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COOPERATIVE EXTENSION SERVICE ORGANIZATION AND
ADMINISTRATION IN UTAH AND THAILAND

by

Sommart Chinoim

A report submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Agricultural Education

Plan B

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1972

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INTRODUCTION

Thailand is an agricultural country with about 80 percent of the population operating farms. Agriculture is the main source of national income and 90 percent of all exports are agricultural products. The farms are small and a high percent of the farmers are illiterate which accounts for so many people remaining on farms. Even though agricultural development is under the National Economic and Social Development Plan, new methods of farming are not easily accessible to the small farmers. They still follow their ancestor's methods of cultivating, irrigating, and harvesting their crops. Most farmers operate subsistent farm units. They plant enough rice for their own family for the year and if all the rice is not consumed it is sold. They are not familiar with modern agricultural science: fertilizer, soils, plants, mechanization, entomology or market demands. Farm boys and girls have to drop out of school in low grade levels because the farmer cannot afford school expenses. Young people are expected to help their families on the farms. The younger generation will likely follow in the footsteps of their parents unless additional educational opportunities are provided. Extension Service can be a way of providing informal education to farmers and their families.

Separate Agricultural Extension Departments in Thailand were organized by the Ministry of Agriculture many years ago for general agriculture, rice, livestock, fishery, and forestry. In 1967 the Agricultural Extension Department was established in the Ministry of Agriculture and combined three Extension Departments: Office of the Under-Secretary of State, General

Agricultural, and Rice Department into one department. This is likely the beginning of real Agricultural Extension Service in Thailand.

Although the Cooperative Extension Service in the United States of America started under the Smith-Liver Act in 1914, agricultural extension had been organized long before that year. The general objectives of Cooperative Extension Service are to strengthen agriculture, home economics, and youth programs. Extension Service is organized to meet the people's needs. Utah is one of the pioneers in agricultural extension in the western states. In 1911, Lou Windsor was hired as the first county agent in the Uintah Basin. Since Utah has one of the oldest Cooperative Extension Services, its organization and administration will be studied to gather information that might be applied and incorporated into the Agricultural Extension Service in Thailand.

Problem Analysis

A common problem in developing countries is an obvious lack of specialists. Thailand is a country which is faced with this problem. Even though agricultural colleges and agricultural vocational schools have been established in various parts of the country for many years, and specialists have graduated from several western countries, Thailand not only lacks agricultural specialists but also lacks efficient organization of the specialists. Improved agricultural extension organization and administration may help greatly to solve some of the tremendous problems in agricultural development

in Thailand. Even though the Agricultural Extension Department was established in 1967 in the Ministry of Agriculture, the organization and administration has been temporary.

In this paper the writer proposes to develop answers on the following questions:

1. How is the Agricultural Extension Service in Thailand organized and administered?
2. What is the development of Agriculture in the United States of America?
3. How is the Utah Cooperative Extension Service organized and administered?

Purpose and Objectives

The first objective of this study is to learn more about the Utah Cooperative Extension Service Organization and Administration under three specific headings:

1. Executive personnel administration
2. Program leaders or specialists
3. Area or county agents

The second objective is to attempt to apply the findings of this study to the Agricultural Extension Department of Thailand.

Definition of Terms

The meaning of often-used terms in this paper were restricted by the definitions given as follows:

Administration. The executive personnel of a government or institution.

Amphur (District). Sub-region of Changwad (Province).

Area agent. An individual working on a variety of subjects on a multi-county or area basis. A generalist Extension worker assigned to more than one county.

Area coordinator. An individual who supervises and coordinates the total Extension program in a multi-county area.

Area specialist. An individual working on a specific subject matter assigned on a multi-county or area basis, e.g., livestock specialists or crop specialists.

Changwad (Province). Geographically divided region in Thailand. There are 71 Changwads in Thailand.

County agent. An individual with a generalist Extension assignment in one specific county.

Extension. An informal educational system. Extension does not ordinarily have classrooms nor does it have prescribed courses of study. Its curriculum is based on the needs of the people it serves. Extension's students are rural or village people. The goal is to help these people attain a more satisfying farm, home, and community life.

Home economics. The field of knowledge and subject matter which applies the principles of the social and physical sciences to home and family living, sometimes it is called the science and art of homemaking.

Office of the Under-Secretary of State. A department in the Ministry of Agriculture which, at the present time, supervises the agricultural programs of the other departments within the Ministry of Agriculture.

Organization. Consolidated group of people organized and systematized to accomplish some specific purpose.

Sericulture. The art or process of raising and keeping silkworms for the production of raw silk (Webster's New World Dictionary, 1968).

State specialist. An individual working on a specific subject matter assignment for the entire state.

Delimitation

Utah State University Extension includes the Cooperative Extension Service, the Conference and Institute Division, and Continuing Education. But this study concentrated on the Cooperative Extension Service only. However, brief reference is made to the Conference and Institute Division and Continuing Education. The Conference and Institute Division provides conferences, short courses, symposiums, seminars, and institutes both on and off the University campus. The goal of this division is to build a program and provide complementary facilities to serve groups of people with special short term educational needs on a continuing basis. Continuing Education is for people in areas remote from the University campus. It includes off-campus credit courses offered by respective academic departments and the Independent Study Division (Correspondence-Home Study).

Almost all of the references on Agricultural Extension Service in Thailand were printed in Thai language and several were unpublished materials. Under the four years of the Agricultural Extension Department of Thailand, agricultural extension references were limited.

GENERAL BACKGROUND OF THAILAND

Geographic Regions

The area of Thailand is about 200,000 square miles (Encyclopaedia Britannica, Volume 21, 1972). For convenience of description Thailand may be divided into four parts: Northern, Northeastern, Central, and Southern Thailand.

Northern Thailand

Northern Thailand contains 65,639 square miles and is divided into 16 provinces. It represents about 33 percent of the area and 22 percent of the population of the country (Encyclopaedia Britannica, Volume 21, 1972). It is bounded partly by Burma and contains several rivers which account for considerable areas suitable for the cultivation of rice. Maize is also important to the economy of this region as a national export product. Two other important contributions of this region to the national economy are: (1) irrigation water for Central Thailand and (2) hydro-electric power supplied for rural provinces.

Northeastern Thailand

Northeastern Thailand contains about 65,724 square miles and is divided into 15 provinces. It represents about 33 percent of the area and 34 percent of the people of the country (Encyclopaedia Britannica, Volume 21, 1972). It is bounded by Laos and Cambodia. Most of the land of this region is not well

suited for rice or other forms of agricultural production because most of the soils are too sandy and do not retain water.

Central Thailand

Bangkok, the capital is located in this part. It is divided into 26 provinces. The area is about 39,992 square miles which is about 20 percent of the country and contains 31 percent of its people (Encyclopaedia Britannica, Volume 21, 1972). It is the main rice producing section of Thailand. Irrigation water is supplied to this region from the rivers which flow from Northern Thailand.

Southern Thailand

Southern Thailand is bounded partly by Malaysia and Burma, and is divided into 14 provinces. It is the smallest region with about 27,100 square miles which is less than 14 percent of the country and has about 12 percent of its people (Encyclopaedia Britannica, Volume 21, 1972). The two greatest economic products of the region are rubber and tin. Over 90 percent of the rubber in the country comes from this region.

