricultural colleges.

2. The importance of supplementing curriculum changes with instructional materials appropriate to teacher implementation (of the spirit as well as the letter of the revisions) is well understood in Taiwan.

a. The teachers at Taoyuan were quick to point out the excellent stock of references especially written for high school level agricultural students by Chinese authors.

b. The Ministry of Education assumes responsibility for financing and coordinating not only the development of new curriculum standards but the production of instructional materials as well.

3. Occupational experience programs are viewed almost entirely as an educational enterprise for the students.

a. Farm practice is supervised by the teacher who has responsibility for classroom instruction on a given topic.

b. Students participate in making the managerial decisions involved in school projects.

c. Individual production projects are encouraged.

d. Provisions have been made for placing students in local agricultural businesses and industry for occupational experience during summer vacation periods.

e. The size of the school farm is relatively small as are the school projects.

f. Income from the school farm is not a major source of support for the school.

4. The school is heavily committed to agricultural development and cooperates closely with provincial agricultural extension personnel in

a. Propagating and making available to farmers more productive breeds of animals, improved varieties of crops and **fruit**, and ornamental planting materials.

b. Establishment of a mechanical tiller service and manufacturing of improved farm implements.

c. Conducting practical skill and art training classes for the unemployed.

d. Placement of students for practice in agricultural agencies during summer vacation.

e. Holding short courses for farmers such as those described above under young farmer program.

f. Training extension workers.

g. Providing new programs to meet the needs of the rural people in the Taoyuan area.

h. Conducting tests and demonstrations of new varieties, breeds, products, practices, and equipment.

SUWON AGRICULTURAL AND FORESTRY HIGH SCHOOL

Suwon Agricultural and Forestry High School is located at Suwon, South Korea approximately 20 kilometers south of Seoul. The mailing address of the school is # 55, YOUNGWA-dong, Suwon, Kyunggi-do. Visitors to this school who do not speak Korean should arrange in advance for the services of an interpreter. Since the school lists English, German, French, and Chinese among the optional courses offered to students, arrangements might be made for an interpreter in these languages through the Principal. Several faculty members at the Seoul National University, College of Agriculture, Department of Agricultural Education (and other educational institutions) have obtained advanced degrees in the U.S. and speak fluent English. Transportation to the school can be managed via taxi by enlisting the assistance of English speaking hotel personnel to determine the fare and give instructions to the driver. Excellent bus service is available between Seoul and Suwon but should only be attempted by foreigners when accompanied by an interpreter. The drive from Seoul to Suwon is a scenic delight in its own right affording the traveller views in urban Seoul, fertile farm land, and the small city of Suwon - all against the backdrop of rugged mountain ranges. The city of Suwon has a population of 20,000. The Seoul National University, College of Agriculture is also located at Suwon.

Agriculture of the Area

The service area of the school is limited almost entirely to the Province of Kyunggi-Do and includes an area roughly 25 kilometers in diameter. The main crops grown in the Province are rice, vegetables, barley, wheat, and flowers in that order. The most important animal enterprises are poultry, dairy, and swine. However, the crops are of much greater economic importance than are the livestock.

According to the Principal, land is being used increasingly for flower, vegetable and dairy production. Rice, barley, and wheat on the other hand are declining in importance. There is some trend toward mechanization of farming but traditional hand methods of farming still predominate.

History of the School

The school was founded on June 1, 1936 during the occupation of Korea by Japan. At the time of its inception the purpose of the school was to train upper secondary level agricultural technicians who would serve as assistants to Japanese agricultural senior technicians. According to the Principal, the School remained open throughout the war years; at the end of which Korea was liberated from Japan.

During the invasion of South Korea by the North Korean Communist Army, the school was almost totally destroyed and was closed for some time. However, in 1951 the school was reopened with a small number of students. In 1960 the present building program was begun which has resulted in a well planned and equipped modern school plant.

In 1963 the Department of Agricultural Education was established at Seoul National University, College of Agriculture. Since that time the school has served as an off-campus student teaching and observation center for the new Department. Perhaps as a consequence, the school has become a model for other agricultural schools in South Korea. The morale of the staff of the school appears to be very high and reflects their pride in the school, the students, and the program.

Administration of the School

The Principal is the chief administrative officer of the school, with overall responsibility for all school functions. Applicants for this position must have served as vice-principal in an agricultural school and possess the educational credentials required of agricultural teachers at the secondary level. Principals are paid on a 12-month basis. The present incumbent Mr. Lee Kyung-Chaei has held this position for ten years. Principal Lee is widely known and deeply respected by the members of the Agricultural Education profession in Asia. At the time of this visit Mr. Lee was Chairman of the Korean Agricultural Education Association. The impression gained by the members of the tour group was that Mr. Lee is a true gentleman and scholar. His quiet dignity and friendly manner cloaked the entire visit in an atmosphere of tolerance, serenity, and good will.

The day-to-day operation of the school is delegated to the Vice-Principal who also acts as a "coordinator between the Principal and the teachers". All teachers are automatically members of the Faculty Council. The flow of communication and authority passes from the Vice-Principal to the heads of academic affairs, general affairs, farm practice, student affairs, student sanitation, and farm machinery. FIGURE 3.

The Head of Academic Affairs has first hand responsibility for the common courses required of students and takes charge of all scheduling. The heads of the departments of general agriculture, forestry, livestock, farm machinery, and food processing report to him. And he acts as officer in charge when the Principal and Vice-Principal are both absent from the school.

Farm machinery has become a major concern at the school since the construction and equipping of the new school plant. For this reason it has been given the status of a major division (as well as departmental status) and has been placed in the hands of an outstanding member of the faculty.

