

## **SUPPORTING REPORT [ F ]**

### **SUPPORT SYSTEMS/FARMERS ORGANIZATIONS**

## **ANNEX F: SUPPORT SYSTEMS/FARMERS ORGANIZATIONS**

### **CONTENTS**

<b>F.1</b>	<b>RESULTS OF QUESTIONNAIRE SURVEY .....</b>	<b>F-1</b>
<b>F.1.1</b>	<b>Number of Analyzed Questionnaire .....</b>	<b>F-1</b>
<b>F.1.2</b>	<b>Assignment of Municipios to Blocks .....</b>	<b>F-1</b>
<b>F.1.3</b>	<b>Method of Analysis .....</b>	<b>F-2</b>
<b>F.1.4</b>	<b>Results and Discussion .....</b>	<b>F-4</b>
<b>F.1.5</b>	<b>Characteristics of Farming Households in the Jiboa River Basin ..</b>	<b>F-9</b>
<b>APPENDIX1</b>	<b>THE JAPANESE AGRICULTURAL COOPERATIVE SYSTEM ..</b>	<b>F-37</b>
<b>APPENDIX2</b>	<b>OUTLINE OF COOPERATIVE AGRICULTURAL EXTENSION SERVICE IN JAPAN.....</b>	<b>F-65</b>

## **ANNEX F**

### **1. Results of Questionnaire Survey**

#### **1.1 Number of Analyzed Questionnaire**

Conducting the questionnaire survey would have been impossible without the valuable cooperation of CENTA, including the top administrators and the extension agents.

The survey yielded a total of 504 questionnaires. However, time pressure forced to start the questionnaire survey before the boundaries of the Jiboa River basin were definitively drawn. Consequently, San Juan Talpa with 13 completed questionnaires was in the end found to be outside the Jiboa River basin, thereby leaving ultimately 491 questionnaires for the analysis. On the other hand, the following Municipios are not represented in the questionnaire survey: San Juan Nonualco, San Luis, Tepetitan, and San Marcos.

#### **1.2 Assignment of Municipios to Blocks**

Municipios were assigned to Blocks A to E on the basis of population distribution. When a Municipio straddled two Blocks, the Municipio was assigned to the Block with the larger proportion of population. The resulting distribution of Municipios is shown below.

##### **Block 'A'**

Candelaria

Cojutepeque

San Emigdio

San Miguel Tepezontes

Santiago Texacuangos

Santo Tomás

Ilopango

Soyapango

San Martín

San Pedro Perulapán

Santa Cruz Michapa

##### **Block 'B'**

San Ramón  
San Cristóbal  
Santo Domingo  
Verapaz  
El Carmen  
San Rafael Cedros

**Block "C"**

Santa Cruz Analquito  
Jerusalén  
Mercedes La Ceiba  
Guadalupe  
Santa María Ostuma  
San Pedro Nonualco  
Paraíso de Osorio  
Santiago Nonualco  
San Juan Tepezontes

**Block "D"**

San Pedro Masahuat

**Block "E"**

Rosario de La Paz  
San Antonio Masahuat  
Tapalhuaca  
San Francisco Chinameca

**1.3 Method of Analysis**

Answers to questions were summarized by Municipio, grouped under the following four headings.

- a. Farmer's Family Characteristics
- b. Farm Operating Characteristics
- c. Support System
- d. Farmer's Needs and Wishes

Municipal summaries were in turn summarized by Block, under the same groupings

mentioned above. Each group of questionnaire items is described below.

#### 1.3.1 Farmer's Family Characteristics

The purpose was to depict the family of the farm operator. The first question concerned the sex of the family head. Also inquired for the family head were the average age, years of education, years in the farming business, and years on the farm he/she was working at the time of the survey. For the spouse, the average age and years of education were estimated. Finally, estimated for the children were the average age, years of education, and the average number of children per family. Here, a mistake was made in the questionnaire wording by failing to clearly specify that it referred to "dependent children".

#### 1.3.2 Farm Operating Characteristics

The purpose was to have a picture of the farm operations at the time of the survey. The average land area per farm was estimated in manzana (Mz), while land tenure was indicated in percentages comprising each tenure form. The average cropped and wooded area was expressed in manzana (Mz), while the livestock herd was indicated as number of heads. Finally, each conservation practice was indicated in terms of area in manzana (Mz) and years of practice.

#### 1.3.3 Support System

The purpose was to find out how adequately the farmers are provided with support services. Technical assistance was considered to be provided by CENTA or other sources. Similarly, financial assistance was regarded as provided by banks or other sources (shop owners, intermediaries). The types of guarantees and the interest rates charged were also noted. Organizations in which the farmer or the spouse are members were expressed as percentage of farms, the prevalence of cooperatives, and the number of years of participation.

Off-farm employment was indicated as percentage of sample farms where this activity took place, the average number of persons working and months per year, as well as their contribution to family income. Finally, the sources and distances of drinking water and cooking fuel were indicated, as well as the existence of electricity supply for lighting.

#### 1.3.4 Farmer's Needs and Wishes

The purpose was to find out the needs and wishes felt by farmers, as well as their willingness

to participate in specific project activities. Farmers' needs for technical and financial assistance were inquired in terms of purposes, such as production, resource conservation, and farmers' and women's organizations.

Also inquired were farmers' needs for facilities, infrastructure and services, such as schools, hospitals, drinking water, electricity, cooking fuel, roads and bridges.

Farmers' wishes to pursue new activities were inquired by specifying new crops, livestock, and farmers' organization for production, marketing or cooperative purchase of farm inputs.

Finally, farmers were asked to indicate their willingness to participate in such specific project activities as irrigation, soil conservation, reforestation, flood control, and farmers' organization for production, marketing and cooperative purchase of farm inputs.

## 1.4 Results and Discussion

Results of questionnaire analysis are presented by Block.

### 1.4.1 Family Characteristics of Farmers

Family characteristics of farmers are presented by Block in Table F1.

The family head was found to be overwhelmingly male, contrary to expectations of a high proportion of family headed by women. Families headed by men comprise between 90% (Block B) and 95% (Block C). The ages of family heads range between 45 years in Block D to 51 years in Block C, while their spouses' ages range between 39 years in Block D to 45 years in Blocks B and C. The age of the spouses show a close relationship with the age of farm operators, being 5 to 6 years younger. Finally, the ages of their offspring range between 13 years in Block D and 17 years in Block B.

The average number of children per family is low, being between 3 and 4, but there are occasionally families with 10 or more children. Spouses have some more years of education than farm operators in Blocks C and D, while considerably lower in Block A. Years of education of the offspring are usually somewhat higher than their parents, except in Block D, which is possibly due to the children's average age, the lowest of all Blocks.

Years as farmers ranged from 25 years in Block A to 32 years in Block B, while the farmer's

stability, as indicated by years on the particular farm, ranged between 19 years in Block D to 25 years in Block E.

#### 1.4.2 Operating Characteristics of Farms

Table F2 shows the operating characteristics of farms by Block.

The average land area per farm varies from 2.05 Mz in Block D to 4.14 Mz in Block C. The farm in Block D is small in terms of land because it is the block where large size cooperative farms were developed by the Phase I Agrarian Reform. This is confirmed by the 71% of respondents who replied as cooperative owners of the farmland. Then, the land that most respondents were cropping at the time of the survey was probably the land that the cooperative allows its members to cultivate for private purposes.

Land tenure is complex, a farmer showing more than one tenure form, owning some land while renting some, in which case the sum of percentages exceeds 100, as it would be logical to expect. On the other hand, some farmers did not respond concerning land tenure, in which case the sum of percentages falls short of 100, as it would be logical to expect. "Own with title" indicates full ownership of the land (completely paid for), while "own without title" indicates the land is still in the process of being paid for.

Full ownership of land, "with title" comprises the highest proportion in Block B with 79%, followed by Block C with 74%, while comprising less than 40% in the remaining Blocks, being as low as 17% in Block D. Tenants comprise the highest proportion in Block C with 44%, and the lowest in Block B with 8%. Tenants comprising 30% of farms in Block A is logical in view of the high urbanization rate in this area.

The crops on the farms indicate that subsistence type farming prevails in the Jiboa River basin. Corn is the most important crop, followed by beans and sorghum, often in an intercropping pattern. Corn acreage varies from 0.70 Mz in Block A to 1.35 Mz in Block D, while the average acreages of beans, sorghum and rice are less than 0.50 Mz. Prevailing cash crops, all with an average of less than 0.50 Mz, include fruits in all Blocks, coffee in Blocks A, C, E, sugar cane in Blocks B,C, sesame in Blocks C,D,E, water melon in Block D, and vegetables in all Blocks except D.

Livestock includes cattle, usually 2 heads used as draught animals, and 8 to 29 chickens. Horses, pigs, sheep and goats very seldom showed up in the answers to the questionnaire, not sufficient enough to remain significantly as average numbers.

Natural forest is more prevalent in Blocks B and C than in Blocks A and E, and none is reported in Block D.

Soil conservation has been practiced in all Blocks except D for 4 to 10 years, reforestation in the same Blocks for 3 to 9 years, flood control in Blocks A and D for 5 to 14 years, and non-burning and other conservation practices in all blocks for 4 to 10 years.

#### 1.4.3 Support System of Farms

Table F3 shows by Block the types of support that are available to farmers, in terms of agricultural operation, marketing, organization, sources of income other than farming, and availability of utilities.

Technical assistance by CENTA is most widespread in Block B with 58%, followed by Block C with 45%, Block E with 39%, Block A with 26% and Block D with 17%. The low CENTA coverage in Block D is explained by the prevalence of cooperative farms, which fall under the jurisdiction of ISTA, including technical assistance.

Financial assistance by banks reaches 24% in Block E, even though full land ownership is less than 40%. Perhaps this can be explained by the relatively good development of roads and urbanization in a traditional farming area, bringing familiarity with the banking system, along with the highest education levels of farm operators and their spouses. In Block D, the relatively high utilization of credit from banks and other sources may be due to the cooperative guarantee granted implicitly by the large cooperatives to their members. Blocks B and C show almost no difference in their use of credit from banks and other sources. The low credit usage in Block A is perhaps due to the small farmers who rent the land. The annual interest rate ranges between 19 and 22%.

The percentage of marketing show that, despite being subsistence farms, farmers market the surplus production over the family consumption needs. In Block B, 85% of farms market their products, of which more than half (44%) sell directly in markets, without resorting to intermediaries. Still, the farms in Block B selling to intermediaries reach 40%. Block C follows with 81% of farms marketing their products, 30% directly in the market place and 51% through intermediaries. Next is Block E with 67% of farms with prevalence of intermediaries. The situation is reversed in Block A, where out of 51% of farms marketing their products, 33% do so directly in the market place.



Farmers that belong to some organization reach 80% in Block D, while comprising only 22% in Block A. Blocks B,C,E are quite even as for farmers membership in organizations, ranging between 28% (Block C) and 30% (Blocks B,E). Farmers membership in cooperatives is highest in Block D with 71%, lowest in Block C with 2%, and hovers around 10% in the remaining Blocks. Farmers have been members of organizations from 3 to 12 years.

Women that belong to some organization comprise a much lower percentage, ranging from 2% in Block C to 17% in Block E, for a period ranging from 3 years in Block C to 7.5 years in Block D.

Farmers, or family members, take off-farm employment, either because opportunities are present or because they are unable to make a living just from farming. Off-farm employment is most prevalent in Block A with 50%, and lowest in Block D with 6%. Employment lasts from 8 to 12 months a year, bringing in between 17% (Block D) and 53% (Block B) of family income.

The distance to the drinking water source ranges from 0.49 km in Block D to 1.75 km in Block C, the electricity supply ranges from 42% in Block B to 62% in Block E, firewood is used in 77% (Block D) to 87% (Block C) of farms, and the distance to sources of firewood ranges between 1.07 km (Block B) and 2.82 km (Block D).

#### 1.4.4 Needs and Wishes of Farmers

Table F4 shows the needs and wishes expressed by farmers in all Blocks.

Farmers appear to feel a stronger need for technical than for financial assistance. Farmers expressing needs for technical assistance in farming exceed 95% in all Blocks, except Block E with 77%. Farmers feel less necessary to have technical assistance for livestock, the percentages ranging from 49% to 74%.

The need for technical assistance for resource conservation (basically soil) ranges from a low 3% in Block E to 71% in Block B. The 3% in Block E is too low and inconsistent with the 27% expressing the need for financial assistance for resource conservation, and the 74% of farmers who are willing to participate in soil conservation projects, suggesting that these figures should be interpreted with great care..

Farmers expressing the need for organization comprise 9% in Block D, the lowest as

expected, since cooperatives are already widespread in this area. The need for organization is expressed by 36% of farmers in Block B. The need for women's organization is the highest in Block B with 32%, but lower than the need for farmers' organization, except in Blocks D and E.

The need for financial assistance for farming is quite even, ranging from 74% in Block D to 87% in Block C. The need for livestock credit ranges from 42% of farmers in Block B to 64% in Block E.

Resource conservation credit is considered as necessary in all Blocks, ranging from 3% in Block D to 50% in Block B. Resource conservation in Block D show inconsistent answers between the low need for assistance and the high willingness to participate (farmers' needs are 20% for technical assistance and an insignificant 3% for credit, but a surprising 57% of them are willing to participate in soil conservation projects).

Financial assistance for organization is considered by farmers to be less necessary than technical assistance, being the lowest in Block D and highest in Block B.

As expected, different Blocks have different priorities for services and infrastructure not directly related with agricultural production. The need for schools is expressed by less than 50% of farmers in all Blocks (31% to 47%), the need for health centers by 54% to 77%, the need for drinking water by 73% to 94%, the need for electricity by 40% to 59%, the need for cooking fuel by 33% to 49%, and the need for roads and bridges by 54% to 82%.

Farmers wish to engage in cultivation of fruits and vegetables, wish to raise cattle and poultry, and wish to organize themselves to improve competitiveness, especially through the collective purchase of farm inputs, cooperative marketing of products, and improved production techniques.

The willingness of farmers to participate in different types of projects is generally good (36% to 91%), except for flood control which reaches a maximum of 31% only in Block D and less than 15% in the remaining Blocks. Willingness to participate in irrigation projects is low in Blocks A and E at 36%, and highest in Block B at 67%. Willingness to participate in soil conservation projects ranges from 57% in Block D to 79% in Block B. Even higher willingness to participate is indicated in reforestation projects, ranging from 57% in Block A to 91% in Block D. Finally, willingness to participate in farmers' organization is highest in Block C and lowest in Block D, the first priority being the collective purchase of farm inputs, followed by cooperative marketing, and cooperative production.

## 1.5 Characteristics of Farming Households in the Jiboa River Basin

Table F5 shows the over-all characteristics of farming households in the Jiboa River basin. As expected, farms in the Jiboa River basin fit the size of the majority of farms in El Salvador, that is, farmland of less than 5 Mz.

### 1.5.1 Block "A"

The average farm size in Block "A" is 2.74 Mz, cultivated with 0.70 Mz of corn, 0.47 Mz of beans, 0.13 Mz of sorghum, 0.49 Mz of fruit trees possibly intercropped with coffee, in addition to raising one head of cattle and 29 chickens. Around 26% of farmers receive technical assistance from CENTA, while less than 6% have access to formal credit. Nearly one-third of farmers sell their surplus production directly in markets, while about 15% do so to intermediaries. Participation in farmers' organization involves 22% of farmers for an average of 6 years, while their spouses' participation in women's organization is less than 4% for an average of 3 years. Off-farm employment involves 50% of farming households.

Farmers feel stronger needs for technical assistance and credit for farming (97% and 77%, respectively) than for livestock (63% and 48%, respectively). Farmers' willingness to participate in specific projects is strongest for soil conservation (70%), followed by reforestation (57%) and irrigation (37%).

The head of farming household is 94% male, almost 46 years old with 3.37 years of education, while their spouses are 40 years old with 2.75 years of education. They have an average of 4.05 children, who are almost 16 years old with 4.34 years of education. They have been farming for nearly 25 years.

### 1.5.2 Block "B"

The average farm size in Block "B" is 3.42 Mz, cultivated with 1.01 Mz of corn, 0.45 Mz of beans, 0.09 Mz of sorghum, 0.38 Mz of fruit trees, 0.30 Mz of sugar cane, 0.20 Mz of vegetables, in addition to raising 2 heads of cattle and 12 chickens. Natural forest occupies 0.28 Mz of the land. Around 58% of farmers receive technical assistance from CENTA, while around 10% have access to formal credit. Nearly 44% of farmers sell their surplus production directly in markets, while about 40% do so to intermediaries. Participation in farmers' organization involves nearly 30% of farmers for an average of almost 10 years, while

their spouses' participation in women's organization is about 7% for an average of 5 years. Off-farm employment involves 23% of farming households.

Farmers feel stronger needs for technical assistance and credit for farming (95% and 79%, respectively) than for livestock (49% and 42%, respectively). Farmers' willingness to participate in specific projects is strongest for reforestation (82%), followed by soil conservation (79%) and irrigation (67%).

The head of farming household is 90% male, about 50 years old with 3.11 years of education, while their spouses are 45 years old with 2.89 years of education. They have an average of 4.35 children, who are almost 17 years old with 4.73 years of education. They have been farming for nearly 32 years.

#### 1.5.3 Block "C"

The average farm size in Block "C" is 4.14 Mz, cultivated with 0.80 Mz of corn, 0.30 Mz of beans, 0.40 Mz of sorghum, 0.13 Mz of rice, 0.46 Mz of fruit trees, 0.39 Mz of sugar cane, 0.27 Mz of coffee, in addition to raising 3 heads of cattle and 15 chickens. Natural forest occupies 0.26 Mz of the land. Around 45% of farmers receive technical assistance from CENTA, while around 10% have access to formal credit. Nearly 30% of farmers sell their surplus production directly in markets, while about 50% do so to intermediaries. Participation in farmers' organization involves nearly 28% of farmers for an average of almost 3 years, while their spouses' participation in women's organization is less than 2% for an average of 3 years. Off-farm employment involves 46% of farming households.

Farmers feel stronger needs for technical assistance and credit for farming (98% and 87%, respectively) than for livestock (70% and 59%, respectively). Farmers' willingness to participate in specific projects is strongest for reforestation (79%), followed by soil conservation (72%) and irrigation (49%).

The head of farming household is 95% male, about 51 years old with 3.37 years of education, while their spouses are 45 years old with 3.39 years of education. They have an average of 3.92 children, who are almost 15 years old with 4.84 years of education. They have been farming for nearly 30 years.

#### 1.5.4 Block "D"

The average farm size in Block "D" is 2.05 Mz, cultivated with 1.35 Mz of corn, 0.17 Mz of

sorghum, 0.53 Mz of sesame, in addition to raising 2 heads of cattle and 8 chickens. Around 17% of farmers receive technical assistance from CENTA, and also around 17% have access to formal credit. Nearly 17% of farmers sell their surplus production to intermediaries. Participation in farmers' organization involves 80% of farmers for an average of 12 years, while their spouses' participation in women's organization is less than 6% for an average of 7.5 years. Off-farm employment involves only 17% of farming households.

Farmers feel stronger needs for technical assistance and credit for farming (97% and 74%, respectively) than for livestock (74% and 57%, respectively). Farmers' willingness to participate in specific projects is strongest for reforestation (91%), followed by soil conservation (57%) and irrigation (54%).

The head of farming household is 94% male, about 45 years old with 2.29 years of education, while their spouses are 39 years old with 2.90 years of education. They have an average of 3.46 children, who are almost 13 years old with 2.67 years of education. They have been farming for nearly 26 years.

#### 1.5.5 Block "E"

The average farm size in Block "E" is 2.93 Mz, cultivated with 1.12 Mz of corn, 0.29 Mz of beans, 0.50 Mz of sorghum, 0.26 Mz of fruit trees possibly intercropped with coffee, in addition to raising 2 heads of cattle and 14 chickens. Natural forest occupies 0.16 Mz of the land. Around 39% of farmers receive technical assistance from CENTA, while around 24% have access to formal credit. Nearly 23% of farmers sell their surplus production directly in markets, while about 44% do so to intermediaries. Participation in farmers' organization reaches nearly 30% of farmers for an average of almost 3 years, while their spouses' participation in women's organization is around 17% for an average of 4 years. Off-farm employment involves 17% of farming households.

Farmers feel stronger needs for technical assistance and credit for farming (77% and 83%, respectively) than for livestock (59% and 64%, respectively). Farmers' willingness to participate in specific projects is strongest for reforestation (88%), followed by soil conservation (74%) and irrigation (36%).

The head of farming household is 94% male, about 46 years old with 3.92 years of education, while their spouses are 41 years old with 3.67 years of education. They have an average of 3.68 children, who are almost 16 years old with 4.18 years of education. They have been farming for nearly 27 years.