Thailand is geographically illustrated by the map on page 9 (Chart 1) which shows the different regions and provinces.

National Economy

The nature of Thailand economy varies among the geographical regions, each having somewhat different natural resources and economic development.

Most of the regions cultivate rice and have fishing resources. Fish provide the major protein element in the national diet. The Northern region is the source of most forestry products. The central region around the capital, Bangkok, is the nation's financial, commercial, and industrial center. The Southern part produces most of the rubber and tin. The Northeast region has limited resources.

Agricultural products are the main source of the national income. Since about 90 percent of the exports are from agriculture, the economy of Thailand is very much dependent upon agriculture. Rice is the principal base of the economy of the country. In the 1960's more than 76 percent of all cultivated area was planted in rice. The sowing and planting season for rice is from June to August and the reaping season from December to February. Rubber is planted in Southern Thailand on small estates owned by Thai and ethnic Chinese. Cotton is planted on poor soil in the Northern and Northeastern part of the country and tobacco is also cultivated chiefly in the cotton areas. Sugar-cane is widely cultivated and consumed locally. Maize is increasing in value for export purposes. Kenaf is another potentially important export crop. Other products include tapioca, peanuts, soybeans, coconuts, sesame, castor beans, silk, and pepper.

Livestock includes cattle, buffaloes, hogs, dairy cattle and horses. Cattle and buffaloes are the principal livestock of the country, cattle usually numbering about 5,000,000 and water buffaloes about 1,000,000 (*Encyclopaedia Britannica*, Volume 21, 1972). Some parts of the Northeast are suitable for grazing. Dairy cattle are almost non-existent.

About 125,000 square miles of Thailand are covered with forest, of which about 35,000 square miles in the North contain teak (*Encyclopaedia Britannica*, Volume 21, 1972). Presently, the Forest Industry Organization, a government body, is responsible for cutting the trees and moving the logs to Bangkok. Other forestry products include bamboo, charcoal, gums, and resins.

AGRICULTURE EXTENSION SERVICE IN THAILAND

Thailand is considered an agricultural country. It is a developing country which is faced with tremendous problems for national development. Some of the problems are related to the farmer himself and others to the Extension Officers.

1. Farmer. The philosophy that people who cannot do anything else can stay on a farm is a fact in Thailand. Farmers' knowledge and education are still at a low level. Most of the Thai farmers are illiterate and not familiar with agricultural science. Speaking of the economic condition, as mentioned previously, 80 percent of the population in Thailand are farmers. Most of the farm people are poor. The gross national product per capita in 1967 was 149 U.S. dollars (Agency for International Development, 1969). Customarily, in Thailand, the father divides farm areas with his children and encourages the children to stay on farms.

2. Officer. In Thailand, budget restraints are a problem of every agricultural institution. Even though it is an agricultural country, in 1969 financial allocation for agricultural development was only 16.1 percent of the total budget (The National Economic Development Board, 1969). Agricultural Extension Service in Thailand is scattered. The Agricultural Extension Department works mainly on crops and other Agricultural Extension Services are still in various Departments. Repeated Agricultural Extension Programs

are brought to farmers by the different Departments. There is much confusion among the farmers because instructions are issued by so many Departments. In addition, Extension specialists need to be more highly trained and efficient. Many of them do not want to work in remote areas from Bangkok. As a result, there is a wide difference in the level of development of various parts of the country.

However, Agricultural Extension has developed along with the history of Thailand. The national executive administration was organized by the Ministry system similar to other western countries. The Ministry of Agriculture was established in 1892, and is presently divided into the following Departments (Thai Agricultural Extension Department, 1968):

1. Office of Secretary to the Minister, working as secretary for the entire ministry.
2. Office of the Under-Secretary of State, presently supervises the agricultural programs of the other Departments within the Ministry of Agriculture. The Office is divided into Agricultural Economics, Extension Service, and Agricultural Research.
3. General Agricultural Department, established in 1903, works on all crops except rice.
4. Rice Department, established in 1953, works on every kind of rice.
5. Fishery Department works on fishery.
6. Livestock Department, established in 1942, works on all domestic animals.
7. Forest Department works on forestry.

8. Agricultural Extension Department, established in 1967, by combining Agricultural Extension from the Office of the Under-Secretary of State, General Agriculture, and Rice Department.

The present Organization of the Ministry of Agriculture is illustrated by the Organization and Administration Chart on page 15 (Chart 2).

Extension Service Under the Separate Departments
in Ministry of Agriculture

General Agriculture Department

This department was established in the Ministry of Agriculture in 1903. However, agricultural extension services were started in 1950 by introducing fertilizers, new crops, machinery, and publications to farmers. In the beginning this department worked on all crops and livestock. In 1942 and 1953 the Department of Livestock and Department of Rice, respectively, were established separately from the Department of General Agriculture in the Ministry of Agriculture.

Organization of the General Agricultural Department, before the Extension Division was separated and combined in the Agricultural Extension Department in 1967, was divided into 6 Divisions: Office of the Secretary, Research, Rubber, Crop, Agricultural Chemistry, and Extension Division. The Extension Division was divided into three sections: Central Sections, Extension Regions, and Changwad (Province) and Amphur (District) Agriculturist.

Central Sections composed of eight sections:

1. Pomology Section worked on flour-plants, oil-plants, and plants for animal feed which include corn and peanuts.

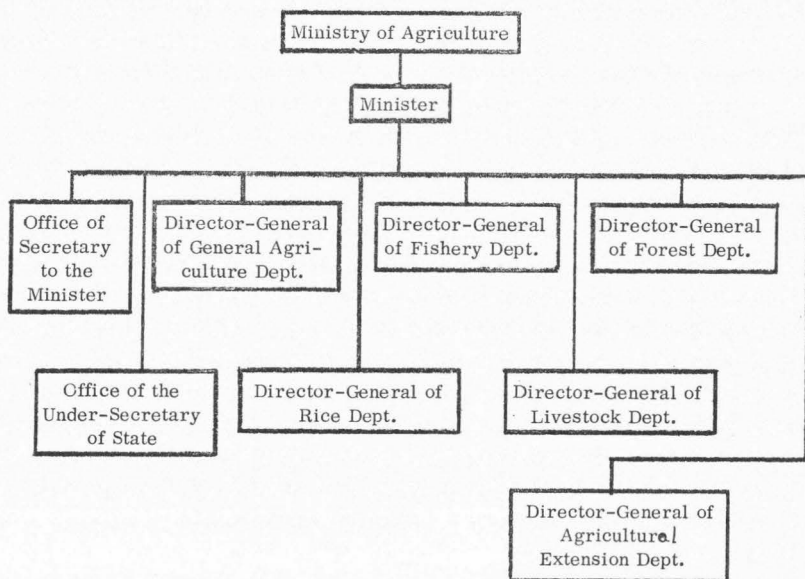


Chart 2. Organization and Administration Chart of Ministry of Agriculture of Thailand.

