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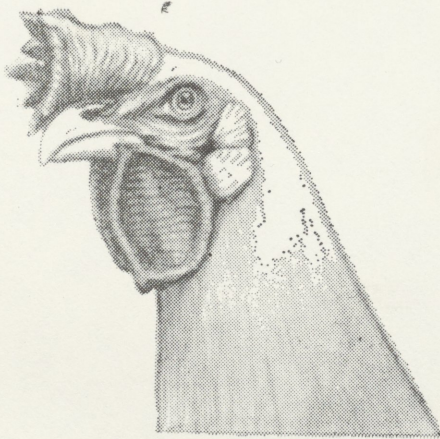
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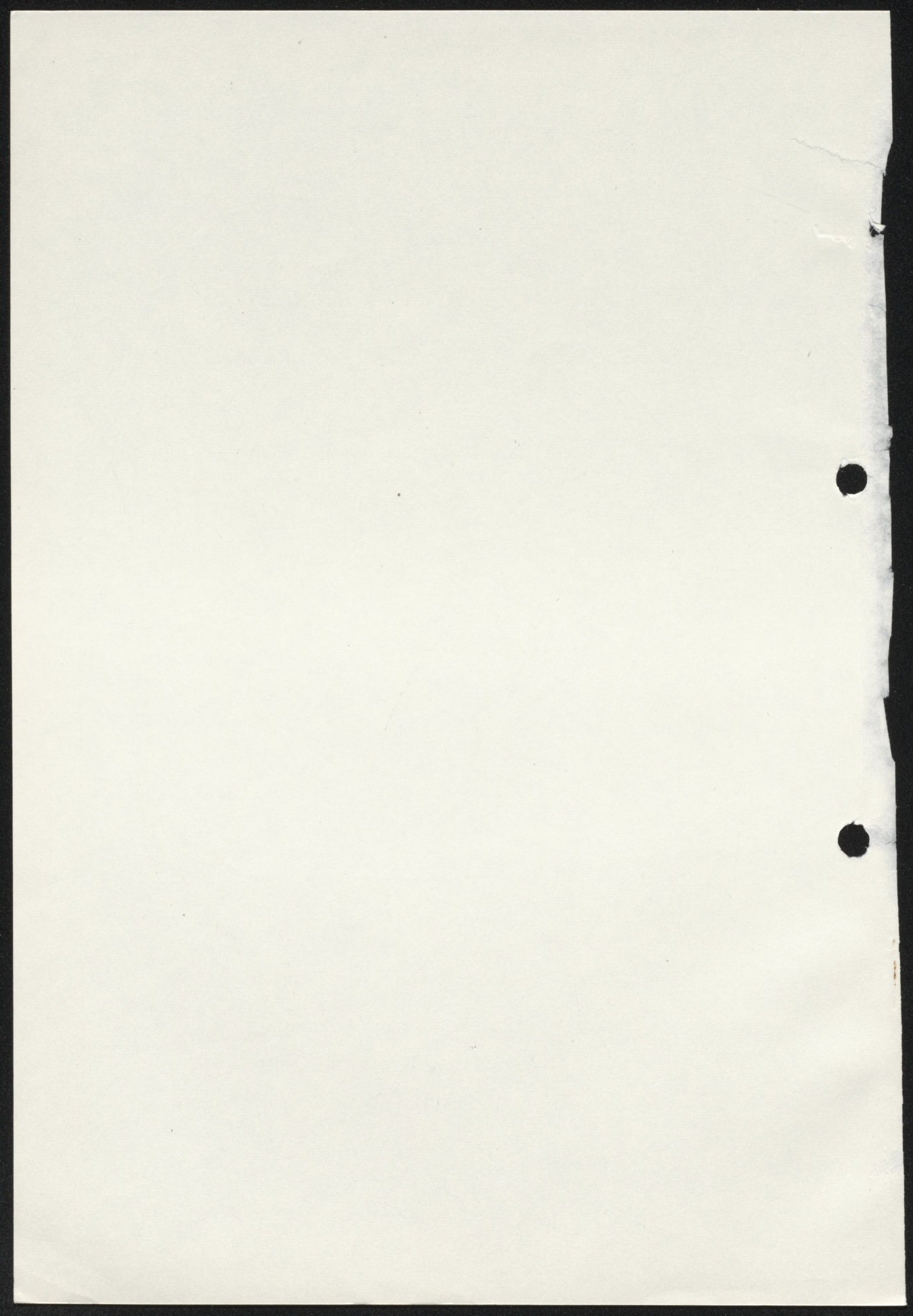
FARM ECONOMY ANALYSIS REPORT