**TABLE F1 Family Characteristics of Farmers by Block**

<b>1. FAMILY CHARACTERISTICS OF FARMERS BY BLOCK</b>	<b>Unit</b>	<b>Block "A" n=178</b>	<b>Block "B" n=107</b>	<b>Block "C" n=105</b>	<b>Block "D" n=35</b>	<b>Block "E" n=66</b>
<b>1.1 Head of Family</b>						
Male family head	%	94.45	89.69	95.36	94.29	93.82
Age	Years	45.83	50.22	51.10	44.57	46.23
Education	Years	3.37	3.11	3.37	2.29	3.92
Years as a farmer	Years	24.83	31.64	29.96	26.23	26.99
Years on this farm	Years	21.50	20.73	22.96	19.49	25.27
<b>1.2 Spouse</b>						
Age	Years	40.37	44.78	44.65	38.52	40.62
Education	Years	2.75	2.89	3.39	2.90	3.67
<b>1.3 Sons/Daughters</b>						
Age	Years	15.70	16.89	14.61	12.55	16.06
Education	Years	4.34	4.73	4.84	2.67	4.18
Average number per family	Number	4.05	4.35	3.92	3.46	3.68

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F2

## Operating Characteristics of Farms by Block

2. OPERATING CHARACTERISTICS OF FARMS BY BLOCK		Unit	Block "A" n=178	Block "B" n=107	Block "C" n=105	Block "D" n=35	Block "E" n=66
2.1	Land						
	Area	Manzana	2.74	3.42	4.14	2.05	2.93
	Land tenure						
	Own with title	%	31.74	79.44	74.28	17.14	39.39
	Own without title	%	26.50	13.08	11.43	2.86	33.33
	Tenant	%	29.77	8.41	43.81	22.86	12.12
	Other forms of land tenure	%	1.76	3.74	1.90	71.43	12.12
2.2	Crops						
	Basic grains						
	Corn	Manzana	0.70	1.01	0.80	1.35	1.12
	Beans	Manzana	0.47	0.45	0.30	0.03	0.29
	Sorghum	Manzana	0.13	0.09	0.40	0.17	0.50
	Rice	Manzana	0.01	0.02	0.13	0.00	0.03
	Cash crops						
	Sesame	Manzana	0.00	0.00	0.01	0.53	0.02
	Fruit	Manzana	0.49	0.38	0.46	0.09	0.26
	Sugar cane	Manzana	0.00	0.30	0.39	0.00	0.00
	Water melon	Manzana	0.00	0.00	0.00	0.06	0.00
	Coffee	Manzana	0.47	0.00	0.27	0.00	0.20
	Vegetables	Manzana	0.07	0.20	0.04	0.00	0.07
2.3	Livestock						
	Cattle	Number	1.00	2.00	3.00	2.00	2.00
	Horse	Number	0.00	0.00	0.00	0.00	0.00
	Minor livestock	Number	0.00	0.00	0.00	0.00	0.00
	Chicken	Number	29.00	12.00	15.00	8.00	14.00
2.4	Natural Forest	Manzana	0.11	0.28	0.26	0.00	0.16
2.5	Conservation Practices						
	Soil conservation						
	Area	Manzana	0.22	0.20	0.29	0.00	0.38
	Practice	Years	6.41	10.31	7.77	0.00	4.15
	Reforestation						
	Area	Manzana	0.06	0.04	0.02	0.00	0.02
	Practice	Years	9.10	6.34	3.22	0.00	3.00
	Flood control						
	Area	Manzana	0.03	0.00	0.00	0.03	0.00
	Practice	Years	5.00	0.00	0.00	14.00	0.00
	Non-burning & other practices						
	Area	Manzana	0.14	0.12	0.07	0.10	0.15
	Practice	Years	7.52	7.50	10.00	4.00	5.55

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F3 Support System of Farms by Block

3. SUPPORT SYSTEM OF FARMS BY BLOCK	Unit	Block "A" n=178	Block "B" n=107	Block "C" n=105	Block "D" n=35	Block "E" n=66
3.1 Technical Assistance						
CENTA	%	25.84	57.94	44.76	17.14	39.40
Others	%	6.74	6.54	0.95	0.00	4.55
Without technical assistance	%	67.42	35.52	54.29	82.86	56.05
3.2 Financial Assistance						
Source						
Bank	%	5.62	10.28	10.49	17.14	24.25
Others	%	9.55	14.02	15.29	17.14	3.03
Guarantee						
Land	%	5.55	25.64	11.54	0.00	7.58
Cattle and/or others	%	7.59	4.35	3.85	8.57	4.55
Interest rate per year	%	21.57	20.97	20.52	19.00	20.31
3.3 Marketing Channel						
Market	%	32.58	43.93	29.56	0.00	22.73
Intermediaries	%	14.61	40.19	50.44	17.14	43.94
Others	%	3.37	0.93	0.95	0.00	0.00
3.4 Farmers' Organization						
Percentage of farms	%	22.47	29.91	27.62	80.00	30.30
Cooperatives	%	9.55	10.28	1.90	71.43	9.09
Participation	Years	6.43	9.80	3.24	12.00	2.75
3.5 Women's Organization						
Percentage of farms	%	3.93	7.48	1.91	5.71	16.67
Prevalent type	Name	Prod,Chur	Product.	Product.	Church	Coop.
Participation	Years	3.15	5.12	3.00	7.50	4.19
3.6 Off-farm Employment						
Percentage of farms	%	50.00	23.36	46.10	5.71	16.67
Number of persons	Number	1.00	1.00	1.00	2.00	1.00
Months per year	Number	9.56	8.49	9.46	12.00	10.64
Percentage of family income	%	49.19	53.25	50.50	16.50	28.69
3.7 Basic Services						
Drinking water						
Source	Type	P,W,Sp,St	Sp,R,W,St	St,Sp	Well:63%	Well
Distance	km	1.19	1.12	1.75	0.49	1.17
Electricity	%	50.58	42.29	53.18	57.14	62.06
Cooking fuel						
Source	Type	Wood:80%	Wood:76%	Wood:87%	Wood:77%	Wood:85%
Distance	km	2.06	1.07	1.55	2.82	2.32

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

P: Piped water supply; R: River; W: Well; Sp: Spring; St: Public standpost



TABLE F4

## Needs and Wishes of Farmers by Block

4. NEEDS AND WISHES OF FARMERS BY BLOCK	Unit	Block "A" n=178	Block "B" n=107	Block "C" n=105	Block "D" n=35	Block "E" n=66
4.1 Need for Tech. Assistance						
Production						
Farming	%	96.63	95.33	98.09	97.14	77.27
Livestock	%	63.48	49.25	70.48	74.29	59.09
Conservation of resources	%	52.25	71.03	58.09	20.00	3.03
Farmers' organization	%	23.03	36.01	29.52	8.57	18.18
Women's organization	%	14.76	31.78	26.67	11.43	25.76
4.2 Need for Fin. Assistance						
Production						
Farming	%	76.97	78.51	86.67	74.29	83.33
Livestock	%	48.31	41.78	59.05	57.14	63.63
Conservation of resources	%	34.27	50.47	46.67	2.86	27.27
Farmers' organization	%	15.17	23.36	25.71	2.86	13.64
Women's organization	%	14.72	22.43	3.76	0.00	21.21
4.3 Other Needs						
Schools	%	35.39	46.73	39.05	31.43	42.42
Health center	%	54.49	76.63	75.24	62.86	65.15
Drinking water	%	76.40	74.77	73.33	74.29	93.94
Electricity	%	45.51	48.60	45.71	40.00	59.09
Cooking fuel	%	41.01	46.73	33.33	48.57	39.40
Roads and bridges	%	65.73	66.35	81.90	54.29	77.27
Other needs	%	22.47	21.49	23.81	62.86	45.46
4.4 Farmers' Wishes						
New crops	%	Ho:63,Fr:77	Ho:63,Fr:56	Ho:22,Fr:13	Hort:51	Ho:43,Fr:43
Livestock	%	Ca:18,Ch:21	Ca:63,Ch:40	Ca:25,Ch:22	Cattle:34	Ca:17,Ch:27
Organization						
Production	%	17.98	30.32	36.19	2.86	21.21
Marketing	%	17.98	40.58	40.00	11.43	21.21
Purchase of farm inputs	%	27.53	43.38	51.43	5.71	24.24
4.5 Willingness to participate						
Irrigation	%	36.52	67.29	48.57	54.29	36.36
Soil conservation	%	69.66	79.44	72.38	57.14	74.24
Reforestation	%	57.30	82.25	79.05	91.43	87.88
Flood control	%	14.60	13.09	11.90	31.43	13.64
Organization						
Production	%	19.66	27.10	46.66	0.00	22.73
Marketing	%	22.47	43.93	47.62	2.86	21.21
Purchase of farm inputs	%	27.53	45.79	51.43	0.00	22.73

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

Ho: Vegetables  
Ca: Cattle

Fr: Fruit  
Ch: Chicken, Poultry

TABLE F5 Summary of Farming Household Characteristics by Block

	Unit	Block "A" n=178	Block "B" n=107	Block "C" n=105	Block "D" n=35	Block "E" n=66
<b>1. Family Characteristics</b>						
Male family head	%	94.45	89.69	95.36	94.29	93.82
Age of family head	Years	45.83	50.22	51.10	44.57	46.23
Age of spouse	Years	40.37	44.78	44.65	38.52	40.62
Age of children	Years	15.70	16.89	14.61	12.55	16.06
Education of family head	Years	3.37	3.11	3.37	2.29	3.92
Education of spouse	Years	2.75	2.89	3.39	2.90	3.67
Education of children	Years	4.34	4.73	4.84	2.67	4.18
Children per family	Number	4.05	4.35	3.92	3.46	3.68
Years of farming	Years	24.83	31.64	29.96	26.23	26.99
<b>2. Operating Characteristics</b>						
Own land with title	%	31.74	79.44	74.28	17.14	39.39
Tenant farmer	%	29.77	8.41	43.81	22.86	12.12
Land area	Manzana	2.74	3.42	4.14	2.05	2.93
Corn	Manzana	0.70	1.01	0.80	1.35	1.12
Beans	Manzana	0.47	0.45	0.30	0.03	0.29
Sorghum	Manzana	0.13	0.09	0.40	0.17	0.50
Rice	Manzana	0.01	0.02	0.13	0.00	0.03
Sesame	Manzana	0.00	0.00	0.01	0.53	0.02
Fruit	Manzana	0.49	0.38	0.46	0.09	0.26
Sugar cane	Manzana	0.00	0.30	0.39	0.00	0.00
Coffee	Manzana	0.47	0.00	0.27	0.00	0.20
Vegetables	Manzana	0.07	0.20	0.04	0.00	0.07
Natural forest	Manzana	0.11	0.28	0.26	0.00	0.16
Cattle	Number	1.00	2.00	3.00	2.00	2.00
Chicken	Number	29.00	12.00	15.00	8.00	14.00
Soil conservation	Years	6.41	10.31	7.77	0.00	4.15
Reforestation	Years	9.10	6.34	3.22	0.00	3.00
Flood control	Years	5.00	0.00	0.00	14.00	0.00
<b>3. Support System</b>						
CENTA coverage	%	25.84	57.94	44.76	17.14	39.40
Bank credit	%	5.62	10.28	10.49	17.14	24.25
Sale to intermediaries	%	14.61	40.19	50.44	17.14	43.94
Direct sale in markets	%	32.58	43.93	29.56	0.00	22.73
Farmers' organization	%	22.47	29.91	27.62	80.00	30.30
Years in farmers' organiz.	Years	6.43	9.80	3.24	12.00	2.75
Women's organization	%	3.93	7.48	1.91	5.71	16.67
Years in women's organiz.	Years	3.15	5.12	3.00	7.50	4.19
Off-farm employment	%	50.00	23.36	46.10	5.71	16.67
<b>4. Needs and Wishes</b>						
Techn. assist. farming	%	96.63	95.33	98.09	97.14	77.27
Financ. assist. farming	%	76.97	78.51	86.67	74.29	83.33
Techn. assist. livestock	%	63.48	49.25	70.48	74.29	59.09
Financ. assist. livestock	%	48.31	41.78	59.05	57.14	63.63
Participation in irrigation	%	36.52	67.29	48.57	54.29	36.36
Participation in soil conserv.	%	69.66	79.44	72.38	57.14	74.24
Participation in reforestation	%	57.30	82.25	79.05	91.43	87.88
Participation in flood control	%	14.60	13.09	11.90	31.43	13.64

TABLE F1-A Block A: Family Characteristics of Farmers by Municipality

1. FAMILY CHARACTERISTICS OF FARMERS BY MUNICIPALITY		Unit	Candelaria	Cojutepeque	Ilopango	SanEmigdo.	SanMartin	S.MiguelTep.	S.PedroPerul.	Sta.CruzMich.	Stgo.Texeo.	Sto.Tomas	Soyapango
			n=27	n=8	n=31	n=19	n=10	n=19	n=22	n=4	n=5	n=5	n=29
1.1 Head of Family													
Male family head	%		93.00	100.00	100.00	95.00	100.00	100.00	86.00	50.00	100.00	100.00	93.00
Age	Years		50.41	40.88	44.29	42.95	50.90	47.26	44.41	47.50	37.80	51.80	44.96
Education	Years		5.81	4.71	2.84	3.58	2.67	4.42	2.59	2.75	4.20	2.00	1.39
Years as a farmer	Years		29.44	25.71	22.74	24.33	34.80	28.33	19.18	15.50	11.60	28.80	24.29
Years on this farm	Years		27.52	18.25	10.36	18.13	27.30	43.16	24.72	12.75	25.60	15.20	13.61
1.2 Spouse													
Age	Years		45.77	38.25	36.22	41.67	45.33	39.47	40.18	45.50	33.60	45.80	38.00
Education	Years		4.00	3.63	3.15	2.44	3.00	2.47	1.88	2.00	4.60	2.60	1.65
1.3 Sons/Daughters													
Age	Years		20.87	13.63	14.03	11.81	16.98	17.70	13.13	18.50	11.41	23.45	14.96
Education	Years		6.24	5.26	3.24	3.46	4.65	4.65	4.16	5.50	4.47	7.45	3.13
Average number per family	Number		3.78	5.75	4.10	3.79	5.10	3.74	4.73	5.00	3.40	4.00	3.25

Source: Questionnaire Survey, The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project El Salvador, 1996, JICA.

TABLE F1-B Block B: Family Characteristics of Farmers by Municipality

1. FAMILY CHARACTERISTICS OF FARMERS BY MUNICIPALITY		Unit	El Carmen n=10	SanCristobal n=23	S.RafaelCedr. n=6	SanRamon n=37	Sto.Domingo n=17	Verapaz n=14
1.1	Head of Family	%	100.00	98.00	100.00	86.00	71.00	100.00
	Male family head	Years	54.10	49.30	48.67	50.05	51.71	48.29
	Age	Years	2.70	4.22	3.33	3.08	2.18	2.71
	Education	Years	50.50	33.65	18.67	26.95	35.69	27.93
	Years as a farmer	Years	23.67	28.09	10.33	16.08	25.82	17.14
	Years on this farm							
1.2	Spouse							
	Age	Years	44.38	47.23	46.40	44.31	44.23	42.23
	Education	Years	2.00	2.54	2.60	3.45	3.00	2.62
1.3	Sons/Daughters							
	Age	Years	12.33	21.53	15.95	16.29	17.63	13.62
	Education	Years	2.38	4.22	3.90	5.01	5.57	5.85
	Average number per family	Number	4.00	4.39	3.50	4.54	4.76	3.93

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project.  
El Salvador, 1996, JICA.

TABLE F1-C Block C: Family Characteristics of Farmers by Municipality

1. FAMILY CHARACTERISTICS OF FARMERS BY MUNICIPALITY		Unit	Guadalupe n=12	Jerusalem n=8	Mercedes Le Q. n=3	Paraiso de O. n=14	S. Juan Tepez. n=15	S. Pedro Nonual. n=19	Sta. Cruz Analq. n=4	Sta. Maria Ostu. n=23	Stago. Nonual. n=7
1.1 Head of Family											
Male family head		%	75.00	100.00	100.00	100.00	100.00	95.00	100.00	96.00	100.00
Age		Years	50.42	50.25	53.00	42.57	52.36	48.95	49.75	58.13	50.29
Education		Years	2.75	4.25	3.00	2.43	4.38	4.16	3.50	2.43	4.14
Years as a farmer		Years	31.08	27.88	26.67	20.57	32.40	26.37	31.25	38.55	26.14
Years on this farm		Years	28.27	21.75	27.00	16.57	32.46	19.80	17.00	24.00	14.57
1.2 Spouse											
Age		Years	45.50	43.63	41.67	37.79	47.07	43.29	33.25	51.10	43.17
Education		Years	3.75	3.00	3.00	3.07	4.27	3.76	6.00	2.48	2.67
1.3 Sons/Daughters											
Age		Years	17.28	20.58	18.21	8.22	20.77	11.59	14.95	13.89	11.58
Education		Years	6.02	7.65	10.14	1.58	5.96	3.90	4.80	4.87	3.88
Average number per family		Number	4.83	6.00	4.87	2.57	4.93	3.58	5.00	3.04	3.43

TABLE F1-D Block D: Family Characteristics of Farmers  
by Municipality

1. FAMILY CHARACTERISTICS OF FARMERS BY MUNICIPALITY	Unit	San Pedro Masahuat n=35
1.1 Head of Family		
Male family head	%	94.00
Age	Years	44.57
Education	Years	2.29
Years as a farmer	Years	26.23
Years on this farm	Years	19.49
1.2 Spouse		
Age	Years	38.52
Education	Years	2.90
1.3 Sons/Daughters		
Age	Years	12.55
Education	Years	2.67
Average number per family	Number	3.46

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin  
Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F1-E

## Block E: Family Characteristics of Farmers by Municipality

1. FAMILY CHARACTERISTICS OF FARMERS BY MUNICIPALITY		Unit	RosarioLaPaz n=8	S.AntonioMasah. n=22	S.Fco.Chinam. n=18	Tapahuaca n=18
1.1	Head of Family					
	Male family head	%	87.50	95.00	89.00	100.00
	Age	Years	54.50	47.73	45.44	41.50
	Education	Years	3.88	2.73	3.61	5.72
	Years as a farmer	Years	39.43	32.64	23.78	17.78
	Years on this farm	Years	32.50	40.36	22.94	5.94
1.2	Spouse					
	Age	Years	47.57	43.11	40.00	35.11
	Education	Years	3.29	2.16	3.69	5.67
1.3	Sons/Daughters					
	Age	Years	21.36	16.38	16.72	12.65
	Education	Years	3.73	3.84	4.51	4.48
	Average number per family	Number	4.13	3.50	4.39	3.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F2-A Block A: Operating Characteristics of Farms by Municipality

2. OPERATING CHARACTERISTICS OF FARMS BY MUNICIPALITY		Unit	Candelaria n=27	Oajutepec n=8	Ilopango n=31	San Emigd. n=19	San Martin n=10	S. Miguel Tepez. n=19	S. Pedro Perul. n=22	Sta. Cruz Mich. n=4	Stgo. Texac. n=5	Sta. Tomas Soyapango n=28
2.1 Land	Manzana	6.81	3.88	0.56	2.00	2.70	5.34	1.57	0.75	1.10	4.60	0.82
Land tenure												
Own with title	%	59.26	37.50	0.00	50.00	40.00	26.32	50.00	50.00	40.00	60.00	2.57
Own without title	%	29.63	50.00	32.26	26.32	0.00	16.67	18.18	50.00	40.00	20.00	28.57
Tenant	%	3.70	12.50	58.06	21.05	20.00	57.89	27.27	0.00	60.00	40.00	17.86
Other forms of land tenure	%	7.41	12.50	9.68	10.53	40.00	0.00	4.55	0.00	0.00	0.00	50.00
(Coop 25%)												
2.2 Crops												
Basic grains												
Corn	Manzana	0.79	0.31	0.54	0.68	1.20	0.87	0.73	0.63	0.40	1.00	0.72
Beans	Manzana	0.52	0.33	0.35	0.38	0.96	0.21	0.77	0.63	0.35	0.40	0.43
Sorghum	Manzana	0.22	0.00	0.00	0.31	0.00	0.33	0.14	0.00	0.00	0.00	0.05
Rice	Manzana	0.00	0.00	0.00	0.00	0.10	0.00	0.05	0.00	0.00	0.00	0.00
Cash crops												
Sesame	Manzana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fruit	Manzana	1.86	0.72	0.00	0.59	0.21	0.52	0.07	0.13	0.22	1.00	0.01
Sugar cane	Manzana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water melon	Manzana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coffee	Manzana	0.00	1.50	0.00	0.16	0.83	3.14	0.00	0.00	0.00	0.40	0.04
Vegetables	Manzana	0.15	0.00	0.00	0.19	0.00	0.00	0.05	0.03	0.00	0.60	0.01
2.3 Livestock												
Cattle	Number	3.00	0.00	0.00	0.00	2.00	0.00	1.00	0.00	0.00	2.00	1.00
Horse	Number	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Minor livestock	Number	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Chicken	Number	12.00	8.00	12.00	5.00	224.00	61.00	11.00	18.00	7.00	21.00	14.00
2.4 Natural Forest	Manzana	0.31	0.61	0.00	0.00	0.10	0.00	0.19	0.00	0.25	0.10	0.00
2.5 Conservation Practices												
Soil conservation												
Area	Manzana	0.09	0.90	0.14	0.12	0.55	0.00	0.43	0.13	0.10	0.00	0.23
Practice	Years	2.75	12.86	6.63	9.00	9.00	0.00	5.56	14.00	4.00	0.00	5.16
Reforestation												
Area	Manzana	0.00	0.43	0.00	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.01
Practice	Years	0.00	12.33	0.00	0.00	0.00	20.00	5.00	0.00	0.00	0.00	4.00
Flood control												
Area	Manzana	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Practice	Years	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-burning and other practices												
Area	Manzana	0.00	0.00	0.03	0.16	0.00	0.37	0.07	0.00	0.40	1.96	0.00
Practice	Years	0.00	0.00	10.00	10.00	0.00	4.25	4.00	0.00	9.67	8.50	0.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1986, JICA.