2. Fiber Crops Section worked on all fiber crops including jute, kenap, cotton and ramie.
3. Field Crops Section worked on fruits and perennials which included pepper, coffee, and oranges.
4. Farm Youth Training Section worked on 4-H club and FFT (Future Farmers of Thailand).
5. Sericulture Section worked on the process of raising and keeping silkworms for the production of raw silk, introducing new varieties to the farmers. There were 5 Sericultural Extension Stations in different provinces: Nakornrachasima, Khonkaen, Burirum, Roi-et, and Nongkai.
6. Farm Machinery Section introduced farm machinery to farmers.
7. Exhibition and Contest Section distributed agricultural news, produced instructional media aids in agriculture and promoted agricultural exhibitions, contests and fairs.
8. Motion Picture Section showed Thai and foreign agricultural motion pictures to the farmers in various parts of the country.

Extension Regions composed of Head, Assistant Head and staffs, worked on crop cultivation and 4-H programs in the responsible area. There were eight Regions in different Provinces:

1. First Region at Lopburi Province
2. Second Region at Chachoengsao Province
3. Third Region at Noakornachasima Province
4. Fourth Region at Udoonthanee Province

5. Fifth Region at Chiangmai Province
6. Sixth Region at Pitsnulok Province
7. Seventh Region at Nakornpathom Province
8. Eighth Region at Songkla Province.

Changwad (Province) and Amphur (District) Agriculturist worked directly with the farm people in their respective Province and District.

The organization of the General Agricultural Department before the Extension Division was separated and combined in the Agricultural Extension Department is illustrated by the Organization Chart of the General Agricultural Department on page 18 (Chart 3).

Rice Department

In 1892, when the Ministry of Agriculture was established, the agricultural programs were mostly in sericulture. Rice was the next crop which the Ministry of Agriculture became interested in. In 1953, the Department of Rice was established in the Ministry of Agriculture separately from the Department of General Agriculture and Rice Extension Service was started in the same year.

Organization of the Rice Department, before the Extension Division was separated and combined in the Agricultural Extension Department, was divided into 5 Divisions: Office of the Secretary, Research, Promotion, Engineering, and Extension Division. The Administration of the Extension Division was divided into two parts: Central and Regional Administration.

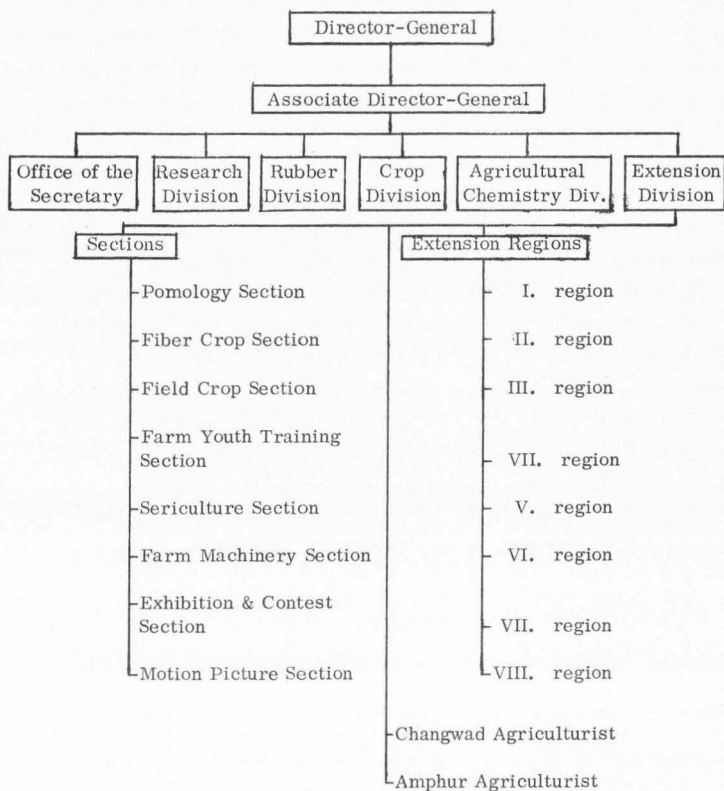


Chart 3. Organization Chart of General Agriculture Department.

Central Administration was divided into four sections:

1. Rice Farm Demonstration Section worked on rice farm demonstrations including the use of fertilizers, machinery, and new rice varieties.
2. Fertilizer Section worked directly on fertilizer for rice farms, and sold fertilizers to farmers at reduced prices.
3. Pest Control Section demonstrated insecticide use to rice farmers and conducted research on pest control.
4. Exhibition and Contests Section worked on rice contests in both central and regional parts, and included distribution of information and publicity to farmers.

Regional Administration composed of Changway (Province) and Amphur (District) Rice Officer. Both worked directly and closely with the farmers in their respective areas.

Organization of the Rice Department, before the Extension Division was separated and combined in the Agricultural Extension Department, is illustrated by the Organization Chart of the Rice Department on page 20 (Chart 4).

Livestock Department

In 1942 the Department of Livestock was established in the Ministry of Agriculture. It was organized separately from the Department of General Agriculture. In 1952 the Extension Division was established and extension programs were started in the Department.

Presently, the Livestock Department operates an Extension Service independently. Extension Organization of the Department is divided into three

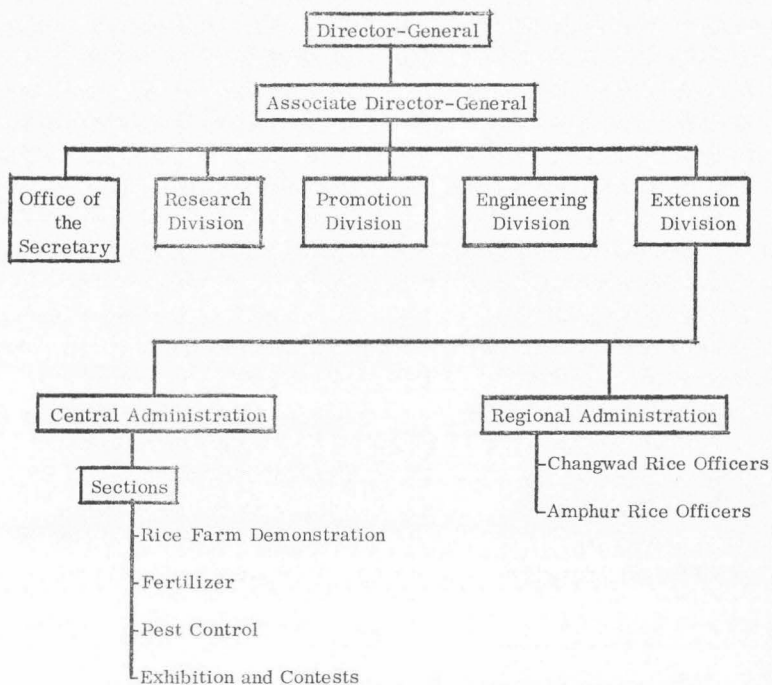


Chart 4. Organization Chart of Rice Department.

parts: Central Sections, Regional Sections, and Livestock Centers.

Central Sections composed of 4 sub-sections:

1. Wing Animals Section includes chickens, ducks and birds.
2. Small Animals Section includes hogs, lambs, sheep, and rabbits.
3. Big Animals Section works on horses, water-buffaloes, and oxen for farm use.
4. Animal Production Section includes basic demonstrations on the preservation of animal products, and also conducts research on animal production.