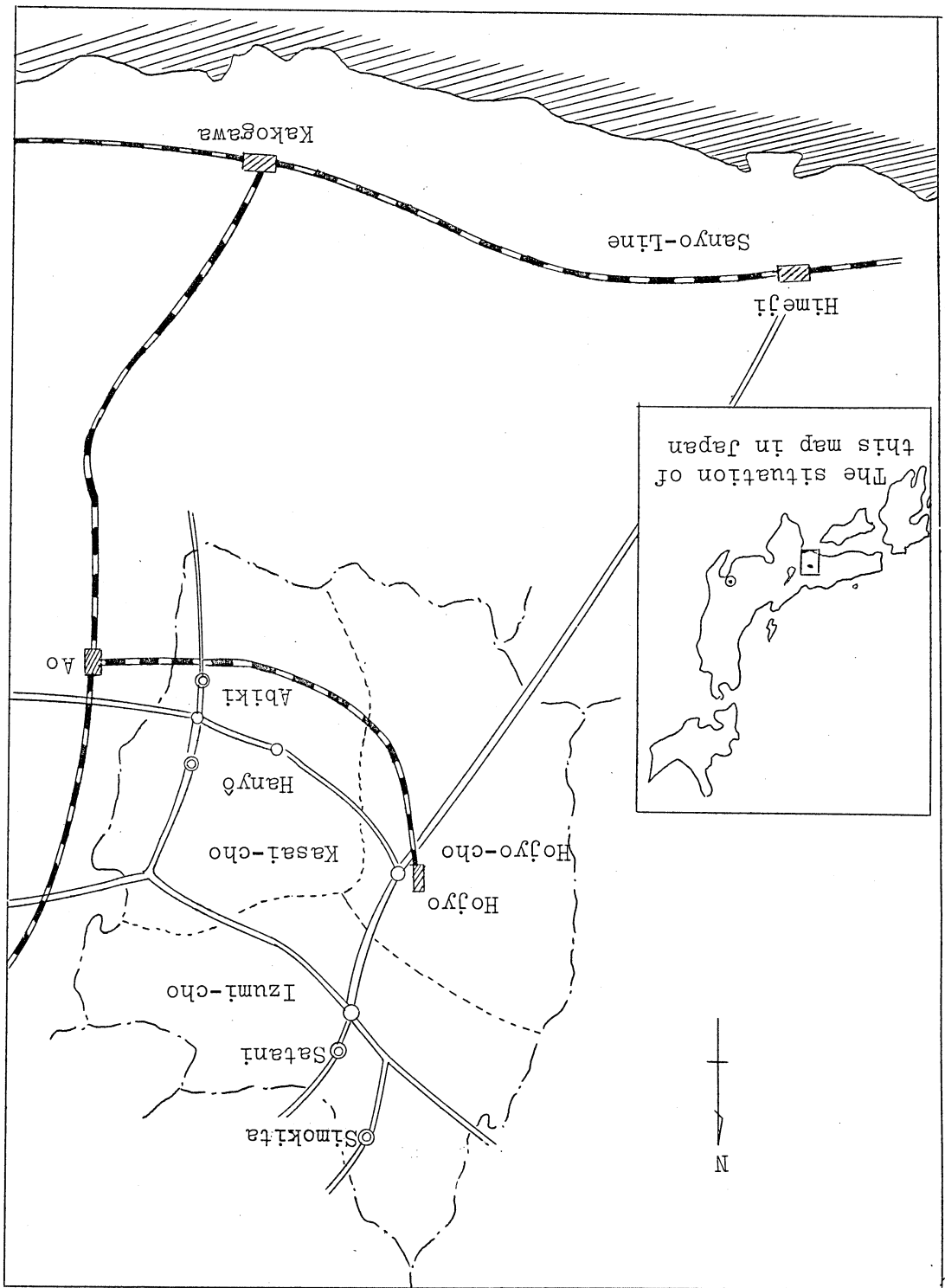
From The Results of 15 Simplified Farm Records

—Poultry Farms in Kasaicho, Hyogo Prefecture—



Research Institute of Farm Accounting
Faculty of Agriculture, Kyoto University
Japan





LOCATION OF FARMS



A systematic analysis of farm records kept by farmers provides much useful information. Farmers use this information in studying and planning their individual farm operation. Farm management workers use the results in teaching farmers and in considering future development of agriculture.