TABLE F2-B

## Block B: Operating Characteristics of Farms by Municipality

2. OPERATING CHARACTERISTICS OF FARMS BY MUNICIPALITY	Unit	El Carmen n=10	S.Cristobal n=23	S.RafaelCedr. n=6	SanRamon n=37	Sto Domingo n=17	Verapaz n=14
2.1 Land							
Area	Manzana	3.58	2.83	3.17	2.05	3.97	7.32
Land tenure							
Own with title	%	90.00	91.30	83.33	70.27	70.59	85.71
Own without title	%	0.00	0.00	16.67	21.62	29.41	0.00
Tenant	%	10.00	4.35	0.00	2.70	0.00	42.86
Other forms of land tenure	%	0.00	4.35	0.00	8.11	0.00	0.00
2.2 Crops							
Basic grains							
Corn	Manzana	1.40	0.82	0.96	0.57	1.26	1.93
Beans	Manzana	0.60	0.48	0.92	0.23	0.54	0.55
Sorghum	Manzana	0.28	0.03	0.10	0.04	0.07	0.18
Rice	Manzana	0.00	0.03	0.02	0.00	0.02	0.04
Cash crops							
Sesame	Manzana	0.00	0.00	0.00	0.00	0.00	0.02
Fruit	Manzana	0.28	1.12	0.13	0.24	0.05	0.11
Sugar cane	Manzana	0.15	0.00	0.00	0.00	0.27	1.86
Water melon	Manzana	0.00	0.00	0.00	0.00	0.00	0.00
Coffee	Manzana	0.00	0.00	0.00	0.00	0.01	0.00
Vegetables	Manzana	0.03	0.23	0.00	0.40	0.03	0.05
2.3 Livestock							
Cattle	Number	2.00	1.00	1.00	1.00	6.00	5.00
Horse	Number	0.00	0.00	0.00	0.00	0.00	0.00
Minor livestock	Number	0.00	0.00	0.00	0.00	0.00	1.00
Chicken	Number	6.00	14.00	61.00	5.00	8.00	18.00
2.4 Natural Forest	Manzana	0.30	0.43	0.33	0.14	0.49	0.08
2.5 Conservation Practices							
Soil conservation							
Area	Manzana	0.45	0.26	0.15	0.05	0.07	0.53
Practice	Years	12.00	8.57	3.67	17.00	5.50	3.00
Reforestation							
Area	Manzana	0.00	0.03	0.00	0.01	0.10	0.08
Practice	Years	0.00	5.40	0.00	10.00	2.67	2.67
Flood control							
Area	Manzana	0.00	0.00	0.00	0.00	0.00	0.00
Practice	Years	0.00	0.00	0.00	0.00	0.00	0.00
Non-burning and other practices							
Area	Manzana	0.00	0.00	0.00	0.00	0.12	0.00
Practice	Years	0.00	0.00	0.00	0.00	7.50	0.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1986, JICA.

TABLE F2-C Block C: Operating Characteristics of Farms by Municipality

2. OPERATING CHARACTERISTICS OF FARMS BY MUNICIPALITY		Unit	Guadalupe n=12	Jerusalen n=8	Mercedes La O n=3	Paraiso de O n=14	S. Juan Tepaz, n=15	S. Pedro Nonu, n=19	Sta. Cruz Analq. n=4	Sta. Maria Ostu, n=23	Stgo. Nonu, n=7
2.1 Land		Manzana	4.21	5.81	3.42	1.32	9.07	1.00	4.50	2.83	10.11
Land tenure		%	75.00	75.00	100.00	50.00	73.33	89.47	100.00	78.28	42.86
Own with title		%	41.67	12.50	0.00	7.14	13.33	0.00	0.00	8.70	14.29
Tenent		%	33.33	62.50	33.33	71.43	13.33	73.68	0.00	30.43	42.86
Other forms of land tenure		%	0.00	0.00	0.00	0.00	6.67	5.26	0.00	0.00	0.00
2.2 Crops											
Basic grains											
Corn		Manzana	1.31	0.81	0.83	0.66	1.20	0.53	0.69	0.54	1.04
Beans		Manzana	0.74	0.42	0.33	0.15	0.45	0.08	0.44	0.20	0.29
Sorghum		Manzana	0.02	0.06	0.00	0.58	0.83	0.39	0.25	0.37	0.96
Rice		Manzana	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	1.29
Cash crops											
Sesame		Manzana	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Fruit		Manzana	0.03	0.08	0.25	0.07	0.42	0.62	0.44	0.99	0.36
Sugar cane		Manzana	1.54	2.50	0.67	0.00	0.00	0.00	0.00	0.04	0.00
Water melon		Manzana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coffee		Manzana	0.25	0.00	0.00	0.07	1.60	0.00	0.00	0.03	0.00
Vegetables		Manzana	0.05	0.13	0.00	0.00	0.03	0.00	0.44	0.00	0.04
2.3 Livestock											
Cattle		Number	2.00	4.00	4.00	1.00	8.00	0.00	1.00	0.00	10.00
Horse		Number	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Minor livestock		Number	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00
Chicken		Number	14.00	10.00	5.00	13.00	13.00	23.00	13.00	16.00	16.00
2.4 Natural Forest		Manzana	0.04	0.13	0.17	0.00	1.23	0.04	0.34	0.10	0.29
2.5 Conservation Practices											
Soil conservation											
Area		Manzana	0.00	0.13	0.00	0.00	1.42	0.00	0.00	0.30	0.14
Practice		Years	0.00	5.00	0.00	0.00	9.13	0.00	0.00	?	8.00
Reforestation											
Area		Manzana	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.14
Practice		Years	3.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Flood control											
Area		Manzana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Practice		Years	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-burning and other practices											
Area		Manzana	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00
Practice		Years	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00

Source: Questionnaire Survey, The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F2-D Block D: Operating Characteristics of Farms by Municipality

2. OPERATING CHARACTERISTICS OF FARMS BY MUNICIPALITY	Unit	San Pedro Masahuat n=35	Cooperatives n=5
2.1 Land			
Area	Manzana	2.05	801.00
Land tenure			
Own with title	%	17.14	0.00
Own without title	%	2.86	100.00
Tenant	%	22.86	0.00
Other forms of land tenure	%	71.43	0.00
2.2 Crops			
Basic grains			
Corn	Manzana	1.35	31.20
Beans	Manzana	0.03	0.00
Sorghum	Manzana	0.17	0.00
Rice	Manzana	0.00	0.00
Cash crops			
Sesame	Manzana	0.53	62.20
Fruit	Manzana	0.09	8.00
Sugar cane	Manzana	0.00	141.40
Water melon	Manzana	0.06	12.40
Coffee	Manzana	0.00	5.80
Vegetables	Manzana	0.00	0.00
2.3 Livestock			
Cattle	Number	2.00	179.00
Horse	Number	0.00	35.00
Minor livestock	Number	0.00	0.00
Chicken	Number	8.00	0.00
2.4 Natural Forest	Manzana	0.00	0.00
2.5 Conservation Practices			
Soil conservation			
Area	Manzana	0.00	0.00
Practice	Years	0.00	0.00
Reforestation			
Area	Manzana	0.00	21.00
Practice	Years	0.00	4.00
Flood control			
Area	Manzana	0.03	0.00
Practice	Years	14.00	0.00
Non-burning and other practices			
Area	Manzana	0.10	0.00
Practice	Years	4.00	0.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F2-E

## Block E: Operating Characteristics of Farms by Municipality

2. OPERATING CHARACTERISTICS OF FARMS BY MUNICIPALITY		Unit	Rosario n=8	LaPaz n=22	S.Antonio n=18	Maseh. n=18	Tapalhuaca n=18
2.1	Land						
	Area	Manzana	3.43	2.66	2.71	3.25	
	Land tenure						
	Own with title	%	37.50	31.82	44.44	44.44	
	Own without title	%	25.00	27.27	22.22	55.56	
	Tenant	%	25.00	18.18	11.11	0.00	
	Other forms of land tenure	%	0.00	22.73	16.67	0.00	
2.2	Crops						
	Basic grains						
	Corn	Manzana	1.20	0.98	1.08	1.28	
	Beans	Manzana	0.00	0.26	0.66	0.08	
	Sorghum	Manzana	0.25	0.85	0.39	0.31	
	Rice	Manzana	0.00	0.09	0.00	0.00	
	Cash crops						
	Sesame	Manzana	0.13	0.00	0.01	0.00	
	Fruit	Manzana	0.00	0.00	0.95	0.00	
	Sugar cane	Manzana	0.00	0.00	0.00	0.00	
	Coffee	Manzana	0.00	0.00	0.00	0.00	
	Water melon	Manzana	0.00	0.00	0.72	0.00	
	Vegetables	Manzana	0.38	0.00	0.08	0.00	
2.3	Livestock						
	Cattle	Number	5.00	2.00	1.00	1.00	
	Horse	Number	1.00	0.00	0.00	0.00	
	Minor livestock	Number	0.00	1.00	0.00	0.00	
	Chicken	Number	28.00	10.00	12.00	13.00	
2.4	Natural Forest	Manzana	0.13	0.07	0.08	0.38	
2.5	Conservation Practices						
	Soil conservation						
	Area	Manzana	0.00	0.00	0.84	0.57	
	Practice	Years	0.00	0.00	5.36	2.94	
	Reforestation						
	Area	Manzana	0.00	0.00	0.00	0.08	
	Practice	Years	0.00	0.00	0.00	3.00	
	Flood control						
	Area	Manzana	0.00	0.00	0.00	0.00	
	Practice	Years	0.00	0.00	0.00	0.00	
	Non-burning and other practices						
	Area	Manzana	0.00	0.23	0.27	0.00	
	Practice	Years	0.00	6.00	5.00	0.00	

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F3-A Block A: Support System of Farms by Municipality

3. SUPPORT SYSTEM OF FARMS BY MUNICIPALITY	Unit	Candelaria n=27	Cojutlapaque n=8	Ilopango n=31	San Emigdio n=19	San Martín n=10	S. Miguel Tepez. n=19	S. Pedro Perul. n=22	Sta. Cruz Mich. n=4	Stgo. Texco. n=5	Sta. Tomas n=5	Soyapango n=28
3.1 Technical Assistance												
CENTA	%	29.63	0.00	3.23	31.58	90.00	52.63	18.18	0.00	60.00	100.00	0.00
Others	%	14.81	12.50	3.23	0.00	10.00	10.53	4.55	0.00	40.00	0.00	0.00
Without technical assistance	%	55.56	87.50	93.54	68.42	0.00	36.84	77.27	100.00	0.00	0.00	100.00
3.2 Financial Assistance												
Source	%	7.41	12.50	0.00	10.53	0.00	21.05	0.00	0.00	0.00	0.00	3.57
Bank	%	7.41	0.00	3.23	26.32	10.00	0.00	13.64	0.00	80.00	40.00	0.00
Guarantee	%	3.70	12.50	?	5.26	?	?	?	?	0.00	?	0.00
Land	%	3.70	0.00	?	?	?	5.26	?	?	60.00	?	3.57
Cattle and/or others	%	20-24	20.00	?	15-20	22.00	20.00	20.00	?	20.00	?	22.00
Interest rate per year	%											
3.3 Marketing Channel												
Market	%	37.04	100.00	25.81	57.89	20.00	5.26	18.18	25.00	100.00	100.00	10.71
Intermediaries	%	29.63	0.00	3.23	15.79	10.00	26.32	31.82	25.00	0.00	0.00	0.00
Others	%	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.57
3.4 Farmers' Organization												
Percentage of farms	%	29.63	75.00	0.00	21.05	70.00	5.26	22.73	0.00	60.00	0.00	21.43
Cooperatives	%	22.22	12.50	0.00	5.26	0.00	0.00	13.64	0.00	0.00	0.00	21.43
Participation	Years	11.33	3.63	0.00	1.50	3.00	?	2.80	0.00	3.80	0.00	10.33
3.5 Women's Organization												
Percentage of farms	%	0.00	37.50	0.00	0.00	0.00	0.00	4.55	0.00	60.00	0.00	0.00
Prevalent type	Name	0.00	Church:37.5	0.00	0.00	0.00	0.00	Production	0.00	Comm. dev.	0.00	0.00
Participation	Years	0.00	7.67	0.00	0.00	0.00	0.00	2.00	0.00	1.00	0.00	0.00
3.6 Off-farm Employment												
Percentage of farms	%	22.22	25.00	74.19	57.89	50.00	21.05	59.09	75.00	40.00	40.00	64.29
Number of persons	Number	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Months per year	Number	10.40	12.00	8.86	7.91	9.60	12.00	9.46	8.67	6.00	12.00	8.69
Percentage of family income	%	60.00	?	58.00	43.00	10.00	15.00	62.50	41.67	55.00	?	60.00
3.7 Basic Services												
Drinking water	Type	Pipe:22%	Well:25%	Standpipe:35%	Spring:26%	Pipe:30%	River:32%	River:23%	River:50%	Spring:60%	Well:20%	Sondapet:29%
Source	km	0.52	0.84	0.83	2.51	2.00	1.61	1.45	0.98	1.90	0.00	0.78
Distance	%	41.00	25.00	55.00	58.00	10.00	42.00	50.00	100.00	80.00	80.00	64.00
Electricity	Type	Wood:100%	Wood:87.5%	Wood:71%	Wood:79%	Wood:60%	Wood:84%	Wood:77%	Wood:50%	Wood:40%	Wood:60%	Wood:93%
Cooking fuel	km	0.82	0.66	2.69	0.55	0.97	1.38	1.70	0.50	3.40	1.50	5.22
Source												
Distance												

Source: Questionnaire Survey, The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F3-B

Block B: Support System of Farms by Municipality

3. SUPPORT SYSTEM OF FARMS BY MUNICIPALITY	Unit	El Carmen n=10	SanCristobal n=23	S.RafaelCedr. n=6	SanRamon n=37	Sto.Domingo n=17	Verapaz n=14
3.1 Technical Assistance							
CENTA	%	60.00	73.91	100.00	43.24	23.53	92.86
Others	%	30.00	4.35	0.00	8.11	0.00	0.00
Without technical assistance	%	10.00	21.74	0.00	48.65	76.47	7.14
3.2 Financial Assistance							
Source							
Bank	%	50.00	17.39	16.67	0.00	0.00	7.14
Others	%	0.00	13.04	0.00	2.70	5.88	71.43
Guarantee							
Land	%	40.00	21.74	16.67	?	?	?
Cattle and/or others	%	0.00	4.35	0.00	?	?	?
Interest rate per year	%	22-23	8-24	19.00	?	18.00	18-19
3.3 Marketing Channel							
Market	%	50.00	43.48	83.33	51.35	17.65	35.72
Intermediaries	%	40.00	47.83	16.67	29.73	47.06	57.14
Others	%	0.00	0.00	0.00	0.00	0.00	7.14
3.4 Farmers' Organization							
Percentage of farms	%	80.00	34.78	0.00	8.11	0.00	92.86
Cooperatives	%	0.00	26.09	0.00	8.11	0.00	14.29
Participation	Years	1.25	13.25	0.00	12.00	0.00	4.43
3.5 Women's Organization							
Percentage of farms	%	10.00	4.35	16.67	0.00	11.76	21.43
Prevalent type	Name	GVP:10%	Production	Production	0.00	Comm. leader	CVP
Participation	Years	2.00	4.00	1.00	0.00	12.50	2.00
3.6 Off-farm Employment							
Percentage of farms	%	40.00	52.17	0.00	0.00	35.29	21.43
Number of persons	Number	1.00	1.00	0.00	0.00	1.00	1.00
Months per year	Number	6.00	7.50	0.00	0.00	10.60	9.33
Percentage of family income	%	75.00	42.50	0.00	0.00	55.00	?
3.7 Basic Services							
Drinking water							
Source	Type	Spring:20%	Spring:22%	Spring:67%	Riv:16%,Well:16%	Riv:41%,Spr:41%	Standpost:21%
Distance	km	0.35	1.20	0.23	1.73	1.10	0.32
Electricity	%	20.00	43.00	15.00	43.00	35.00	50.00
Cooking fuel							
Source	Type	Wood:100%	Wood:100%	Wood:100%	Wood:59%	Wood:93%	Wood:36%
Distance	km	0.17	1.25	0.18	1.86	0.44	0.48

Source: Questionnaire Survey, The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project,  
El Salvador, 1996, JICA.

TABLE F3-C Block C: Support System of Farms by Municipality

3. SUPPORT SYSTEM OF FARMS BY MUNICIPALITY		Unit	Guadalupe n=12	Jerusalen n=8	Mercedes La C. n=3	Paraiso de O. n=14	S. Juan Tepez. n=15	S. Pedro Nonu. n=19	Sta. Cruz Analq. n=4	Sta. Maria Ostu. n=23	Stgo. Nonualco n=7
3.1 Technical Assistance											
CENTA		%	75.00	100.00	100.00	0.00	0.00	73.68	50.00	28.09	71.43
Others		%	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Without technical assistance		%	16.67	0.00	0.00	100.00	100.00	16.32	50.00	73.91	28.57
3.2 Financial Assistance											
Source		%									
Bank		%	0.00	0.13	0.00	7.14	13.33	10.53	0.00	17.39	28.57
Others		%	75.00	0.63	33.33	0.00	0.00	0.00	0.00	21.74	14.29
Guarantee		%	?	?	?	7.14	6.67	5.26	?	17.39	28.57
Land		%	?	?	?	0.00	6.67	0.00	?	0.00	28.57
Cattle and/or others		%	?	?	?	0.00	6.67	0.00	?	0.00	28.57
Interest rate per year		%	18.00	18-23	18.00	20.00	18-21	20.00	?	19-21	20-23
3.3 Marketing Channel											
Market		%	16.67	63.00	66.67	7.14	66.67	26.32	25.00	21.74	0.00
Intermediaries		%	50.00	37.00	0.00	35.71	26.67	57.89	75.00	60.87	100.00
Others		%	0.00	0.00	0.00	0.00	6.66	0.00	0.00	0.00	0.00
3.4 Farmers' Organization											
Percentage of farms		%	100.00	100.00	100.00	0.00	0.00	0.00	0.00	13.04	42.86
Cooperatives		%	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Participation		Years	3.50	5.66	2.67	0.00	0.00	0.00	0.00	2.33	3.00
3.5 Women's Organization											
Percentage of farms		%	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prevalent type		Name	Produc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Participation		Years	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.6 Off-farm Employment											
Percentage of farms		%	33.33	37.50	66.67	57.14	20.00	84.21	0.00	40.91	42.86
Number of persons		Number	3.00	2.00	1.00	1.00	2.00	1.00	0.00	1.00	1.00
Months per year		Number	12.00	7.33	5.50	8.25	12.00	6.94	0.00	9.78	12.00
Percentage of family income		%	36.00	?	?	66.50	60.00	40.44	0.00	49.56	53.33
3.7 Basic Services											
Drinking water											
Source		Type	Stdpost:30%	Spring:25%	Standpost:67%	?	Spring:20%	Spring:11%	?	?	?
Distance		km	1.44	1.33	0.55	3.04	1.02	2.18	2.13	1.67	1.14
Electricity		%	83.00	88.00	100.00	43.00	33.00	26.00	75.00	52.00	71.00
Cooking fuel											
Source		Type	Wood:67%	Wood:88%	Wood:100%	Wood:100%	Wood:80%	Wood:84%	Wood:25%	Wood:100%	Wood:100%
Distance		km	0.88	1.03	2.00	2.15	2.15	1.54	?	1.80	0.64

Source: Questionnaire Survey. The Master Plan Study on the Uboe River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F3-D Block D: Support System of Farms by Municipality

3. SUPPORT SYSTEM OF FARMS BY MUNICIPALITY	Unit	SanPedroMasahuat n=35	Cooperatives n=5
3.1 Technical Assistance			
CENTA	%	17.14	0.00
Others	%	0.00	100.00
Without Technical Assistance	%	82.86	0.00
3.2 Financial Assistance			
Source			
Bank	%	17.14	80.00
Others	%	17.14	0.00
Guarantee			
Land	%	0.00	80.00
Cattle and/or others	%	8.57	20.00
Interest rate per year	%	18-20	21-24
3.3 Marketing Channel			
Market	%	0.00	0.00
Intermediaries	%	17.14	0.00
Others	%	0.00	100.00
3.4 Farmers' Organization			
Percentage of farms	%	80.00	100.00
Cooperatives	%	71.43	100.00
Participation	Years	12.00	15.00
3.5 Women's Organization			
Percentage of farms	%	5.71	0.00
Prevalent type	Name	Church	0.00
Participation	Years	7.50	0.00
3.6 Off-farm Employment			
Percentage of farms	%	5.71	0.00
Number of persons	Number	2.00	0.00
Months per year	Number	12.00	0.00
Percentage of family income	%	16.50	0.00
3.7 Basic Services			
Drinking water			
Source	Type	Well:63%	Well:100%
Distance	km	0.49	0.00
Electricity	%	57.00	80.00
Cooking fuel			
Source	Type	Wood:77%	Wood:40%
Distance	km	2.82	3.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin  
Integrated Agricultural Development Project, El Salvador, 1996, JICA.