Regional Sections composed of Changwad (Province) and Amphur (District) Livestock Specialist. The Regional Specialists work directly with farmers in their respective areas on animal disease control, animal feeding, and new animal species.

Livestock Centers, composed of a Head, Assistant Head, and Staff, introduce new animal species, and do research on animal feed. There are eight Centers in different Provinces:

1. First Center at Khonkaen Province
2. Second Center at Nakornrachasima Province
3. Third Center at Saraburi Province
4. Fourth Center at Maharakam Province
5. Fifth Center at Chiangmai Province
6. Sixth Center at Sakonnakorn Province
7. Seventh Center at Surin Province
8. Eighth Center at Patdhalung Province

The Extension Organization of the Livestock Department is illustrated by the Extension Organization Chart of the Livestock Department on page 23 (Chart 5).

Presently, the important extension projects of the Livestock Department are:

1. Animal Production--introducing and contributing new animal species to farmers.
2. Animal Feed--demonstration of animal feed preparation and preservation to farmers.
3. Artificial Breeding--helping dairy farmers by introducing artificial insemination and further artificial breeding in hogs will be introduced.
4. Animal Disease Control--sending specialists to individual farms to assist with animal disease control.
5. Public Relations and Information--this project is under the Office of the Secretary.

Fishery Department

Even though Thailand has fish sources all over the country, the extension programs are not widely known to the people. Budgets and specialists are still the obstacles of fishery development. Generally, the extension programs consist of demonstrations, providing fish varieties, publications, and information.

Organization of the Fishery Department is divided into four Divisions: Office of the Secretary, Fishery Promotion, Survey and Research, and Fishery Control Division. The Fishery Promotion Division composed of four

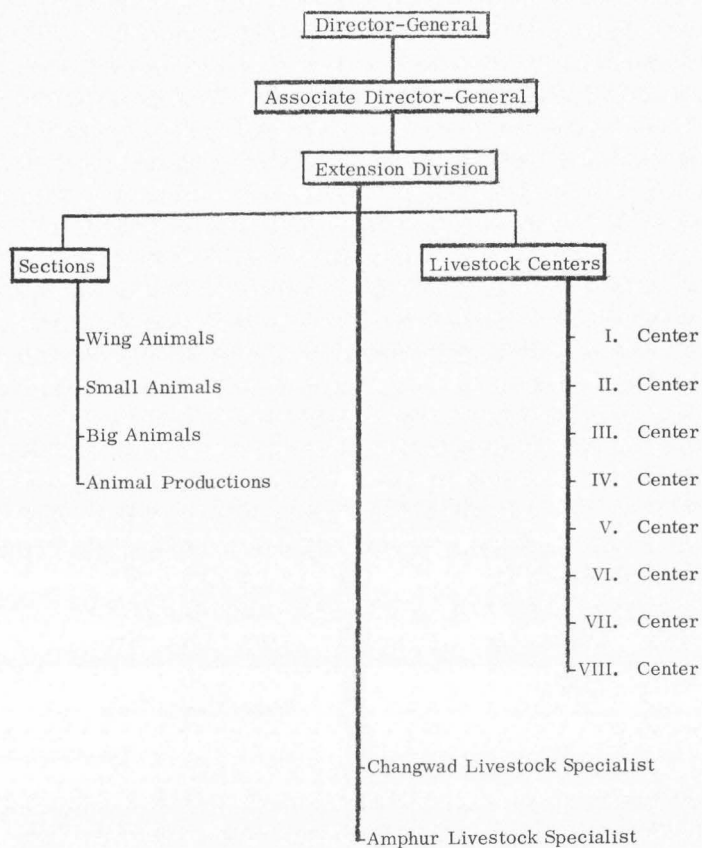


Chart 5. Extension Organization Chart of Livestock Department.

sections: Extension, Hatchery, Mechanical Section, and Fishery Promotion Centers.

Presently, the Fishery Department operates Extension Service independently under the Fishery Promotion Division. The Extension Section is illustrated by the Organization Chart of Fishery Department on page 25 (Chart 6).

Forest Department

The Forest Department does not have a specific extension division. Extension programs are provided through publications and information, and by helping people understand more about national resources by setting up botanical gardens and forest national parks in various parts of the country.

One important activity of the Forest Department is controlling the commercially valuable woods from being unlawfully harvested.

Extension Service Under the Agricultural Extension Department

The establishment of the Agricultural Extension Department has been a plan of the Ministry of Agriculture for several years. However, on October 21, 1967, a Ministry Improvement Act was passed establishing the Agricultural Extension Department in the Ministry of Agriculture. The Act divided the Ministry of Agriculture into eight Departments: Office of Secretary to the Minister, Office of the Under-Secretary of State, General Agriculture, Rice, Fishery, Livestock, Forest, and Agricultural Extension Department. On June 18, 1968, a Transfer Act of the Ministry of Agriculture was passed

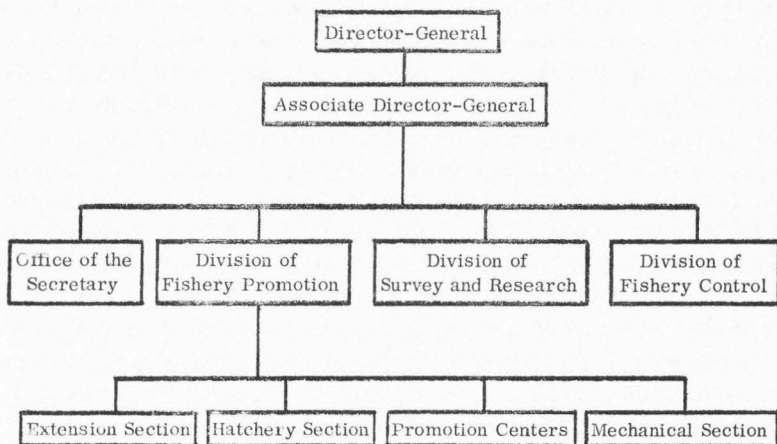


Chart 6. Organization Chart of Fishery Department.

transferring properties and personnel of the Agricultural Extension Division in the Office of the Under-Secretary of State, General Agriculture, and Rice Department to the newly established Agricultural Extension Department in the Ministry of Agriculture as stated in the Guide to Thai Agricultural Extension Department (derived translation from the Guide to Thai Agricultural Extension Department, 1971, pp. 5-6):

Section I. Transfer properties, officers, budget and so forth in the Extension Division of the Office of the Under-Secretary of State to the Agricultural Extension Department.

Section II. Transfer properties, officers, budget, Changwad (Province) and Amphur (District) Agriculturists in the Extension Division and Plant Pest Control Section in the Crop Division of the General Agricultural Department to the Agricultural Extension Department.

Section III. Transfer properties, officers, budget, Changwad (Province) and Amphur (District) Rice Officers in the Extension Division of Rice Department to the Agricultural Extension Department.

Department responsibilities

The fundamental responsibilities of the Agricultural Extension Department are:

1. To increase agricultural production and improve economic conditions by introducing agricultural science and home economics to the farmers.
2. To identify various farmers' problems and seek solutions by the Department or other technical institutions.