Our Institute each year sponsors a farm accounting project for a group of farmers in The Kinki District. This project has been in progress since 1927. Emphasis has been placed on individual analysis. In addition to this we have a new project "How to use the results of farm book-keeping." It is sponsored by "The Agricultural Development Council, Inc. (U.S.A.)." The purpose is to establish a method to make practical use of the results of records kept by farmers.

This report shows the results of poultry farm analysis under the new project. In addition to the statistical data we try to give some clue as to farm management improvement to book-keeping farmers and extension workers. We expect that the extension of such methods will contribute to the development of farming in The Kinki District and on a wider, nation-wide scale.

This project was under the supervision of Prof. M. Kuwahara, Head of this Institute. Closing of the records and analysis of the results were done by the Institute staff T. Kikuchi, T. Katsura. Some extension workers in Kasai District helped farmers to keep and close records in cooperation with us.

September 1964

Research Institute of Farm Accounting
Faculty of Agriculture, Kyoto University

Method of Analysis Used

For this analysis, there were 15 farms who completed Simplified Farm Records devised by our Institute for the year 1963. All of them are poultry farmers in Kasaicho, Hyogo Prefecture. Each farmer's record was summarized and analyzed by our Institute according to the following three steps:

- (I) Analysis of farm family economy....including non-farm and living aspects
- (II) Analysis of farm business....dealing with farm business as a whole and excluding non-farm and living aspects
- (III) Analysis of poultry enterprise....dealing with only poultry enterprise extracted from farm business
- (IV) Change of measures for three years

The results of the analysis are shown in three ways.

- (1) Average for all farms....Averages and ranges of selected measures for all farms are shown to be compared with each farmer's own measures.
- (2) Average for groups....Averages of selected measures for each group of farms classified according to an important measure are shown to indicate the inter-relation of factor-effect, factor-factor, or effect-effect.
- (3) Dot representation for all farms....Each figure of selected measures for all farms is represented by dot to show weak or strong points of each farm as compared with the others.

Definition of Terms Used

Gross income of farm family

Revenue receipt plus Value products consumed by family plus Appreciation of fixed assets, including off-farm income of family members. Revenue receipt does not include sale of large livestock and trees. Appreciation of fixed assets means value of growth of large livestock and trees.

Revenue expense of farm family

Revenue expenditure plus Depreciation of fixed assets. Revenue expenditure does not include purchase of large machinery and livestock.

Net income of farm family

Gross income minus Revenue expense. This means the financial return to owned capital and labor and management of all family members, including non-farm.

Net farm income

Gross farm income minus Farm expense. Farm expense does not include interest paid. Net farm income means the financial return to farm capital including rented land and family labor and management worked on farm.

Farm labor income

Net farm income minus 6% Interest on farm capital.

Net return to poultry (enterprise)

Gross return to poultry minus Expense of poultry. Gross return includes the value of poultry products used by other enterprises, for example, hen droppings. Expense includes the value of supplies produced by other enterprises, for example, wheat. Net return to poultry means the financial return to capital invested and family labor and management used in poultry enterprise.