TABLE F3-E

## Block E: Support System of Farms by Municipality

3. SUPPORT SYSTEM OF FARMS BY MUNICIPALITY	Unit	RosarioLaPaz n=8	S.AntonioMasah. n=22	S.Fco.Chinam. n=18	Tapalhuaca n=18
<b>3.1 Technical Assistance</b>					
CENTA	%	87.50	27.27	16.67	55.56
Others	%	0.00	13.64	0.00	0.00
Without technical assistance	%	12.50	59.09	83.33	44.44
<b>3.2 Financial Assistance</b>					
Source					
Bank	%	0.00	63.64	5.56	5.56
Others	%	0.00	4.55	5.56	0.00
Guarantee					
Land	%	?	18.18	0.00	5.56
Cattle and/or others	%	?	9.09	5.56	0.00
Interest rate per year	%	?	20.00	20-21	20.00
<b>3.3 Marketing Channel</b>					
Market	%	0.00	0.00	83.33	0.00
Intermediaries	%	25.00	45.45	11.11	83.33
Others	%	0.00	0.00	0.00	0.00
<b>3.4 Farmers' Organization</b>					
Percentage of farms	%	37.50	40.91	44.44	0.00
Cooperatives	%	0.00	9.09	22.22	0.00
Participation	Years	2.50	1.00	5.00	0.00
<b>3.5 Women's Organization</b>					
Percentage of farms	%	62.50	0.00	33.33	0.00
Prevalent type	Name	CENTA	0.00	ADESCO, Coop	0.00
Participation	Years	2.75	0.00	4.83	0.00
<b>3.6 Off-farm Employment</b>					
Percentage of farms	%	50.00	13.64	16.67	5.56
Number of persons	Number	2.00	1.00	2.00	1.00
Months per year	Number	12.00	12.00	7.00	12.00
Percentage of family income	%	22.00	12.33	51.67	?
<b>3.7 Basic Services</b>					
Drinking water					
Source	Type	Well:25%	?	Well:22%	?
Distance	km	0.77	1.04	0.55	2.11
Electricity	%	75.00	64.00	22.00	94.00
Cooking fuel					
Source	Type	Wood:75%	Wood:100%	Wood:61%	Wood:94%
Distance	km	3.86	1.15	3.96	1.41

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F4-A Block A: Needs and Wishes of Farmers by Municipality

4. NEEDS AND WISHES OF FARMERS BY MUNICIPALITY		Gandelaria n=27	Ojutitopeque n=8	Ilopango n=31	SanEmigd. n=19	SanMartin n=10	S.MiguelTepet. n=18	S.PedroPerul. n=22	Sta.CruzMich. n=4	Stgo.Texas. n=5	Sto.Tomas n=5	Soyapango n=28
4.1 Need for Technical Assistance												
Production												
Farming	%	92.59	100.00	100.00	100.00	100.00	94.74	90.91	100.00	100.00	100.00	96.43
Livestock	%	51.85	100.00	54.84	63.16	80.00	47.37	68.18	50.00	100.00	100.00	67.86
Conservation of resources	%	59.26	87.50	32.26	57.89	40.00	10.53	68.18	50.00	100.00	100.00	60.71
Farmers' organization	%	18.51	87.50	29.03	28.32	10.00	0.00	22.73	0.00	60.00	80.00	7.14
Women's organization	%	7.41	37.50	11.11	5.26	10.00	10.53	26.32	25.00	100.00	20.00	3.70
		(Food presser)	(Sewing)		(Sewing)	(Sewing)	(Bakery)	(Handicraft)	(Chicken)	(Sewing/40)	(Sewing)	
4.2 Need for Financial Assistance												
Production												
Farming	%	74.07	100.00	80.65	89.47	60.00	73.68	72.73	25.00	100.00	40.00	82.14
Livestock	%	44.44	87.50	35.48	47.37	70.00	31.58	59.09	25.00	100.00	40.00	46.43
Conservation of resources	%	55.56	87.50	12.90	47.37	20.00	0.00	27.27	0.00	100.00	20.00	42.86
Farmers' organization	%	11.11	87.50	16.13	0.00	0.00	0.00	13.64	0.00	60.00	80.00	7.14
Women's organization	%	3.70	50.00	3.70	5.56	20.00	10.53	31.82	25.00	100.00	40.00	0.00
		(Food presser)	(Sewing mach)		(Sewing)	(Voc. train)	(Baker, Chick)	(Craft, Baker)	(Chicken)	(Food/80)	(Sewing)	
4.3 Other Needs												
Schools	%	59.26	100.00	19.35	36.84	20.00	63.16	9.09	50.00	100.00	0.00	10.71
Health center	%	80.67	100.00	38.71	52.63	20.00	73.68	36.36	75.00	100.00	0.00	60.71
Drinking water	%	62.96	100.00	74.19	73.68	100.00	94.74	95.45	100.00	100.00	40.00	50.00
Electricity	%	70.37	62.50	45.16	52.63	50.00	47.37	36.36	50.00	60.00	20.00	17.86
Cooking fuel	%	81.48	75.00	41.94	31.58	50.00	15.78	13.64	50.00	100.00	20.00	25.00
Roads and bridges	%	81.48	100.00	58.08	52.63	50.00	57.89	63.64	100.00	100.00	20.00	67.86
Other needs	%	3.70	75.00	6.45	15.79	0.00	68.42	22.73	0.00	100.00	60.00	7.14
		(Telephone)	(Transep, Telop)	(Land)	(Voc. train)	(Tel, Tr, Sanit)	(Tel, Transep)		(House, Land, 40)	(Teleph, 40)	(Transp)	
4.4 Farmers' Wishes												
New crops	%	Fru/Hor:76	Hort:50	Hort:74	Hort:63	Hort:40	Hort:68	Hort:64	Hort:75	Fru:100 Hort:80	Fruit:80	Hort:57
Livestock	%	Catt:Chick:15	Chick:50	Cattle:13	Chick:21	Cattle:80	Cattle, Chick:5	Catt:Chick:32	Chick:25	Chicken:100	Cattle:20	Catt:Chick:7
Organization												
Production	%	7.41	87.50	9.68	42.11	20.00	0.00	9.09	0.00	100.00	40.00	3.57
Marketing	%	7.41	87.50	16.13	42.11	20.00	0.00	9.09	0.00	100.00	20.00	0.00
Purchase of farm inputs	%	7.41	87.50	35.48	42.11	50.00	0.00	27.27	0.00	100.00	100.00	0.00
4.5 Willingness to Participate												
Irrigation	%	51.95	100.00	29.03	42.11	10.00	13.79	31.82	75.00	100.00	100.00	7.14
Soil conservation	%	74.07	75.00	67.74	73.68	70.00	73.68	59.09	75.00	100.00	100.00	57.14
Reforestation	%	59.26	75.00	48.39	52.63	70.00	69.47	40.91	0.00	100.00	100.00	42.86
Flood control	%	11.11	37.50	19.35	5.26	0.00	21.05	9.09	75.00	20.00	0.00	10.71
Organization												
Production	%	7.41	87.50	6.45	36.84	10.00	0.00	22.73	0.00	100.00	100.00	3.57
Marketing	%	11.11	87.50	19.35	36.84	10.00	0.00	22.73	50.00	100.00	80.00	0.00
Purchase of farm inputs	%	11.11	87.50	25.81	42.11	40.00	0.00	31.82	25.00	100.00	100.00	3.57

Source: Questionnaire Survey, The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1986, JICA.

TABLE F4-B

Block B: Needs and Wishes of Farmers by Municipality

4. NEEDS AND WISHES OF FARMERS BY MUNICIPALITY	Unit	El Carmen n=10	S.Cristobal n=23	S.Rafael/Cedr. n=6	San Ramon n=37	Sto Domingo n=17	Verapaz n=14
<b>4.1 Need for Technical Assistance,</b>							
Production							
Farming	%	100.00	95.65	100.00	91.89	94.12	100.00
Livestock	%	60.00	39.13	100.00	7.30	88.24	100.00
Conservation of resources	%	80.00	69.57	100.00	51.35	94.12	78.57
Farmers' organization	%	10.00	30.43	83.33	52.78	5.88	35.71
Women's organization	%	0.00	0.00	83.33	59.46	29.41	14.29
				(Bakery)	(Chicken:14)		(Bakery)
<b>4.2 Need for Financial Assistance</b>							
Production							
Farming	%	70.00	86.96	100.00	86.49	29.41	100.00
Livestock	%	60.00	34.78	100.00	7.30	41.18	92.86
Conservation of resources	%	40.00	52.17	100.00	45.95	29.41	71.43
Farmers' organization	%	0.00	4.35	66.67	51.35	0.00	7.14
Women's organization	%	0.00	0.00	66.67	45.95	5.88	14.29
					(Chicken:16)		(Bakery)
<b>4.3 Other Needs</b>							
Schools	%	30.00	39.13	100.00	43.24	58.82	42.86
Health center	%	80.00	78.26	100.00	62.16	76.47	100.00
Drinking water	%	90.00	69.57	100.00	78.38	82.35	42.86
Electricity	%	40.00	39.13	83.33	51.35	64.71	28.57
Cooking fuel	%	30.00	52.17	100.00	35.14	64.71	35.71
Roads and bridges	%	40.00	82.61	100.00	43.24	76.47	92.86
Other needs	%	20.00	17.39	0.00	40.54	5.88	7.14
		(Cook oven)	(OC,Seed)		(Irrigation:19)		(Teleph)
<b>4.4 Farmers' Wishes</b>							
New crops	%	Fr,Hort:40	Fr,Hort:65	Hort:83,Fr:50	Hort:59	Hort:65	Hort:79
Livestock	%	Cattle:40	Not spec:8.7	Chicken:33	Chicken:43	Chicken:35	Cattle:79
Organization							
Production	%	30.00	0.00	100.00	44.44	5.88	42.86
Marketing	%	30.00	39.13	100.00	41.67	5.88	64.29
Purchase of farm inputs	%	10.00	43.48	100.00	41.67	29.41	64.29
<b>4.5 Willingness to Participate</b>							
Irrigation	%	40.00	73.91	66.67	83.78	35.29	71.43
Soil conservation	%	100.00	100.00	100.00	56.76	94.12	64.29
Reforestation	%	80.00	66.66	83.33	75.68	100.00	71.43
Flood control	%	0.00	0.00	33.33	16.22	17.65	21.43
Organization							
Production	%	20.00	0.00	100.00	40.54	5.88	35.71
Marketing	%	20.00	60.87	100.00	40.54	5.88	64.29
Purchase of farm inputs	%	20.00	60.87	100.00	40.54	23.53	57.14

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F-4-C Block C: Needs and Wishes of Farmers by Municipality

4. NEEDS AND WISHES OF FARMERS BY MUNICIPALITY	Unit	Guadalupe Jervaelen n=12	Mercedes La C. n=8	Paraiso de O. n=14	S. Juan Tapes. n=15	S. Pedro Nonu. n=19	Sta. Cruz Analq. n=4	Sta. Maria Ostu. n=23	Stgo. Nonu. n=7
4.1 Need for Technical Assistance									
Production									
Farming	%	83.33	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Livestock	%	58.33	100.00	64.29	93.33	47.37	100.00	56.52	100.00
Conservation of resources	%	83.33	62.50	35.71	93.33	36.84	75.00	34.78	100.00
Farmers' organization	%	8.33	62.50	7.14	93.33	5.26	100.00	8.70	28.57
Women's organization	%	0.00	62.50	28.57	73.33	0.00	100.00	8.70	14.29
		(Chicken:38)	(Chicken)	(Sewing:21)	(Sewing,Food)		(Bakery:25)	(Sewing)	(Chicken)
4.2 Need for Financial Assistance									
Production									
Farming	%	83.33	100.00	100.00	93.33	63.16	100.00	82.61	100.00
Livestock	%	50.00	67.50	57.14	86.67	21.05	100.00	43.48	100.00
Conservation of resources	%	75.00	50.00	42.86	80.00	0.00	75.00	30.43	100.00
Farmers' organization	%	0.00	37.50	0.00	93.33	5.26	100.00	13.04	14.29
Women's organization	%	0.00	50.00	14.29	73.33	0.00	100.00	4.35	14.29
			(Bak.Sew.mach)	(Sew,Food)		(Pig&Chick:25)			(Chicken)
4.3 Other Needs									
Schools	%	33.33	37.50	35.71	53.33	5.26	100.00	39.13	71.43
Health center	%	0.00	50.00	78.57	73.33	100.00	100.00	100.00	100.00
Drinking water	%	100.00	37.50	71.43	100.00	57.89	100.00	78.26	42.86
Electricity	%	50.00	25.00	21.43	80.00	0.00	100.00	30.43	42.86
Cooking fuel	%	8.33	25.00	50.00	60.00	0.00	0.00	39.13	85.71
Roads and bridges	%	50.00	87.50	42.86	100.00	100.00	100.00	95.65	100.00
Other needs	%	8.33	25.00	21.43	60.00	0.00	100.00	0.00	57.14
		(Aquacult)	(Credit)	(Voc.train,Tel)	(Foot-ball,CC)	(Aquacult:75)			(CC)
4.4 Farmers' Wishes									
New crops	%	Hort:50	Hort:100	Fruit:50	Fruit:47	Fruit:58	Fruit:75	Fruit:43	Hort:SS57
Livestock	%	Dairy:17	Cattle:63	Cattle&Chick:21	Chicken:47	Catt.&Chick:11	Cattle:100	Cattle&Chick:9	Catt:57,Ch:43
Organization	%								
Production	%	0.00	37.50	50.00	80.00	0.00	100.00	26.09	85.71
Marketing	%	8.33	75.00	50.00	86.67	0.00	75.00	26.09	85.71
Purchase of farm inputs	%	41.67	100.00	50.00	93.33	0.00	100.00	30.43	95.71
4.5 Willingness to Participate									
Irrigation	%	8.33	75.00	50.00	93.33	0.00	100.00	39.13	100.00
Soil conservation	%	83.33	62.50	57.14	100.00	47.37	75.00	69.57	100.00
Reforestation	%	50.00	75.00	92.86	93.33	78.95	75.00	69.57	100.00
Flood control	%	0.00	0.00	0.00	83.33	0.00	0.00	0.00	0.00
Organization	%								
Production	%	8.33	62.50	57.14	93.33	0.00	100.00	34.78	100.00
Marketing	%	8.33	87.50	57.14	93.33	0.00	50.00	34.78	100.00
Purchase of farm inputs	%	33.33	75.00	57.14	100.00	0.00	75.00	34.78	100.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1986, JICA.

TABLE F4-D Block D: Needs and Wishes of Farmers by Municipality

4. NEEDS AND WISHES OF FARMERS BY MUNICIPALITY	Unit	SanPedroMasahuat n=35	Cooperatives n=5
4.1 Need for Technical Assistance			
Production			
Farming	%	97.14	50.00
Livestock	%	74.29	50.00
Conservation of resources	%	20.00	0.00
Farmers' organization	%	8.57	0.00
Women's organization	%	11.43	0.00
		(Bakery,Sewing)	
4.2 Need for Financial Assistance			
Production			
Farming	%	74.29	0.00
Livestock	%	57.14	50.00
Conservation of resources	%	2.86	0.00
Farmers' organization	%	2.86	0.00
Women's organization	%	0.00	0.00
4.3 Other Needs			
Schools	%	31.43	0.00
Health center	%	62.86	20.00
Drinking water	%	74.29	80.00
Electricity	%	40.00	40.00
Cooking fuel	%	48.57	60.00
Roads and bridges	%	54.29	60.00
Other needs	%	62.86	60.00
		(Transp,Tel,CC,Sew)	(Transp,Tel)
4.4 Farmers' Wishes			
New ccrops	%	Hort:51	Wat. melon:40
Livestock	%	Cattle:34	Cattle:40
Organization			
Production	%	2.86	0.00
Marketing	%	11.43	20.00
Purchase of farm inputs	%	5.71	0.00
4.5 Willingness to Participate			
Irrigation	%	54.29	100.00
Soil conservation	%	57.14	80.00
Reforestation	%	91.43	100.00
Flood control	%	31.43	80.00
Organization			
Production	%	0.00	0.00
Marketing	%	2.86	0.00
Purchase of farm inputs	%	0.00	0.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

TABLE F4-E

## Block E: Needs and Wishes of Farmers by Municipality

4. NEEDS AND WISHES OF FARMERS BY MUNICIPALITY	Unit	RosarioLaPaz n=8	S.AntonioMasah n=22	S.Fco.Chinam n=18	Tapalhuaca n=18
<b>4.1 Need for Technical Assistance</b>					
Production					
Farming	%	75.00	86.36	100.00	44.44
Livestock	%	87.50	31.82	94.44	44.44
Conservation of resources	%	0.00	22.73	100.00	11.11
Farmers' organization	%	0.00	0.00	66.67	0.00
Women's organization	%	12.50	9.09	77.78	0.00
			(Sewing,Bakery)	(Sewing44%)	
<b>4.2 Need for Financial Assistance</b>					
Production					
Farming	%	50.00	72.73	100.00	94.44
Livestock	%	50.00	27.27	83.33	94.44
Conservation of resources	%	0.00	4.55	94.44	0.00
Farmers' organization	%	0.00	0.00	50.00	0.00
Women's organization	%	0.00	0.00	77.78	0.00
				(Sewing22%)	
<b>4.3 Other Needs</b>					
Schools	%	37.50	31.82	66.67	33.33
Health center	%	100.00	81.82	94.44	0.00
Drinking water	%	100.00	86.36	100.00	94.44
Electricity	%	25.00	22.73	88.89	88.89
Cooking fuel	%	62.50	31.82	77.78	0.00
Roads and bridges	%	62.50	59.09	100.00	83.33
Other needs	%	25.00	68.18	66.67	5.56
		(Football,Tel)	(CC,FB,Tr,Latr,Ch)	(CC,FB,Latrin)	(CC)
<b>4.4 Farmers' Wishes</b>					
New crops	%	Hort:25%	Hort:50%	Fruit:56%	Banana:6%
Livestock	%	Chicken:63%	Cattle,Chick:14%	Cat,Chick:28%	Cattle:11%
Organization					
Production	%	0.00	0.00	77.78	0.00
Marketing	%	12.50	0.00	72.22	0.00
Purchase of farm inputs	%	0.00	4.55	83.33	0.00
<b>4.5 Willingness to Participate</b>					
Irrigation	%	37.50	22.73	88.89	0.00
Soil conservation	%	62.50	59.09	94.44	77.78
Reforestation	%	87.50	95.45	88.89	77.78
Flood control	%	37.50	9.09	22.22	0.00
Organization					
Production	%	0.00	0.00	83.33	0.00
Marketing	%	0.00	0.00	77.78	0.00
Purchase of farm inputs	%	0.00	0.00	83.33	0.00

Source: Questionnaire Survey. The Master Plan Study on the Jiboa River Basin Integrated Agricultural Development Project, El Salvador, 1996, JICA.

# THE JAPANESE AGRICULTURAL COOPERATIVE SYSTEM

J I C A  
Kokusai Kogyo Co., Ltd

## TABLE OF CONTENTS

1. Objectives and Business Areas of Agricultural Cooperatives .....	F-40
2. Organization and Management of Agricultural Cooperatives .....	F-40
(1) Types of Agricultural Cooperatives .....	F-40
(i) Multi-purpose agricultural cooperatives and single-purpose agricultural cooperatives .....	F-40
(ii) Agricultural cooperatives with equity capital and those without equity capital .....	F-41
(2) Organizational chart of agricultural cooperatives .....	F-42
(i) Unitary agricultural cooperatives and federations of agricultural cooperatives .....	F-42
(ii) Central Union of agricultural cooperatives .....	F-43
Fig.1: Outline of the Organizational Chart of Agricultural Cooperatives (attached)	
(3) Organization of agricultural cooperatives .....	F-45
(i) Members .....	F-45
(ii) Rights and obligations of members .....	F-46
(iii) Administrative organization .....	F-47
(iv) Members organization .....	F-48
Fig.2: General Internal Structure of Multi-Purpose Agricultural Cooperatives .....	
F-50	
3. Business Activities of Agricultural Cooperatives .....	F-51
(1) Guidance .....	F-52
(i) Agricultural management guidance .....	F-52
(ii) Home life guidance .....	F-53
(2) Economic activities .....	F-53
(i) Marketing .....	F-53
(ii) Purchasing .....	F-54
(iii) Utilization rates of agricultural cooperatives .....	F-55
(3) Credit .....	F-57
(4) Mutual insurance .....	F-58



- 4. The Business Situation of Agricultural Cooperatives ..... F-59
- 5. Guidance and Supervision of Agricultural  
Cooperatives by Administrative Agencies ..... F-60

## 1. Objectives and Business Areas of Agricultural Cooperatives.

An agricultural cooperative is an autonomous cooperative organization of farmers whose objective is to improve their agricultural operations and standard of living in solidarity and a spirit of mutual assistance by engaging in cooperative business and activities.

The Agricultural Cooperative Association Law enacted in 1947 requires that in order to establish an agricultural cooperative, fifteen (15) or more farmers must request its formation.

Agricultural cooperatives are engaged in various business activities including:

- (1) guidance of agricultural operations and home life (guidance activities);
- (2) joint purchase of production materials and consumer goods, and joint marketing of agricultural products (economic activities);
- (3) maintenance of savings and lending of funds for agricultural production and support of livelihood (credit activities);
- (4) mutual insurance against disasters (mutual insurance activities);
- (5) installation of communal facilities required for agricultural production and/or home life (utilization activities);
- (6) medical care and related activities to protect the health of farmers (welfare activities) and
- (7) such business activities as related to the welfare for the aged (elderly welfare activities).

Agricultural cooperatives are required engage in these business activities with utmost emphasis placed on providing services to their members rather than securing profits. Every agricultural cooperative has a system to pay profits or dividends to members in proportion to the amount invested and/or contributed in the event surplus funds exist.

## 2. Organization and Management of Agricultural Cooperatives

### (1) Types of agricultural cooperatives

- (i) Multi-purpose agricultural cooperatives and single-purpose agricultural cooperatives

A multi-purpose agricultural cooperative is not limited in the scope of its activities to a specific field of agriculture, and also engages in overall business activities including credit, marketing, purchasing and mutual insurance.

A single-purpose agricultural cooperative consists of farmers working in a specific field of agriculture, such as pomiculture or dairy farming, and engages mainly in the sale of specific products and the handling of production materials related to that field of agriculture.

(ii) Agricultural cooperatives with equity capital and those without equity capital

An agricultural cooperative with equity capital is a cooperative carrying out necessary business activities with operating expenses paid out of the equity capital invested by members (the above-mentioned multi-purpose agricultural cooperative is a cooperative with equity capital).

An agricultural cooperative without equity capital is a cooperative carrying out necessary business activities with operating expenses paid out of charges imposed on and/or fees collected from members. An agricultural cooperative with equity capital may engage in all types of business provided for in the Agricultural Cooperative Association Law. However, a cooperative without equity capital is not allowed to receive deposits or engage in the mutual insurance business.

Table 1: Yearly changes in the number of agricultural cooperatives

Fiscal Year	1960	1975	1980	1985	1990	1992	1993	1994
Multi-purpose agricultural cooperatives (Index number)	12,050 (100)	4,803 (40)	4,528 (38)	4,267 (35)	3,574 (30)	3,073 (26)	2,836 (24)	2,635 (22)
Single-purpose agricultural cooperatives (Index number)	16,846 (100)	6,277 (37)	5,191 (31)	4,587 (27)	4,023 (24)	3,921 (23)	3,829 (23)	3,738 (22)
Ordinary agricultural cooperatives not engaged in credit business	973	251	221	214	211	206	205	203
Sericulture	6,293	1,590	1,190	890	533	503	472	422
Livestock	1,182	577	495	370	352	353	347	342
Dairy	774	676	628	574	546	521	488	475
Poultry	-	272	247	232	211	212	211	209
Management of pastureland	1,096	901	846	882	838	822	815	804
Horticulture and specialties	679	578	557	541	523	513	509	505
Rural industry	597	248	214	195	191	192	190	190
Reclamation	4,789	615	452	371	323	315	311	310
Agriculture-related broadcasting	463	129	106	89	83	75	71	65
Others	-	390	235	229	212	209	210	213

Source: "Statistics on Present Number of Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

(2) Organizational chart of agricultural cooperatives

As indicated in the organizational chart (fig.1), agricultural cooperatives are divided into three types: Unitary Agricultural Cooperatives, Metropolitan and Prefectural Agricultural Cooperative Federations with their Central Union, and National Agricultural Cooperative Federations with their Central Union, all of which are collectively called 'Affiliated Group of Agricultural Cooperatives', or 'JA Group'.