3. To help farmers, and the young people to help themselves by encouraging farmer's club and youth club organizations.
4. To train the government officers for more efficient work.
5. To cooperate with other institutions concerned with agricultural development.

Purposes of establishment

(Derived translation from the Guide to Thai Agricultural Extension Department, 1971, p. 7):

1. For appropriate improvement to the present agricultural world.
2. For cooperation of Extension Services among Departments instead of each department working independently.
3. For consolidation of Extension Service into only one Department.
4. For improvement of efficient personnel.
5. For more adequate distribution of agricultural development information to farmers.
6. For suitable agricultural development and economic change inside and outside of the country.

Organization and administration

The first organization and administration plan was accepted by the Council of Ministers on January 2, 1969. The plan was organized for temporary and general purposes originally, realizing it would need to be changed. On July 20, 1971, the Council of Ministers accepted the second organization and administration plan as illustrated by the Organization and Administration Chart of the Agricultural Extension Department on page 28 (Chart 7). Again the plan was

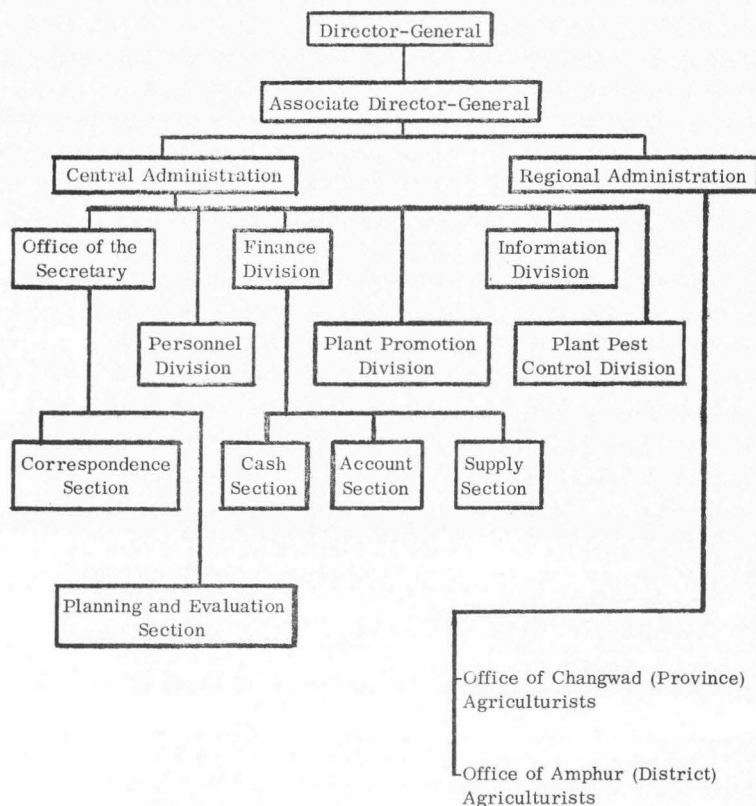


Chart 7. Organization and Administration Chart of Agricultural Extension Department.

organized for general purposes. This second organization and administration plan, which concentrates mainly on crop production only, is presently in use. Fishery, livestock, and forestry extension programs are still in Fishery, Livestock, and Forest Departments, respectively.

The administration of the Agricultural Extension Department is divided into two parts: Central and Regional Administration.

Central Administration composed of six Divisions:

1. Office of the Secretary which is divided into two sections: Correspondence and Planning and Evaluation Section.
2. Personnel Division works on personnel recruitment.
3. Finance Division which is divided into three sections: Cash, Account, and Supply Section.
4. Plant Promotion Division works on promotion of every kind of plants including rice, the main crop of the country.
5. Information Division includes 4-H club programs, farmers' association, publicity, and all agricultural information for farm people.
6. Plant Pest Control Division conducts research on insecticides, disease, and plant pest control.

Regional Administration is divided into the Office of Changwad (Province) and the Amphur (District) Agriculturists working directly with farmers in their respective areas.

DEVELOPMENT OF AGRICULTURE IN THE
UNITED STATES OF AMERICA

Even though the United States is a young country in the agricultural world, agricultural development has been rapid. Since 1850 agricultural methods have changed almost completely from hands and horses to machines. The proportion of farm workers decreased about 2 percent up to the year 1850 and thereafter 6 percent per decade. "In 1875, only half of the U.S. labor force were farm workers, and by 1920 the figure was down to one-quarter." (Kelsey and Hearne, 1967, p. 5) The percentage of farm workers continues to decrease from year to year. Presently about 4-5 percent of the population operates farms. The farmer's wife also has her responsibilities related to family food, clothing, and furnishings. Home economics in the United States has been very successful among the farm women. Agriculture development and home economics have developed simultaneously because home management is as important as farm management.

Agricultural Society

The story of agricultural improvement in the United States began many years ago. As True (1929) stated, in 1744 the American Philosophical Society

was founded under the leadership of Franklin. In its earlier years it published many articles on agricultural subjects but it was developed chiefly as a scientific society. "The Philadelphia Society for Promoting Agriculture and the South Carolina Society for Promoting Agriculture and Other Rural Concerns, were both organized in 1785, . . ." (Baker, et al., 1963, p. 1) In New York (1791), Massachusetts (1792), and Connecticut (1794), these societies disseminated scientific knowledge among farmers through lectures, public meetings, bulletins, newspapers, magazines, and later through the organization of agriculture shows (Organization for European Economic Cooperation, 1951). The idea of agricultural improvement broadened to the various states. Wilson (The Spirit and Philosophy of Extension Work, 1952, p. 20) stated that "From then on the movement grew and the societies multiplied. By 1852 there were about 300 active agricultural societies spread over 31 states and 5 territories and in 1860 there were well over 900." Consequently, Farmers' Institutes providing agricultural education were organized throughout the country. "In the year 1899 institutes were reported in 47 states with a total attendance of over 500,000 farmers." (Kelsey and Hearne, 1967, p. 15).

Farmers' Cooperative Demonstrations

The originator and leader of this movement was Seaman Asahel Knapp (1833-1911). He was the son of a physician of Schroon, Essex County, New York.

