

AN AGRICULTURAL ECONOMICS CURRICULUM FOR
AGRICULTURAL TECHNICAL INSTITUTES
IN THAILAND

by

YANYONG SITDHICHAJ

B. S. Agr. Econ., Kasetsart University, 1956
B. S. Soc. Sc., Thammasart University, 1958

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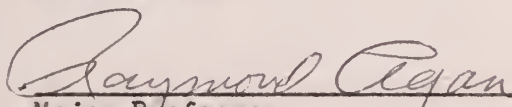
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INTRODUCTION

I. Background of the Problem

One of the developments of the Agency for International Development in Thailand which was in progress at the middle of the 1960 decade was a series of new institutions established in the schools of vocational agriculture called the Agricultural Technical Institutes in Thailand. These institutes were established at the level of junior colleges in the United States. Thailand had set a precedent for terminal education at this level in many provinces in order to train skilled workers, technicians and vocational teachers in their designated trade. Similar objectives were therefore established for these technical institutes in agriculture.

Dr. Harry W. Kitts, Agricultural Education Advisor of the Agency for International Development in Thailand and Mr. Pittha Bunnag, Vocational Agriculture Schools Division, Ministry of Education wrote in their study for establishment of these institutions that:

Of the total male working population in Thailand reported in the 1960 census:

- 78.6 per cent were engaged in agriculture.
- 6.4 per cent were engaged in government work.
- 5.1 per cent were engaged in commercial.

Agriculture with 78.6 per cent of the total employed males, is the most important enterprise in Thailand. Therefore, assistance which will improve agriculture, will undoubtedly, at the present have the greatest benefit to Thailand.¹

¹Pittha Bunnag and Harry W. Kitts, "Projected Role of Higher Technical Institutes in Vocational Agriculture for Thailand" (Bangkok, Thailand: The Agency for International Development, 1962), p. 6. (Mimeographed.)

It seemed to the writer that these Agricultural Technical Institutes could also increase the educational standards of the people. All of higher vocational agriculture schools in Thailand had customarily been almost entirely terminal education. Most graduates from vocational agriculture had desired to further their education. Most of them, however, could not because there had been only one agricultural teacher training school that could accept them. This school could enroll only a very limited number of students. According to the rules of the National Education Council which had been in effect in Thailand such students could further their education in the universities, but they could not compete with those, who graduated from many pre-university schools for entrance into the universities. The National Education Council reported on 26 May 1962 a concern for an estimated 25,000 students who would not be accepted for entrance into universities the next year.² It was estimated that this number would gradually increase each year and it was considered a serious problem of the National Education Council, because there were not enough colleges and universities for the youth who increased in number every year.

M. L. Pin Malakul, Minister of Education, commenting in the 15 June 1962 issue of Daily Trade News suggested students who could not get into college should try vocational education.³ Thailand had long been an agricultural country and there had always been opportunities for young people who had entered this enterprise. There had been developed,

²Ibid., p. 2.

³Ibid.

however, only a few vocational agriculture schools for this training. It was, therefore, appropriate to establish the Agricultural Technical Institutes for these youngsters and thereby solve the serious problem of the National Education Council.

Mr. Harold L. Kugler, Vocational Education Advisor of the Agency for International Development in Thailand wrote in the Report on Projected Role of Higher Technical Institutes in Vocational Agriculture for Thailand that:

The Higher Technical Institutes in Vocational Agriculture for Thailand (junior college level) can play an important role in the future development of the agricultural economy of the country.⁴

This country lacked the technically trained workers in several fields of agriculture. Graduates from Kasetsart University (University of Agriculture) continued to occupy the higher level positions. The need for individuals at an intermediate step below the B.S. degree but above vocational agriculture continued to be great.

II. The Problem

Statement of the problem. The purpose of this study was to set up an agricultural economics curriculum for the Agricultural Technical Institutes in Thailand. It was a recommendation of the Agency for International Development in Thailand that a Department of Agriculture Economics be established as one major field in the curriculum of the college at the technical level. Each institute was to be composed of four major fields--Animal Science, Plant Science, Farm Mechanics, and

⁴Ibid., p. 1.

agricultural economics. It had been planned that one duty of the writer would be to take care of the Agricultural Economics Department when he finishes his education and returns home.

Importance of the study. In order to provide technically trained workers in agricultural economics below the B.S. degree, it was believed necessary to have an appropriate curriculum to be used as a guide post in training. At the time of the study there had not been developed a curriculum in Agricultural Economics for Thailand. There had been developed a report on the Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand. The writers of this report mentioned that--"the report will be the basis for curriculum development at each of the four proposed institutes."⁵ The writer, therefore, used the opportunity to develop the agricultural economics curriculum on the basis of that report. The writer hoped that this curriculum would be suitable to the situation of Thailand and that it would be a guideline in developing technical workers.

From the report on the Projected Role of Higher Technical Institutes in Vocational Agriculture for Thailand it was shown that there was an immediate need for 150-175 individuals with more technical training in agriculture than that offered by graduates of vocational agriculture but less than the college graduate level. It was also believed that this number would reach 350 or more within a few years. In the

⁵Pittha Bunnag and Harry W. Kitts, "Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand" (Bangkok, Thailand: The Agency for International Development, 1962), pp. 9-10. (Mimeographed.)

following table is presented the demand anticipated for agricultural trained technicians in the four major fields.

TABLE I
ANTICIPATED DEMANDS FOR AGRICULTURAL TRAINED TECHNICIANS
IN THAILAND, 1962-FUTURE YEARS⁶

Needed Organization	1962	Future years
Ministry of Cooperatives [*]	10	20
Ministry of Agriculture	25	25
Land classification survey	40	40-80
Irrigation	10	50
Extension	70	200
Yuwa Kasikorn agents (Four H Club)	10-15	20-25
Department of Community Development	320	85
Machinery companies	?	?
Fertilizer and insecticide companies	5-10	?
Tractor manufacturer	3	?

^{*} Changed into Ministry of National Development.

⁶Bunnag and Kitts, op. cit., p. 4.

III. Definitions of Terms Used

The following terms were used in the study and given special definitions for their application to this work.

Curriculum. The use of the word, curriculum, in this study referred to the experiences planned to meet certain common needs of a group of young people. The experiences included all activities called "curriculum" and "extra-curriculum." Also these experiences were under the control of the school.⁷

Agricultural economics. Agricultural economics was defined as an applied science which applied the principles of economics and other sciences to organizing resources in agriculture for their most economical or effective use.⁸

Agricultural economics curriculum. This term included the whole body of experiences offered in a Department of Agricultural Economics, Agricultural Technical Institutes in Thailand, and included courses for all day students.

Agricultural Technical Institutes. These institutions were on the level of junior college in the United States. They were being established as agricultural vocational schools in order to provide technically trained workers in agriculture at an intermediate step below

⁷Dr. J. H. Littrell, Lecture Note in the course of Curriculum Development, Fall Semester 1964-65, Kansas State University.

⁸"Agricultural Economics," Encyclopaedia Britannica (14th ed.), I, 335.

the B.S. degree but above vocational agriculture. Instruction in Agricultural Technical Institutes was to be organized into a two-year curriculum. Students who wanted to study in these institutes must be graduates of higher level vocational agriculture.

Higher vocational agriculture. This term referred to a vocational system in Thailand offered in a three year curriculum. The students entered the higher vocational agriculture schools after finishing from a secondary school equivalent to the tenth grade in the United States. The school admitted the students by entrance examination.

Vocational education. This term included courses used by a student to prepare for an occupation.⁹

General education. This term included courses required for all students, designed to develop the skills, attitudes, and knowledge needed for citizenship or family membership.¹⁰

Creative research method. This term referred to the use of data collected by personal interviews, library research, questionnaire, and the results of a problem conducted in Agricultural Economics to create a curriculum for Agricultural Technical Institutes in Thailand.

Evaluation. This was defined as a broad and continuous effort

⁹Kimball Wiles, The Changing Curriculum of the American High School, p. 122.

¹⁰Ibid.

of utilizing educational content and process according to clearly-defined goals.¹¹

IV. Procedure of the Study

This study was designed to set up an agricultural economics curriculum for the Agricultural Technical Institutes in Thailand that were being established. The creative research method was used in this study.

The sources and kind of data used were:

1. A study and description of agricultural economics terms.
2. A survey of the curriculum of higher vocational agriculture in Thailand.
3. A survey of the agricultural economic courses offerings in vocational agriculture in the state of Kansas, United States.
4. A survey of the agricultural economic courses offered in the Department of Agricultural Economics, Kasetsart University, Thailand.
5. A study of the agricultural economics courses offered in the Department of Agricultural Economics, Kansas State University, United States.
6. A study of the proposed curriculum for Technical Institute in Vocational Agriculture for Thailand.
7. An analysis of the data received from questionnaires sent to

¹¹Ronald C. Doll, Curriculum Improvement, pp. 302-303.

specialists in agricultural economics in Thailand and from the interviews of some professors in the Department of Agricultural Economics, Kansas State University, United States.

The procedures used in collecting the data were:

1. Library research.
2. Questionnaires.
3. Interviews.

V. Limitations of the Study

Since this study had the purpose of organizing an agricultural economics curriculum for Thailand, it was concerned with the agricultural economists who knew and understood the situation in Thailand. The study was limited to specialists who had experience in the field of agricultural economics. All specialists had earned at least the M.S. degree from the United States and had worked in the area of agricultural economics. Some American personnel who formerly worked in the Agency for International Development in Thailand were also surveyed.

REVIEW OF THE CURRICULA STUDIED

Before setting up such a curriculum, the writer reviewed selected literature concerning the courses in agricultural economics in order to have the background of the scope and characteristics of this field. It was assumed that the students of agricultural economics should have a basic knowledge of agriculture as well as economics.

I. A Description of Agricultural Economics Terms

The description of agricultural economics terms has been set forth in several references. The *Encyclopaedia Britannica* was chosen by the writer as the main resource for this section.

Agricultural economics has been described as "the business side of farming," using the term business in the broadest sense and projecting the concept of farming to include production, marketing and questions of farm policy.

Agricultural economics is an applied field. It is related to sociology and political science on the one hand and to the various production sciences of agriculture on the other. These include fields in animal industry, agronomy, soils, etc.¹

From the review of the words "agricultural economics" in the *Encyclopaedia Britannica*, the writer found that the following were the main divisions of this article:²

1. Agricultural Prices and Incomes--Past instabilities, past attempts to control price fluctuations, modern systems of agricultural income and price supports, and farm

¹"Agricultural Economics," Encyclopaedia Britannica (14th ed.), I, 335.