I ANALYSIS OF FARM FAMILY ECONOMY

Table I - 1 Resources of Farm Family Economy

	Average 15 farms	Average of 5 farms with the	
		highest net income	lowest net income
<u>Family member</u>			
Number in family	5.5	5.6	5.0
Male	2.5	2.6	2.2
Female	3.0	3.0	2.8
Man equiv. of family consumer*	4.4	4.6	3.9
<u>Operating land**</u>			
Ares of operating land	125.8	166.5	114.9
Ares of arable land	118.9	155.6	110.6
<u>Property***</u>			
	thousand yen (%)	thousand yen (%)	thousand yen (%)
Value of total assets	6,458(100)	7,649(100)	4,816(100)
Fixed assets	4,900(76)	5,326(70)	3,689(77)
Land	2,680(41)	3,181(42)	2,524(53)
Building	1,530(24)	1,703(22)	773(16)
Tree	436(7)	116(2)	72(2)
Livestock	92(1)	75(1)	163(3)
Machinery	162(3)	251(3)	157(3)
Flowing assets	629(10)	909(12)	434(9)
Cash & Credit assets	929(14)	1,414(18)	693(14)
Liabilities	125	155	100
Net worth (Total assets- Liabilities)	6,333	7,494	4,716

* years	0~7	8~14	15~60	61~70	71~
male	0.4	0.8	1.0	0.9	0.8
female	0.4	0.8	0.9	0.7	0.6

** includes rented land

*** farmer's own property at the beginning of the year

Table I - 2 Financial Summary of Farm Family Economy

	Average 15 farms	Average of 5 farms with the	
		highest net income	lowest net income
	thousand yen	thousand yen	thousand yen
<u>Gross income of farm family</u>	2,743.3	3,951.1	1,653.1
Revenue receipts	2,331.4	3,424.3	1,411.6
Value products consumed by family	214.6	243.0	159.8
Appreciation of fixed assets	46.8	20.5	40.2
Increase of poultry	150.5	263.3	41.5
<u>Revenue expense of farm family</u>	1,641.9	2,515.8	876.3
Revenue expenditures	1,516.1	2,360.5	752.3
Depreciation of fixed assets	125.8	155.3	124.0
<u>Net income of farm family</u> (Gross income - Revenue expense)	1,101.4	1,435.3	776.8
<u>Living expense</u>	525.8	713.2	425.0
Living expenditures	311.2	470.2	265.2
Value products consumed by family	214.6	243.0	159.8
<u>Living expense of family</u> (Living expense - Board of hired labor)	525.2	711.4	425.0
<u>Net surplus over living expense</u> (Net income - living expense of family)	576.2	723.9	351.8
<u>Other indicators</u>			
Farm index*	87.7%	92.4%	88.8%
	thousand yen	thousand yen	thousand yen
Net income per family consumer	259.2	327.9	210.7
Living expense per family consumer	122.2	156.9	114.2
Consumption ratio**	48.0%	49.5%	54.3%
Engel's coefficient***	39.0	33.8	41.4
Self supplied ratio of living expense	42.9	36.1	37.4
Self-supplied ratio of food & drink	63.6	62.4	58.6

* Percent gross farm income is of total gross income

** Percent living expense of family is of net income

*** Percent food and drink is of living expense

Table I - 3 Classification of Total Revenue* by Item

Item	Average 15 farms	Average of 5 farms with the	
		highest net income	lowest net income
	thousand yen (%)	thousand yen (%)	thousand yen (%)
Rice	440.3(17)	545.6(15)	451.4(29)
Other grain	25.0(1)	50.1(1)	10.1(1)
Vegetable	55.8(2)	127.0(4)	24.4(1)
Fruit	0.7(0)	0.4(0)	1.2(0)
Other crop	6.8(0)	4.0(0)	2.6(0)
<u>Subtotal of crop</u>	<u>528.6(20)</u>	<u>727.1(20)</u>	<u>489.7(31)</u>
Poultry	1,721.8(68)	2,639.2(72)	788.1(50)
Other livestock**	43.2(2)	3.4(0)	126.3(8)
<u>Subtotal of livestock</u>	<u>1,765.0(70)</u>	<u>2,642.6(72)</u>	<u>914.4(58)</u>
Forestry***	5.8(0)	3.5(0)	5.2(0)
Processed goods	13.4(1)	0.5(0)	39.6(3)
Property use****	104.2(4)	127.7(3)	60.9(4)
Wage	55.7(2)	104.9(3)	2.6(0)
Subsidy and gift	35.4(2)	51.9(2)	36.9(3)
Miscellaneous	37.9(1)	9.1(0)	22.1(1)
<u>Total revenue*</u>	<u>2,546.0(100)</u>	<u>3,667.3(100)</u>	<u>1,571.4(100)</u>