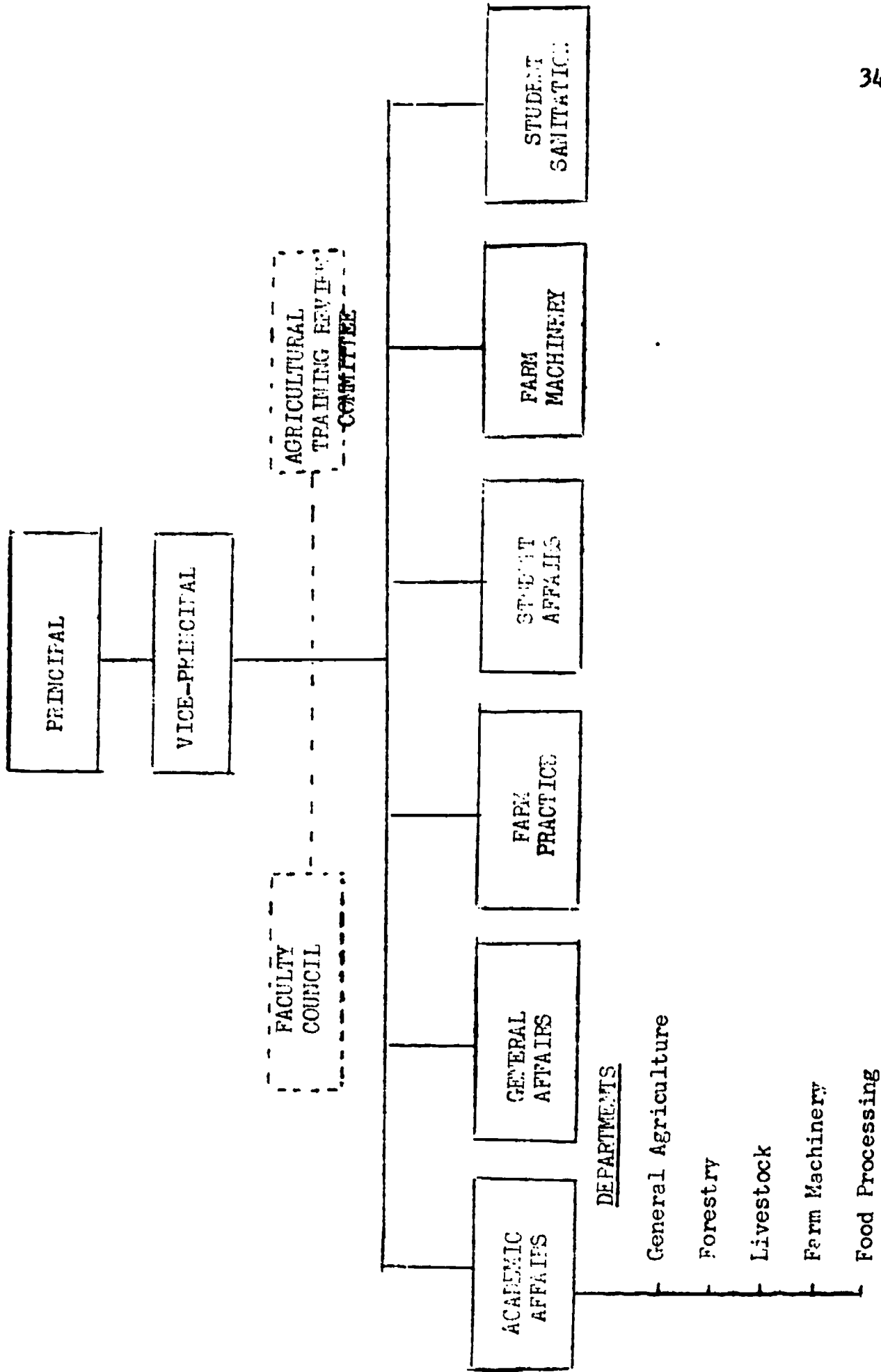


FIGURE 3. CHANNELS OF AUTHORITY AND COMMUNICATION AT SUNCO¹ AGRICULTURAL AND FORESTRY HIGH SCHOOL

The "line" organization of the school, the uniforms worn by the students, the traditional respect shown (in Korean society) to age and rank, and the standardized operational procedures combine to give the school an atmosphere of military efficiency.

Agricultural Training Review Committee

Like other agricultural schools in South Korea, the Suwon Agricultural and Forestry School appoints persons from various communities within the service area of the school to maintain close contact with the agricultural sector and to contribute to the improvement of agricultural training. The recommendations of the Agricultural Training Review Committee are made to and reviewed by the school administration for possible adoption. The Principal is convinced that the committee had made significant improvements in the training obtained by the students - particularly in the area of curriculum construction.

Teaching Staff

Forty male teachers make up the faculty. Twenty-four of this number are classified as agriculture teachers and 16 are academic teachers. Nearly all (20 out of 21) agriculture teachers obtained their bachelor's degrees at Seoul National University, College of Agriculture. The younger teachers (comprising a majority of the agriculture teachers) have participated in 28 semester hours of education courses including methods of teaching and practice teaching during their undergraduate preparation. The preparation of the smaller number of older teachers pre-dates this type of training in Korea.

Since its founding in 1963, the Department of Agricultural Education at the College of Agriculture of Seoul National University has conducted three month specialized technical and professional workshops for teachers during the summer months. All members of the Suwon Agricultural and Forestry School faculty have attended these workshops which dealt with their teaching specializations.