²Ibid., pp. 335-350.

price levels and income trends.

2. Farm Appraisal--Modern practice, and physical inventory and monetary valuation.
3. Agricultural Credit Systems--Nature and role of agricultural credit, kinds and sources of credit, co-operative credit systems, credit system associated with state management, centralized government controlled credit system, and agricultural credit systems in the United States.
4. Agricultural Insurance--Early plans, property insurance, fire and lightning hazards, windstorm and hail hazards to buildings, livestock insurance, multiple-line insurance, crop insurance, all-risk crop insurance, flood insurance, liability insurance, workmen's compensation insurance, life insurance, and social security insurance.
5. Farm Taxation--Property taxation, income taxation, and other forms of agricultural taxation.
6. Marketing Agricultural Products--Primitive forms of marketing, the rise of the middleman, transportation and geography, storage and timing, different forms of the commodity, the perfect market reconsidered, and government agricultural marketing services.
7. Agricultural Co-operation--Organization, development, and services.
8. Agricultural Labor.
9. Law in Agriculture--Farm land ownership, farm property as security, landlord-tenant relationship, employment labor

on the farm, drainage, irrigation and water rights, farm taxes, farm animals, fences, trespass, custom operators and other agents, liability, and regulatory.

10. Farm Management.

- (a) Production Resources--Land, capital, labor, management, combinations of resources, and ownership of resources.
- (b) Planning the Farm Business--Inventory of natural and economic resources, planning the cropping system, planning the livestock program, transition to the long-time plan, and estimating income and expenses.
- (c) Efficient Farm Operation--Farm records, and professional management.
- (d) Contract Farming--Vertical integration.

II. The Curriculum of Higher Vocational Agriculture in Thailand

Since students who wanted to study in the four Agricultural Technical Institutes of Thailand must have previously graduated from higher vocational agriculture, it was thought to be appropriate to have the curriculum of higher vocational agriculture be considered before setting up the curriculum for the Agricultural Technical Institutes.

The primary aim of instruction in vocational agriculture in Thailand was to provide prospective farmers for proficiency in farming as well as to prepare students for further study in the level of technical agriculture.

The curriculum included vocational education courses in the field of agriculture and general education. Many general education courses

were included in order to provide a well-rounded educational program and to serve as a preparatory course for college education.

The following curriculum and objectives were the curriculum of higher vocational agriculture used at Chiangmai Agricultural College, Department of Vocational Education, Ministry of Education in Thailand.

Curriculum and objectives.

A. Objectives.³

The major objectives of this curriculum are to develop the ability of those who intended to study vocational agriculture.

1. To acquire knowledge, skills, and experiences needed in farming and related occupations.
2. To prepare for further study in the field of agricultural technology.
3. To gain professional attitudes toward farming and rural life.
4. To conserve soil and other natural resources.
5. To acquire general education such as social, cultural, economic and political background of Thailand.
6. To participate in rural leadership, cooperation and citizenship.

B. Curriculum.

In Table II is shown the allocation of class hours per week in each field and for each year that was taught at Chiangmai Agricultural

³Chiangmai Agricultural College, Department of Vocational Education, Ministry of Education, Thailand, "Curriculum of Higher Vocational Agriculture" (Chiangmai: Thailand). (Mimeographed.)

TABLE II
ALLOCATION OF CLASS HOUR/WEEK OF CHIENGMAI
AGRICULTURE COLLEGE, THAILAND⁴

Courses	First year hours	Second year hours	Third year hours
<u>Section A--Academic courses</u>			
1. Thai	3	3	-
2. English - A	4	4	-
3. English - B	-	-	2
4. Social Science	3	3	-
5. Mathematics	3	4	-
<u>Section B--Vocational agriculture courses</u>			
1. Plant and Animal Production	6	6	15
2. Soil Science	-	1	1
3. Agricultural Economics	1	2	2
4. Farm Mechanics	3	3	3
5. Plant Animal Improvement	-	-	2
6. Principles of Experimental and Extension Work in Agriculture	-	-	1
<u>Section C--Related courses</u>			
1. Sciences	7	4	2
2. Food Preservation	-	-	2
3. Conservation of Natural Resources	-	-	2
Total hours per week	30	30	30

First year--no elective course.

Second and Third year--The students may choose to major in Plant or Animal Production or combination of courses may be arranged by the faculty.

⁴Ibid., p. 3.

College in the northern part of Thailand. The curriculum was divided into three sections, section A was concerning with academic courses, section B was the vocational agriculture courses, and section C was the related courses. There were many courses under each section as shown in Table II.

C. Course of study.

Each of main course as shown in Table II was taught at Chiengmai Agricultural College in Thailand.⁵

Section A. Academic courses--First and Second year.

1. Thai -- 3 hr./wk.
 - Grammar and Composition, 2 hr./wk.
 - Literature, 1 hr./wk.
2. English A -- 4 hr./wk.
 - Grammar and Composition
 - Conversation
 - Aural and Reading comprehension
3. English B -- Agricultural English--Third year, 2 hr./wk.
4. Social Sciences, 3 hr./wk.
 - Government and Ethics
 - Physical Geography
 - History (Thai and General)
5. Mathematics -- First year
 - Arithmetic, 1 hr./wk.

⁵Ibid., pp. 4-6.

-- Algebra, 1 hr./wk.

-- Geometry, 1 hr./wk.

-- Trigonometry -- Second year, 4 hr./wk.

Section B. Vocational Agriculture.

1. Plant Production (Each course -- 3 hr./wk.)

(1) Elements of Agriculture -- First year, two semesters

(2) Principles of Horticulture -- Second year, one
semester

(3) Principles of Agronomy -- Second year, one semester

(4) Plant Pests and Their Control -- Third year, one
semester

(5) Rice Production -- Third year, one semester

(6) Vegetable Gardening -- Third year, one semester

(7) Field crop production -- Third year, one semester

(8) Fruit Crops -- Third year, one semester

(9) Flower and Ornamental Plants -- Third year, one
semester

(10) Forage Crops -- Third year, one semester

No. 5 - 10 are electives.

2. Animal Production (Each course -- 3 hr./wk.)

(1) Elements of Animal Husbandry -- First year, two
semesters

(2) Poultry -- Second year, two semesters

(3) Small animals -- Third year, two semesters

(4) Animal Nutrition -- Third year, two semesters

(5) Animal Sanitation and Diseases -- Third year, one semester

(6) Livestock Production -- Third year, one semester

(7) Fisheries and Others -- Third year, one semester

No. 6 - 7 are electives.

3. Soil Science (Each course -- 1 hr./wk.)

(1) Soil and Fertilizers -- Second year, two semesters

(2) Soil Management -- Third year, two semesters

4. Agricultural Economics

(1) Principles of Economics -- First year, 1 hr./wk.,
two semesters

(2) Agricultural Economics -- Second year, one semester

(3) Farm Records and Accountancy -- Second year, one
semester

(4) Principles of Cooperation -- Third year, one semester

(5) Farm Management -- Third year, one semester

No. 2 - 5, each course -- 2 hr./wk.

5. Farm Mechanics (Each course -- 3 hr./wk., two semesters)

(1) Farm shop work (Wood work, Metal work and Black-
smithing -- First year

(2) Farm Surveying and Irrigation, Rural Electrifica-
tion, Farm Building and Construction and etc. --
Second year

(3) Farm Powers and Farm Machineries -- Third year

6. Principles of Animal and Crop Improvement -- Third year,
2 hr./wk., two semesters.

7. Principles of Experimental and Extension work in Agriculture -- Third year, 1 hr./wk., two semesters.

Section C. Related subjects.

1. Natural Sciences

- (1) Botany -- First year, 2 hr./wk.
 - (2) Zoology -- First year, 2 hr./wk.
 - (3) Chemistry I -- First year, 2 hr./wk.
 - (4) Physics I -- First year, 1 hr./wk.
 - (5) Chemistry II -- Second year, 2 hr./wk.
 - (6) Physics II -- Second year, 2 hr./wk.
 - (7) Agricultural Chemistry -- Third year, 2 hr./wk.
2. Food preservation -- Third year, 2 hr./wk., one semester
3. Conservation of Natural Resources -- Third year, 2 hr./wk., semester.

It seemed to the writer that these courses of study served mainly as a guide to the teachers for their field of teaching, however, some of the courses were omitted. This problem might have been the lack of adequate qualification of the teachers. The lack of textbooks for the students and teachers was also a problem. The writer was of the opinion that the improvement of instruction could be improved by following an organized course of study, with well developed lesson plans.

D. Field work practice.

In all of the vocational agriculture schools, field work practice was a part of the curriculum. The system used at Chiangmai Agricultural College was that each student was expected to participate in a farming

program including production projects, improvement projects and supplementary farm jobs. Individual farming program could be practiced on home farms or on the school farm for a minimum of five hours a week.

Mr. Niyom Srinoparat stated that:

There should be no more requirement of students' labour at one hour for the school work as stated in the curriculum in order to give the students more chance to work on their projects....⁶

E. Evaluation.

Evaluation in the students' work was the determination of the value of that work. The method used to evaluate the results of the students' work at Chiangmai Agricultural College was continuously evaluated. Grades were based on quizzes, reviews, and final examination.

Section A -- Academic Courses. Total grades were not lower than 30 per cent.

Section B -- Vocational Agriculture Courses. Total grades were not lower than 50 per cent.

Section C -- Related Courses. Total grades were not lower than 30 per cent.

A passing grade system was used. The average passing grade in each course was 50 per cent. The passing grade for student participation in field work and individual farming programs was 60 per cent.

In Thailand the curriculum of the school was followed as a

⁶Niyom Srinoparat, "Some opinions on the Planning of the Policies for the Vocational Agriculture Education" (Bangkok, Thailand: Vocational Agricultural Schools Division, Department of Vocational Education, Ministry of Education, Thailand, 1964), p. 15. (Mimeographed.)

principle or guideline in order to educate the students. It was considered carefully by the educators in regard to courses that should be taught to the different individuals. The writer felt that the course of study or the curriculum should be reviewed and be improved at least one time per year. It was felt that a well qualified individual should study the present curriculum and develop changes to meet the needs of the students.

III. The Agricultural Economics Courses Offered in Vocational Agriculture Schools in Kansas, United States

Agricultural economics courses taught in vocational agriculture schools in Kansas were classified as being in the field of "The Business of Farming." This field had many aspects of Agricultural economics and it was one course taught in the twelfth grade of vocational agriculture. It was also observed that the vocational agriculture system in the United States had classes up through the twelfth grade. The graduates from vocational agriculture could further their education in college according to their interests. The following course outline was a suggested program of instruction in the business of farming.