* Revenue receipt plus Value products consumed by family

** does not include sale of large livestock

*** does not include sale of tree

**** includes estimated dwelling rent for land and building

Table I - 4 Classification of Revenue Expenditure by Item

Item	Average 15 farms	Average of 5 farms with the	
		highest net income	lowest net income
	thousand yen (%)	thousand yen (%)	thousand yen (%)
Seed	7.3(0)	13.6(1)	3.6(0)
Fertilizer	32.2(2)	54.1(2)	21.5(3)
Chemical	9.1(1)	14.2(1)	4.8(1)
Feed	1,224.4(81)	1,871.7(79)	592.9(79)
Other supplies	7.6(1)	13.7(1)	2.7(0)
Livestock*	111.1(7)	181.7(8)	49.4(7)
Hired labor	7.0(1)	14.1(1)	6.3(1)
Machinery**	30.3(2)	53.7(2)	17.1(2)
Building***	5.2(0)	10.6(0)	0 (0)
Fuel and light	16.8(1)	28.7(1)	10.2(1)
Interest on debt	10.1(1)	12.6(1)	10.4(1)
Rent and Fee	5.9(0)	10.8(0)	4.0(0)
Irrigation charge	3.4(0)	3.5(0)	5.3(1)
Insurance	1.3(0)	1.4(0)	0.4(0)
Tax	32.0(2)	51.0(2)	18.8(3)
Miscellaneous	12.4(1)	25.1(1)	4.9(1)
<u>Total</u>	1,516.1 (100)	2,360.5 (100)	752.3 (100)

- * does not include purchase of large livestock
- ** does not include purchase of large machinery
- *** repair for maintenance

Table I - 5 Classification of Living Expense by Item

Item	Average 15 farms	Average of 5 farms with the	
		highest net income	lowest net income
	thousand yen (%)	thousand yen (%)	thousand yen (%)
Rice	85.3(16)	95.7(13)	68.6(16)
Other cereals	6.0(1)	6.8(1)	4.2(1)
Vegetable	14.4(3)	16.1(2)	13.9(3)
Fish, meat, egg, milk	50.2(10)	57.8(8)	50.7(12)
Seasonings, oil, fats	10.4(2)	10.8(2)	10.9(3)
Other food and drink*	27.3(5)	33.7(5)	32.4(7)
<u>Subtotal(Food & drink)</u>	<u>193.6(37)</u>	<u>220.9(31)</u>	<u>180.7(42)</u>
Tobacco	4.3(1)	3.4(1)	3.8(1)
Clothing	45.0(9)	79.2(11)	32.7(8)
Housing & furniture**	108.1(21)	136.4(19)	67.9(16)
Light, heat, water	19.1(4)	20.4(3)	18.2(4)
Sanitation	21.4(4)	22.7(3)	25.6(6)
Education	12.0(2)	15.1(2)	10.5(3)
Culture & recreation	22.5(4)	31.0(4)	20.4(5)
Society & remittance***	38.8(7)	53.5(8)	27.7(7)
Ceremony	48.1(9)	109.4(15)	31.0(7)
Miscellaneous	12.9(2)	21.2(3)	6.5(1)
<u>Total (Living expense)</u>	<u>525.8(100)</u>	<u>713.2(100)</u>	<u>425.0(100)</u>

* includes liquors

** includes estimated dwelling rent for land and building

*** includes entertainments and gifts

Figure I

Man equiv. of family consumer	Total assets	Gross income	Net income	Living expense of family	Net surplus over living expense	Farm index	Net income per family consumer
man equiv.	¥10,000	¥10,000	¥10,000	¥10,000	¥10,000	%	¥10,000
6.4	1050	470	150	93	98	108	46
5.9	950	420	140	83	88	103	41
5.4	850	370	130	73	78	98	36
4.9	750	320	120	63	68	93	31
4.4	650	270	110	53	58	88	26
3.9	550	220	100	43	48	83	21
3.4	450	170	90	33	38	78	16
2.9	350	120	80	23	28	73	11
2.4	250	70	70	13	18	68	6

▲, ● and × represent high, middle, and low groups based on net income respectively.
 ☆ represent average of each group.