(i) Unitary agricultural cooperatives and federations of agricultural cooperatives

Unitary agricultural cooperatives are composed mostly individual farmers ("TANKYO"), whereas federations of agricultural cooperatives are composed of such unitary cooperatives (members thereof are considered to be members of the federations). Of the federations, those conducting business in their relevant metropolitan and local areas are Metropolitan and Prefectural Federations ("KENREN") and those that conducting business nationwide are National Federations ("ZEN-KOKUREN").

It should be noted that although the national federations are composed, in principle, of the metropolitan and prefectural federations, unitary cooperatives may join the national federations directly in order to voice their views.

The major reason unitary cooperatives are members of the metropolitan and prefectural federations and national federations is that, inasmuch as small unitary cooperatives are too weak in all respects to conduct by their own individual businesses such as marketing, purchasing and credit and, consequently, it is difficult for them to contribute to the improvement of living standards of the members solely on their own; by joining together with the large federations, they may conduct economic activities more profitably and efficiently.

It should be noted, however, that any federation engaged in credit and mutual insurance activities is prohibited by law from conducting other types of business.

The reason the organization of agricultural cooperatives consists of a three-division group (JA Group) is that the metropolitan and prefectural federations assist the business activities of the unitary cooperatives, and the national federations assist the business of the metropolitan and prefectural federations, so that the entire cooperative movement gains effectiveness.

The affiliated cooperative organizations are currently promoting the consolidation of individual cooperatives with the aim of increasing the number of the multi-purpose agricultural cooperatives to 630 by the year 2001, when it is envisioned that the organizations presently comprising three (3) divisions will be expected to be adjusted to comprise two (2) divisions.

573

(ii) Central Union of Agricultural Cooperatives

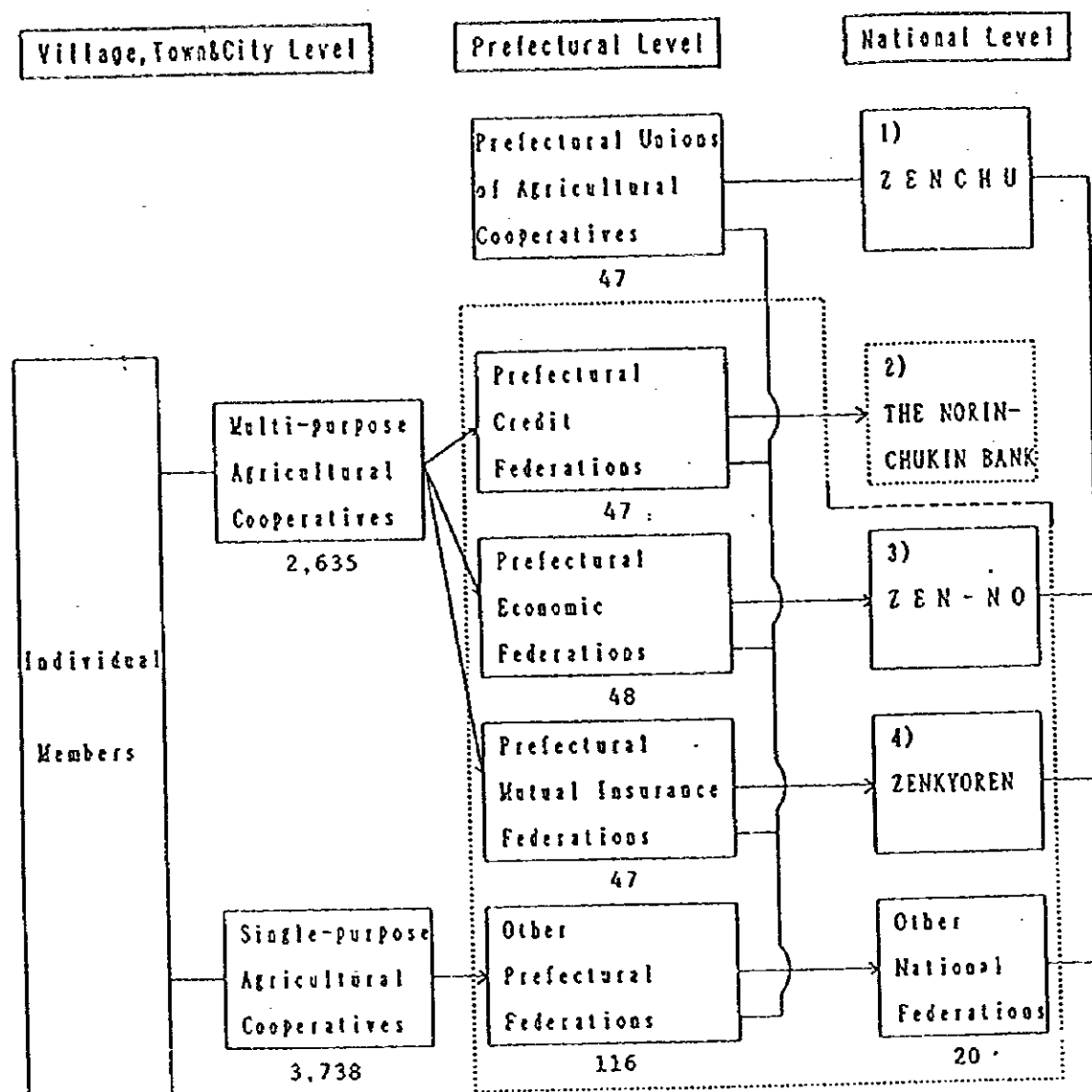
The Central Union of Agricultural Cooperatives, which has been established with the objective of promoting the sound development of agricultural cooperatives, is a guidance organization for them.

There are two Central Unions: one covering all metropolitan and prefectural areas; and another covering the entire nation. They are called, respectively, "Metropolitan and Prefectural Central Union of Agricultural Cooperatives" ("KENCHU") and "National Central Union of Agricultural Cooperatives" (ZENCHU).

The Metropolitan and Prefectural Central Union of Agricultural Cooperatives has, as its members, agricultural cooperatives and federations of agricultural cooperatives in the areas concerned, and its activities include providing organizational guidance for business and management, education, auditing, research and submitting proposals (policy proposals) to administrative agencies on behalf of member cooperatives.

The National Central Union of Agricultural Cooperatives has, as its members, agricultural cooperatives and federations of agricultural cooperatives which are members of the Metropolitan and Prefectural Central Union of Agricultural Cooperatives as well as the Metropolitan and Prefectural Central Union of Agricultural Cooperatives itself, and is engaged in overall guidance and coordination of affiliated agricultural cooperatives on a nationwide basis for their sound development.

Fig. 1 Outline of the Organizational Chart of Agricultural Cooperatives [JA Group] in Japan - March 1995)



Source: MAFF "Statistics on Present Number of Agricultural Cooperatives"

(Notes)

- 1 Arrows indicate the relations of business activities.
- 2 The Proper name of National level federations
  - 1) ZENCHU: Central Union of Agricultural Cooperatives (CUAC)
  - 2) THE NORINCHUKIN BANK: Central Cooperative Bank for Agriculture and Forestry
  - 3) ZEN-NO: National Federation of Agricultural Cooperative Associations
  - 4) ZENKYOREN: National Mutual Insurance Federation of Agricultural Cooperatives
- 3 Federations below prefectural level (248) and federations over two or more prefectural level but below national level (2) are omitted.

### (3) Organization of agricultural cooperatives

#### (i) Members

The requirements for membership in an agricultural cooperative are set forth in the Agricultural Cooperative Association Law and are prescribed in the Charter of each agricultural cooperative as follows:

##### a. Farmers

b. Farmer's partnership corporations engaged in agricultural operations and other corporations engaged exclusively in the operations of farming industry and other relevant activities.

c. Individuals maintaining their address in the area where an agricultural cooperative operates, and who are considered appropriate to use the facilities of the agricultural cooperatives concerned.

d. An agricultural cooperative whose area covers part or extends to the whole of the agricultural cooperative concerned.

e. An organization such as a farmer's partnership corporation, most of whose members maintain their address in the area of the agricultural cooperative concerned and which aims at promoting the common interest of the members on the basis of communal cooperation, and other groups or organizations whose members or investors are either the agricultural cooperative concerned or are farmers maintaining their address in the area where the cooperative concerned operates.

Of the above, those who meet either requirement (a) or (b) shall have the right to vote regarding the operation of the organization and the right to elect officers, and shall be classified as regular members; those who meet one of the requirements (c) through (e) shall have no voting rights and shall be classified as associate members.

Members are classified into regular and associate members so as to preserve the nature of the agricultural cooperatives as autonomous organizations. Those who satisfy the membership requirement are free to join or leave the agricultural cooperative at any time.

As in fiscal year 1993, the average number of regular and associate members per multi-purpose cooperative was 1,888 and 1,176, respectively, with the percentage of associate members equaling 38.41.

It should be noted that with rapid urbanization of farming areas and increased mixing of the agricultural population with urban population, the number of regular members has been on the decrease, while the number of associate members has been increasing year by year.

Table 2 Yearly changes in the number of members of multi-purpose agricultural cooperatives and the percentage of associate members

(unit: 1000 members, 1, 1000 households)

Description / Fiscal year		1975	1980	1985	1990	1991	1992	1993
Regular membership		5,773	5,641	5,542	5,544	5,533	5,515	5,484
Associate membership		1,899	2,244	2,526	3,065	3,203	3,329	3,418
Total		7,672	7,885	8,068	8,609	8,736	8,844	8,902
Percentage of associate members		25	28	31	36	37	38	38
Number of household of regular members		5,253	5,088	4,968	4,859	4,837	4,807	4,780
per multi-purpose agricultural cooperative	(unit: member, household) Regular membership	1,212	1,257	1,307	1,544	1,594	1,721	1,888
	Associate membership	399	500	595	854	924	1,039	1,176
	Total	1,610	1,757	1,902	2,397	2,520	2,760	3,064
	Number of household of regular members	1,102	1,134	1,171	1,353	1,396	1,500	1,645

Source: "Statistics on Multi-Purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

(ii) Rights and obligations of members

The principal rights of members of an agricultural cooperative as prescribed in the Agricultural Cooperative Association Law are as follows:

- The right to vote at a general meeting: one voting right for one regular member to exercise at a general meeting.
- The right to elect officers and representatives: one voting right for one regular member to elect.
- The right to be elected as an officer or representative: the right to be selected and appointed as an officer or representative through election.
- The right to convene a general meeting: the right to ask for convocation of a general meeting whenever deemed necessary with consent of one-fifth (1/5) or more of the regular members.
- The right to re-elect officers: the right to ask for re-selection and reappointment of officers with consent of one-fifth (1/5) or more of the regular members.
- The right to demand an inspection of a cooperative: the right to demand an administrative agency concerned for conducting an inspection of an agricultural cooperative with consent of one-fifth (1/5) or more of the regular members.



- g. The right to demand distribution of a surplus: the right of a cooperative member to receive a surplus in accordance with the decision of a general meeting.
- h. The right to utilize the business of a cooperative: the right of a cooperative member to utilize the business thereof as a matter of course.

The principal obligations of a cooperative member are as follows:

- a. Obligation to be bound by cooperative regulations: a cooperative member is required to act in accordance with the charter of a agricultural cooperative and the decisions of a general meeting.
- b. Obligation to make investment (in the case of a cooperative with equity capital): a member of a cooperative with equity capital is required to own at least one share and pay for it.
- c. Obligation to pay charges: when a decision is made at a general meeting to impose a charge, a cooperative member is required to pay such charge to the agricultural cooperative concerned.

(iii) Administrative organization

1) General meeting

A general meeting is the supreme decision-making body of an agricultural cooperative. The general meetings consist of ordinary general meetings and extraordinary general meetings.

An ordinary general meeting must be convened regularly once every fiscal year in order to review and approve the business reports and accounting statements of the preceding year; review and approve the appropriation of an earned surplus or the disposal of loss; and deliberate on and decide on the yearly business plan.

An extraordinary general meeting is a non-regular meeting to be convened whenever important decisions need to be made.

2) Officers

Officers of an agricultural cooperative are managing directors and auditors. Managing directors constitute the Board of Directors, which manages the agricultural cooperative in accordance with the policy adopted at a general meeting. Managing directors are elected at a general meeting, and a two-thirds (2/3) majority of the fixed number of managing directors must consist of regular members of the cooperative.

Auditors are responsible for auditing the property of an agricultural cooperative and monitoring the operations of managing directors.

3) Staff members

Staff members of an agricultural cooperative conduct their duties in accordance with the business policy of the managing directors.

The Agricultural Cooperative Association Law provides that a general manager and a chief accountant may be elected from among the staff members to conduct business. Although the general manager is a staff member, he has almost the same powers as a managing director to carry out duties assigned by the agricultural cooperative.

(iv) Members organization

The following members organizations are formed by members of an agricultural cooperative as well as their families with the aim of carrying out in solidarity and in a spirit of mutual assistance various business and social activities related to agricultural operations and betterment of their home life and culture.

1) Crop Producers Association

This is an association organized by members producing the same kinds of crops in which members meet to discuss and formulate effective production and sales plan for the relevant crops, as well as to conduct cooperative teamwork in farming and improve the standard of farming skill and know-how.

2) Community Association (Farmers Association, Agricultural Business Management Association)

This is an association in which members meet according to the village where they reside, with the aim of improving their farming operations and living environment.

3) Young Men's Association

This is an association in which young people who are riving force of future agriculture in Japan meet to discuss and conduct various activities pertaining to education and training, improvement of agricultural operations, agricultural administration, promotion of culture, sports and exchanges with other cooperative organizations for the purpose giving and receiving advice and proposals.

4) Women's Association

This is an association in which women, who are not only members of the cooperative but farm family members, meet and discuss how they improve their home life, health and medical care, and conduct consumer activities.

As nationwide organizations for the young men's association and women's association, there are two national councils, i.e., "National Agricultural Cooperative Council for Young Men's Association" and "National Agricultural Cooperative Council for Women's Association".

Table 3 Crop Producers Associations formed within multi-purpose agricultural cooperatives

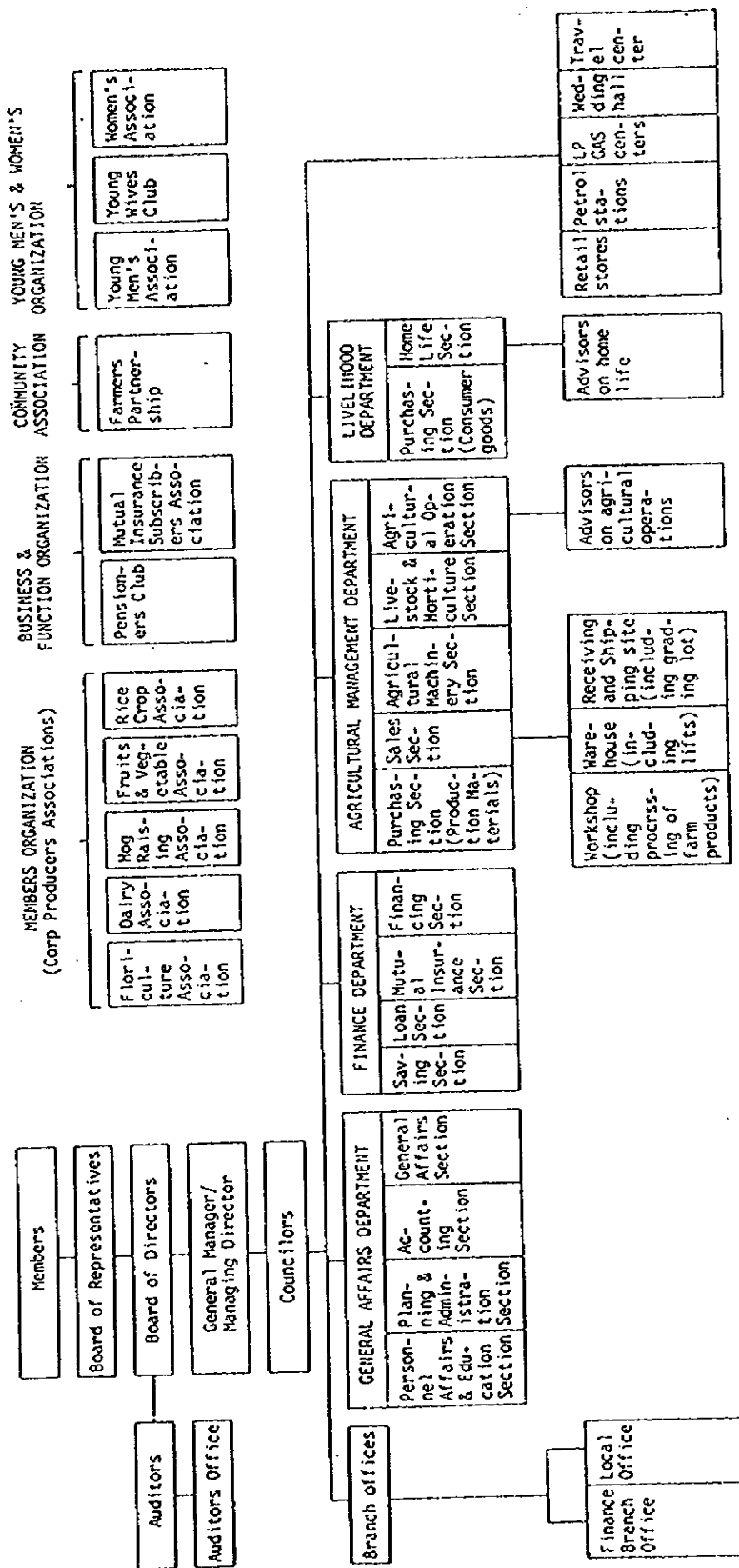
(as of FY 1993)

	Number of the Cooperatives	Number of organizations
Agronomy	1,648	5,920
Vegetables	2,449	10,106
Beef cattle	1,698	3,390
Hogs for meat	892	1,067
Pomiculture	1,624	4,329
Floriculture	1,370	2,066
Young Men's Association	1,800	—
Women's Association	2,582	—

Source: "Statistics on Multi-purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

In addition, the general internal structure of multi-purpose agricultural cooperatives is shown in Fig.2.

Fig. 2 General internal structure of multi-purpose agricultural cooperatives



### 3. Business Activities of Agricultural Cooperatives

In general, an agricultural cooperative conducts a broad range of business activities, including the production and distribution of farm products as well as betterment of lives and culture of the members. However, the scope of business activities that an agricultural cooperative may be engaged in is restricted by the Agricultural Cooperative Association Law.

The following are the major fields of business activities which an agricultural cooperative is allowed to conduct:

- 1) Agricultural production, livelihood loans and acceptance of savings ..... CREDIT BUSINESS
- 2) Supply of production materials and consumer goods ..... PURCHASING BUSINESS
- 3) Installation of common facilities for agricultural production and daily life ..... UTILIZATION BUSINESS
- 4) Creation and improvement of farm land, communal irrigation facilities, implementation of joint agricultural production and promoting the increase in labor efficiency ..... AGRICULTURAL PRODUCTION BUSINESS
- 5) Marketing, storage and transportation of farm products ..... MARKETING BUSINESS
- 6) Processing of farm products ..... PROCESSING BUSINESS
- 7) Mutual insurance regarding life, fire, automobiles, building restoration ..... MUTUAL INSURANCE BUSINESS
- 8) Establishment of hospitals and clinics ..... WELFARE BUSINESS
- 9) Establishment of geriatric medical facilities ..... WELFARE BUSINESS FOR THE AGED
- 10) Providing training and education to improve agricultural technology, farming management, and betterment of home life and culture ..... BUSINESS OF EDUCATION, PUBLIC RELATIONS, AGRICULTURAL MANAGEMENT, HOME LIFE GUIDANCE
- 11) Agricultural management entrusted by cooperative members ..... ENTRUSTED AGRICULTURAL MANAGEMENT BUSINESS
- 12) Acceptance of the trust of agricultural land, etc. .... AGRICULTURAL LAND TRUST BUSINESS

- 13) Sale and purchase on commission of farmland  
diverted for housing ..... HOUSING LAND SUPPLY  
BUSINESS

As previously mentioned, agricultural cooperatives are not allowed to conduct any business solely to secure profits: their purpose is to serve and do business with their members. However, as an exception, they are allowed to do business with non-members. This is commonly called "non-member business", the volume of which, in principle, should not exceed, except for certain kind of transactions, one-fifth (1/5) of the total volume of the member business in one accounting period.

(1) Guidance business

- (i) Agricultural management guidance business Guidance advisors of agricultural cooperatives provide advice and/or guidance not merely for matters relating to agricultural technology but also for overall agricultural management. The number of agricultural guidance advisors in multi-purpose agricultural cooperatives as of fiscal 1993 was 17,880 persons, that is, an average of 6.2 advisors per agricultural cooperative.

Agricultural cooperatives are engaged, based on the regional agricultural promotion plans formulated in consideration of the regional situation, in coordinating utilization of regional resources and providing technological guidance, as well as management consulting services.

In carrying out agricultural guidance activities, emphasis is being placed not merely on the guidance of agricultural technology but on management guidance, including tax guidance and asset management.

Table 4 The Number of agricultural management guidance advisors  
classified by type of agricultural business

(as of FY 1993)

Type of Business	Number of Advisors
Agronomy	4,285
Sericulture	358
Livestock	3,035
Vegetables	4,764
Pomiculture	2,088
Agricultural management guidance	1,594
Agricultural machinery technical guidance	438
Others	1,318
TOTAL:	17,880

Source: "Statistics on Multi-purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

(ii) Home life guidance

Home life guidance advisors provide guidance and consulting to member farmers regarding their overall life to help them improve their living standard and community. The number of home life guidance advisors in multi-purpose agricultural cooperatives as of fiscal 1993 was 3,057, that is, an average of 1.1 advisor per agricultural cooperative.

(2) Economic Activities

(i) Marketing

A distinguishing characteristic of the marketing activities of agricultural cooperatives is an unconditional, on-consignment marketing system in which cooperative members do not specify sales prices, time, shipping details, etc. The cooperatives deduct actual expenses as fees from sales prices.