Course of study in "the Business of Farming."⁷

Objectives of the farm management course in vocational agriculture.

⁷ Edward Brenner, James Grider, Larry Keptly, "A suggested Program of Instruction in the Business of Farming" (Topeka, Kansas, United States: State Board for Vocational Education, July, 1962). (Mimeographed.)

1. To enable the student to go directly into business of farming.
2. To develop skills, abilities, understanding, attitudes, work habits, and appreciation sufficient to enable the student to enter some part of the agricultural program.
3. To provide effective learning situations which will enable the students to choose an agricultural career and seek advanced training.

The course outline was:

A. FFA and Miscellaneous Events.

1. Leadership training.
2. FFA information.
3. Program of work planning.
4. District and state FFA activities.
5. Getting farming program records up to date.

B. Career Opportunities.

1. Getting started in farming.
2. What agricultural careers are open to vocational agriculture graduates?
3. Loans and scholarships available to college bound students.

C. Farmsteads.

1. Field trip to make a drawing of a farmstead.
2. Reorganize the farmstead to improve efficiency.
3. How to reduce building cost.

D. Real Estate.

1. Field trip on appraisal.
2. What are the possibilities of owning or renting land in Kansas?
3. How are accurate land measurements obtained?
4. What is the best way to rent a farm?
5. How may a farm lease be tested for soundness?
6. Father and son operating agreements.

E. Farm Credit.

1. What guides should be used by the farm family in using consumer credit?
2. How much does credit cost?
3. What are the sources of commercial credit?
4. How may a credit rating be established?

F. Insurance.

1. What kinds of insurance does the farm business need?
2. What kinds of insurance are available?

G. Farm Taxation.

1. Who must file income tax returns?
2. How can I reduce my tax liability?
3. What is the best method of figuring depreciation?
4. What should I know about social security?
5. How are personal and property taxes assessed?
6. How to complete a Federal income tax return.
7. How to complete a State income tax return.

H. Farm Organizations.

1. Student to report on the different farm.
2. What are the purposes of each organization?

I. Farm Accounts and Records.

1. How to start and use the Kansas Farm and Household Account Book.
2. What is needed for setting up a filing system in the farm home?
3. What livestock and crop records will be needed?

J. Farm Planning.

1. Working out a complete farm plan.

K. Marketing.

1. What knowledge of marketing is necessary for farmers?
2. How are prices established?
3. Practice in giving market reports.
4. How can my methods of buying and selling livestock be improved?

L. Government Programs.

1. Soil Conservation Service and their program.
2. A. S. C. programs.

M. Farm Law.

1. How can I avoid legal difficulties and losses?
2. What laws and regulations concern livestock?

The writer felt that the above course outline would be useful to him in improving the course of study in Principles of Agricultural Economics planned to be taught in the vocational agriculture schools in

Thailand.

Dr. Raymond J. Agan⁸ surveyed school administrators in Kansas to ascertain opinions concerning the program of vocational agriculture.

The following principles were in part, those which were found to be prevalent and felt to be desirable by the administrators in departments of vocational agriculture. Only those schools were studied whose programs in vocational education were rated as successful by the State Board for Vocational Education.

1. Vocational agriculture is an elective course.
2. All students have supervised farming programs.
3. An area course of study is developed.
4. Field studies are essential to instruction.
5. Transportation for field studies is school-supported.
6. Farm mechanics make up 40 per cent of the instruction.
7. Future farmer instruction is an integral part of vocational agriculture.
8. On-the-farm instruction is essential.
9. Adult farmer education is an integral part of the program in vocational agriculture.
10. The teachers of vocational agriculture are a part of the total staff in education for the school and community with equal responsibilities and rights.
11. An advisory committee is appointed to assist with the program.

⁸R. J. Agan, "Opinion of Administrators Who Oversee Successful Department of Vocational Agriculture in Kansas," Department of Agricultural Education, Kansas State University, 1960.

12. Vocational agriculture is considered an essential part of the total program of education for the community.

The writer was of the opinion that these principles would be worthwhile to vocational agriculture schools in Thailand if they were adapted to the situation of that country.

IV. The Curriculum in Agricultural Economics, Kasetsart University, Thailand

The Department of Agricultural Economics of Kasetsart University in Thailand prepared students for services in various government departments and in business enterprises--both government and private. Preparations included an understanding in structures, functions, objectives and operation of the business and economy.

The followings were the curriculums which were taught to students of agricultural economics at Kasesart University in Thailand.⁹

⁹Kasetsart University, Thailand, General Catalogue 1962-1963 (Bangkok, Thailand: The Social Science Association of Thailand Press, 1962), pp. 60-61.

FIRST YEAR

First Semester		Second Semester	
	Units		Units
Agronomy 101a	2	Agronomy 101b	2
Botany 101a	4	Agronomy 102	3
Chemistry 101a	4	Botany 101b	4
English 101a	3	Chemistry 101b	4
Hygiene 101	1	English 101b	3
Zoology 101a	4	Zoology 101b	4
Physical Ed. 101a	<u>1</u>	Physical Ed. 101b	<u>1</u>
	19		21

SECOND YEAR

First Semester		Second Semester	
	Units		Units
Animal Husbandry 101	3	Agronomy 201	4
Bacteriology 101	4	Animal Husbandry 202	3
Business 101	2	Economics 101b	3
Economics 101a	3	English 201b	3
English 201a	3	Horticulture 101	3
Mathematics 103	2	Soils 101	4
Physical Ed. 201a	<u>1</u>	Physical Ed. 201b	<u>1</u>
	19		19

THIRD YEAR

First Semester		Second Semester	
	Units		Units
Accounting 103	3	Ag Economics 301	3
Ag Economics 101	3	Cooperative Science 302	3
Ag Economics 201	3	Economics 301	3
Cooperative Science 101	3	English 301b	3
English 301a	3	Law 301	3
Sociology 101	3	Sociology 301	3
Sociology 201	1	Statistics 201	3
Physical Ed 301a	<u>1</u>	Physical Ed 301b	<u>1</u>
	20		22

FOURTH YEAR

English 401a	3	English 402b	3
Statistics 301	3	Statistics 302	3
Elective	7	Elective	7
Thesis	<u>2</u>	Thesis	<u>2</u>
	15		15

FIFTH YEAR

English 501a	3	English 501b	3
Elective	7	Elective	7
Thesis	<u>4</u>	Thesis	<u>4</u>
	13		13

Farm visit for a minimum of 50 hours had been required of third year students.

Practical training in rural cooperative associations and government or business agencies for a minimum of 60 hours had been required of fourth year students.

It had been necessary for students to register for an aggregate of 12 units of thesis to partially fulfill the degree requirements.

Electives were chosen, with approval of the advisor, from courses in agricultural economics, cooperative science and economics.

Course description in the Department of Agricultural Economics, Kasetsart University, Thailand.

A number system was used to identify courses, the first digit of the course numbers indicated the class for which it was designed. Lower division courses which were intended for the first, second, and third year students were numbered 101 to 399. Upper division courses were numbered 400 to 599 and could be accepted graduate credit. Graduate courses were numbered 600 to 699. Regular (undergraduate) students could enroll in a graduate course with consent of the instructor or head of the department.

Heading each course description was the number and title of the course, followed by the credit given and an indication of a year course where necessary. Following the course description was given the pre-requisite(s), if any. These were indicated as follows:¹⁰

¹⁰ Ibid.

1. 101a, b -- the course has two parts, part a is prerequisite to part b;
2. 3 units -- the course credit is 3 units per semester;
3. 1-3 units -- the course credit is variable from 1 to 3 units;
4. 1, 4 units -- the credit for the first part of the course is 1 unit; for the second part, 3 units.
5. Credit by arrangement -- the course credit per semester is not fixed and must be arranged in advance with the instructor in charge;
6. Pre: -- prerequisite(s)

101 Principles of Agricultural Economics 3 units

A study of the principles of economics with special application in the field of agriculture; economic structure and aspects of Thai agriculture; analysis of demand, supply, agricultural production with particular reference to individual farm. Pre: Econ 101b or 102.

201 Principles of Farm Management 3 units

Survey of farm management; nature of the farm and the problems and methodology of farm management; farm record and account; supervised field trips required. Pre: Econ 101b or 102.

301 Principles of Agricultural Marketing 3 units

A general study of the marketing system for farm products from a functional viewpoint; problems in marketing and ways of improvement. Pre: Ag Econ 101.

402 Agricultural Finance 3 units

Financing agriculture with emphasis on the sources and use of credit; operation of credit institutions serving agriculture; problems of agricultural finance in Thailand and ways of improvement.

403 Land Economics 3 units

An examination of land utilization, emphasizing conservation, land classification, valuation, taxation, and policies.

404 Agriculture Resources of Thailand 3 units

Agricultural Resources of Thailand; the allocation and utilization of agricultural resources in the development of national economy; comparative agriculture as related to world economy and to Thailand's economy.

405 Agricultural Prices 3 units

Price movements and factors accounting for changes in prices; methods of developing agricultural prices in Thailand.

406 Marketing of Rice 3 units

Economic problems arising from current marketing practices, with special attention to economic and technological developments affecting the domestic and international market prospect; supervised field trips required. Pre: Ag Econ 301.

407 Marketing of Fruit and Vegetable 3 units

Marketing system of Thai fruit and vegetable; problems and ways of improvement; government policy; supervised field trips required. Pre: Ag Econ 301.

408 Marketing of Livestock and Poultry 3 units

Marketing system of livestock, fish and poultry in Thailand; problems and ways of improvement; government policy; supervised field trips required. Pre: Ag Econ 301.

409 Farm Organization 3 units

Principles and problems of farm organization and operation, their application; supervised field trips required. Pre: Ag Econ 201.

410 Research Methodology 3 units

Induction and deduction methods; selecting, planning and conducting research.

419a, b Seminar 1, 1 unit

Analysis of current research and scientific literature related to agricultural economics; student's report required.

502 Agricultural Policy 3 units

The development of agricultural policy with particular reference to objectives, procedures, accomplishments and consequences; agricultural policy of Thailand and neighboring countries and of selected countries. Pre: Consent of instructor.

503 Types and Systems of Farming 3 units

Factors determining the location of important farming areas; analysis of organization differences, capital requirements, systems of farming in Thailand and relative incomes; supervised field trips required. Pre: Ag Econ 201.

504 Advanced Farm Management 3 units

Advanced study of the organization and operation of major types of farms, with particular reference to land, market and other resources; supervised field trips required. Pre: Ag Econ 201.