II ANALYSIS OF FARM BUSINESS

Table II - 1 Size of Farm

	Average 15 farms	Range
		Highest~Lowest
Family laborer on farm* (man equiv.)	2.2	4.3 ~ 1.0
Ares of farm operating land	125.8	311.0 ~ 67.5
Arable land	118.9	289.5 ~ 66.1
paddy field	104.4	181.5 ~ 59.4
upland field	14.5	108.0 ~ 0
Other	6.9	21.5 ~ 1.4
Farm capital** (¥1,000)	3,881(100) [%]	7,717 ~ 1,897
Fixed assets	3,254(84)	6,797 ~ 1,652
land	2,431(63)	5,146 ~ 1,381
building	571(15)	1,175 ~ 121
tree	4(0)	66 ~ 0
livestock	92(2)	730 ~ 0
machinery	156(4)	668 ~ 5
Flowing assets***	627(16)	1,084 ~ 244
Farm equipment****	1,450	2,571 ~ 515

* Family member who worked on farm more than 240 days for the year is regarded as 1.0. Labor days less than 240 are divided by 240 to be man equiv.

** Farm assets at the beginning of the year, which include farm operating land, and not all cash and credit.

*** includes value of poultry.

**** Farm capital minus Value of farm operating land.

Table II - 2 Financial Summary of Farm Business

	Average 15 farms	Range	
		Highest	Lowest
<u>Gross farm income</u>	¥2,469,158	¥4,217,307	¥570,796
Farm revenue	2,299,920	4,021,407	550,346
Appreciation of farm fixed assets	18,695	170,720	0
Increase of poultry	150,543	338,150	25,600
<u>Farm expense</u>	1,578,887	2,811,923	283,492
Farm expenditure	1,478,015	2,700,622	236,252
Depreciation of farm fixed assets	100,872	270,250	39,250
<u>Net farm income</u>	890,271	1,476,343	287,304
(Gross farm income - Farm expense)			
Net farm income	per 10 ares of arable land	¥81,476	¥160,001 ~ 43,465
	per man equiv. of family laborer	415,438	629,340 ~ 261,456
	per ¥10,000 of farm equipment	6,643	11,265 ~ 2,879
	per ¥10,000 of capital investment	2,358	4,317 ~ 1,515
Net farm return to family labor per day* **	¥1,250	¥2,174	723
Interest rate of farm capital	0.137	0.291	0.063
Net farm income ratio***	38.7%	52.4%	24.1%

* $\frac{\text{Net farm income} - 6\% \text{ interest on farm capital}}{\text{Total days worked on farm by family}}$

** $\frac{\text{Net farm income} - \text{Value of unpaid family labor (¥700 per day)}}{\text{Value of farm capital}}$

*** percent net income is of total gross income

Table II - 3 Crop Production

	Ares of crops harvested		Number of farms	Yield per 10 ares (kg.)	
	Average 15 farms	Largest~Smallest		Average	Highest~Lowest
Rice	104.3	179.7 ~ 59.4	15	470.1	562 ~ 393
Other crops	82.4	381.8 ~ 11.0	-	-	- ~ -
Total crops	186.7	561.5 ~ 80.6	-	-	- ~ -
			Average 15 farms	Range Highest~Lowest	
Gross crop income per 10 ares			¥43,719	¥55,285~34,579	
Value fertilizer purchased per 10 ares			2,317	5,826 ~ 731	
Value chemical purchased per 10 ares			752	1,494 ~ 289	

Table II - 4 Livestock Production

	No. of poultry, Animal unit		Number of farms	Egg production per hen (kg)	
	Average 15 farms	Largest~Smallest		Average	Highest ~ Lowest
Laying hen	617	1,172 ~ 107	15	13.3	15.0 ~ 11.6
Chicken	392	811 ~ 58	-	-	- ~ -
Animal unit *	5.15	8.70 ~ 0.79	-	-	- ~ -
			Average 15 farms	Range Highest ~ Lowest	
Gross income of livestock per animal unit			¥375,956	¥458,456~144,788	
Value feed purchased per animal unit			235,383	286,315 ~ 70,874	

Table II - 5 Land Use

	Average 15 farms	Range Highest ~ Lowest
% of operating land in arable land	94.7	98.2 ~ 89.5
% of arable land in paddy field	88.0	100.0 ~ 62.7
% of paddy field in double cropping	46.6	91.4 ~ 0
Cropping ratio**	151.2	194.0 ~ 101.6

* Milk cow 1.0, Heifer, Beef and draft cattle, Horse 0.5, Breeding sow 0.2, Other hog 0.1, Sheep 0.05, Goat 0.04. Laying hen 0.005, Chick 0.003, Broiler 0.002.