He undertook the raising of general crops combined with livestock, principally Berkshire hogs and Shorthorn cattle. Further, he established the Western Stock Journal and Farmer at Cedar Rapids, Iowa. In the fall of 1879 he became professor of agriculture at the Iowa State Agricultural College. In 1884 Knapp made tremendous contributions to agricultural demonstrations as stated by the following statement:

In 1886 Professor Knapp went to Lake Charles, La., where he had charge of the agricultural development of a large tract of land in western Louisiana. When it proved difficult to interest the native population in improved methods of agriculture, and farmers coming from the North refused to settle in this region because agricultural conditions seemed so unfavorable, Professor Knapp offered very favorable terms to one settler for each township. These farmers were to come from Iowa and other Northern States and show what could be done by good farming under his general direction. This plan was so successful that, as the result of these demonstrations, thousands of northern farmers settled in this region, and the natives also undertook better farming. (True, 1928, p. 59)

About that time, Professor Knapp worked with B. T. Galloway, Chief of the Bureau of Plant Industry, and a number of demonstration farms were established. Experience gained from Professor Knapp's demonstration pointed out the following:

Experience in this undertaking confirmed his belief that farmers generally would not change their practice from observing what could be done on farms operated at public expense. There must, therefore, be demonstrations carried on by the farmers themselves on their own farms and under ordinary farm conditions. (True, 1928, p. 59)

Development of the U.S. Department of Agriculture

The idea of establishing a Federal Agency devoted to agriculture started at the time of George Washington, the first President of the United States. After the Department of Interior was established in 1849, many groups and individuals encouraged the creation of an agricultural division in the new Department. On June 2, 1852, the first meeting of the United States Agricultural Society was held. The society urged establishment of a Department of Agriculture which was organized the same year (Eaker, et. al., 1963). Finally, President Abraham Lincoln signed a bill on May 5, 1862, establishing the United States Department of Agriculture. This was the beginning of a Federal Agency encouraging agricultural development in the country. The Department was supported financially by federal funds and has grown very rapidly. Taylor and Johnes stated that

The department has grown by vast proportions. In 1937, peak employment was attained, with over 100,000 workers. In 1961 the U.S.D.A. employed over 80,000 workers. Nearly 12,000 of the department's employees worked in Washington, D.C., while the others were located in every state and territory of the nation as well as in many foreign cities. (Taylor and Johnes, 1963, p. 184)

The U.S. Department of Agriculture is directed by the Secretary of Agriculture, a member of the Cabinet. The Department is comprised of various divisions with a wide variety of activities in agriculture. As stated by the Office of the Federal Register (1971), the U.S.D.A. is comprised of 5 divisions:

1. Rural Development and Conservation which includes Farmer Cooperative Service, Farmers Home Administration, Forest Service, Rural Electrification Administration, and Soil Conservation Service.

2. Marketing and Consumer Services which includes Commodity Exchange Authority, Consumer and Marketing Service, Food and Nutrition Service, and Packers and Stockyards Administration.

3. Agricultural Economics which includes Economic Research Service, Foreign Economic Development Service, and Statistical Reporting Service.

4. Science and Education which includes Agricultural Research Service, Cooperative State Research Service, Extension Service, and National Agricultural Library

5. International Affairs and Commodity Programs which includes Commodity Credit Cooperation, Agricultural Stabilization and Conservation Service, International Organizations Staff, Export Marketing Service, Federal Crop Insurance Cooperation, and Foreign Agricultural Service.

As indicated, Extension Service is a part of the United States Department of Agriculture and is referred to as ES-USDA. The Administration of Extension Service on a national level is responsible to the Secretary of the Department of Agriculture. The Extension Service is referred to as the educational arm of the USDA and has the responsibility for providing educational information related to agriculture to those engaged in farming. In addition, Extension's role has broadened to include many non-farm oriented programs.

The Federal Office of Cooperative Extension Service is working on nine major areas of program emphasis: Efficiency in agricultural production; efficiency in marketing, distribution, and utilization; conservation, development,

and use in natural resources; management on the farm and in the home; family living; youth development; leadership development; community improvement and resource development; and public affairs (Baker, et. al., 1963, p. 399).

Establishment of the Land-Grant Colleges

Justin S. Morrill, a Congressman from Vermont, was elected to the U.S. House of Representatives in 1854. On December 14, 1857, he introduced the first land-grant bill proposing the formation of agricultural colleges. There were many hostile responses to Morrill's proposal and President Buchanan vetoed the bill in 1859. Finally, in 1862 a new Morrill bill was introduced again and on July 2, 1862, the bill was signed into law by President Abraham Lincoln.

The Morrill Act of 1862 provided grants of public land to states for the establishment and maintenance of at least one college:

. . . where the leading object was the teaching of branches of learning related to agriculture and the mechanic arts, including military tactics, in such manner as the legislatures of the states might respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life. (Kelsey and Hearne, 1967, p. 29)

And as stated in the Miscellaneous Publication No. 285 of the United States Department of Agriculture (1946),

. . . there be granted to the several states, for the purposes hereafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty-thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty; . . .

The second Morrill Act of 1890 increased the Federal financial support for land-grant colleges, particularly in the South for providing educational opportunities for the Negroes. Now each State has at least one land-grant college of agriculture with three coordinate functions which include teaching, research and extension (Kellogg and Knapp, 1966).

Establishment of the Agricultural Experiment Station

After the Morrill Act of 1862, the establishment of land-grant colleges was signed into law by President Abraham Lincoln. The new colleges faced many problems. Sanders (1966, p. 15) said, "Many colleges went months without a professor of agriculture." Agricultural experiments were considered providing knowledge in agricultural areas. Some professors took their classes to the farms to study the plants, the animals, and the soil. Likely these farms were agricultural laboratories. However, at that time many states provided financial support to agricultural experiments. The idea of establishing agricultural experiment stations was considered widely. On August 24 and 25, 1871, there was held in Chicago a convention of friends of agricultural education with special reference to experimental work at the agricultural colleges. As True stated in the Miscellaneous Publication No. 251 of the United States Department of Agriculture (1937), experimentation was much discussed and there was considerable attention to the problems of agricultural instruction. Proposals were also made for the formation of an organization of agricultural colleges and technological schools. Finally, an authorized committee of one member from each State was appointed to memorialize Congress and the State

legislatures for the speedy establishment of experiment stations. On July 7, 1886, William H. Hatch, of Missouri, introduced the Agricultural Experiment Station bill to the Congress. Finally, on March 2, 1887, President Cleveland signed the bill; the Hatch Act became a law. Federal law required that the agricultural experiment stations be distinct departments of the college or university, and the title of director had come into use to designate the head of an experiment station.

After the passage of the Hatch Act the legislatures in all the States gave their assent to its provisions, "and during 1888 agricultural experiment stations in all the 38 States and the Territory of Dakota received their share of the appropriation made by Congress under the Act." (True, 1937, p. 130, Miscellaneous Publication No. 251, U. S. Department of Agriculture.)

Cooperative Extension Service Under Smith-Lever Act

Land-grant colleges were established under the Morrill Act of 1862, and under the Hatch Act of 1887 agricultural experiment stations were established as distinct departments in land-grant colleges. Providing agricultural education to the people in the country became more concentrated, and the activities of the farm home began to be considered; farm women were quite impossible to ignore. Between 1901 and 1906 much extension history was made. The idea of extension service in agriculture and home economics seems to have caught the imagination of the people in all of the States at about that time. "A few departments of agricultural extension were created in the 90's, but by 1907, thirty-nine

state agricultural colleges were carrying on some form of extension work. " (Morgan, 1934, p. 22) On May 8, 1914, President Woodrow Wilson signed the bill which made the Smith-Lever Act become a law. The Smith-Lever Act of 1914, Cooperative Extension Service Act, was referred to as the international alignment of the U. S. Department of Agriculture, the land-grant colleges, and county governments. The principal aim of extension work was to assist farmers in technical problems connected with agriculture and to provide advice to farm women on home-making problems. The importance of work with youth was also recognized.

The provisions of the Act were stated, as amended and in effect on October 5, 1962:

Section 1. In order to aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same, there may be continued or inaugurated in connection with the college or colleges in each State, Territory, or possession, . . . Agricultural extension work which shall be carried on in cooperation with the United States Department of Agriculture: . . .