505 Research Methods in Farm Management 3 units

Collection, analysis, and interpretation of data. Pre: Ag Econ 201.

506 Advanced Agricultural Marketing 3 units

An intensive study of marketing functions, marketing system, marketing problems and marketing efficiency. Pre: Ag Econ 301.

507 Research Methods in Marketing 3 units

Objectives of marketing research; selecting and planning projects; preliminary investigative procedures, surveys, experimental designs, method engineering, case studies, field and office supervision, preparation of reports, and application of results. Pre: Ag Econ 301.

508 Economics of Irrigation 3 units

Analysis of costs and benefits; classifications of money invested and its returns. Pre: Consent of instructor.

509 Thailand's Agricultural Export Commodities 3 units

Principles of international trade; marketing system of Thailand's agricultural export commodities, their problems, ways of improvement and extension. Pre: Ag Econ 301.

510 Land Problems and Policies 3 units

Economic and institutional aspects of land use; planning, project evaluation, resource development, conservation, and tenure improvement programs; programs involving social direction of land use. Pre: Ag Econ 403.

511 Research in Agricultural Economics 2 units

Planning and preparing research; survey, analysis of data, tabulation, presentation and reporting the result.

For agricultural economics major only.

519a, b, Seminar 1, 1 unit

Analysis of current research and scientific literature related to agricultural economics; student's report required.

520 Research credit by arrangement

Undergraduate thesis.

V. The Agricultural Economics Courses Offered in the Department of Agricultural Economics, Kansas State University, United States

The Department of Agricultural Economics was one department in the College of Agriculture, Kansas State University.¹¹

Undergraduate programs of study in agricultural economics were available in each of three areas: agricultural production, agricultural science, and agricultural business and industries.

¹¹Kansas State University, United States, General Catalog 1964-1966 (Manhattan, Kansas: The Kansas State University Bulletin, 1964), pp. 64-67.

The agricultural production program was designed primarily for students who planned to operate a farm after graduation or to seek a job closely related to farming, e.g. county agricultural agent. The program included courses in the physical and biological sciences, applied agriculture, and general education as well as agricultural economics.

The agricultural science program was intended for students who wish to prepare for graduate study or for employment as agricultural economists at the sub-professional level. Courses in basic physical and biological science, agriculture, general education, and statistics were included in this area.

The agricultural businesses and industries program was designed for students seeking a career in the off-farm business segment of agriculture, particularly with companies and industries that processed or handled farm products or supplied farmers with goods and services, including credit. Emphasis was on courses in economics, sociology, and business, with a background of biological and physical science, applied agriculture, and general education.

Flexibility was provided in all three programs to permit students, to select courses to fit individual needs.

Inspection trips and information obtained by research was used to supplement textbooks and reference materials for classroom purposes. Opportunity for capable students to assist with research projects on a part-time basis provided students an additional opportunity to learn principles involved in the various areas of agricultural economics.

Graduate study leading to the degrees Master of Science and Doctor of Philosophy was offered in the department. Research for theses

could be in marketing, farm management, finance, land economics, conservation, prices, production economics, taxation, agricultural policy, international development, agricultural businesses and industries, and other areas.

Prerequisite to graduate work in agricultural economics was acceptable undergraduate credit in economics, including agricultural economics. Graduate students majoring in agricultural economics took courses in general economics as well as in agricultural economics.

Research projects of the Kansas Agricultural Experiment Station and studies done in cooperation with other states and with federal agencies provided opportunities for graduate students to do research. Facilities available to graduate students included modern electronic computers.

Students planning to work in one of the following fields after graduation were advised to include the indicated courses in their programs of study:

Rural Banking and Finance: Rural Banking, Agricultural Finance, Money and Banking, Land Economics, Monetary Credit and Fiscal Policy, Business Fluctuations and Forecasting, and Business Law I.

Cooperative Management: Principles of Cooperation, Agricultural Policy, Principles of Transportation, Personnel Administration, Business Law I, International Trade, and Money and Banking.

Food Wholesaling and Retailing: Labor Economics, Work analysis, Introduction to Restaurant Management, Money and Banking, Business Law I, Personnel Administration, and Retailing.

Courses in Agricultural Economics

For undergraduate credit

130. Grain Marketing. (3) I. Prices influences and relationships, buying and selling problems, domestic and export trade; grain trade organization and regulation. Three hours a week. Pr.: Ec. So. 110.
150. Livestock Marketing. (3) II. A study of factors affecting livestock prices, methods of marketing and market agencies; particular emphasis on use of marketing knowledge by producers in farm and ranch management, and problems of livestock marketing and processing firms. Three hours a week. Pr.: Ec. So. 110.
200. Principles of Agricultural Economics. (4) I, II. The application of economic principles to agricultural production and marketing problems; resource and enterprise combination; costs and revenue; the role of producers and consumers in the establishment of prices. Four hours a week. Pr.: Ec. So. 110, Math. 100.
221. Farm Management. (3) I, II. Organization and management of the farm, with special emphasis on principles and methods of analyzing factors which affect production and marketing decisions. Three hours a week. Pr.: Ag. Ec. 200.
222. Farm Planning Laboratory. (1) I. A review of accounting methods used in the keeping of farm records, tax regulations and their effect on farm organization and operation, and the use of the budget in farm planning. Two hours lab. a week. Pr.: Ag. Ec. 200.
231. Rural Banking. (4) II. Management of banks in rural areas including organization and personnel, sources and uses of funds,

credit, and services, particularly to farmers and agricultural businesses; the role of rural banks in the U.S. banking system.

Four hours a week. Pr.: Ag. Ec. 200 or consent of instructor.

241. Principles of Agricultural Marketing. (2) I. Marketing functions, costs, efficiency; market organization and institutions; consumer behavior; food processing industries; role of government; agricultural price determination. Two hours a week. Pr.: Ag. Ec. 200 or consent of instructor.

243. Egg and Poultry Marketing. (1) I. Offered on demand. Specific attention to certain aspects of egg and poultry marketing. One hour a week.

244. Dairy Marketing. (1) I. Offered on demand. Specific attention to certain aspects of dairy marketing. One hour a week.

300. Agricultural Economics Summary. (2) I, II. Summarization and correlation of courses pursued in college; problems requiring application of principles and broad understanding of the field; contemporary economic developments. Two hours a week. Pr.: Senior standing.

For undergraduate credit and for graduate credit in minor field only

401. International Agricultural Development. (3) II. A study of population and agriculture of the world, with emphasis on economic development. Attention is directed toward principles of economic growth and national and international policies that will stimulate development. Individual study is encouraged to meet students, i.e., Foreign Agricultural Service, technical assistance,

missionary, exchange programs. Three hours a week. Pr.: Ec. So. 110.

411. Consumption Economics in Agriculture. (3) I. Explanation of consumer demand and factors affecting consumer purchasing patterns. Special emphasis on the relation of producer decisions and market performance to consumer demand. Three hours a week. Pr.: Ag. Ec. 241.
421. Agricultural Prices and Market Structures. (3) II. Explanation of forces determining prices for agricultural resources and products; special emphasis on marketing methods and their effects upon farm prices and products offered; methods of prices analysis. Three hours a week. Pr.: Ec. So. 110.
431. Economic Principles of Agricultural Business Firms. (3) II. A study of the concept of agribusiness and its relationship to the economy as a whole. Particular attention is given to the application of economic principles in the operation of marketing and farm supply firms. Three hours a week. Pr.: Ec. So. 110.
441. Agricultural Economic Seminar. Credit arranged. Seminars of special interest will be offered upon sufficient demand in the areas of (a) Farm Management, (b) Marketing, (c) Land Economics, (d) Policy, (e) Other selected areas. Pr.: Consent of instructor.
450. Land Economics. (3) I. Principles and procedures in acquiring and transferring rights in land resources through ownership, leasing, easements, and other means. Social controls over land resources including regulation, zoning, and taxation. Evaluation and marketing of land resources. Three hours a week. Pr.:

Ag. Ec. 200.

451. Agricultural Finance. (3) II. Financial structure of agriculture; capital requirements for efficient operation of farms and agricultural businesses; sources of capital, with particular consideration given to credit, integration, and business organization. Three hours a week. Pr.: Ag. Ec. 200.
470. Principles of Cooperation. (3) I. History and development of cooperatives, especially farmer marketing and purchasing cooperatives; philosophy, principles, and operating techniques essential for successful cooperative activity; limitations and possibilities for cooperatives in the agricultural economy. Three hours a week. Pr.: Ec. So. 110.
480. Agricultural Economics Statistics. (3) II. Principles and methods involved in the collection, analysis, interpretation, and presentation of statistical materials, with special reference to agricultural economics data. Three hours a week. Pr.: Ec. So. 110.

For undergraduate and graduate credit

610. Agricultural Policy. (3) I, S. A study dealing with the economic problems of agriculture, with emphasis on the influence of private and governmental policies on such problems. Attention will be directed toward analyzing the effects of different types of private and governmental policies on the agricultural industry. Three hours a week. Pr.: Ec. So. 110.
620. Production Economics. (3) I, S. Economic theory, under conditions of perfect and imperfect knowledge, applied to production problems;

resource and output combinations, costs, firm size, and aggregate aspects of production. Three hours a week. Pr.: Ag. Ec. 200 or consent of instructor.

630. Seminar in Land Economics. (2). Offered on sufficient demand. Comprehensive analysis of problems dealing with the control and use of public and private land resources. Two hours a week. Pr.: Ag. Ec. 450 or consent of instructor.

650. Agricultural Economics Problems. Credit arranged I, II, S. Pr.: Consult instructor.

670. Land and Resource Conservation. (3) II. Offered on sufficient demand. Economic evaluation of land use and alternative uses by time periods. The economics of conservation is applied in light of known and probable resource needs, including policy and planning, and the individual and society as associated with the major natural resources of the U.S. Three hours a week. Pr.: Ec. So. 110, junior standing.

For graduate credit

800. Economics of Agriculture I. (3). Offered on sufficient demand. A comprehensive study of the economics of agriculture, with special attention to the integration of agricultural problems into the general body of economic theory. Includes: agriculture in the general economy, agricultural maladjustments, production and marketing organization, farm prices. Pr.: Consent of instructor.

810. Economics of Agriculture II. (3). Offered on sufficient demand. A comprehensive study of the economics of agriculture, with

special attention to the integration of agricultural problems into the general body of economic theory. Includes: value, distribution, and income; agricultural land utilization and tenure; agricultural credit and insurance; international agricultural relations; public activities relating to agriculture. Pr.: consent of instructor.