** Total area of crops harvested divided by total area of arable land.

Table II - 6 Labor Use

		Average 15 farms	Range	
			Highest	Lowest
Total days worked on farm by family		529	1,036	240
Days worked on 10 ares of arable land		48	75	33
per man equiv.	Ares of operating land	59.9	80.0	33.5
	Ares of arable land	56.7	75.7	32.5
	Farm capital (¥1,000)	1,780	2,495	1,147
	Gross farm income (¥1,000)	1,139	1,948	499
	Days worked on farm	244	259	240

Table II - 7 Capital Use

		Average 15 farms	Range	
			Highest	Lowest
Farm capital turnover*		0.65	1.25	0.30
Machinery investment per 10 ares of arable land (¥)		12,311	23,077	607

* Gross farm income divided by farm capital

Table II - 8 Combination of Enterprises

	Average 15 farms	Range of %	
		Highest	Lowest
Rice	¥ 440,307(18) [%]	43.5	7.2
Other grain	25,028(1)	4.7	0.1
Vegetable	55,797(2)	16.3	0.2
Fruit	1,767(0)	0.5	0
Other crops	6,753(0)	1.1	0
Subtotal (crop)	529,652(21)	44.6	8.5
Poultry	1,872,355(76)	91.5	18.4
Other livestock	60,866(2)	49.9	0
Subtotal (livestock)	1,933,221(78)	91.5	55.4
Other	6,285(0)	0.9	0
Total	2,469,158(100)	-	-

Table II - 9 Average of 5 Farms Grouped According to

Range	Average of 5 farms grouped according to man equiv.			Average of 5 farms grouped according to arable land			
	Largest	Middle	Smallest	Largest	Middle	Smallest	
	4.3 ~2.3	2.2 ~1.8	1.7 ~1.0	are 290 ~122	are 119 ~94	are 91 ~66	
<u>Size of farm</u>							
Man equiv. of family laborer	3.1	2.0	1.4	2.5	2.1	1.9	
Ares of arable land	153	113	91	176	104	77	
Ares of rice	127	104	82	145	97	71	
Number of laying hen	832	762	257	587	596	668	
Farm equipment (¥1,000)	1,879	1,318	1,154	1,846	1,321	1,184	
Farm capital (¥1,000)	4,896	3,740	3,007	5,309	3,564	2,770	
<u>Financial summary</u>							
Gross farm income (¥1,000)	3,331	2,757	1,319	2,725	2,244	2,438	
Farm expense (¥1,000)	2,139	1,821	776	1,726	1,455	1,556	
Net farm income (¥1,000)	1,192	936	543	999	789	882	
net farm income	per 10 ares of arable land (¥1,000)	92	94	58	58	76	110
	per man equiv. (¥1,000)	392	469	385	407	395	444
	per ¥10,000 of farm equipment (¥)	6,532	7,842	5,554	6,243	6,279	7,406
	per ¥10,000 of farm capital (¥)	2,630	2,630	1,816	1,894	2,200	2,982
Net farm return to family labor per day (¥)	1,201	1,494	1,054	1,139	1,148	1,463	
Interest rate of farm capital	0.145	0.168	0.098	0.108	0.117	0.186	
Net farm income ratio (%)	36	36	44	38	36	41	
<u>Other indicators</u>							
Total days worked on farm by family (day)	770	478	339	610	530	447	
Days worked on 10 ares of arable land (day)	59	46	38	35	52	57	
Machinery investment per 10 ares of arable land (¥1,000)	14	10	13	14	11	12	
Farm capital turnover	0.75	0.76	0.43	0.51	0.62	0.80	
% of gross farm income in poultry	76	79	58	58	78	77	
Rice production per 10 ares (Kg)	469	482	460	502	436	472	
Egg production per hen (Kg)	13.5	13.1	13.1	12.7	13.7	13.4	