The advantages of joint marketing through an agricultural cooperative are:

(1) uniform quality standards, (2) reduced transportation costs and (3) stabilized prices due to coordination of supply and demand on the strength of planned shipments.

Rice accounts for the largest percentage in sales and volume handled by the marketing business of multi-purpose agricultural cooperatives, though the proportion has consistently decreased in recent years.

(ii) Purchasing business

Purchasing business is that in which an agricultural cooperative jointly purchases materials required for agricultural production, as well as goods necessary for the home life of cooperative members, and supplies such materials and goods to the members.

The objective of this purchasing business is to supply members with goods and materials at low prices by reducing distribution costs through systematic bulk purchasing.

Specifically, an agricultural cooperative takes advance orders from its members and sends such advance orders in lots to the prefectural economic federation, or Keizairen. The prefectural economic federation, in turn, sends such advance orders to the National Federation of Agricultural Cooperative Associations, or Zenno. The National Federation of Agricultural Cooperative Associations negotiates prices with makers on the strength of such bulk advance orders to buy at the lowest possible prices and, at the same time, reduce distribution costs.

Table 5: Changes in sales amounts by products sold

(unit: 1 billion yen)

Products/FY	1975	1980	1985	1990	1991	1992	1993
Rice and wheat	2,216	2,105	2,784	2,164	2,012	2,143	1,886
Vegetables	476	826	1,024	1,342	1,385	1,264	1,443
Fruits	428	566	714	780	813	776	685
Livestock products	978	1,381	1,481	1,429	1,397	1,311	1,212
Total sales	4,517	5,501	6,696	6,411	6,349	6,212	5,934

Source: "Statistics on Multi-purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

Table 6: Changes in purchase amount by products supplied

(unit: 1 billion yen)

Products / FY	1975	1980	1985	1990	1991	1992	1993
Total of production materials	2,153	3,203	3,373	3,190	3,249	3,241	3,165
Feeds	561	823	747	550	533	502	465
Fertilizers	352	456	490	396	408	412	408
Agricultural chemicals	191	273	320	313	323	323	326
Agricultural machinery	362	366	378	376	381	388	388
Total of consumer goods	881	1,498	1,855	2,021	2,108	2,119	2,089
Total of purchasing business	3,033	4,700	5,228	5,211	5,358	5,360	5,253

Source: "Statistics on Multi-purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries



(iii) Utilization rates of agricultural cooperatives

Sales of rice and wheat through the marketing business of agricultural cooperatives account for relatively high percentage;

While farmers' utilization rates of agricultural cooperatives for marketing are high for rice, wheat and fruits, they are low for vegetables and livestock products.

Table 7 Amount of sales and purchases handled by three tiers of agricultural cooperatives (as of FY 1993)

(unit: 100 million yen/%)

Classification	agricultural	Keizairen(1)	Zenno (2)
Products cooperatives			
Totals handled by marketing business	59,335 (100)	55,771 (100)	36,436 (100)
Rice and wheat	18,859 (31.8)	19,683 (35.3)	17,632 (48.4)
Vegetables	14,428 (24.3)	12,141 (21.8)	8,235 (19.3)
Fruits	6,846 (11.5)	5,404 (9.7)	3,240 (8.9)
Livestock products	12,116 (20.4)	12,786 (22.9)	6,204 (17.0)
Totals handled by purchasing business	52,533 (100)	46,968 (100)	28,067 (100)
Total of production materials supplied	31,648 (60.2)	28,407 (60.5)	22,347 (79.6)
Feeds	4,649 (8.8)	4,529 (9.6)	6,091 (21.7)
Fertilizers	4,076 (7.8)	3,190 (6.8)	2,758 (9.8)
Agri. chemicals	3,261 (6.2)	1,882 (4.0)	2,218 (7.9)
Agri. machinery	3,883 (7.4)	2,594 (5.5)	1,562 (5.6)
Petroleum/oil	6,387 (12.2)	5,113 (10.9)	3,925 (14.0)
Motor cars	3,083 (5.9)	2,497 (5.3)	1,498 (5.3)
Total of consumer goods	20,885 (39.8)	18,561 (39.5)	5,720 (20.4)

Keizairen(1) : Prefectural Economic Federations

Zenno (2) : National Federation of Agricultural Cooperative Associations

Sources: "Statistics on Multi-purpose Agricultural Cooperatives",  
"Agricultural Federation Statistical Table", and "Business Reports  
by Zenno"  
Ministry of Agriculture, Forestry and Fisheries

Note: Figures shown above for Zenno(2) were those available as of the end  
June of fiscal 1992.

Table 8 Farmers' utilization rates of agricultural cooperatives for marketing purposes (as of FY 1993)

(unit: %)

Rice and wheat	Vegetables	Fruits	Livestock products
95	54	72	47

Source: \* Food Agency for the figures of rice and wheat.  
 \* For other items the figures were obtained by the following formula:

The amount handled by agricultural cooperatives in the "STATISTICS ON MULTI-PURPOSE AGRICULTURAL COOPERATIVES" were divided by the amounts marketed of farm products in "ECONOMIC COMPUTATION OF INDUSTRIES RELATED TO AGRICULTURE AND FOOD" (Ministry of Agriculture, Forestry and Fisheries)

Note: The amounts of livestock products are the total of milk, chicken eggs, broilers, beef cattle and hogs for meat.

Farmers' utilization rates of agricultural cooperatives for purchasing of major agricultural production materials are:

90 % or more for fertilizers  
 70 % for agricultural chemicals  
 53 % for agricultural machinery  
 38 % for feeds

Table 9 Farmers' utilization rates of three-tier agricultural cooperatives for purchase of major agricultural production materials (as of FY 1993)

(unit: %)

Cooperatives Classification	Agricultural cooperatives	Keizairen(1)	Zenno(2)
Feeds	38	33	33
Fertilizers	91	81	70
Agri. chemicals	70	51	46
Agri. machinery	53	42	27

Keizairen(1): Prefectural Economic Federations

Zenno (2) : National Federation of Agricultural Cooperative Associations

Source : Zenno

Notes: (1) Farmers' utilization rates of three-tier agricultural cooperatives represent the percentage of amounts handled by the respective cooperative organizations with the total amount purchased by farmers represented as 100.

(2) The differences between the agricultural cooperatives and Keizairen and between Keizairen and Zenno are due to purchases from the outside of these respective cooperative organizations.

### (3) Credit activities

The major functions of the credit activities are receiving and maintenance of savings from and for cooperative members and the lending of funds for agricultural operations and home life, including discounting of notes, guarantee of debts, domestic/foreign exchange transactions. All of these functions come under the credit activities.

Since it is possible that one cooperative may not have adequate funds to function fully, the Metropolitan & Prefectural Federations of Credit Cooperatives accept savings from and lend funds to agricultural cooperatives so that they may coordinate seasonal and regional excesses and shortages of funds among agricultural cooperatives.

Further, the Central Bank for Agriculture and Forestry coordinates excesses and shortages of funds among the federations of credit cooperative and, in addition, deals with other types of financial institutions and makes securities transactions.

Owing to the nature of agricultural production, long-term low interest loans need to be made, and there is an institutional system whereby government funds are utilized by way of the agricultural cooperatives.

The present credit activities of agricultural cooperatives recognizes that although total savings at agricultural cooperatives have been increasing year by year, the rate of increase has been declining, affected mostly by the sluggish economic conditions for farmers and intensification of competition among financial institutions.

Lending of funds remains slow, reflecting sluggish growth in agricultural investment against a backdrop of weak demand for agricultural products; for that reason, deposits at metropolitan and prefectural credit federation of agricultural cooperatives are increasing.

The ratio of loans to savings (amount of loans outstanding compared to savings outstanding) is 28.1% as of the end of Fiscal ~~1991~~ 1993.

Table 10 Raising and operation of funds  
by agricultural cooperatives

(unit:10 billion yen, 7)

Description / FY	1975	1980	1985	1990	1991	1992	1993	Component percent
Total funds raised	1,688	2,973	4,235	5,919	6,391	6,643	6,889	100.0
Savings	1,523	2,685	3,874	5,611	6,063	6,293	6,542	95.0
(of which, savings) (with free-type ) (interest rate )	--	--	20	2,679	2,293	2,915	3,620	52.5
Loans	42	209	223	143	135	124	114	1.7
Total funds operated	1,688	2,973	4,235	5,919	6,391	6,643	6,889	100.0
Lendings	798	1,136	1,267	1,439	1,592	1,743	1,839	26.7
Deposits	715	1,513	2,704	4,048	4,361	4,506	4,633	67.2
(of which, handled) (by three-tier ) (cooperative ) (organizations )	697	1,513	2,670	3,800	4,246	4,416	4,544	66.0
Securities, etc.	77	194	186	382	400	415	444	6.4

Source: "Trial balance sheet for amounts outstanding" Central Bank for  
Agriculture and Forestry

Note: "Securities, etc." means and includes negotiable securities, money  
in trust and monetary credits.

#### (4) Mutual insurance activities

The mutual insurance activities are organized into a system whereby cooperative members pay and compensate jointly for damage when a disaster strikes a member, so that the stricken farmer can maintain stability in agricultural operations and livelihood. Both a long-term mutual insurance (long-term mutual insurance whereby a member will receive a specified payment if stricken by a disaster or when the mutual insurance expires) and a short-term mutual insurance (short-term insurance whereby a member will receive a specified payment if stricken by a disaster) are available.

A mutual insurance contract is first concluded between and by an agricultural cooperative and a member who wants to subscribe the mutual insurance. However, inasmuch as it is not possible for an agricultural cooperative alone to conduct the mutual insurance business, the agricultural cooperative will reinsure it to the metropolitan and prefectural insurance federations of agricultural cooperatives, and they, in turn, reinsure part of it to the National Mutual Insurance Federation of Agricultural Cooperatives so as to ensure the payment.

The major types of mutual insurance undertaken by agricultural cooperatives are long-term mutual insurance for life and endowment and building restoration coverage and short-term mutual insurance for automobiles.

The amount of the outstanding long-term mutual insurance as of the end of fiscal 1993 was ¥343 trillion, of which life and endowment coverage amounted to ¥181 trillion (52.8%) and building restoration coverage was ¥115 trillion (33.5%), which together account for 86.3% of the total.

Table 11 Amounts of outstanding insurance contracts of the mutual insurance business of agricultural cooperatives

(unit: 10 billion yen)

Classification Fiscal year	Amounts of outstanding long-term mutual insurance contracts			Amounts of outstanding short-term mutual contract (premiums)
		Life and endowment	Bldg. restoration	
1975	4,290	3,103	1,134	6,176 (9)
1980	12,211	8,228	3,925	36,064 (19)
1985	21,204	14,306	6,774	— (29)
1990	29,885	18,098	9,748	— (36)
1991	31,384	18,171	10,304	— (37)
1992	32,831	18,137	10,897	— (39)
1993	34,299	18,059	11,542	— (39)

Source: National Mutual Insurance Federation of Agricultural Cooperatives

Notes: (1) Long-term mutual insurance includes life and endowment and building restoration coverage and others.

Short-term mutual insurance includes fire, casualty and automobile coverage.

(2) The amount of the outstanding short-term mutual insurance contract as from FY 1985 onwards was not mentioned in the above chart but only the amount of premiums since the insurance contract amount for automobile coverage was no longer restricted (up to skyrocketing amount) as from FY 1984.

#### 4. The Business Situation of Agricultural Cooperatives

(1) The amounts handled by the business operations of agricultural cooperatives show that the rates of increase have remained low as a whole, affected mainly by sluggish agricultural production and intensified competition with other competitors.

Table 12 Summary of amounts handled by multi-purpose agricultural cooperatives

(unit: 100 million yen)

Fiscal year (FY)	Marketing business		Purchasing business			Credit business		Mutual insurance business	
	Amounts marketed		Amounts supplied			Savings	Lendings	Amounts of outstanding long-term mutual insurance contracts	Short-term mutual insurance premiums
		(of which) Rice		(of which) Production materials	(of which) Consumer goods				
1975	45,167	21,835	30,333	21,525	8,807	141,271	74,878	428,979	838
1980	55,009	19,766	47,004	32,025	14,979	254,376	106,362	1,221,051	1,859
1985	66,931	25,894	52,279	33,726	18,553	370,834	122,893	2,120,354	2,878
1990	64,113	20,027	52,111	31,902	20,209	532,540	136,855	2,988,452	3,603
1991	63,492	18,895	53,575	32,494	21,081	580,433	149,155	3,138,417	3,725
1992	62,123	20,129	53,603	32,410	21,194	613,411	164,858	3,283,087	3,924
1993	59,335	17,607	52,533	31,648	20,885	639,148	177,448	3,429,949	3,938

Source: "Statistics on Multi-Purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

Note : As regards the credit business, figures are the monthly average balances outstanding as of the end of month.

- (2) In order to satisfy the needs of cooperative members, the volume of business handled by agricultural cooperatives have been increasing, and in consequence, the number of staff members has also been increasing.

Agricultural cooperatives have recently begun to actively embark on new business (such as processing and marketing of higher value-added agricultural and livestock products) and this is one of the reasons why the number of staff has increased.

Table 13: Changes in the number of staff members at multi-purpose agricultural cooperatives

(unit: person)

Fiscal year	1975	1980	1985	1990	1991	1992	1993
Total number of staff members	271,199	286,377	297,095	297,459	298,024	300,162	300,918
Councilors	3,304	3,308	3,211	2,907	2,817	2,647	2,430
Farm advisors	16,244	18,661	19,001	18,938	18,496	18,258	17,880
Home life advisors	2,062	2,571	2,882	3,125	3,092	3,068	3,057

Source: "Statistics on Multi-Purpose Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

- (3) A survey of agricultural cooperative operations by business field indicates that all fields of business except for credit and mutual insurance business are running into deficit. Circumstanced as such, agricultural cooperatives are dependent for their earnings on these two major fields of business.

Table 14 Profit and Loss classified by business field  
of multi-purpose agricultural cooperatives  
(Total Average)

(unit: million yen. ¥)

FY	1980	1985	1990	1991	1992	1993	
No. of cooperatives survey conducted for (Business Fields)	(290)	(295)	(287)	(269)	(248)		Contri- bution ratio
CREDIT	66	102	121	115	93	46	64.7
MUTUAL INSURANCE	28	59	88	89	93	113	160.8
PURCHASING	△ 13	△ 24	△ 36	△ 35	△ 35	△ 32	△ 46.1
MARKETING	△ 14	△ 14	△ 22	△ 23	△ 24	△ 20	△ 28.0
WAREHOUSING	△ 5	△ 7	△ 8	△ 9	△ 10	△ 9	△ 12.6
PROCESSING	△ 9	△ 8	△ 13	△ 16	△ 15	△ 18	△ 25.8
OTHER BUSINESS	△ 8	△ 7	△ 7	△ 5	△ 5	△ 9	△ 13.0
Total	55	101	123	117	97	70	100.0

Source: "Business Analysis Survey of Agricultural Cooperatives"  
Ministry of Agriculture, Forestry and Fisheries

Note: Contribution ratio is percentage contribution computed by  
dividing net profit and loss of each business field by the  
total amount of net profit and loss.

## 5. Guidance and Supervision of Agricultural Cooperatives by Administrative Agencies

Agricultural cooperatives are autonomous cooperative organizations of working farmers, designed to be run according to the will of such working farmers. However, their credit and mutual insurance businesses have a distinctive and strong public nature and are deeply concerned with the interests of the farmers. Therefore, it is of great importance to ensure sound management of agricultural cooperatives. For this reason, administrative agencies are engaged in the guidance and supervision of agricultural cooperatives, as specified in the following, within the limits of necessity in compliance with the laws and ordinances concerned.

### (1) AUTHORIZATION AND NOTIFICATION

Establishment of a cooperative, changes in the charter, resolution of merger and dissolution must be authorized by the administrative agency concerned.

Establishment of an agricultural management body corporate must be notified to the administrative agency concerned.

(2) APPROVAL

All rules and regulations provided for the mutual insurance activities, credit activities and housing land trust activities as well as auditing rules (of Central Union) must be approved by the administrative agency concerned.

(3) REPORTING

The administrative agency concerned can have access to any necessary reports so as to determine whether or not the agricultural cooperative concerned is observing and complying with the laws and their charter. The agency may also ask and order the cooperative concerned to submit any supporting documents if deemed necessary.

(4) INSPECTION

Business and/or accounting records of the agricultural cooperative concerned may be checked and inspected by the competent administrative agency in the event:

- 1) cooperative members (or associate members) request the agency to conduct such inspection;
- 2) the agency considers it necessary because the agricultural cooperative has made a breach of or violated the relevant laws and ordinances;
- 3) the agency considers it necessary to make an inspection for an agricultural cooperative that is going to commence credit and/or mutual insurance activities;
- 4) a regular inspection is required for an agricultural cooperative or Central Union that undertakes business outside the region (urban and rural prefectures) in which the cooperative is authorized to conduct the credit and mutual insurance activities.

(5) SPECIAL AUDITING AND NOTICES/ORDERS

If and when deemed necessary, the competent administrative agency has right to revise and/or modify the provisions of the charter and rules/regulations of an agricultural cooperative and also to notify officially and/or order such cooperative to suspend the business.

(6) NOTICES/ORDERS TO TAKE NECESSARY MEASURES

Upon collection of reports and completion of inspections, if considered necessary, the competent administrative agency may officially notify and/or order the agricultural cooperative concerned to take all necessary measures to rectify as so advised.

In the event of any breach of and/or non-compliance with any of the above official notification and orders by any agricultural cooperative, the administrative agency concerned may take such action as prescribed in items (7) through to (10) below:



(7) ORDERS TO SUSPEND BUSINESS

The agency concerned has right to officially notify and order the agricultural cooperative concerned to suspend its operations in whole or in part for a certain period of time as decided by the agency.

(8) ORDERS TO HOLD AN ELECTION OF OFFICERS

The agency concerned has right to officially notify and order the agricultural cooperative concerned to hold an election of officers on such a date as decided by the agency.

(9) REVOCATION OF APPROVAL

The agency concerned may revoke the approval given formerly to the agricultural cooperative concerned with respect to the rules and regulations of mutual insurance activities and other activities.

(10) ORDERS FOR DISSOLUTION

An administrative agency has the right to officially notify and order an agricultural cooperative to dissolve its organization if and when:

- 1) the agricultural cooperative concerned is engaged in business activities other than ones stipulated and approved under the relevant laws and ordinances:
- 2) the agricultural cooperative concerned ceases to operate for more than one (1) year and/or is not intending to commence its operations within not more than one (1) year with no justifiable reason.
- 3) the agricultural cooperative concerned has failed to observe and comply with an order provided in the preceding section [6].  
(It is understood, however, that prior to giving notice or order for dissolution, the administrative agency concerned provides the cooperative concerned with the opportunity to vindicate and/or exculpate itself from the alleged charge, and in addition, hears opinions and comments from the cooperative's Central Union).

(11) REVOCATION OF RESOLUTION, ELECTION AND APPOINTMENT

An administrative agency may revoke resolutions passed, election and appointment of officers effected in the event a request for such revocation is submitted by the cooperative members based on the consent obtained from more than one-tenth (1/10) of the members, or when it is proved and recognized by the agency that the agricultural cooperative concerned made a breach of or violated the provisions prescribed in the relevant laws and ordinances.

(12) REVOCATION OF EXCLUSIVE UTILIZATION CONTRACTS

An administrative agency may revoke any exclusive utilization contract if and when terms and conditions provided therein have been proved and recognized to violate and run counter to the public interests.

The supervising authorities of agricultural cooperatives are the Minister of Agriculture, Forestry and Fisheries, and the metropolitan and prefectural governors. However, a unitary agricultural cooperative in a city, town or village comes, in principle, under the jurisdiction of the metropolitan and prefectural governor. For other cooperative organizations, such as the federations of agricultural cooperative associations and the Central Union of agricultural cooperatives, the Minister of Agriculture, Forestry and Fisheries and his local representatives, the Director Generals of the Local Agricultural Administration Bureaus, have a supervisory capacity, including rights to inspect and audit.

Agricultural cooperatives that accept savings and/or installment time deposits come under the supervision of the Ministry of Finance.

# Outline of Cooperative Agricultural Extension Service in Japan

1993

Extension and Education Division  
Agricultural Production Bureau  
the Ministry of Agriculture, Forestry and Fisheries

## CONTENTS

1. History of Agricultural Technical Guidance .....	F-67
2. Features of the Cooperative Agricultural Extension Service .....	F-69
(1) Cooperative work with the Ministry of Agriculture, Forestry and Fisheries (MAFF) and Prefectural Governments .....	F-69
(2) "Human" is a Target of the Service .....	F-72
(3) Unified Activities for Improvement of Agriculture and Home Life .....	F-72
(4) A Role as an Intermediater between Farmers and Experiment and Research Institutes .....	F-74
3. Outline of Cooperative Agricultural Extension Service .....	F-76
(1) System of Cooperative Agricultural Extension Service .....	F-76
(2) Extension Organization System .....	F-79
4. Outline of Extension Activity .....	F-85
(1) Change of Extension Activity and Subject .....	F-85
(2) Improvement of Extension Information System .....	F-88
(3) Coordination with Related Bodies .....	F-90
(4) Farmers who Assist Extension Service .....	F-90

### Reference

The Agricultural Improvement Promotion Law (Extract) .....	F-92
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## 1. History of Agricultural Technical Guidance

Although the development of agriculture depends largely on the progress of agricultural technology, there is a certain limit to the capacity of farmers for development and introduction of new technology as they are mainly run by family farms. For this purpose, development of agricultural technology and extension of its results are carried out mostly by public organizations such as the Government and prefectures. In development of agriculture, therefore, extension of technology is regarded as the most fundamental method in promotion of agricultural administration along with its development. The guidance of agricultural technology has been carried out on an organizational basis as a key measure in agricultural administration since 1868, playing an important role in increase of agricultural production and improvement of productivity.

The existing extension system was established in 1948 based on the Agricultural Improvement Promotion Law as cooperative agricultural extension service that is approached jointly by the Government and prefectures.