- 820. Price Analysis. (3). Offered on sufficient demand. Theory and analysis of prices, including techniques for empirical investigation of price problems. Pr.: Ag. Ec. 421 or consent of instructor.
- 830. Analysis of Agricultural Resource Use. (3) Offered on sufficient demand. Formulation and analysis of static and dynamic problems of agricultural resource use by firms and industries. Pr.: Basic courses in economics and statistics and consent of instructor.
- 840. Seminar in Agricultural Economics. (3). Offered on sufficient demand. Problems and current developments in agricultural economics. Pr.: Consent of instructor.
- 851. Research in Agricultural Economics. Credit arranged. I, II, S. Research for thesis or master's report.
- 861. Seminar in Economic Research. (3) II. The scientific reasoning underlying the selection of research problems, the formulation and testing of hypothesis, and the evaluation and presentation of results. Pr.: Consent of instructor.

It seemed to the writer that these course descriptions, both of Kasetsart University and Kansas State University would be useful in improving the agricultural economics curriculum of Agricultural

Technical Institutes in Thailand. It was realized that it would be difficult to get such materials in that country, and that the results of this study would serve as a practical guide when applied to conditions in Thailand. It, therefore, assumed to be appropriate to gather materials which would contribute to such improvement in the future of Thailand.

VI. The Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand

The courses shown in the following tables were proposed by a supervisor, Ministry of Education and an agricultural education advisor, the Agency for International Development in Thailand. These courses were proposed for Technical Institutes in Vocational Agriculture for that country. In Table III were listed the general and related course, which were required of all students regardless of major.

Listed in Table IV were the courses proposed in agricultural economics and farm management.

TABLE III

THE GENERAL AND RELATED COURSES, DEPARTMENT OF AGRICULTURAL ECONOMICS,
AGRICULTURAL TECHNICAL INSTITUTES, THAILAND¹²

Courses	Clock Hours	Credits	First year		Second year	
			1st Term	2nd Term	1st Term	2nd Term
English	8	8	2	2	2	2
Physical Education	8	4	1	1	1	1
General Knowledge	4	4	1	1	1	1
Mental Hygiene	2	2	2	-	-	-
Library Usage	1	1	1	-	-	-
Rural Sociology	3	3	-	3	-	-
Methods of Instruction	4	3	-	-	3	-
Rural Leadership	2	2	-	-	2	-
Extension Methods	4	3	-	-	-	3
Human Relations	2	2	-	-	-	2
Total credits		32	7	7	9	9

¹²Pittha Bunnag and Harry W. Kitts, "Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand" (Bangkok, Thailand: The Agency for International Development, 1962), p. 6. (Mimeographed.)

TABLE IV

THE AGRICULTURAL ECONOMIC COURSES, DEPARTMENT OF AGRICULTURAL
ECONOMICS, AGRICULTURAL TECHNICAL INSTITUTES, THAILAND¹³

Courses	Clock Hours	Credits	First year		Second year	
			1st Term	2nd Term	1st Term	2nd Term
Farm Organization	5	4	4	-	-	-
Farm Records and Analysis	5	4	4	-	-	-
Marketing	5	4	4	-	-	-
Farm Management	5	4	-	4	-	-
Cooperatives	5	4	-	-	-	4
Land Economics	5	4	-	4	-	-
Agricultural Statistics	5	4	-	-	-	4
Farm Credit and Finance	5	4	-	-	4	-
National Farm Policy	3	3	-	-	-	3
Commercial Bookkeeping*	5	3	-	3	-	-
Farm Law	5	4	-	-	4	-
Total credit		42	12	11	8	11

* For students planning employment in commercial industry.

For students selecting a major in agricultural economics it was proposed that they must take:

Farm Organization	4 credits
Farm Management	4 credits
Field Crops Production	4 credits
Soils and Fertilizers	4 credits
Soil Management and Conservation	4 credits
Farm Shop Skills	3 credits

¹³Ibid., pp. 9-10.

THE DEPARTMENT OF AGRICULTURAL ECONOMICS IN
AGRICULTURAL TECHNICAL INSTITUTES

The training in vocational agriculture in Thailand at the time of the study did not provide the technical training agriculture demanded in the emerging society. Most of graduates from vocational agriculture schools did not have adequate qualification to perform their role as advisors to farmers who were lacking in educational opportunity. In Table V is shown the number of hours of instruction in vocational agriculture per week taught in vocational agriculture schools.

TABLE V
NUMBER OF HOURS OF VOCATIONAL AGRICULTURE INSTRUCTION IN
VOCATIONAL AGRICULTURE SCHOOLS, THAILAND¹

Major field	Hours of instruction per week			
	1st	2nd	3rd	Total
Crops and Animal Husbandry	6	6	15	27
Soils	0	1	1	2
Agricultural Economics	1	2	2	5
Farm Mechanics	3	3	3	9
Agricultural Extension	0	0	1	1

¹Pittha Bunnag and Harry W. Kitts, "Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand" (Bangkok, Thailand: The Agency for International Development, 1962), p. 3. (Mimeographed.)

It was recognized that the potential demand for individuals with specific training in various aspects of agriculture beyond the vocational level but below college graduate was great. The Department of Vocational Education, Ministry of Education requested the agricultural education advisor from the Agency for International Development to survey existing vocational agriculture schools and make recommendations regarding the establishment of technical institutes for instruction in agriculture at United States grade fourteen-fifteen level. From the results of that study, the Ministry of Education planned to open the first Agricultural Technical Institute at Chiangmai Agricultural College in May of 1963; the second at Nakornsri Thammaraj province in May of 1964; the third at Swin province in May of 1965; and the last one at Ayuthaya province in May of 1966. As mentioned at the beginning of this report each institute was to be composed of four major fields--Animal Science, Plant Science, Farm Mechanics, and Agricultural Economics. In 1963, the Ministry of Education was able to open two of the four major fields--Animal and Plant Science.

I. Objectives

In order to raise the standard of living of farmers, it seemed advisable to give additional training in special fields for agricultural occupations to those who have the ability and want to further their studies in the agricultural field. These Agricultural Technical Institutes could also increase the educational standard of the people.

The specific objectives for training in the Department of Agricultural Economics, Agricultural Technical Institutes in Thailand were:

1. To give experiences in selected areas of technical agricultural economics.
2. To develop self-confidence in skills and knowledge in agricultural economics.
3. To enable individuals to increase their efficiency in agricultural economics.
4. To develop leadership, citizenship, initiative, responsibility, faith and interest in farming, an interest in social activities and to enable individuals to deal with rural people.
5. To develop principles of experimentation and research.
6. To develop civic and ethical standards for moral living.
7. To encourage continuing education at other institutions after gaining practical experience and to upgrade in one's profession.
8. To recognize and appreciate the aesthetic value of nature and Thai national culture.

The objectives from number four to number eight were the objectives of Agricultural Technical Institutes.²

II. Guidelines for the Development of the Curriculum

The following guidelines were developed from the report of the Proposed Curriculum for Technical Institutes in Vocational Agriculture

²Ibid., p. 4.

for Thailand:³

1. Instruction was to be organized into a two-year curriculum.
2. Students must be graduates of higher level vocational agriculture or of pre-university schools. In the latter case, students must be required to take some agricultural courses at higher level vocational agriculture.
3. Students majoring in agricultural economics must also select a minor in animal science, plant science, or farm mechanics.
4. Instruction would offer courses adapted to their geographical location and physical facilities.
5. Courses would be grouped into two areas: technical agriculture and general education courses. Approximately $\frac{2}{3}$ of the instructional time should be devoted to the technical agriculture courses and not over $\frac{1}{4}$ to $\frac{1}{3}$ to the general education courses. Approximately $\frac{1}{2}$ the time devoted to technical agriculture should be practical laboratory or field experiences.
6. Instruction should be organized into a seven hours, $5\frac{1}{2}$ day week.
7. Supervised farming experiences is required of each student, by selecting experience according to their minor as his project.
8. Each student must be able to meet the standards for his project as set forth by the advisor.

³Ibid.

9. Student should participate in extra curricular activities including music, sports and clubs.

III. Qualifications for Graduation

The following were the needed qualifications for graduation which were suggested in the same report.⁴ It was necessary to:

1. Attend not less than four semesters and pass the required number of credits.
2. Receive a satisfactory rating on practical work.
3. Attend class a minimum of 80 per cent of the time.
4. Have a minimum sixty points for good behavior to be admitted to the examination.
5. Complete satisfactory supervised farming experience.

IV. Evaluation

Evaluation was the method of determining the results of students' work. The following were developed from the report of the Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand.⁵

1. One hour of lecture per week for one hour credit.
2. Two hours of laboratory or field experience per week for one hour credit.
3. One hour of physical education a week for one hour credit.

⁴Ibid., p. 5.

⁵Ibid.

4. Four hours of R.O.T.C. Training per week would be required for all students who did not present adequate military training at the time of admission. No academic credit would be allowed and the time devoted would be in addition to the normal thirty-five hours per week of instruction.
5. Passing grade was sixty.

CRITERIA FOR CURRICULUM DEVELOPMENT

In the development of a curriculum, one of the important problems was considered to be what courses should be offered for each grade level or the type of education which was needed for the individual. This was assumed important because the purposes of the study was not the same. The philosophy of curriculum development was to meet cultural demands of the people in the society. It also was the means of improving experiences for students and changing their behavior pattern. It, therefore, seemed necessary to offer courses according to the philosophy of education. The problems were concerned with the cultural demands of the people in each society, an identification of the problems to be solved and the question of who would determine the courses that should be offered.

I. Participants in Curriculum Development

Krug wrote in his book that:

Most of the participants in curriculum planning may be classified as belonging to one or more of the following general groups: (1) state-wide leadership groups; (2) local leadership groups; (3) classroom teachers; (4) the general public; and (5) the learners--children, youth, and adults in school. One of the major problems of planning today is to identify clearly the roles of these various groups and to provide the organization within each group may function most effectively.¹

Concerning the participants in curriculum improvement, Doll wrote in his book, Curriculum Improvement that:

¹Edward A. Krug, Curriculum Planning, pp. 8-9.