Teachers at this school teach an average of 16 clock hours per week. The salary schedule at Suwon ranges from 17,000 to 60,000 Won (252 to 889 Philippine Pesos or 63 to 222 U.S. Dollars) per month. Years of service alone determine the salary of individual teachers. Teachers do not receive "in-kind" benefits or other cash allowances of any type although the Principal is provided with housing.

The agriculture teachers at Suwon are very young. At the time of this visit six teachers had served from six to ten years, 17 had served from two to five years, and one teacher was in his first year of teaching.

Admission

The criteria for admission to Suwon Agricultural and Forestry School include:

1. Grades in courses taken in the middle school from which applicants must have graduated.
2. Scores obtained on the entrance examination which includes both academic and vocational subject-matter.
3. Findings of the physical examination.
4. Sex - only males are allowed to apply.

A total of 359 students applied for admission in 1968. The livestock and agricultural engineering curricula attracted the greatest number of applicants.

Student Fees

All of the students at this school live and board at home. Dormitory facilities accommodating 30 students are reserved for special occasions only. The annual fees charged to students include:

Tuition and fees	12,880 Won	
Books (purchases)	4,000 Won	
Total	16,880 Won	(250 Philippine Pesos or 63 U.S. Dollars)

Enrollment

It was reported that a total of 602 students completed the school year in 1968. All were males. They were distributed among the five programs of specialization as shown below:

1. General agriculture	132
2. Forestry	117
3. Livestock	133
4. Agricultural engineering	117
5. Agricultural cooperatives*	103
Total	602

In addition to this number another one hundred students started but did not complete the school year. Financial difficulties and transfer to academic schools were cited as the most frequent reasons for dropping out of the school.

* Replaced by Food Processing in 1969.

School Facilities

The school site includes a total of 16 hectares (40 acres)* of land. It is utilized as follows:

Forest .	- 19 hectares (25 acres)
Rice, corn, vegetable and flower production	- 2 hectares (5 acres)
Pasture	- 2 hectares (5 acres)
Orchards	- 1/2 hectare (1 acre)
Nursery	- 1/2 hectare (1 acre)
School plant	- 1 hectare (3 acres)

Nearly all of the buildings of the school were erected during the 1960's and are skillfully planned, excellently equipped, and well maintained. The campus style arrangement includes specialized structures for administration, academic classes and laboratories, library, forestry, agricultural engineering, food processing, live-stock (with sections for dairy, poultry and swine), greenhouses, etc.

Animals kept for instructional purposes include eight pigs, five dairy cattle, 200 hens, two sheep, and seven colonies of bees.

Two large tractors, three hand tractors, two rice harvesters, one power sprayer, three dust mist sprayers (for flowers), four water pumps, a manure spreader and a steam cleaner are among the items of large farm equipment. In addition each specialized building is appropriately equipped with small tools. Most impressive to the visitor is the new food processing equipment for meat cutting, baking, milk processing, and similar operations.

Financing

Approximately two-thirds of the money for the school's operating budget comes from the Provincial Board of Education. Roughly one-third has its source in the Parent Teachers Association. (PTA). The amount contributed to the operating budget by the national government is very small. The size of the school's budget was not revealed.

Purposes and Curriculum

The purposes of the three year upper secondary program of the school were stated informally as:

1. To prepare young men to be modern farmers.
2. To train agricultural technicians for employment by government and private business.

*All equivalents are approximate in this paragraph.

3. To prepare students for admission and attendance at agricultural colleges.

Achievement of these somewhat diverse purposes is made possible by: a flexible curriculum, emphasis on problem solving, and alternative types of occupational experience programs. Students at Suwon have a choice of two alternative training systems: the School Farm Training System or the Home Farm Training System.⁸

The student who elects the School Farm Training System pursues a program of studies which places equal emphasis (102 units of course work each) on "general" (academic) and "professional" (agricultural) subjects. On the academic side, the student is required to take 52 units of prescribed courses in Korean language, social and national moral, Korean history, introduction to mathematics, general management, and physical training. In addition the student must elect an equal number (50) of units of optional academic courses from the offerings of the school in the fields of mathematics, biology, chemistry, physics, geography, political science and economics, music or fine arts, and foreign language including English, German, French, and Chinese. On the agricultural side the student electing the School Farm Training System is required to complete 54 units of prescribed courses in soils and fertilizers, crops, poultry, forest conservation, medium animals, sericulture, vegetables, farm shop, industrial crops, and agricultural management. An additional 48 units of optional course work must be elected from the offerings of the departments of general agriculture, forestry, livestock, farm machinery, and food processing. The student who elects the School Farm Training System obtains his farm practice on the school farm.

The student who elects the Home Farm Training System must meet the same academic course requirements as other students. However, he is allowed to select the agricultural courses according to the actual circumstances of his home farm. In addition, this student is given the opportunity to obtain supervised farming experience on his home farm.

The advantages of this curriculum are that it allows the student to pursue either a generalized or a specialized curriculum, to elect academic subjects which will prepare him for entrance at a college of agriculture or to pursue other academic interests, and to choose the type of experience program most appropriate to his educational goals and circumstances.

Teaching Methods Utilized

The teachers reported that the teaching procedures most often used are (in rank order): lecture-discussion, demonstration, field trips and field practice. All teachers are required to prepare written teaching plans for all units of instruction. These plans

are reviewed by an administrator before they are utilized. Discipline was reported to be democratic in nature rather than authoritarian. Prescribed textbooks written in Korean language are used. Some of the texts written by college professors and other experts are difficult for the students to read. In such cases the teachers must use class time for explaining the meaning of certain characters and passages. The teachers would like to have access to more textbooks written in simpler language which would be more understandable to the students. Measurement of learning is accomplished by both paper and pencil tests and performance tests. Student attitudes are also a factor in grade determination.