### ① Change of Agricultural Technical Guidance

- 1868 (Meiji 1) 1885 -- Inauguration of the itinerant instructor system (the first technical system in the government)
- 1893 -- Establishment of agricultural experimental stations in the national government and prefectures (these stations gave technical guidance for farmers as well as performed experimental activities)
- 1903 -- Appointment of agricultural technicians belonging to the agricultural association (state subsidy, the technicians numbered of 5,000 in 1912, 14,000 in 1935)
- 1945 -- Establishment of the agricultural technical guidance farm (about 1,000 farms)

1948 - Start of the cooperative agricultural extension service

## ② Change of Guidance on Home Life Improvement

Although there were home life improvement movements that emerged from farmers, there was no organized ongoing service until the cooperative agricultural extension service.

1868 ~ 1933

- Implementation of voluntary home life improvement by farmers (improvement in kitchens, improvement in marriage and funeral customs, installation of simplified water supply systems, keeping of housekeeping logs, regular holding of meetings, improvement in clothing, self-sufficiency in vegetables, improvement in nutrition conditions)
- Governmental guidances on home life improvement (recommendation of use of rice hulls as fuel for cooking stoves, survey of sanitary conditions in agricultural villages)

1925 ~ 1945

- Implementation of improvements for pregnant women, infant care, housing and nutritional diet
- Holding of lecture meetings for the enhancement of and culture primarily designed for women leaders

1948 • Start of the cooperative agricultural extension service

## 2. Features of the Cooperative Agricultural Extension Service

### (1) Cooperative work with the Ministry of Agriculture, Forestry and Fisheries (MAFF) and Prefectural Governments

From the viewpoint of stable supply of food which is the basis of national life, the Government needs to promote an extension service which is consistent throughout the country in accordance with the direction of agricultural administration including establishment of highly productive farm management, formation of lively rural community and conservation of national land and environment with consideration to the balance among prefectures.

Meanwhile, prefectures need to implement extension services in accordance with the direction of agricultural promotion in their respective prefecture while utilizing the regional characteristics to the full.

For this reason, extension services are being implemented as a cooperative project between the Government and prefectures under the Agricultural Improvement Promotion Law from the viewpoint that they need to be promoted by the Government and prefectures under a consistent policy while seeking compatibility between the agricultural administration tasks of the Government and the agricultural promotion tasks of the region.

- ① Programs in the service must be conducted according to guidelines defined by the Government consulting with the prefectural governments.
- ② The prefectural governments must establish extension offices and station qualified extension advisors in them.
  - Subject-matter specialists are stationed at agricultural testing stations or main prefectural government offices and offer guidance to extension advisors with regard to their respective area of specialization.

- Extension advisors belong to extension offices and carry out extension activities by getting in direct contact with farmers.
  - Prefectural farmer's academies are established as a part of extension service as training and education facilities for agricultural successors.
- ③ The governments must allocate financial support as expenses for the service to the prefectures, namely the cooperative Agricultural Extension Service Grants and Subsidies.

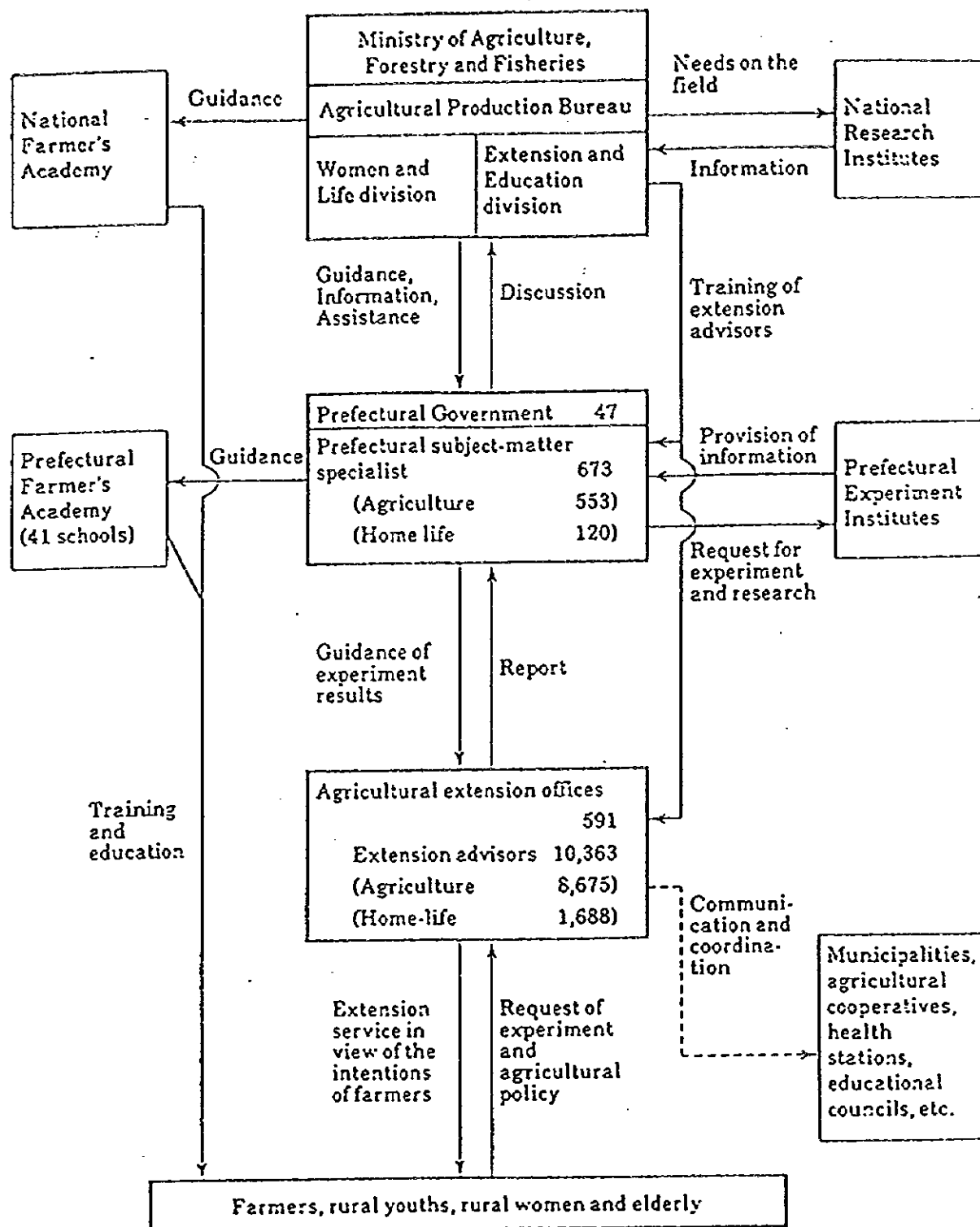
#### Change of Cooperative Agricultural Extension Service Budget

(Unit: 100 million yen)

	FY 1980	FY 1985	FY 1989	FY 1992
Budget for extension service (A)	371	373	367	361
Budget for agriculture (B)	31,080	27,174	26,891	25,105
(A) / (B) (%)	1.2	1.4	1.4	1.4



## System of the Cooperative Agricultural Extension Service



Note: Figures are from the beginning of FY 1993.

## (2) "Human" is a Target of the Service

Since the extent of the development of agriculture depends largely on the willingness and technical ability of each and every farmer, the cooperative agricultural extension service is implemented as a service for education of those farmers.

The base of the extension activities is to educate farmers so that they can approach improvement of farm management and farm life themselves.

For this reason, based on trust between extension advisors and farmers, the extension activities must offer guidance and advice on technology and management always in direct contact with farmers on the field, must be carried out continuously and systematically, and their contents must be suitable for the level of growth and development of farmers and their organizations.

In particular, for the farm youths who will lead farmers in future generation, extension activities which offer information for promoting employment in agriculture as well as training and voluntary group activities according to the level of their growth are implemented.

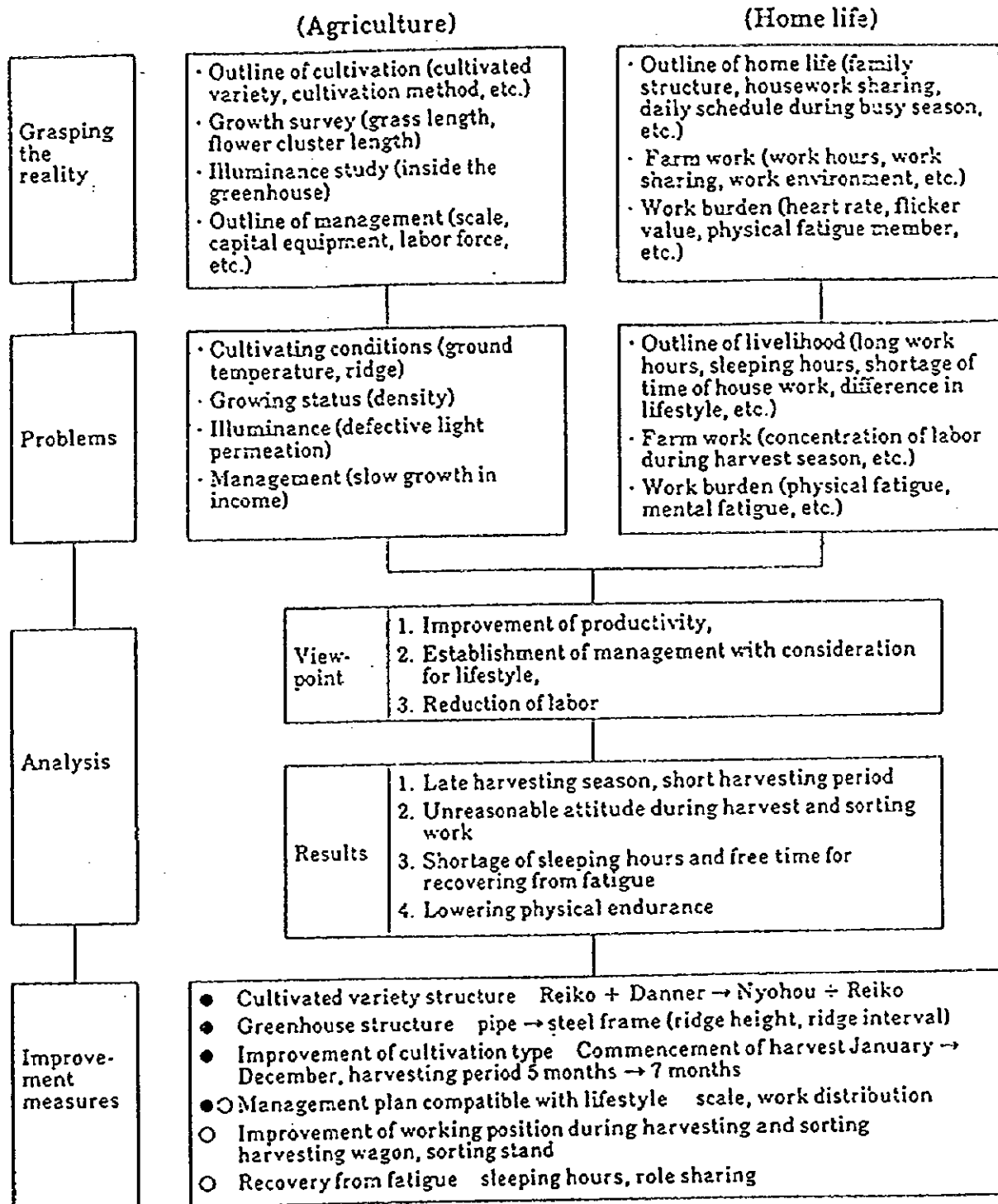
## (3) Unified Activities for Improvement of Agriculture and Home Life

Since agricultural production and rural home life have an extremely close relationship, it is necessary to improve production and livelihood at the same time for sound development and improvement of agriculture. For instance, there is a tendency for an excessive burden being placed on family members in Japan where family management is dominant.

An integrated policy that takes into account not only the improvement of work hours and working environment but also of home life hours is needed to solve this problem.

For this reason, the cooperative agricultural extension service is promoting improvement of agriculture and home life in a unified manner.

# An example of Unified Activities for Improvement of Agriculture and Home Life (extension service for strawberry farms)



(● : Agriculture-related, ○: Livelihood-related)

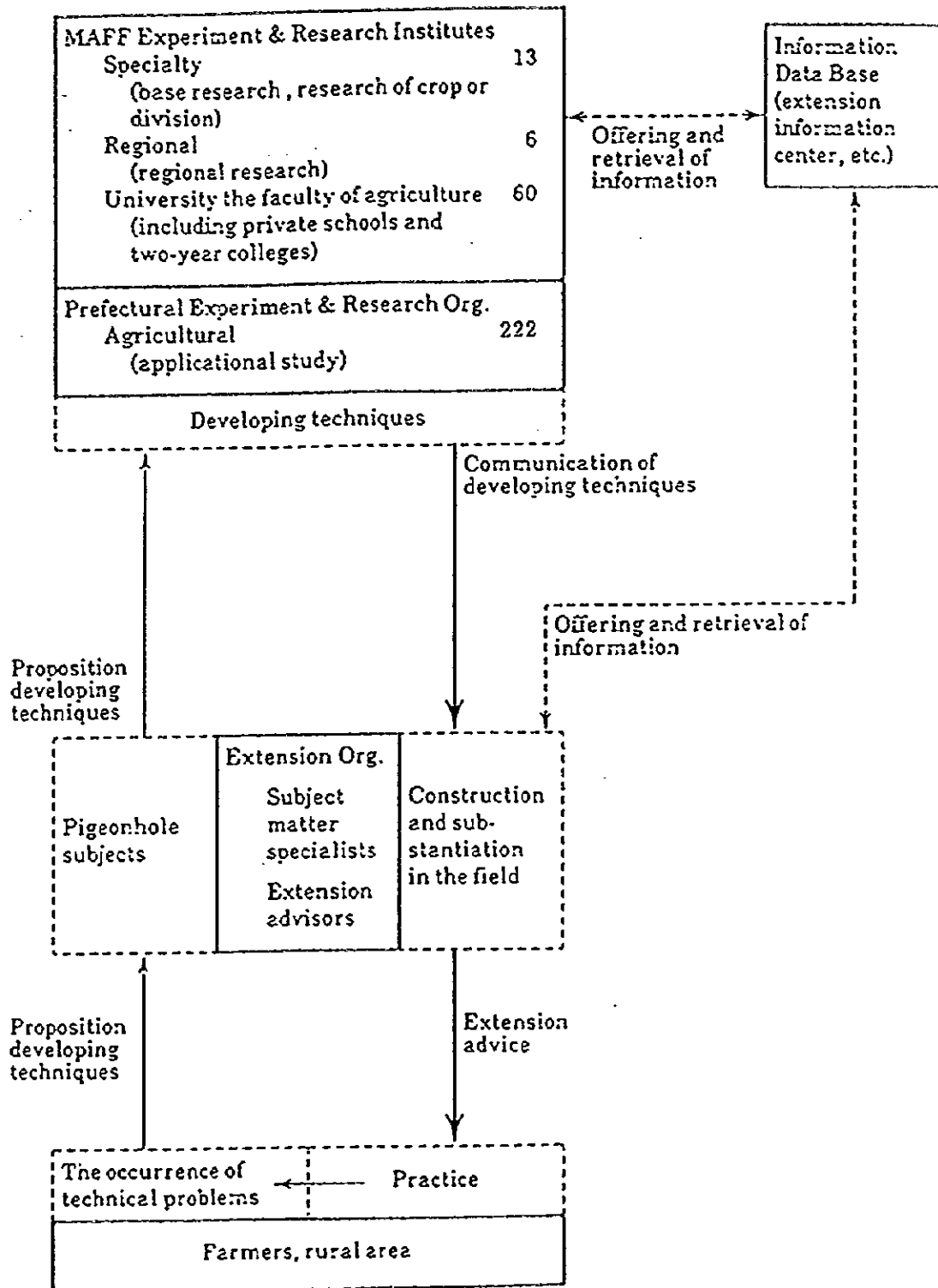
**(4) A Role as an Intermediater between Farmers and Experiment and Research Institutes**

- ① In view of the needs of the farmers and the region, the cooperative agricultural extension service is requesting technical development from experiment and research institutions while striving to disseminate the technology developed by such institutions with consideration for regional circumstances through corroboration of local adaptation and guidance tour.

In addition, in an effort to respond to the needs of the farmers and the regions that accompany the advancement of technology and diversification in recent years, efforts are being made to dispatch extension advisors for training at experiment and research institutions inside and outside the country and speed up the dissemination of technology through improvement and utilization of extension information database.

- ② In particular, subject-matter specialists are working closely with testing and research institutions in studying the matters of specialization while offering guidance on advanced comprehensive technology that matches the advancement of technology and management to extension advisors.

Chart of the Agricultural Developing Techniques and Extension Advice



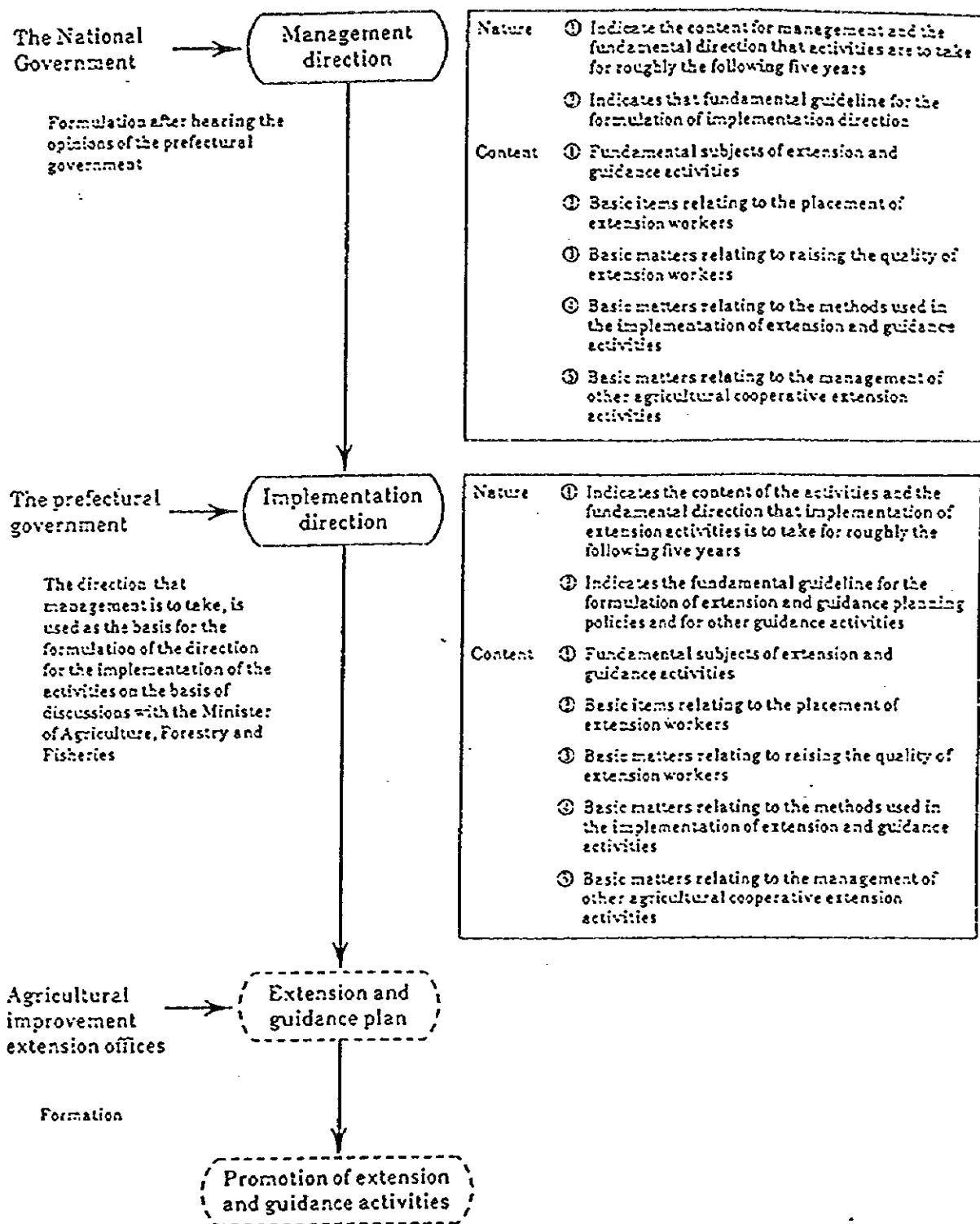
### 3. Outline of Cooperative Agricultural Extension Service

#### (1) System of Cooperative Agricultural Extension Service

##### ① Management direction and implementation direction

- When managing an extension service, it is important to maintain and improve the standard of extension service that is well-balanced among prefectures while giving priority to and improving the efficiency of extension service and striving to improve the quality of extension advisors. For this reason, cooperative agricultural extension service is managed according to the direction which is provided through discussion between the Government and prefectures.
- After gaining a hearing with the prefectural governments, MAFF sets up management direction stating what the extension service should do in the mid term run.
- On the part of the prefectural government they consult with the Minister over plans following the guidelines and then decide on the specific plans, while thinking of their farming environment and which area of farming they intend to promote and with which they will work out the service.
- Agricultural extension office prepares an extension service plan based on the implementation guideline and implements the extension service.
- Management of the foregoing extension service is carried out efficiently under a guideline that is consistent among the Government and prefectures.

## Chart of Management Direction and Implementation Direction



② MAFF's financial assistance to the prefectural government

A. A grant of Cooperative Agricultural Extension Service

- In order to facilitate the prefectural government to be devoted to the service with certain flexibility, the MAFF allocates them the Cooperative Agricultural Extension Service Grant - a standard fixed amount to make up for basic expenses when they strive for the service. The grant covers the expenses for the following items.

The Cooperative Agricultural Extension Service Budget  
- Actual Result in 1991 -

(Unit: million yen)

Item	Total cost	Grant	Grant/ Total grant (%)
1. Salary for extension staffs	72,284	29,987	91.6
2. Activity cost for extension staffs	2,949	1,060	3.2
3. Operation cost of extension offices	2,291	924	2.8
Office operation cost	1,931	761	
Purchasing cost of automobile	360	163	
4. Training cost for extension advisors	322	141	0.5
5. Assistance cost for rural youths activities	450	204	0.6
6. Founding and operation cost of educational institutes for farmers	1,024	434	1.3
Operation cost	849	355	
Maintenance cost	175	79	
Total	81,319	32,750	100.0

Percentage of the grant to the total cost is about 40%.