In general, participants in curriculum improvement today fall into two large classifications: those who operate outside local school districts, and those who operate within them. It is possible, of course, to identify other classifications, such as those of professional and non-professional personnel, but the crucial issues of the times increasingly center about the respective roles: 1) of persons beyond the confines of local communities, and 2) of community personnel, both professional and lay, who are willing and able to exercise local control.²

Doll also classified the persons who were outside local school districts. He wrote that:

So much has happened to shift roles and to create new ones that recent history and the current scene provide the best sources of information about who is making curriculum decisions. A random list of role-takers outside local school districts would surely include:³

- State legislature, state boards of education, and state departments of education;
- Regional accrediting associations;
- Colleges and universities;
- National and state pressure groups;
- Producers of sponsored teaching aids;
- Textbook authors and publishers, testmakers, and manufacturers of other devices and materials;
- Consultants from colleges and universities;
- Specialists groups in subject-matter;
- Laymen who author books and magazine articles;
- The federal government;

²Ronald C. Doll, Curriculum Improvement: Decision-Making and Process, p. 209.

³Ibid., p. 210.

Professional organizations in education and individual educational leaders.

For persons and organizations within local school districts, Dole classified into:⁴

School boards;
Individual laymen and groups of laymen;
Administrators and supervisors;
Teachers; and
Pupils.

A. State leadership.

Krug explained in his book that:

State leadership usually means the staff of the state department of public instruction. The state leadership group is the utmost importance in curriculum planning ...State leadership should work cooperatively with the local schools and be centered on efforts to stimulate and assist the study of education problems in local communities. The first and most important job is to provide help to local communities in the study of educational objectives.... Services of the state leadership group should also be directed toward the local development of the all-school program....⁵

The meaning of the word "state leadership" was not entirely the same in the United States as in Thailand. In Thailand it meant those who were leaders in any profession. This included more than the staff of officials in Ministry of Education.

B. Local leadership.

Krug explained the local leadership that:

⁴Ibid., pp. 218-225.

⁵Edward A. Krug, Curriculum Planning, pp. 9-10.

This group includes not only the city or county superintendents, members of central office staffs, and building principals, but also those classroom teachers with leadership responsibilities in committees and study groups. The most important function of local leadership is to foster awareness of curriculum problems and provide the means for studying and working on them....⁶

Local leadership in Thailand was similar to that in the United States, but many of the Thai leaders were limited in education and leadership abilities. It was felt that it would, therefore, be hard to obtain all the helps needed regarding education to improve and develop the curriculum.

C. Classroom teachers.

Krug wrote that:

Some teachers tended to feel that this activity was remote from their own interests, especially when the procedure called for "approval" of the "new curriculum" at some future and undefined date by other committees or groups....For one thing, it is being increasingly recognized that the teacher's most significant participation in curriculum planning is what he does in his own teaching.⁷

In Thailand the curriculum was followed as guideline in the education of the students. The curriculum was not reviewed or improved by the educators and classroom teachers. It was the custom of Thailand that the curriculum came from the officials who had high positions in the department. This philosophy now is the classroom teachers participate in the educational curriculum meeting.

D. The general public.

Krug explained about the general public that:

⁶Ibid., p. 12.

⁷Ibid., p. 13.

The schools belong to the general public; members of this public or the many publics should have much to say about the curriculum. On the other hand, professional educators have received special training for their work and may legitimately be expected to contribute more than might be possible for other citizens....The role of the professional educator in the study of such a broad issue or question may be defined as helping his fellow citizens (1) to define the question as clearly as possible, (2) to gain access to important facts and viewpoints through reading and study, and (3) to relate the question to relevant educational purposes.⁸

In Thailand, the general public showed little interest in the curriculum of schools in which they were participating. For a century most of the people believed that education was the obligation of the government. They were not familiar with their children's course of study. The writer believed that the people need to be involved more in the educational program of Thailand.

E. The learners.

Krug explained that:

Just as the teacher's most significant role in curriculum planning is found in his own teaching, so is that of the students found in the way they help develop the conditions of their own learning. The respective roles of teachers and students are closely interrelated in the everyday planning and use of materials and activities.⁹

At the time of the study there was almost no way for the learners to participate in curriculum development in Thailand. It was the opinion of Thai educational personnel that students had only the duty to learn according to the teaching of their teachers. They have been taught to follow for many generations, so it has been difficult for students to participate in the curriculum development.

⁸Ibid., pp. 14-15.

⁹Ibid., p. 16.

II. Organization of the Classroom Studies

A problem of participants in curriculum development was how to organize the courses that should be taught. It was felt that the classroom studies should give opportunities to all students for enriched programs and activities, in all areas of educational growth. Krug wrote in the Curriculum Planning Book that:

There are various ways of organizing the classroom studies in the curriculum. Curriculum students have sought to name and to classify these ways or approaches. One widely used classification scheme employs four categories: (1) subjects; (2) broad fields; (3) problems or areas of livings; and (4) emerging or experience.¹⁰

A. Subjects.

Krug explained the "subjects" that:

Subjects are categories of knowledge or skill arranged for teaching purposes. This kind of organization of classroom studies implies subject matter, but other kinds do not include it. For this reason, the term "subject organization" is preferable to the term "subject-matter organization."¹¹

B. Broad fields.

The following was the explanation of Krug concerning the "broad fields" approach:

One approach to broad fields organization is that of "correlation." Correlation implies the establishment of relationships among two or more subjects without necessarily destroying the identities of these subjects as such. Another approach to broad fields organization is that of fusion, under which two subjects are brought together in such a way that they lose their separate

¹⁰Ibid., p. 103.

¹¹Ibid.

identities and form a new pattern.¹²

C. Problems or areas of living.

Krug wrote for this topic that:

One possibility is that of human problems or needs, such as selecting and preparing for an occupation, developing one's personal effectiveness, establishing and maintaining good family relationships, and assuming responsibilities. Professional educators, working closely with the general public, should be in the position to identify the common, general problems and needs of children and youth on given age levels. These could conceivably be organized into curriculum guides or courses of study to be applied with varying degrees of flexibility and advance planning. This is known as the "problems of living" approach to the organization of classroom studies.¹³

D. Emerging or experience.

Krug furthered his explanation on this approach that:

This experience approach is characterized by "pattern and structure developed in the on-going process by internal direction and control."...The organization of the experience curriculum is in a continuous process of development in which the learner participates.¹⁴

III. Surveys of Expert Opinion

The writer believed that the opinion of the experts could help a great deal in developing a curriculum. Those specialists who knew and understood the situations in their society should know what courses the school should teach the children in their society, concerning these expert opinion Krug wrote that:

¹²Ibid., pp. 103-104.

¹³Ibid., p. 105.

¹⁴Ibid., p. 106.

While we do not go to any one expert today to tell us the answers to our curriculum problems, it is sometimes of value to assemble the thinking of a fairly large number of those who appear to qualify for membership in this category.¹⁵

¹⁵Ibid., p. 260.

THE RESULTS OF QUESTIONNAIRES

I. Technique

From the consideration of criteria which was found to be desirable for curriculum development and in order to know the methods of setting up the agricultural economics curriculum as mentioned at the beginning, the writer decided to use questionnaires to survey opinions of experts in the field. Many of the experts selected were agricultural economists in Thailand and some American personnel who worked at the Agency for International Development in that country. In addition these questionnaires were also used to gather opinion from selected professors from the Department of Agricultural Economics, Kansas State University. The results of questionnaires would determine what agricultural economic and general education courses should be offered at the Department of Agricultural Economics, Agricultural Technical Institutes in Thailand.

The questionnaires with stamped self-addressed envelopes were sent to thirteen Thai agricultural economists, and to the writer's American technical advisor at the Agency for International Development in Thailand. Questionnaires were also sent to another American vocational agriculture advisor and an American agricultural economist at Kasetsart University. Two questionnaires were sent to American professors who were formerly vocational agriculture advisors in Thailand. The questionnaires covered agricultural economic and general education courses.

In the cover letter of the questionnaire (see appendix) the

writer mentioned briefly the purposes of four Agricultural Technical Institutes, the qualification of students who would further their education at this level, and the agricultural economic courses which they had studied at the vocational agriculture level. The type of the curriculum was also mentioned so that those agricultural economists would have the background of these institutions.

Six questionnaires or 46.15 per cent were returned from Thai specialists. All of the questionnaires were returned from American specialists. When combined together the questionnaires were returned about 61.11 per cent.

The writer also requested four professors at the Department of Agricultural Economics, Kansas State University to complete the same questionnaires. Some of the professors had had experience in under developed countries. The writer believed that they should know the characteristics of Thailand and could make worthwhile suggestions.

Combining all sources of questionnaires used there was a total of twenty-two used. Fifteen or about 68.18 per cent were returned.

II. The Questionnaire Results

Since the courses which should be offered at the Department of Agricultural Economics, Agricultural Technical Institutes in Thailand, consisted of agricultural economic and general education courses, the writer could not determine by himself how many courses should be offered. This question was also included in the questionnaires.

A. Agricultural economic courses.

In Table VI the data was compiled showing the differences among the expert opinion concerning how many agricultural economic courses should be offered. The range was from five to fifteen courses.

TABLE VI

THE NUMBER OF AGRICULTURAL ECONOMIC COURSES FOR THE DEPARTMENT
OF AGRICULTURAL ECONOMICS, AGRICULTURAL
TECHNICAL INSTITUTES, THAILAND

Number of opinion	Number of courses offered					
	Below 7	7	8	9	10	Over 10
1	X					
3		X				
3			X			
2				X		
4					X	
2						X
<hr/> 15						

From the data presented in Table VI it was shown the average number of courses suggested was 9 (8.8). The modal response given by four of the fifteen experts was 10. The median measure of centered tendency placed the number of classes at 9. Nine courses seemed to be the consensus of the opinions of the experts.

In Table VII was shown the frequency of opinion concerning

TABLE VII

THE FREQUENCY OF OPINION CONCERNING WHETHER SPECIFIC AGRICULTURAL
ECONOMIC COURSES SHOULD BE OFFERED AT THE DEPARTMENT
OF AGRICULTURAL ECONOMICS, AGRICULTURAL
TECHNICAL INSTITUTES, THAILAND

Number	Courses	Frequency	Total
1.	Principles of Agricultural Marketing	///// ///// /////	15
2.	Farm Organization	///// ///// ///	13
3.	Agricultural Finance	///// ///// /////	15
4.	Agricultural Prices	///// ///// ///	14
5.	Farm Management	///// ///// /////	15
6.	Farm Record and Analysis	///// ///// ///	13
7.	Principles of Cooperation	///// ///// //	12
8.	Land Economics	///// ///// /	11
9.	Agricultural Statistics	///// ///// /	11
10.	Agricultural Policy	///// //	7
11.	Farm Law	/////	4
12.	Commercial Bookkeeping		0
13.	Agricultural Business	/	1
14.	Economics of Production	//	2
15.	Economics of Consumption	/	1
16.	Farm Appraisal	/	1
17.	Farm Work Simplification	/	1
18.	Soil Management	/	1
19.	Agriculture of Other Countries	/	1
20.	Economic Development	/	1

whether specific agricultural economic courses were deemed important by the agricultural economists and should be taught at the Department of Agricultural Economics, Agricultural Technical Institutes in Thailand.