Every effort is made to maintain a close connection between studies in the classroom and the occupational experience programs of the students. Some of the techniques used to achieve this end follow:

1. Classroom instruction on typical farm jobs like preparing the seedbed, transplanting of rice seedlings, and applying fertilizer is nearly always followed by actual practice on the school farm.
2. The same teacher who has charge of classroom instruction on a given farm job always supervises the field practice of the students which is related to that job.
3. Problems arising on the school farm and on home farms are brought into the classroom and laboratory for solution.
4. Students participate actively in making management decisions concerning the school projects where practice is obtained.
5. Home farming is planned and conducted under the supervision of teachers. Teachers visit the farm of students by bicycle to give first hand assistance with problems.
6. The student who selects the Home Farming System elects agricultural courses according to the circumstances of his home farming plan thus insuring a close connection between theory and practice.

Some students planning to engage in off-farm agricultural jobs after graduation engage in work experience in local agricultural industries afternoons and during summer. In addition to profiting from the experience obtained, students may receive food, lodging, or "pocket money".

The leadership training activities of the school are conducted by the Students Association. The officers are elected by the students. The main purposes of the organization are the development of democratic leaders and citizens. Some efforts have been made to establish a chapter of the Future Farmers of Korea at the school but to-date the membership is small and its activities difficult to assess by an outsider.

Evaluation (By the Principal)

The Principal reported that the main devices used for evaluating progress toward achievement of the purposes of the school are:

1. The Agricultural Training Review Committee
2. Follow-up studies of graduates
3. The reaction of the community and board of education to the school, and
4. Suggestions received from various professional sources interested in developing Suwon Agricultural and Technical School as a "model school" and as a "student teaching center."

Follow-up studies conducted by the school over the past three years (1965, 1966, and 1967) show the following "first job" placement of the 736 graduates: 355 (48 per cent) were farming, mostly on home farms, 89 (11 per cent) were employed by government or private agricultural organizations, 72 (ten per cent) were in military service, 68 (ten per cent) were employed in non-agricultural organizations, 30 (four per cent) were enrolled in agricultural colleges, 26 (four per cent) were enrolled in other colleges and 96 (13 per cent) were not reported.

The Principal said that he believed the outstanding strengths of the school were:

1. Its real vocational objectives.
2. The flexible curriculum.
3. The utilization of the Agricultural Training Review Committee as an advisory council.
4. The strong occupational experience program of the school.

Exemplary and Innovative Features (As viewed by the Study Tour Participants)

Six features of the Suwon program proved to be of special interest to the study tour participants either because of the exemplary manner in which they were being conducted or because they represented innovations with merit for consideration, try out, adaption to and possible adoption in other settings.

1. The curriculum is sufficiently flexible to allow students to elect numerous options which reflect sensitivity to their educational and vocational goals, their interests and abilities, and the realities of their home farm situations. Students may elect
 - a. Agricultural subjects which will lead to a specialization in one of four areas.
 - b. A generalized program of agricultural subjects structured to prepare for farming in the Suwon area.

c. A program of agricultural subjects tailor-made to fit the circumstances of their home farms.

d. Academic subjects which will prepare them for admission to a college of agriculture.

e. Academic subjects which reflect their interests and intellectual curiosity.

f. Three types of occupational experience programs, i.e., supervised farming, farm practice on the school farm, or work experience in an agricultural industry.

2. A high priority is placed on maintaining a close connection between course work in agriculture and the occupational experience programs of the students.

a. Classroom instruction in agriculture is nearly always followed by farm practice.

b. The same teacher gives the classroom instruction and supervised farm practice.

c. The solution of problems encountered on the home farm and on the school farm comprise an integral part of classroom instruction.

d. Students participate actively in making management decisions concerning the school projects where farm practice is obtained.

e. Home farming is planned and conducted under the supervision of the teachers.

f. The student who elects the Home Farming System is allowed to elect courses in agriculture which are relevant to the circumstances of his home farm.

g. Students planning to engage in off-farm agricultural jobs after graduation may obtain work experience during afternoons or summer in local agricultural industries.

3. The development of managerial ability is assigned as high as priority as the development of manipulative skills. Problem solving, student participation in management decisions concerning farm practice and supervised farming are standard features of the Suwon program.

4. The services of the Agricultural Training Review Committee are utilized to keep the program sensitive to the needs of the agricultural sector of the community.

5. The dual role of the school as both a model school and the principal off-campus student teaching center for Seoul National University is having a significant impact on other agricultural schools in the country.

6. The Parent Teachers Association is a vital source of financial support for the school. It contributes in fact one-third of the annual operating budget of the school.

SCHIZUOKA AGRICULTURAL MANAGEMENT PUBLIC HIGH SCHOOL

Schizuoka Agricultural Management Public High School is located approximately 200 kilometers (125 miles) southwest of Tokyo, Japan. Visitors with access to automobile transportation may utilize the modern highway system linking Hamamatsu to other east coast cities. Or they may travel on one of the "bullet-trains" linking Tokyo and Osaka. Hamamatsu has a population in excess of 333,000 and hotel accommodations for foreigners are readily available. The school is situated in a rural setting some 15 kilometers (nine miles) northeast of the city and is readily accessible by taxi or private car. English speaking foreigners need not be accompanied by an interpreter in their travels if they are resourceful and persistent. Many Japanese speak some English and are helpful whenever possible. However, the services of an interpreter will be desirable if in-depth interviews are to be conducted. Arrangements can be made in advance with the Principal for one of the English teachers at the school to act in this capacity during the visit. The mailing address of the school is 8725 Miyakada-Cho, Hamamatsu-shi Schizuoka Prefecture.