Section 2. Cooperative agricultural extension work shall consist of the giving of instruction and practical demonstrations in agriculture and home economics and subjects relating thereto to persons not attending or resident of said colleges in the several communities, and imparting information on said subjects through demonstrations, publications, and otherwise and for the necessary printing and distribution of information in connection with the foregoing; and this work shall be carried on in such manner as may be mutually agreed upon by the Secretary of Agriculture and the State agricultural college or colleges or Territory or possession receiving the benefit of this Act. (Sanders, 1966, p. 426)

Federal appropriations were made to support the Extension Service. As Morgan (1934) stated, "That each state was to receive \$10,000 of federal funds annually, and additional amounts on the basis of its

rural population from a federal fund of \$600,000 at first, increasing by \$500,000 annually for seven years and thereafter continuing at a total of \$4,100,000. " Today, federal funds are allocated to the State on the basis of farm and rural population and to a limited degree on special problems and needs.

The Cooperative Extension Service is an educational and technical arm for the cooperation of the United States Department of Agriculture, the Land-Grant Colleges, and the local county governments. Presently, in the United States only 4-5 percent of the population are operating farms. Evenso, much of the country's economy still depends upon agriculture. About 40 percent of the job opportunities are still related to agriculture and agri-business. This shows the tremendous growth and change agricultural technology has made in relatively few years. Cooperative Extension Service has played an important role in the agricultural development of the United States.

COOPERATIVE EXTENSION SERVICE IN UTAH

History and Development

When the Utah State Agricultural College was opened for instruction in 1889 Professor J. W. Sanborn held the Office of President of the College as well as Director of the Experiment Station. Soon after his appointment Professor Sanborn carried the information out to the farmers in the vicinity of the College and held lectures at the College for the public to discuss farm problems. This was really the beginning of the Extension in Utah.

However, it wasn't until July 1, 1911, that the Extension Division of the Utah Agricultural College began operating as a separate, distinct, and coordinate division, co-equal with the teaching staff of the College and the Experiment Station. Mr. Lou Windsor was hired as the first agricultural agent on March 1, 1911 and was assigned to the Uintah Basin.

Since then Extension work in Utah has developed rapidly. In 1912, even before the passing of the Smith-Lever Bill, the organization was divided into seven departments as follows:

1. Farm and Home Demonstrations
2. Farmers Institutes and School
3. Boys' and Girls' Club Work
4. Women's Associations
5. Correspondence Studies

6. Trains, Fairs and Exhibits

7. Publications

Even before the Smith-Lever Act was passed the Extension Division in Utah worked in close cooperation with several other departments and/or agencies such as: the Experiment Station, the Food Administration, the State Council of Defense, the State Livestock Sanitary Board, the Forest Service, the Bureau of Plant Industry, the Bureau of Animal Industry, the Bureau of Biological Survey, the Office of Public Roads and Rural Engineering, the Office of Markets, and the Extension specialists represented the Office of Farm Management.

Extension work has developed over the years, for example, as evidenced by the changes in staffing. In 1938 the Extension organization consisted of:

1. One Director with two assistants
2. One club leader and one assistant
3. Eleven full-time specialists
4. Eight part-time specialists
5. Thirty County Agricultural Agents and assistant agents
6. Seven Home Demonstration Agents

During the 1940's more program specialists were hired such as economists whose duties covered four major areas: 1) county agricultural planning; 2) Farm management; 3) Marketing and outlook information; and 4) Cooperatives. Sociologists were employed to study rural social problems. The 4-H program was more fully developed with the agents spending more time with the groups and leaders.

In 1972 the Utah Extension staff consists of:

1. One Vice-President of University Extension and Director of Cooperative Extension.
2. Two associate Directors
3. One Assistant Director, Conference and Institution Division
4. Eight Area Coordinators
5. Six Program Leaders including one in Family Life, two in 4-H Youth Development, one in Community Resource Development, one in Low Income Programs, and one in Civil Rights and Equal Employment.
6. Twenty-five Full-time Specialists
7. Twenty Part-time Specialists
8. Twenty Full-time County Agents
9. Seven Part-time County Agents
10. Twenty Full-time Home Agents
11. Eleven Part-time Home Agents

Presently, Utah Extension Service is financially supported from four different sources: approximately 44 percent of the funds come from the Federal Government, 42 percent from the State, 12 percent from County Governments, and 2 percent from Grants.

Substantially modern systems are being used in the Extension Service. For instance, Utah State University Extension Service is using a modern computerized State Extension Management Information System (SEMIS) for planning and reporting Extension work. This system is useful in making Extension management decisions. In reporting to public bodies which are concerned with Extension programs and in providing data for Extension Service - USDA.

Utah Extension Service Organization and Administration

Utah State University is the land-grant university in Utah. Its organization and administration are the responsibilities of the University President. The Vice-President for Extension is directly responsible to the President of the University, and is also a member of the University Administration staff.

Utah Extension Service Organization and Administration can be divided into two parts:

- 1) Administrative and Supervisory Staff
- 2) Field Staff

Administrative and Supervisory Staff is composed of:

- 1) Vice-President of Extension who is responsible for: policy of the University, budget management, extension personnel, Equal Employment and Civil Rights Act, liaison with other Agencies, policies and procedures of operation, and extension programs.
- 2) Associate Directors, who are responsible for: policy and procedure of extension, personnel selection and evaluation, supervisory responsibility for geographical areas, SEMIS (State Extension Management Information System) program planning, staff evaluation, and dissemination of materials.
- 3) Area Coordinators who are responsible for: monthly staff meetings, coordination of programs, supervision of personnel, personnel evaluation, staff orientation, and program development and evaluation.
- 4) Program Leaders who are responsible to: direct and evaluate programs, provide subject matter materials, and assist with personnel selection.

Field Staff composed of:

1. State and Area Specialists. An Extension Specialist is a member of an academic department, responsible to the Department Head for programs. He serves a narrow subject matter area but operates on a broader geographical area, either statewide or multi-county. The responsibilities include interpreting research, conducting applied research, and dissemination of information to the public and to Extension Agents, planning and implementing programs with agents and for clientele groups, evaluating and reporting programs.

2. Area and County Agents. An Extension Agent is not appointed to an academic department but is responsible to the Area Coordinator for programs. He serves a broader subject matter area but narrower geographical area than a specialist. The responsibilities include planning programs with people, developing and implementing programs, reporting activities or educational events, and evaluation of programs. In some counties there are paraprofessionals such as: Staff Assistants or Extension Aides working under the supervision of Extension Agents.

Utah Extension Service organization and administration is illustrated by the Organization and Administrative Chart for Utah State University Extension--1971 on page 45 (Chart 8).