From Table VII the courses in agricultural economics were arranged from the highest to the lowest frequencies given by the experts as follows:

1. Farm Management
2. Principles of Agricultural Marketing
3. Agricultural Finance
4. Agricultural Prices
5. Farm Organization
6. Farm Record and Analysis
7. Principles of Cooperation
8. Land Economics
9. Agricultural Statistics
10. Agricultural Policy
11. Farm Law
12. Production Economics
13. Agriculture of Other Countries
14. Economic Development
15. Agricultural Business
16. Consumption Economics
17. Farm Appraisal
18. Soil Management
19. Farm Work Simplification
20. Commercial Bookkeeping.

There were many specialists who suggested that some courses should be combined. The following were the recommendations regarding combination of courses:

1. Four specialists suggested combining Farm Management and Farm Record and Analysis.
2. Two specialists suggested that the following courses should be combined:
 - (a) Principles of Agricultural Marketing and Principles of Cooperation.
 - (b) Farm Management and Farm Organization.
 - (c) Principles of Agricultural Marketing and Agricultural Prices.
3. One specialist suggested that these courses should be combined:
 - (a) Farm Management, Farm Organization, and Farm Record and Analysis.
 - (b) Agricultural Prices and Agricultural Statistics.
 - (c) Agricultural Policy and Farm Law.
 - (d) Land Economics and Farm Law.

B. General education courses.

It was believed by the experts who responded to the questionnaires that general education courses were an integral part of the total program which would be presented by Agricultural Technical Institutes in Thailand.

In Table VIII is shown the differences expressed among the expert

TABLE VIII

THE NUMBER OF GENERAL EDUCATION COURSES RECOMMENDED FOR THE
DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRICULTURAL
TECHNICAL INSTITUTES, THAILAND

Number of opinion	Number of courses offered							
	Below 5	5	6	7	8	9	10	over 10
2	X							
1		X						
3			X					
0				X				
6					X			
2						X		
1							X	
0								X
<hr/> 15								

opinion responses concerning how many general education courses should be offered. There were two specialists who indicated that they preferred to offer below five courses (two and three courses). The range for the opinions of all the experts was from two to ^{ten} nine courses.

From the data presented in Table VIII it was shown the averages number (mean) of courses 7 (6.9). The modal response given by six of the fifteen experts was 8. The median measure of centered tendency placed the number of classes at 8.

In Table IX was shown the frequency of opinion concerning whether specific general education courses were deemed important by the agricultural economists and should be taught at the Department of Agricultural Economics, Agricultural Technical Institutes in Thailand.

TABLE IX

THE FREQUENCY OF OPINION CONCERNING WHETHER SPECIFIC GENERAL EDUCATION COURSES SHOULD BE OFFERED AT THE DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRICULTURAL TECHNICAL INSTITUTES, THAILAND

Number	Courses	Frequency	Total
1.	English Language	//// / ///	13
2.	Thai Language	////	10
3.	General Knowledge	//// //	7
4.	Physical Education	//// //	7
5.	Mental Hygiene	//// //	7
6.	Rural Sociology	//// / ///	15
7.	Methods of Instruction	//// //	9
8.	Rural Leadership	////	10
9.	Extension Methods	//// / //	13
10.	Human Relations	//// /	11
11.	Public Speaking	/	1
12.	Thai Government	//	2
13.	History	//	2
14.	Public Administration	//	2

From Table IX the courses in general education were arranged according to the high to low frequencies as given by the experts as follows:

1. Rural Sociology
2. English Language
3. Extension Methods
4. Human Relations
5. Rural Leadership
6. Thai Language
7. Methods of Instruction
8. General Knowledge
9. Physical Education
10. Mental Hygiene
11. Thai Government
12. History
13. Public Administration
14. Public Speaking.

It was observed that for the courses of General Knowledge, Physical Education and Mental Hygiene there was an equal number of frequencies of expression from the experts who responded to the questionnaires.

There were two specialists who suggested that some courses should be combined. The following were the suggestions concerning the combination of courses:

1. One specialist suggested consolidation as follows:
 - (a) Extension Methods, Methods of Instruction and Rural Leadership.
 - (b) Social Studies (Sociology, Human Relations, General Knowledge, and etc.).

2. Another specialist suggested to combine Rural Leadership and Extension Methods into one course.

III. The Results of the Study

A. Agricultural economic courses.

From the data shown in the Table VI concerning the number of courses in agricultural economics that should be offered. It was found by computing the data that the average number or mean of courses suggested was 8.8 or 9, the mode or the largest frequency was 10, and the median fell at the opinion eight which had the value 9. So it was concluded that the number of agricultural economic courses that should be offered at the Department of Agricultural Economics, Agricultural Technical Institutes in Thailand would be nine courses.

Those nine courses would be the courses which had the top nine frequencies of all courses and were listed as follows:

1. Farm Management
2. Principles of Agricultural Marketing
3. Agricultural Finance
4. Agricultural Prices
5. Farm Organization
6. Farm Record and Analysis
7. Principles of Cooperation
8. Land Economics
9. Agricultural Statistics.

B. General education courses.

The data shown in the Table VIII was the results of the opinions regarding the number of general education courses or related courses that would be offered. It was found from the computation of data that the mean or average number of courses suggested was 6.9 or 7, the largest frequency or mode was 8, and the median placed at the opinion eight which had the value 8. The number of courses in general education that would be offered, therefore, was eight courses. These courses would also be the courses which had the top eight frequencies of all courses and were listed as follows:

1. Rural Sociology
2. English Language
3. Extension Methods
4. Human Relations
5. Rural Leadership
6. Thai Language
7. Methods of Instruction
8. General Knowledge, or Physical Education, or Mental Hygiene.

It was the opinion that for the courses of General Knowledge, Physical Education and Mental Hygiene which had equal frequencies in the opinions of the experts might be selected from by the learners or staff of the teachers.

All of the courses proposed by the specialists, both agricultural economic and general education courses, were thought to be of value in improving this curriculum for the future. The given combination of courses would also be used as the guideline of such improvement.

IV. Allocation of Class Hour Per Week

Both courses in agricultural economics and general education would be allocated as to the number of class hours per week for each course and each semester for the convenience in teaching.

Nine agricultural economic and eight general education courses that would be offered, would be allocated the number of class hours per week as shown in the Table X.

TABLE X

ALLOCATION OF COURSES FOR CLASS HOUR PER WEEK FOR THE DEPARTMENT
OF AGRICULTURAL ECONOMICS, AGRICULTURAL
TECHNICAL INSTITUTES, THAILAND

Courses	Clock Hours	Credits	First year Term		Second year Term	
			1st	2nd	1st	2nd
Farm Management	3	3	-	3	-	-
Principles of Agricultural Marketing	3	3	3	-	-	-
Agricultural Finance	3	3	-	-	-	3
Agricultural Prices	3	3	-	-	3	-
Farm Organization	3	3	3	-	-	-
Farm Record and Analysis	3	3	3	-	-	-
Principles of Cooperation	3	3	-	-	3	-
Land Economics	3	3	-	3	-	-
Agricultural Statistics	3	3	-	-	-	3
		27	9	6	6	6
Rural Sociology	3	3	-	3	-	-
English Language	8	8	2	2	2	2
Extension Methods	3	3	-	-	-	3
Human Relations	2	2	-	-	-	2
Community Organization and Leadership	3	3	-	-	3	-
Thai Language	3	3	-	-	3	-
Methods of Instruction	3	3	-	-	3	-
General Knowledge or Physical Education or Mental Hygiene	4	4	1	1	1	1
	2	2	2	-	-	-
		27(29)	4(3)	8(9)	8(9)	7(8)
Agriculture (Elective for minoring at least four courses)	12	12	3	3	3	3
Total credits		66(68)	16(15)	17(18)	17(18)	16(17)

SUMMARY AND CONCLUSIONS

I. Summary

The purpose of this study was to set up the agricultural economics curriculum for the four Agricultural Technical Institutes in Thailand. These institutes were established at the level of junior colleges in the United States. It was a recommendation of the Agency for International Development in Thailand that a Department of Agricultural Economics would be established at one major field of the curriculum at the technical level. Each institute was established in the schools of vocational agriculture and was to be composed of four major fields--Animal Science, Plant Science, Farm Mechanics, and Agricultural Economics. At the time of the study there had not been developed a curriculum in agricultural economics for the technical level in Thailand. There had been developed a report on the Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand, but the writers of this report wanted it to be used as the basis for curriculum development. The writer used the opportunity to develop the agricultural economics curriculum on the basis of that report.

The creative research method was used in this study. Procedures used to collect, present and interpret data included the use of library research, questionnaires, and interviews. Concerning the library research, many terms in agricultural economics, some curricula of agricultural economics both of colleges and vocational agriculture, and both of the United States and of Thailand were reviewed. The Department of Agricultural Economics, Agricultural Technical Institutes in Thailand

was developed on the basis of the report on Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand. The criteria for curriculum development was developed from some curriculum textbooks. The opinion of experts or state leaders was selected to be the criterion of this curriculum development.

The questionnaires were sent to specialists both Thailanders and some Americans in Thailand and in the United States. Such questionnaires were completed by some professors at the Department of Agricultural Economics, Kansas State University. Combining together all of the questionnaires used there were twenty-two sent out. Fifteen or about 68.18 per cent were returned.

The findings of this study indicated that the average number (mean) of courses in agricultural economics suggested by the experts was 8.8 (9). The largest frequency or mode was 10, and the median had the value 9.

For the courses in general education, the mean or average number of courses was 6.9 (7). The mode or largest frequency was 8, and the median centered the number of classes at 8.

II. Conclusions

It was the conclusion of this study that a curriculum in agricultural economics for Agricultural Technical Institutes in Thailand should include nine courses in agricultural economics and eight courses in general education.

Those nine courses in agricultural economics should be the courses which had the top nine frequencies of all courses as follows:

1. Farm Management
2. Principles of Agricultural Marketing
3. Agricultural Finance
4. Agricultural Prices
5. Farm Organization
6. Farm Record and Analysis
7. Principles of Cooperation
8. Land Economics
9. Agricultural Statistics.