Agriculture of the Area

The main agricultural enterprises in the area served by the school are by rank order: oranges, tea, rice, vegetables, swine, poultry, and dairy. Because of rapid industrialization and urban growth in this part of Japan, the amount of land available for farming is declining. Nevertheless, orange production is increasing. Likewise, there is a trend toward increased production of tea which can be grown on hilly or mountainous land. Farming in Japan is highly mechanized. There is a trend toward the use of four wheeled tractors instead of hand tractors which have almost entirely replaced animal power. The use of chemical inputs such as fertilizers, insecticides, and fungicides also continue to increase. Because of the demand for industrial labor there is a trend toward farming as a part-time occupation for men and increased participation in farming by women.

History of the School

The school was founded in 1898 for the purpose of providing training in silk-culture and was located within the City of Hamamatsu. It was reported that the school was able to operate all during World War II with only temporary interruptions. In 1954 the purpose of the school was changed from silk culture to general agriculture training. The school was transferred to the present site in 1963 and the present buildings have all been built since that time.

Unlike most agricultural schools in Japan, this school provides dormitories for the students. Because of its new facilities, its excellent faculty, and generous financial support, the school is judged to be one of the best of its kind in Japan.

Administration of the School

The school is administered by a president, vice-president, and the heads of the departments of curriculum, laboratory, health, guidance, dormitory, agricultural cooperatives, teachers organization, student organization and female education. FIGURE 4.

The President is charged with overall responsibility for the operational aspects of the School. He carries out the policies of the Board of Education of the Prefectural Government and the Ministry of Education. And he prepares the annual budget of the school for the approval of the Prefecture and the Ministry of Education. The President is advised in the conduct of his duties by the leadership of the Parent Teachers Association and by the Teacher's Organization Steering Committee. Mr. Shigeichi Kinoshita the present incumbent has held the position of President for five years.

The Vice-President takes charge of the routine operation of the school, acts as officer-in-charge during the absence of the President and "stays in the teacher's room all day and talks with the teachers."

Finance

It was reported that the school represents a capital investment of 500 million Yen (5.6 million Philippine Pesos or 1.4 million U.S. Dollars).* Twenty per cent of this amount was originally contributed by the Ministry of Education and 80 per cent came from the Prefectural Board of Education.

The annual operating budget of the school was reported to be approximately 80 million Yen (889 thousand Philippine Pesos or 222 thousand U.S. Dollars). Seventy million Yen (778 thousand Philippine Pesos or 194 thousand U.S. Dollars) come from the Prefectural Board of Education and ten million Yen (111 thousand Philippine Pesos or 28 thousand U.S. Dollars) are contributed by the Parent Teachers Association. This strong support of the school by the PTA has been a vital factor in establishing and maintaining the high standards of excellence so much in evidence throughout the school.

All income from farm produce is accounted for and is turned over to the Prefectural Government.

* Approximate equivalents throughout this section.