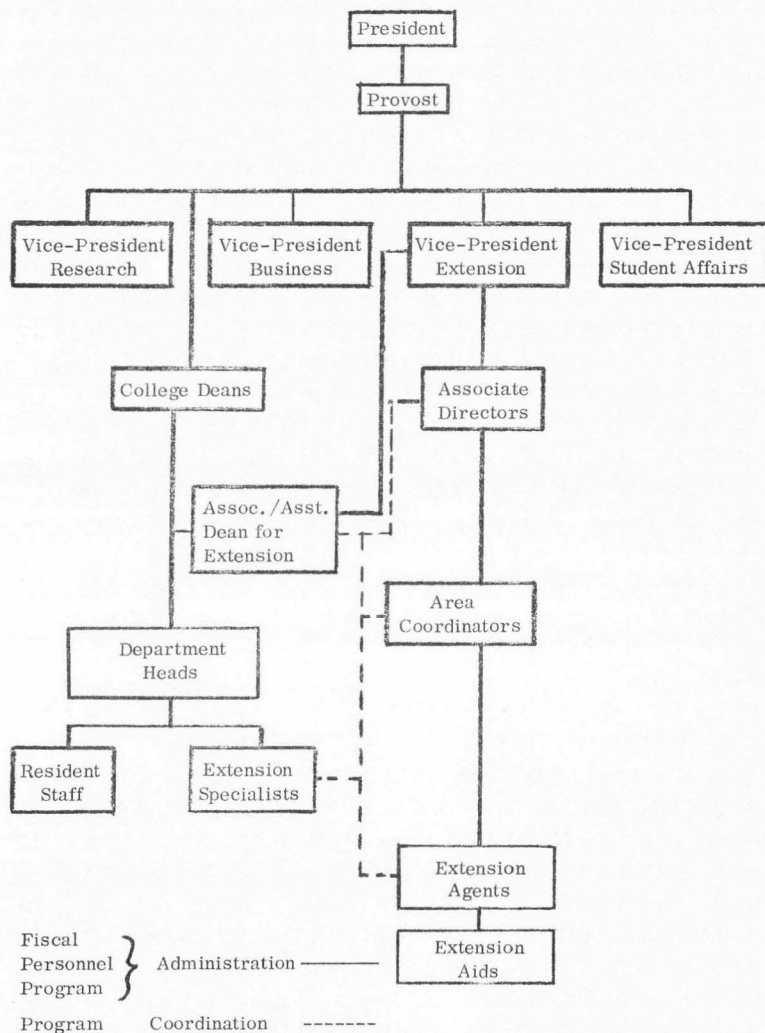


Chart 8. Organization and Administrative Chart for Utah State University
Extension - 1971

CONCLUSION AND RECOMMENDATION

Conclusion

Agricultural Extension work in both Thailand and the United States has been developed along with the growth of the countries. Thailand started the real Agricultural Extension Service in 1967, the year of the establishment of the Agricultural Extension Department in the Ministry of Agriculture. From the four years of operating the Department, substantial knowledge and information have been needed to improve Agricultural Extension in Thailand. Agricultural Extension programs in Thailand were created by the government and distributed to the people of the country. Several problems have been passed to the Ministry of Agriculture because people do not know, realize, or understand the Government Officers' authorities and responsibilities. This is one of the weaknesses of agricultural improvement in Thailand. Government Officers should understand customs and traditions of the farm people in working on agricultural extension. Schaub (Conference Report on Extension Experiences Around the World, 1951, p. 8) said "Customs and traditions must be taken into consideration in suggesting an extension program in any country. This is particularly true where farming operations have been carried on for a hundred years or more."

The United States began the real Cooperative Extension Service in 1914, the year that the Smith-Lever Act was passed. Agricultural Extension in

the United States was begun by groups of people who urged the government to establish federal agricultural institutions. Therefore, the people and the Government seems to understand and to have some common purposes in agricultural development. Consequently, Cooperative Extension Service has been developed rapidly all over the country.

Utah began Extension work even before the passage of the Smith-Lever Act of 1914 which accounts for the tremendous progress in Cooperative Extension Service. The writer spent a period of time in the Spring of 1971 with members of the administrative staff, specialists, and county agents observing Extension operations in Utah. Some valuable experiences and ideas were gained.

The County Agent is the one who works directly with the farm people. He should be friendly, generous in time and effort to discuss problems with the farmers. The County Agent is an important staff member of the Extension Service. He is the gateway between the University, the United States Department of Agriculture and farm people. Baker (1939) mentioned that the county agricultural agent is unique as a government official. He represents at once three levels of government--county, state and federal--and in many states includes private farm organizations as well. A County Extension Program is made possible through the Cooperative efforts of Professional Extension Staff, secretarial staff, volunteer leaders, and government officials.

An Extension worker should become familiar with farmers and farmer representatives. He should not only concentrate on subject matter programs but also understand the farmers' social and economic problems. Trying to help farmers help themselves should be the philosophy of an Extension Worker.

Cooperative Extension Service in the United States is operated by the Land-Grant Colleges in cooperation with the Federal and County Governments. This is entirely different from the Agricultural Extension in Thailand which is operated by the Ministry of Agriculture. However, the philosophy and objectives of the two countries in Extension work should not be entirely different. For instance, one thing that makes the Cooperative Extension Service in the United States succeed is the close cooperation of the Federal, State, and County Governments. Also close cooperation among Extension Departments and other department or institutions concerned with agriculture is necessary both in Thailand and in the United States.

Extension Service programs should be built on the people's needs, be democratic in philosophy and procedure. Extension does not give orders, cooperation cannot be forced, success cannot occur unless the people cooperate. Brunner and Yang (1949, p. 2) said, "Extension must regard the attitudes and values of the people with whom it works, no programs or even technique can get the desired results when not in harmony with the culture of the people."

Recommendation

From the study of Cooperative Extension Service in the United States and Utah Extension Organization and Administration, the writer makes the following recommendations to improve Agricultural Extension in Thailand.

Present time

1. The newly established Agricultural Extension Department should promote cooperation among its staff, specialists, and agents. All other institutions concerned with agriculture should be well-organized.

2. The Agricultural Extension Department should be the only Department responsible for the entire Agricultural Extension work. Other institutions should cooperate according to a carefully developed plan. It is strongly recommended that the Extension work of Livestock and Fishery Department be combined into the Agricultural Extension Department.

3. According to the newly established Agricultural Extension Department, the policies, purposes, and objectives should be clearly understood by the personnel of the Agricultural Extension Department. Meetings and Conferences should be scheduled regularly for coordination purposes.

4. The farmers operate small farms and are in poor economic condition. Not only information and new practices should be given to them so that they can produce more than is needed for family consumption but also they should produce all family needs such as fish, poultry, livestock and vegetables.

5. Additional security, salary, and facilities should be given to Extension Staff members as incentives for working in the remote areas.

6. 4-H youth programs should be expanded to encourage members of the younger generation to improve their understanding of agricultural technology.

Future time

1. Exact Central Organization Administration should be formed.
Agricultural Extension Service should include a complete program to cover all phases of Agriculture and Home Economics, thus eliminating some of the present duplication.
2. Changwad (Province) and Amphur (District) Officers are in remote areas from the Ministry of Agriculture. Therefore, regular meetings and conferences should be scheduled.
3. Reports from Amphur (District) to Changwad (Province) and from Changwad (Province) to the Central Administration must be accurate and consistent.
4. More individual contact should be made between administrative officers and officers in remote areas.
5. Specific Agricultural Extension programs should be introduced to farmers operating large, commercial farms.
6. Improvement of 4-H youth program must be continued.

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