Eight courses in general education should be the courses which had the top eight frequencies of all courses as follows:

1. Rural Sociology
2. English Language
3. Extension Organization and Policies
4. Human Relations
5. Community Organization and Leadership
6. Thai Language
7. Methods of Instruction
8. General Knowledge or Physical Education or Mental Hygiene.

Students majoring in Agricultural Economics must also select a minor in Animal Science, Plant Science, or Farm Mechanics at least four courses.

IMPLICATIONS OF THE STUDY

The implications of the findings of the study for the development of the program in Thailand as interpreted by the writer were presented in this section. The following were presented as the content of implied course both agricultural economics and general education. The writer also included this part of the study in order to make the curriculum complete. The course descriptions were not the results of questionnaires because it was rather difficult to use the questionnaires to cover all of the subject matter areas represented by the courses. The contents of courses were the results of curricula review and course descriptions proposed by the Agency for International Development in Thailand.

I. Agricultural Economic Courses

Farm Management. (3) Nature of the farm, the problems and methodology of farm management; measures of size of business, rates of production, efficient use of labor, capital, machinery, by-products; importance of long-time planning, of correct decisions.

Principles of Agricultural Marketing. (3) Market demands; outlook; facilities; processing, grading and packing; market reports; marketing methods; seasonal variation; role of government; market organization and institutions.

Agricultural Finance. (3) Financial structure of agriculture; needs, sources, types, uses, methods of application; capital requirements

for efficient operation of farms and agricultural business; problems of agricultural finance in Thailand and ways of improvement.

Agricultural Prices. (3) Explanation of forces determining prices for agricultural resources and products; price movements and factors accounting for changes in prices; method of developing agricultural prices in Thailand.

Farm Organization. (3) Principles and problems of farm organization and operation, their application; Economic forces affecting the organization and operation of the farm business; supervised field trips required.

Farm Record and Analysis. (3) A review of accounting methods used in the keeping of farm records; value of records; types of records; setting up a system; taking an inventory; determining a depreciation schedule; classifying expenses and receipts; closing accounts; analyzing records; establishing goals; substitute budgeting to determine combination of enterprises.

Principles of Cooperation. (3) History and development of cooperatives, especially farmer marketing and purchasing cooperatives; philosophy, principles, and operating techniques essential for successful cooperative activity; problems of management; membership relations; finance.

Land Economics. (3) An examination of land utilization, emphasizing conservation, land classification, valuation, taxation, and policies;

factors determining use of land; land capabilities; determining potential earning ability and value.

Agricultural Statistics. (3) Interpretation of statistical reports of field trials and experiment station reports; nature of observations; condensation and presentation of data; use of statistics in making estimates and drawing conclusions.

II. General Education Courses

Rural Sociology. (3) Social and cultural life of rural people, principal groups, institutions and organizations and their functioning in communities.

English Language. (8) A revision of grammatic structure of sentences commonly used in English; general vocabulary and simple terms used in agricultural economics; reading comprehension, oral practice on correct pronunciation, and communication ideas in writing as well as oral.

Composition, business letter writing and use of idiomatic expressions.

Extension Organization and Policies. (3) Development and objectives of extension work; Methods of organizing and conducting instructional programs with farmers and farm families; function, organization and duties of agricultural extension officers, community development workers.

Human Relations. (2) Effects of family interaction on present social

relationships; how to get along with other people.

Community Organization and Leadership. (3) Thai community organization; special emphasis on community problems and planning; meaning of leadership; methods of leadership; leading discussions; conducting demonstrations; training leaders; analysis of the forces and procedures at work in a community.

Thai Language. (3) Composition; official and business letter writing; Thai literature.

Methods of Instruction. (3) Techniques of presenting material as applied to working with rural people; selecting, organizing and presenting material; preparation and use of audio-visual materials; how we learn, observe and think; motives for human conduct.

General Knowledge. (1, 2, 3, 4) One hour per week. To stimulate students to know the general important events of the present world; may use the seminar system concerning such events.

Physical Education. (1, 2, 3, 4) One hour per week. General physical fitness exercises and recreational activities which might be used in working with rural families.

Mental Hygiene. (2) Social and cultural changes which have given rise to problems of human adjustment.

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BIBLIOGRAPHY

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APPENDIX

927 Moro Street
Manhattan, Kansas U.S.A.
December , 1964

Dear Sir:

As a graduate student at Kansas State University, I need to know your opinion about a curriculum in Agricultural Economics for the Agricultural Technical Institutes in Thailand. These institutes will have four major fields--Animal Science, Plant Science, Farm Mechanics, and Agricultural Economics.

In order to supply the need for agricultural economic workers at an intermediate step below the B.S. degree but above vocational agriculture, it is necessary to have a suitable curriculum for the youth of Thailand. I would like to request of you, as a specialist in this field and an understanding person to the situation in Thailand, to please let me have your suggestions in setting up such a curriculum.

Students who want to study at this level must be graduates of Higher Vocational Agriculture. At the vocational level they study Prin. of Econ., Prin. of Agr. Econ., and Prin. of Farm Mgmt. At the technical level, instruction should be organized into a 7-hour, $5\frac{1}{2}$ day week, and a 2-year curriculum. Students majoring in Agricultural Economics must also select a minor in Animal or Plant Science, at least 4 courses. Supervised farming experiences in plant or animal as his project is required of each student.

Please give me your recommendations on the enclosed questionnaire concerning agricultural economics and related courses as you think they will be useful to Thailand. I hope, sincerely, that you will help me in this study.

Thanks very much for your help.

Very truly yours,

Mr. Yanyong Sitdhichai

Questionnaire for the Agricultural Economic Specialist
in Thailand

(Please return by January 30, 1965)

Your opinion about the courses which should be offered in an Agricultural Economics curriculum for the Agricultural Technical Institutes in Thailand (one of these is Chiangmai Maejo College of Agriculture) is sought in order to aid in the development of such a curriculum. Please complete the information below by checking (x) or filling in the blanks.

With the limitation as mentioned in the cover letter.

1. How many agricultural Economic courses should be offered?

(8) _____ (9) _____ (10) _____ (11) _____ (12) _____

other () Please give the number.

2. What courses are they? (Please number them according to their importance.)

_____ Principles of Agricultural Marketing

_____ Farm Organization

_____ Agricultural Finance

_____ Agricultural Prices

_____ Farm Management

_____ Farm Record and Analysis

_____ Principles of Cooperation

_____ Land Economics

_____ Agricultural Statistics

_____ Agricultural Policy

_____ Farm Law

_____ Commercial Bookkeeping (This is prepared for students planning employment in commercial industry.)

3. Are there other Agricultural Economic courses that should be offered?

Yes _____

No _____

4. If yes, what courses are they? (Please name them according to their importance.)

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | |

5. How many General and Related courses should be offered?

(8) _____ (9) _____ (10) _____ (11) _____ (12) _____
other () Please give the number.

6. What courses are they? (Please number them according to their importance.)

- _____ English Language
- _____ Thai Language
- _____ General Knowledge
- _____ Physical Education
- _____ Mental Hygiene
- _____ Rural Sociology
- _____ Methods of Instruction
- _____ Rural Leadership
- _____ Extension Methods
- _____ Human Relations

7. Are there other General and Related courses that should be offered?

Yes _____ No _____

8. If yes, what courses are they? (Please name them according to their importance.)

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | |

9. Do you have other recommendations?

Yes _____

No _____

10. If yes, please give your recommendations in Thai or English.

AN AGRICULTURAL ECONOMICS CURRICULUM FOR
AGRICULTURAL TECHNICAL INSTITUTES
IN THAILAND

by

YANYONG SITDHICHAJ

B. S. Agr. Econ., Kasetsart University, 1956
B. S. Soc. Sc., Thammasart University, 1958

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Agricultural Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1965

The purpose of this study was to set up the agricultural economics curriculum for the four Agricultural Technical Institutes in Thailand. These institutes were established at the level of junior colleges in the United States. It was a recommendation of the Agency for International Development in Thailand that a Department of Agricultural Economics would be established as one major field of the curriculum at the technical level. Each institute was established in the schools of vocational agriculture and was to be composed of four major fields--Animal Science, Plant Science, Farm Mechanics, and Agricultural Economics. At the time of the study there had not been developed a curriculum in agricultural economics for the technical level in Thailand. There had been developed a report on the Proposed Curriculum for Technical Institutes in Vocational Agriculture for Thailand, but the writer of this report wanted it to be used as the basis for curriculum development. The writer used the opportunity to develop the curriculum in agricultural economics on the basis of that report.

The creative research method was used in this study. Procedures used to collect, present and interpret data included the use of library research, questionnaires, and interviews. Concerning the library research, many terms in agricultural economics, some curricula on agricultural economics both of colleges and vocational agriculture schools, and both of the United States and of Thailand were reviewed. The Department of Agricultural Economics, Agricultural Technical Institutes in Thailand was developed on the basis of the report on Proposed Curriculum for Technical Institutes in Vocational Agriculture for

Thailand. The criteria for curriculum development was developed from some textbooks on the curriculum. The opinion of experts or state leaders was chosen to be the criterion of this curriculum development.

The questionnaires were sent to specialists both Thailanders and some Americans in Thailand and in the United States. Such questionnaires were completed by some professors at the Department of Agricultural Economics, Kansas State University. Combining together all of questionnaires used there were twenty-two sent out. Fifteen or about 68.18 per cent were returned.

The findings of this study indicated that the average number (mean) of courses in agricultural economics suggested to propose was 8.8 (9). The largest frequency or mode was 10, and the median had the value 9.

For the courses in general education, the mean or average number of courses was 6.9 (7). The mode or largest frequency was 8, and the median centered the number of classes at 8.

It was the conclusion of this study that a curriculum in agricultural economics for Agricultural Technical Institutes in Thailand should include nine courses in agricultural economics and eight courses in general education.

Those nine courses in agricultural economics should be the courses which had the top nine frequencies of all courses as follows:

1. Farm Management
2. Principles of Agricultural Marketing
3. Agricultural Finance

4. Agricultural Prices
5. Farm Organization
6. Farm Record and Analysis
7. Principles of Cooperation
8. Land Economics
9. Agricultural Statistics

Eight courses in general education should be the courses which had the top eight frequencies of all courses as follows:

1. Rural Sociology
2. English Language
3. Extension Organization and Policies
4. Human Relations
5. Community Organization and Leadership
6. Thai Language
7. Methods of Instruction
8. General Knowledge or Physical Education or Mental Hygiene

Students majoring in Agricultural Economics must also select a minor in Animal Science, Plant Science, or Farm Mechanics at least four courses.