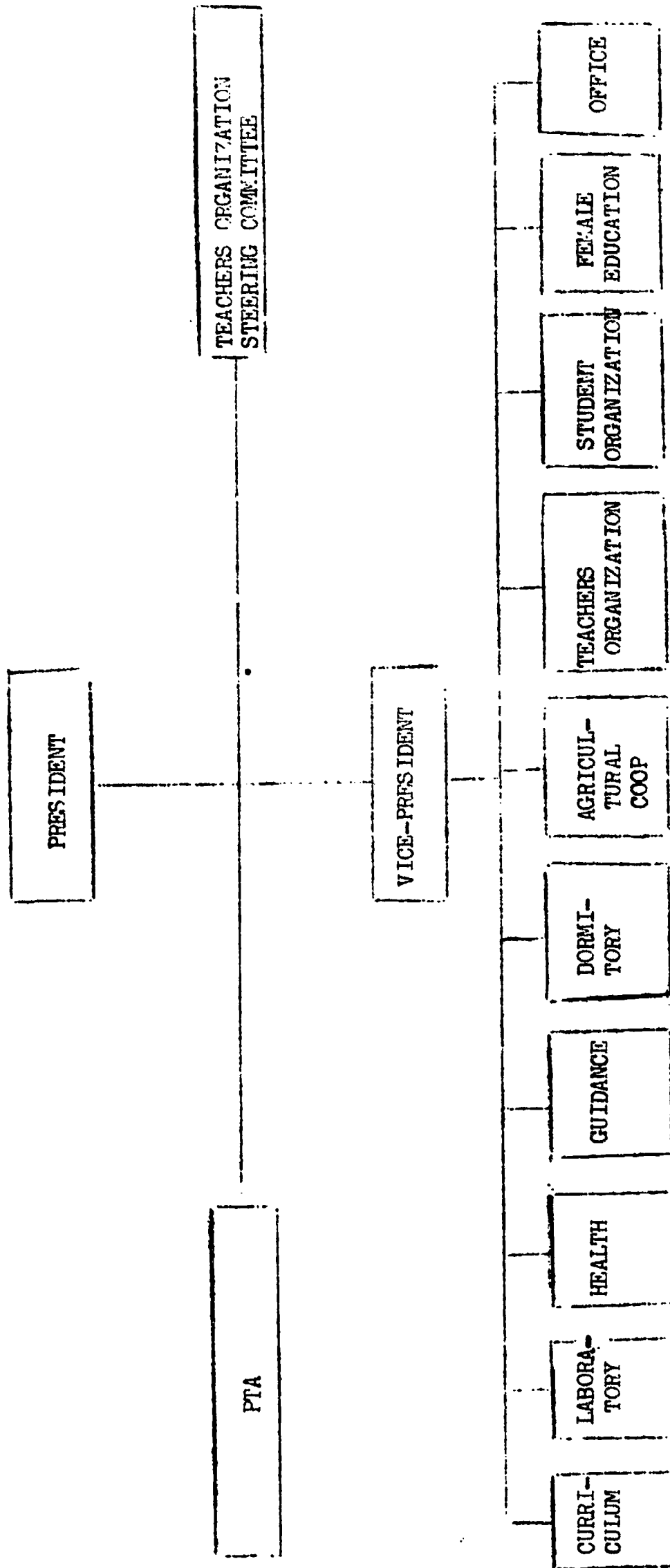


FIGURE 4. CHANNELS OF AUTHORITY AND COMMUNICATION AT SCHIZUOKA AGRICULTURAL MANAGEMENT PUBLIC HIGH SCHOOL

Teaching Staff

The faculty at Schizuoka Agricultural Management Public High School consists of 30 male and three female teachers. Twenty of the males from this group are agricultural teachers and the three females are homemaking teachers. The remaining ten teachers handle the academic courses. The regular faculty is assisted by 15 teaching assistants and ten lecturers.

The most frequent source of pre-service training for the present agricultural teachers is the various prefectural universities i.e., Schizuoka University. However, five of the teachers were trained at Tokyo Education University. All of the 33 faculty members are holders of the bachelors degree; 20 in agriculture and 13 in education. Likewise, all 33 teachers experienced courses in "methods of teaching" and "student teaching" during their pre-service preparation. None of the faculty have engaged in graduate level training toward a masters degree.

The main in-service training activities participated in by the teachers are tours and short courses. The tours are usually a week in duration and involve visits to other prefectures to observe various aspects of agricultural education and agricultural production. Ten teachers per year go outside the school for various short courses of from three to seven days duration in their specialized teaching areas. This past year, one teacher was away a month - but this is exceptional.

Teachers salaries ranges from 32 thousand yen (356 Philippine Pesos or 89 U.S. Dollars) to 130 thousand Yen (1444 Philippine Pesos or 361 U.S. Dollars) per month. No "in-kind" or "cash allowances" beyond the above salaries are received by teachers. Minimum criteria for promotion in salary and rank are set by the Ministry of Education but in addition prefectural boards of education may establish additional standards. The criterion of "years of service" is predominate in determining salary. However, the local Prectural Board of Education is studying various merit svstems for possible adoption in the future.

The faculty at this school during 1969-70 was composed of 20 teachers with more than ten years of experience at this school, nine teachers who had taught there from two to ten years, and four beginners.

Admission

Only "successors to the farm" are admitted to Schizuoka Agricultural Management Public High School. These are usually oldest sons who by Japanese custom will inherit the farm and be responsible for the care of the parents during their old age. However, by mutual family agreement the "successor" might be a younger son, a daughter in families with no sons, or even an adopted family member. Interviews are conducted with parents in order to establish the

"successor" status of the applicants and to discover the size and type of farming operation conducted by the parents.

Since many more "successors" than can be accommodated apply for admission to the school certain other criteria are necessary for selection of applicants. These include grades on the entrance examination, grades earned in the lower secondary school, results of the physical examination, and size of home farm.

Top priority is placed on admitting "successors" from large commercial farms who meet at least the minimum standards on the other criteria.

Student Fees

The amounts charged students per year were reported to be approximately

1. Tuition	8,000 Yen	
2. Room	Free	
3. Meals	60,000 Yen	
4. Books (purchased) . .	20,000 Yen	
5. Other fees	26,400 Yen	
Total	114,400 Yen	(1272 Philippine Pesos or 318 U.S. Dollars)

However, the Prefectural Board of Education subsidizes all students at the rate of 15,000 Yen per year bringing the net cost per year to the student down to 99,400 Yen (1104 Philippine Pesos or 276 U.S. Dollars). All students live in one of the two dormitories.

Enrollment

The current enrollment for the school year 1969-70 was reported to be 350 boys and 120 girls. No breakdown of enrollment by specialization was obtained.

During the school year 1968-69 only ten students "dropped-out" of school. The most common reasons for leaving the school were: death of the father, illness, or dislike for school.

School Facilities

The school site includes a total of 24 hectares (59 acres) of land which is used as follows:

1. Forest	7 hectares
2. Permanent pasture	5 hectares
3. Orange grove	4 hectares
4. Tea garden	2 hectares
5. Vegetable plot	2 hectares
6. Rice	1 hectare
7. School plant	3 hectares

The buildings occupied by the school are very modern in design, of recent construction, attractively landscaped, and excellently maintained. The main building is three stories high and includes: facilities for administration, classrooms, laboratories, cafeteria, practice house for girls, and other facilities. Attached to the main building by a walkway is a modern auditorium and gymnasium. There are two large dormitories - one for boys and one for girls. A fifth building houses the agricultural cooperative store, egg grading equipment and Future Farmers of Japan (FFJ) office. Approximately 2,000 square meters of land is under glass in some 15 separate greenhouses. In addition, there are separate specialized buildings for ornamental horticulture, farm machinery, piggery, cows, and chickens. One of the most impressive buildings houses extensive specialized machinery for the processing of tea.

Animals available for instructional purposes include 350 pigs, 120 beef cattle, ten milk cows, and 3,000 laying hens.

The school possesses the most modern equipment available and embraces far too many items for enumeration here. For example, the school has a total of 21 tractors: 15 hand tractors, two medium sized four-wheel tractors, and four large sized four-wheel tractors.