## B. Subsidy

The Government is offering subsidy to services that have high demand in terms of policy such as priority matters in agricultural administration and new tasks if they need to be guided under the initiative of the Government.

Major Expenses that are eligible for subsidy

1. Expenses needed for promotion of effective and efficient extension service
2. Expenses needed for fostering farm successors
3. Expenses needed for research and information activities concerning efficient operation of extension service
4. Expenses needed for international cooperation

## (2) Extension Organization System

### ① Posting of extension staff

Extension advisors and subject-matter specialists are posted at prefectures as staff engaging in extension service.

#### A. Extension advisers

The extension advisers are assigned to the Agricultural extension offices. They are engaged in the field extension and guidance service aimed at giving advanced techniques and knowledge of agriculture and home life to farmers through close personal contact.

In addition, some extension advisers work at prefectural farmer's academies for training and education of rural youths.

## B. Subject-matter specialists

Subject-matter specialists are assigned to either the Agricultural extension divisions of prefectural governments or the agricultural experiment stations. Not only they instruct extension advisers on know-how and managements but also conduct experiments and research in their special field.

### Number of Extension Staff

(April 1, 1993)

	Agricultural	Home life	Total
Subject matter specialist	553	120	673
Extension advisers	8,675	1,658	10,363
Extension staffs	9,228	1,808	11,036

## ② Qualifications for extension staffs

Prefectural governors appoint persons with certain qualifications as extensions advisers and subject-matter specialists based on the Agricultural Improvement Promotion Law.

### A. Extension Adviser

The extension adviser must have passed the qualifications test conducted by the prefectural governor after graduating from university. The qualification test for the extension advisers is conducted in accordance with the relevant prefectural ordinance; and in order to assure that the test will be conducted according to a unified nationwide method, the MAFF takes the necessary steps to prescribe the standards for conducting the test.

## B. Subject-matter specialists

The subject-matter specialists must have passed the qualifications test conducted by the minister of MAFF after being engaged in agricultural research, education or extension activities for a period of more than 10 years after university graduates.

## ③ Agricultural extension office

Agricultural extension offices are established based on the Agricultural Improvement Promotion Law and in accordance with prefectural provisions as organizations for playing a central role in the extension activities of extension advisors.

At present, there are 591 offices have been built throughout the country. While the jurisdiction and allocation of extension advisors differ from region to region, an average scale would be as follows:

### A. Average scale of an Extension office in 1991

Number of extension Advisors	Agriculture	14.4
	Home life	2.9
Number of municipalities		5.4
Number of farmers		About 6,300 households
Cultivated area		About 7,200 hectares

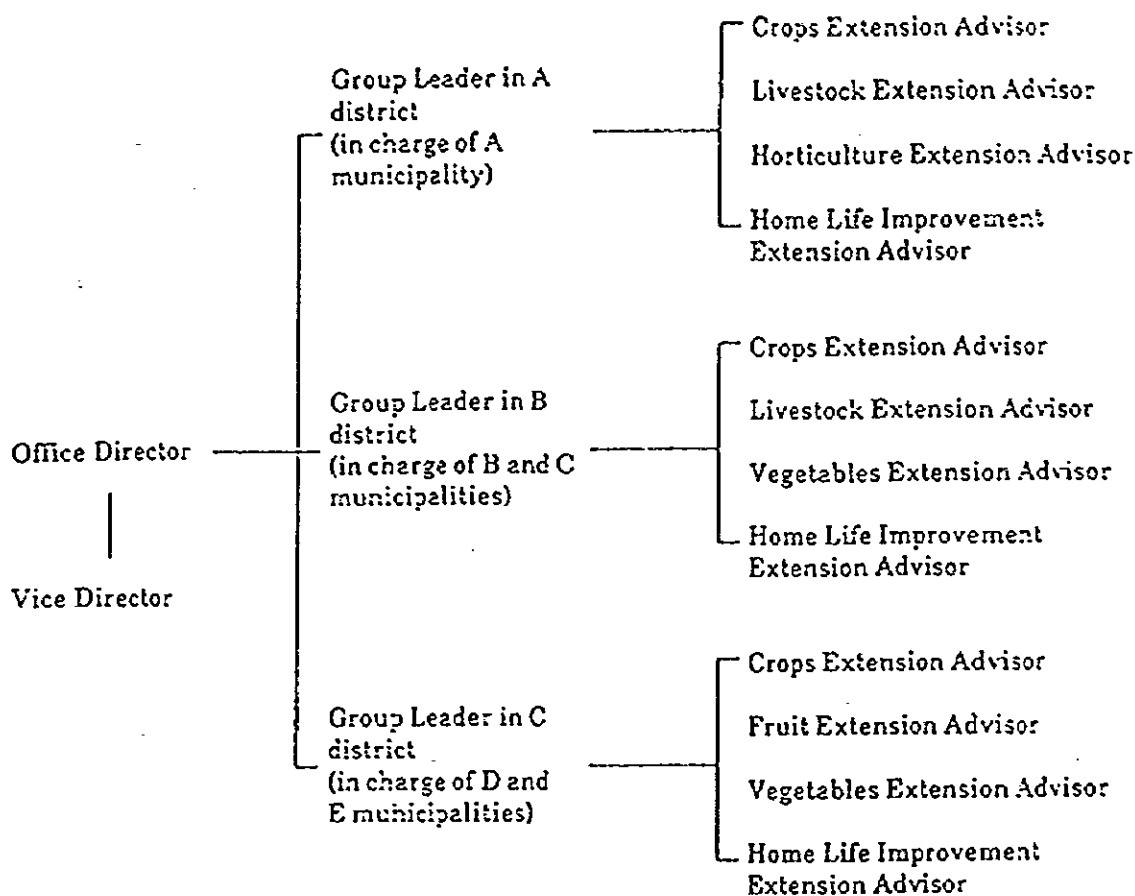
## B. Main Facilities and Instrumental Material of an Agricultural Extension Office

Facilities	Soil laboratory, Farmers Center, etc.
Cars for round services	About three extension advisers are equipped with one car.
Instruments for extension guidance	Information processing and audiovisual-related equipment: personal computer, facsimile, video machine, slide projector, OHP Analysis and diagnosis-related equipment: crop related equipment (chlorophyll meter, hand refractometer, microscope, self-recording hygrometer and thermometer, PH meter, EC meter, flame photometer, spectrophotometer, electronic balance, etc.), livestock-related equipment (supersonic meat quality inspection device, grass moisture meter, cattle measuring device), home life improvement-related (salt concentration gauge, calorie counter, etc.)
Demonstration farms	About 56 farms (area of a demonstration farm about 10 to 50 ares)

## C. Organization of an Agricultural Extension Office

Regarding the activities system in agricultural extension offices, extension service is offered through systems that match the agriculture condition in the jurisdiction of prefecture or agricultural extension offices.

(Example)



#### ④ Prefectural Farmer's Academy

Prefectural Farmer's Academy have been established as a lifetime learning center for farmers and consist of a fostering course and training course.

##### A. Fostering course

Fosters young farmers by offering 2 years of practical training and education to high school graduates. (41 schools and 2,151 students as of 1992)

- Specialized curriculum

Specialized curriculum	Specialization
Agricultural production	Rice and upland (craft) crop
Horticulture	Vegetable, fruit trees, flowering plants
Livestock	Dairy, beef cattle, pig raising, poultry
Home life improvement	Farm home life, home economics

- Staffs (1,217 as of 1991)

703 Advisory staffs (of which 210 are extension advisors), 514 others

#### B. Training course

Short-term training course is offered to farmers and rural leaders who are already engaged in agriculture (offered at 35 schools in 1992)

(Example)

Name of training course	Intended for	Period
Special training for farmers	Core farmers (by crop)	10 days
Special training on biotechnology	Core farmers	30 days
Farm machinery training	General farmers	30 days
Lecture on agricultural management	Rural youths	3 days × 10 times

#### 4. Outline of Extension Activity

##### (1) Change of Extension Activity and Subject

- In response to the needs of the times, the cooperative agricultural extension service has been developing its activities along the direction of policies for agriculture.

## Changes in Extension Activity

	1945 - 1954	1955 - 1964	1965 - 1974	1975 - 1984
	Age of small-size district	Age of intermediate-size district	Age of wide-area district	
Changes in extension activity (examples)	<ul style="list-style-type: none"> <li>• 2-4-D, dissemination of protected semi-irrigated rice nursery</li> <li>• Improvement of furnace and dissemination of nutritional food</li> </ul>	<ul style="list-style-type: none"> <li>• Reinforcement of technical guidance on livestock farming and horticulture</li> <li>• Collective cooking and collective child care during busy farming season</li> </ul>	<ul style="list-style-type: none"> <li>• Fostering of agricultural complex</li> <li>• Development of guidance based on scientific data such as soil diagnosis</li> <li>• Diagnosis of farming household living standard</li> <li>• Health management and labor optimization of family</li> </ul>	<ul style="list-style-type: none"> <li>• Organization of regional agriculture such as promotion of collective crop conversion and corresponding life improvement activity</li> <li>• Improvement of agricultural working conditions</li> <li>• Promotion of activities by the rural elderly</li> </ul>
Back-ground of changes	<ul style="list-style-type: none"> <li>• Increase in food production</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of agricultural technical standard</li> <li>• Advancement of municipality merger</li> <li>• Collective farm work</li> </ul>	<ul style="list-style-type: none"> <li>• Extension of agricultural economic zone</li> <li>• Advancement of agricultural technology and management</li> <li>• Progress of major production center formation in agriculture</li> <li>• Advancement of part-time farmers and mixed residence</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of productivity</li> <li>• Reorganization of agricultural production</li> <li>• Improvement of agricultural structure</li> <li>• Improvement of rural life environment</li> </ul>

Number of extension offices (budget quorum)	2,120 offices	1,586	635	635
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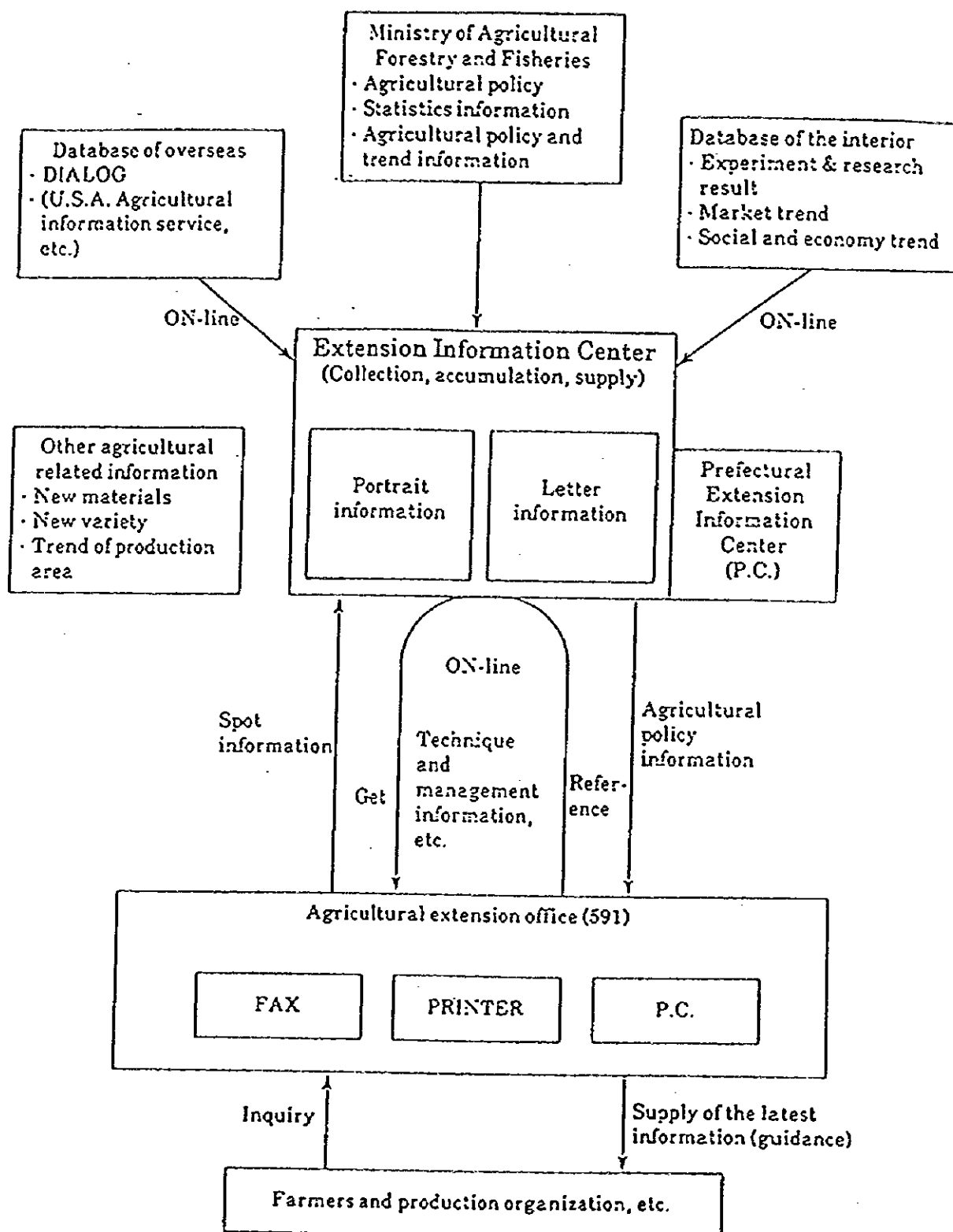


- Priority in extension activity is given to core farming households and to those that are aiming to become such households.
- In setting the target for extension activity at agricultural extension offices, the opinions of farm workers are actively heard to respond to the needs of farmers to select subjects that have high importance and urgency for each region.
- Basic tasks in extension activity
  - 1) Extension of advanced and progressive technology in response to the development of technological innovation.
  - 2) Fostering of farmers with excellent management skills in response to internationalization.
  - 3) Establishment of low cost rice paddy cultivation through improvement of the agricultural production system.
  - 4) Fostering of high value-added farming and development of new purpose of agricultural and livestock product.
  - 5) Fostering and securing of skilled agricultural successors of the future generation.
  - 6) Establishment of new agricultural management aiming for attractive life.
  - 7) Realization of comfortable living environment through utilization of uniqueness of agriculture and rural area.

## (2) Improvement of Extension Information System

- Work is under way to develop a national network of extension information through improvement of the information system that connects the Government, prefectures and extension offices.
- Agricultural extension offices are positioned as regional information center and are collecting and offering the latest technical information and trends in local agriculture.

(Reference) Outline of Extension Information Network System



### (3) Coordination with Related Bodies

#### A. Establishment of Agricultural Improvement Extension Promotion Council

The agricultural improvement extension promotion council has been established to examine the extension activity plan and evaluate activity results with the participations of extension offices and representatives of related bodies, organizations and municipalities to effectively promote extension services that meet the needs of the region.

#### B. Establishment of Agricultural Technician Council

The agricultural technician council comprised of the persons in charge of business at related bodies and organizations has been established on the municipal level to clarify the actual role sharing for the subject of guidance and to discuss and exchange information for leveling and advancement of the technical standard with regard to guidance activity.

### (4) Farmers who Assist Extension Service

#### A. Senior agriculturist 指導農業者

- Senior agriculturists are certified by prefectural governors for those who are playing a leadership role in fostering of rural youth while engaging in agriculture with excellent management skills.
- Senior agriculturists are working as leaders in promotion of regional agriculture by fostering rural youths including acceptance and training in their farm.
- Number of persons certified in 1991: 6,279 (of which 168 were women) (ages between 35 and 60)

## B. Junior agriculturist

- Junior agriculturists are certified by prefectural governors for those who meet certain the requirement as persons who offer encouragement and goals to rural youths.
- Junior agriculturists are working as leaders of agricultural youth clubs while aiming to establish their farm management.
- Number of persons certified in 1991: 10,394 (of which 124 were women) (ages between 25 and 35)

## Appendix 1

### The Agricultural Improvement Promotion Law (Extract)

Enacted July 15, 1948

No. 165

#### Chapter 1. General Rules

##### *(Purpose of the Law)*

##### Article 1

The law is designed to aim at giving farmers beneficial, adequate and practical knowledge concerning several aspects of Agriculture and by means of exchanging and extending the acquired knowledge to intend to increase in public welfare, all in the interest of development of efficient farming method, increase in productivity as well as improvement of farmers' livelihood.

- 2) This does not apply to experiment and research as well as extension service related to sericulture.

#### Chapter 3. Promotion of Extension Service concerning Agriculture

##### *(Purpose of Assistance)*

##### Article 13

The government shall allocate the Cooperative Agricultural Extension Service Grants to the prefectural governments according to the regulations mentioned in this chapter in order to promote the extension service regarding Agriculture for which both the Ministry of Agriculture, Forestry and Fisheries and the prefectural governments are responsible, so that farmers

can acquire and extend beneficial and practical knowledge, and as a result: they can apply it effectively.

- 2) The law should not be understood that it has any intention to stop or discourage the other extension service activities supported by individual donations or agricultural cooperatives or non-government organizations.

*(Content of the Cooperative Agricultural Extension Service)*

Article 14

The Cooperative Agricultural Extension Service with the grants allocated according to the provision in this chapter covers the following items:

1. To position subject matter specialists and extension advisors
2. Subject matter specialists and extension advisors to instruct and demonstrate to farmers how to improve farming and their way of life, making good use of such means as a guidance tour, circulation of publications, demonstration farms, holding lectures, introduction of effective equipments, and so on
3. To provide training for the rural youth, who will succeed to agriculture, about improvement of farming or their life required for them to manage modern and efficient farm management in training institutes for farmers
4. To foster and train extension advisors in agricultural training institutes. Such extension advisors shall collaborate with leaders or others in charge of rural youth organizations aimed at improving farming and farmers' life and subject matter specialists to develop farmers who commit themselves to make farming and their life better (Excluding the item mentioned in No. 3)
5. To improve facilities to fulfill the tasks in No. 3

2) The Minister of Agriculture, Forestry and Fisheries is to set up guidelines concerning operation of the Cooperative Agricultural Extension Service. The items which the guidelines cover are as follows:

1. Basic assignments concerning guidance activities of the extension service
2. Basic matters concerning positioning of subject matter specialists and extension advisors
3. Basic matters concerning upgrading capabilities of subject matter specialists and extension advisors
4. Basic matters concerning methodology of guidance activities of the extension service
5. Other basic matters concerning operation of the extension service

3) When deciding upon guidelines or revising them, the Ministry of Agriculture, Forestry and Fisheries must first of all gain a hearing with the prefectural governments.

4) Whenever the Minister fixes or corrects guidelines, he must inform the prefectural government about it immediately.

5) The Cooperative Agricultural Extension Service is to be practiced by the prefectural governments which are allocated the grants according to the regulations here along with the prefectures' plans on the basis of the guidelines.

6) The plans are to cover the following items:

1. Assignments of guidance activities for the extension service
2. Matters of positioning of subject matter specialists and extension advisors
3. Matters of upgrading of subject matter specialists and extension advisors; capabilities



4. Matters concerning methodology of guidance activities of the extension service
5. Others in regards to practicing the extension service
- 7) The prefectural governments mentioned in the item 5. when informed about the guidelines referred in the item 4. must determine or revise their plans immediately. The prefecture must deliberate over the guidelines with the Minister beforehand.
- 8) When the prefecture governments in the item 5. either set up or revise their plans, they must inform the Minister about them without delay.

*(Subject Matter Specialists and Extension Advisors)*

Article 14

Clause 2: The prefectural governments are to position subject matter specialists and extension advisors so as to carry out activities of the extension service defined at the No. 2. - 5. of the item 1. in the previous article.

- 2) Subject matter specialists are to perform all or part of tasks mentioned in the items of the previous article.
  1. They instruct extension advisors in their speciality besides making a study of it themselves in close contact with experiment and research institutes.
  2. They instruct extension advisors in methodology of the extension service as well as supervising outcome of the research stated in the above, being in touch with municipal governments, agricultural organizations and educational institutes.
- 3) The prefectural governments must take necessary measures to enable the research activities by the subject matter specialists, who are responsible for the duties in addition to the research as mentioned in the No. 1 of the previous item, and the research activities for the sake of the extension service by

prefectures' own institutes in the No. 2 of the item of the previous article to be performed with good coordination.

- 4) Extension advisors are to belong to extension offices and to be in charge of extending scientific technique and knowledge in terms of farming and farmer's life improvement plus providing guidance about them for farmers, with having direct contact with farmers. However, the extension advisors being responsible for the training programs exclusively given at the No. 3 of the item 1 in the previous article shall not be reassigned to belong to farmer's training institutes.

*(Qualifications for the Positions of Subject Matter Specialists and Extension Advisors)*

#### Article 14

Clause 3: To be subject matter specialists or extension advisors, they must satisfy qualifications stipulated by the cabinet orders.

*(Training for a subject matter specialist and extension advisors)*

#### Article 14

Claus 4: Governors of the prefectural governments must endeavor to provide subject matter specialists and extension advisors well-planned training programs so as to increase in their technique and skill required.

*(Agricultural Extension Service Allowance)*

#### Article 14

Clause 5: The prefectural governments are able to give the agricultural extension service allowance to subject matter specialists and extension

advisors in line with the ordinances if their working conditions meet the requirements of the cabinet orders.

- 2) According to the provision in the previous item, the amount of allowance for those eligible shall be within 8/100 of monthly pay for subject matter specialists, and within 12/100 of monthly pay for extension advisors, each being multiplied to the respective salaries defined by the ordinances.

*(Extension offices)*

#### Article 14

Clause 6: The prefectural governments are to set up extension offices

- 2) Offices are to coordinate clerical work related to activities engaged by subject matter specialists and extension advisors given in the clause 2 - 4 of the article 14 as well as being in charge of paperwork in relation to the comprehensive extension service.
- 3) The ordinances provide extension offices location, name and jurisdiction.
- 4) An extension advisor shall be assigned to a director of an extension office.