The water source of the school is a nearby river dam which supplies unlimited water for irrigation purposes.

The physical plant of the school is impressive in the extreme.

Purposes and Curriculum

The purposes of the school were described as:

1. To prepare young men for farming.
2. To prepare young women for homemaking.

The curriculum of the school provides for specialized training in the production of

1. Swine
2. Poultry
3. Beef and dairy cattle
4. Greenhouse

5. Ornamental horticulture
6. Oranges
7. Tea
8. Vegetables
9. Rice
10. Homemaking (for girls).

During the freshman year all male students pursue the same courses - those considered fundamental to the several specializations offered by the school. Second year male students, however, must elect two of the nine agricultural specializations for intensive study. Third year students are required to elect a single area of specialization. This might be one of the two areas of concentration studied during the second year - but not necessarily.

Teaching Methods Utilized

The teachers interviewed at this school reported that lectures, discussion, field demonstration, and laboratory are, in rank order, the most frequently used teaching procedures. Written teaching plans are prepared for all teaching assignments and these are reviewed by an administrator in advance of their use in teaching. Notebooks are kept for each course by the student. Textbooks written by Japanese authors are used in each course. Learning is measured by both paper and pencil tests and by practical tests. Discipline is considered to be democratic in nature.

Classroom instruction on typical farm jobs is almost always followed by actual field practice, or laboratory experience. Such practice is always supervised by the person teaching the classroom phase of a given farming operation. Students participate less than half the time in making management decisions concerning the school projects where field practice is obtained.

All students (both boys and girls) at the school are members of the Future Farmers of Japan. The main activities conducted are:

1. Production projects
2. Agricultural skill contests
3. Cooperative projects
4. Recreational and social activities.

It was further reported that the local chapter: elects officers, plans and carries out a written program of activities and a written budget, keeps written minutes of meetings, keeps treasurer's accounts, and uses paraphernalia in formal meetings. Students are given responsibility for planning and conducting the activities of the local chapter.

Evaluation (By the President)

The President reported that progress toward achievement of the purposes of the school is determined by

1. Follow-up studies of graduates.
2. Comparison of grades from year to year made by students on the Prefectural Board of Education Examination in Agriculture.
3. Whether or not the graduates can obtain loans from the Agricultural Expansion Committee.

Follow-up studies made by the school indicate that 97 per cent of the graduates of the school are engaged in farming and that three per cent go on to college. This unusual proportion of graduates entering farming is probably due in large part to the very selective admissions policy of the school.

Graduates of the school normally have no difficulty in obtaining loans from the Agricultural Expansion Committee up to 1,500,000 Yen (16,667 Philippine Pesos or 4,167 U.S. Dollars).

The President said that he considers the outstanding strength of the vocational agriculture program in the school to be

1. The specialized curriculum providing concentrated studies in nine separate types of farming.
2. The dormitory system of living and education which allows concentration on studies and removes many distractions from student's lives.

On the other hand the President cited as weaknesses of the school program

1. Older sons admitted to the school are often "spoiled" and "careless".
2. Many of the students are not in the habit of thinking for themselves and making decisions and although an attempt is made to teach these qualities there is room for improvement.

Exemplar and Innovative Features (As viewed by the Study Tour Participants)

Several features of the Schizuoka program impressed the study tour participants as being particularly noteworthy. Each appears to have contributed significantly to the high standard of excellence typifying educational opportunities at this school. Each appears to have merit for try-out, adaptation, and possible adoption in other settings.

1. The very highest priority at Schizuoka is placed on involving representatives of the schools main sources of support in program improvement. Such evaluative efforts are systematized by

a. Utilizing the Parent Teachers Association composed of community leaders, parents, and teachers as an active participant in establishing and maintaining the standard of excellence demonstrated by the school. The twelve per cent of the operating budget raised by the PTA and the recognition accorded this organization as an advisory council in the schools administrative framework attest to the "partnership-for-improvement" which exists in the school community.

b. Use of the Teachers Organization Steering Committee in an advisory capacity to the school administration.

c. Promotion and support of the Student's Organization and its recognition in the channels of communication as a department whose head is counted in the administrative set-up of the school.

d. The prominent role of the local Prefectural Board of Education as the main policy making body and source of support (88 per cent) for the school.

e. Close working relationships with the Ministry of Education.

2. A serious effort is made to improve the efficiency of the teaching staff by

a. Employing 15 teaching assistants to relieve the regular faculty of classroom routine which would otherwise detract from their efficiency.

b. Including ten lecturers to supplement the expertise of the regular faculty.

3. Only those persons who are likely to engage and succeed in the occupations for which training is provided by the school are admitted. The school at Schizuoka offers training for specialized types of farming and for homemakers. The policy of admitting only "successors" (usually boys) and farm girls who can meet the mental and physical requirements of the training program has resulted in an extremely low drop-out rate (two per cent) and a very high placement rate (97 per cent in farming).

4. The agricultural side of the curriculum at Schizuoka is characterized by emphasis on common core learnings, flexibility, and specialization. This is achieved by

a. Requiring fundamental agricultural science and mechanics courses, needed in all specializations, during the first year.

- b. Requiring two specializations during the second year.
 - c. Emphasis on educational and vocational guidance (which has departmental status in the school).
 - d. Requiring one specialization during the third year.
5. Frequent opportunities to obtain in-service training closely related to teacher specializations are provided. Especially noteworthy are
- a. The frequent week-long tours to observe various aspects of agricultural education and agricultural production in other prefectures.
 - b. The participation of ten (or one-third of the) teachers per year in short courses or seminars of from three to seven days duration in their field of specialization.
6. Field practice at Schizuoka is exploited as an educational activity.
- a. The major purpose of field practice is to supplement classroom and laboratory experiences to the end that students develop (1) specific skills and understandings important in one or more of the areas of specialized farming, and (2) desirable work habits, favorable attitudes toward work, and the ability to work in harmony with others.
 - b. Field practice is planned to meet the needs of students who have made at least a tentative choice of an agricultural specialization.
 - c. Field practice normally takes place on the school farm during the second and third year.
 - d. The course work and field practice are closely coordinated.
 - e. Field practice is limited to six hours per week in the second year and eight hours per week in the third year.

AGRICULTURAL EDUCATION LEADERS
WITH WHOM CONFERENCES WERE HELD

THAILAND

- Mr. Chern, Head of Agricultural Education, Department of Vocational Education, Ministry of Education, Bangkok
- Dr. James E. Woodhull, Agricultural Education Advisor, Ministry of Education, Bangkok
- Prof. Porn Kesananda, Head, Rural Development Department, Kasetsart University, Bangkok
- Director Vipata Boonsri Wangsai, Chiangmai Agricultural College, Mae Joe
- Acting Director Surat Koonphol, Bangpra Agricultural College, Siracha, Chonburi
- Mr. Carl Murry, Team Member, Cal-Poly - L.I.V.E. Project, Bangpra Agricultural College, Siracha, Chonburi

REPUBLIC OF CHINA

TAIWAN

- Miss Wang Yi-Chuen, Director of Secondary Education, Ministry of Education, Taipei
- Prof. Thomas Hu, Department of Agricultural Education, Chung Hsing University, Taichung
- Prof. Charlie H. Y. Lu, Department of Agricultural Extension, College of Agriculture, National Taiwan University, Taipei
- Mr. Der Yuan Cheng, Head, Department of Teaching, Taiwan Provincial Taoyuan Senior Vocational Agricultural and Industrial School, No. 144 2nd Section, Chengkung Road, Taoyuan

SOUTH KOREA

- Dr. Hyun Koo Pyo, Dean, College of Agriculture, Seoul National University, Suwon
- Prof. Tai Sik Park, Head, Department of Agricultural Education, College of Agriculture, Suwon National University, Suwon

Dr. Dai-Baik Hyen, Head, Department of Agricultural Education, Khon Kuk University, Seoul

Mr. Lee Kyung-Chai, Principal, Suwon Agricultural and Forestry School, Suwon

JAPAN

Mr. Sumi, Agricultural Education Supervisor, Bureau of Primary and Secondary Education, Ministry of Education, Kosumigasek; Chiyodaku, Tokyo

Mr. Shigeichi Kinoshita, President, Schizuoka Agricultural Management Public High School, 8725 Miyakoda-cho, Hamamatsu-shi

Mr. Tokuji Matsuda, Headmaster, Aichi Prefectural Atsumi Agricultural Senior High School, Kaji, Tahara-cho Atsumi-gun, Aichi Prefecture

Mr. Akio Suzuki, Vice Director, Central Rural Youth Training Institute, Tokyo

APPRECIATION

The authors wish to express their appreciation to the Agricultural Education leaders listed above, the many other persons whose kindness and generosity made the study tour not only possible but also an extremely pleasant experience, and to the following persons who read one or more of the case studies and made many helpful suggestions for the improvement of the manuscript

Dean Chi-Wen Chang, Visiting Professor of Agricultural Education and Extension, University of the Philippines, College of Agriculture, College, Laguna

Mr. Ji Woong Cheong, Instructor of Education, College of Agriculture, Seoul National University, Suwon, South Korea

Mr. Kunic Okura, Japan Overseas Cooperation Volunteer, Department of Physical Education, University of the Philippines, College of Agriculture, College, Laguna

Dr. Suraphol Sanguansri, Director, Bangpra Agricultural College, Siracha, Chonburi, Thailand.

R E F E R E N C E S C I T E D

1. Umali, D. L. Annual Report of the Dean, College of Agriculture, to the President of the University of the Philippines, 1967-68. College, Laguna: U.P. College of Agriculture, 1968.
2. Jarmin, Martin V. and Tom, Frederick K. T. "A Proposal for a Study Tour of Selected Asian Countries." (Mimeograph Proposal submitted to the administration of UPCA), 1967.
3. Tom, Frederick K. T. Terminal Report of the Visiting Professor of Agricultural and Extension Education, Ford Foundation-Sponsored U.P.-Cornell Graduate Education Program. College, Laguna, U. P. College of Agriculture, 1968.
4. "Vocational Education in Agriculture in Selected Asian Countries." Mimeographed Report. College, Laguna: Department of Agricultural Education, U.P. College of Agriculture, 1970.
5. "Yearly Report Number 7 of the California State Polytechnic College Contract for Developing Vocational Agriculture in Thailand." Mimeograph. Bangkok, Thailand: Agency for International Development Loan for Improvement of Vocational Education, Ministry of Education, 1969.
6. Ya-chuan, Wang, Secondary Education, Republic of China. Taipei, Taiwan: Ministry of Education, 1964.
7. Meaders, O. Donald. Contributions of Senior Middle School Graduates to Taiwan Agricultural Development. East Lansing: Institute for International Studies and Department of Secondary Education and Curriculum, Michigan State University, 1968.

8. "Conception and Practice for the Modernization of Vocational Agriculture Education," Mimeograph. Suwon, South Korea: Suwon Agricultural and Forestry High School, 1968.

9. Inoue, Takajiro. "Outline of Agricultural Education in Japan." Tokyo: The Japanese National Commission for UNESCO, 1966.