Some Important Measures

Average of 5 farms grouped according to Number of laying hen			Average of 5 farms grouped according to Net farm income			Average of 5 farms grouped according to Net return to family labor per day		
Largest	Middle	Smallest	Highest	Middle	Lowest	Highest	Middle	Lowest
1,172 ~750	668 ~394	377 ~107	¥1,000 1,476 ~1,068	¥1,000 992 ~735	¥1,000 701 ~287	¥2,174 ~1,253	¥1,219 ~1,061	¥1,052 ~723
24	25	17	29	21	15	2.1	2.1	2.3
98	152	106	147	114	96	103	121	132
92	125	95	121	104	87	97	114	101
1,073	551	227	945	653	252	825	705	321
1,734	1,572	1,045	2,052	1,150	1,149	1,506	1,364	1,482
3,787	4,637	3,219	4,946	3,572	3,126	3,681	3,968	3,994
3,635	2,482	1,290	3,640	2,483	1,284	3,076	2,533	1,799
2,501	1,534	701	2,374	1,612	751	1,973	1,719	1,045
1,134	948	589	1,266	871	533	1,103	814	754
124	66	54	107	82	55	118	69	58
488	412	346	461	429	356	533	396	318
6,911	6,173	6,845	6,334	8,107	5,488	7,634	6,669	5,625
3,163	2,094	1,819	2,795	2,569	1,712	3,161	2,048	1,866
1,628	1,162	959	1,469	1,319	961	1,724	1,158	868
0.206	0.114	0.091	0.176	0.148	0.087	0.214	0.115	0.082
31	38	47	35	37	44	37	34	45
570	620	397	704	528	355	513	501	573
62	44	39	56	50	38	54	43	46
13	13	10	14	13	10	12	9	15
0.99	0.56	0.39	0.82	0.71	0.40	0.88	0.62	0.43
89	72	51	79	78	56	83	76	53
468	449	493	461	485	464	472	455	484
13.6	13.7	12.5	13.6	13.6	12.6	13.9	13.1	12.8

Figure II - 1

Family laborer working on farm	Ares of arable land	Number of laying hen	Farm capital investment	Days worked on farm per 10 ares	Cropping ratio	Rice yield per 10 ares	Egg production per laying hen
man equiv.	are	head	¥10,000	day	%	kg.	kg.
3.0	200	1,020	590	68	190	550	15.3
2.8	180	920	540	63	180	530	14.8
2.6	160	820	490	58	170	510	14.3
2.4	140	720	440	53	160	490	13.8
2.2	120	620	390	48	150	470	13.3
2.0	100	520	340	43	140	450	12.8
1.8	80	420	290	38	130	430	12.3
1.6	60	320	240	33	120	410	11.8
1.4	40	220	190	28	110	390	11.3

The farm number circled is determined on the basis of farm income.

Figure II - 2

% of gross farm income in poultry	Gross farm income	Net farm income	Net farm income			Net return to family labor per day	Interest rate of farm capital
			per 10 ares of arable land	per man equiv.	per ¥10,000 of capital invested		
	¥10,000	¥10,000	¥1,000	¥1,000	¥1,000	¥1,000	
91	450	130	120	620	3.2	2.1	0.22
86	400	120	110	570	3.0	1.9	0.20
81	350	110	100	520	2.8	1.7	0.18
76	300	100	90	470	2.6	1.5	0.16
71	250	90	80	420	2.4	1.3	0.14
66	200	80	70	370	2.2	1.1	0.12
61	150	70	60	320	2.0	0.9	0.10
56	100	60	50	270	1.8	0.7	0.08
51	50	50	40	220	1.6	0.5	0.06

III ANALYSIS OF POULTRY ENTERPRISE

Table III - 1 Size of Poultry Enterprise

	Average 15 farms	Range	
		Highest	~ Lowest
Number of laying hen*	617	1,172	~ 107
Number of chicken	392	811	~ 58
Days worked in poultry	223	397	~ 73
family labor	223	397	~ 73
hired labor	0	0	~ 0
Capital invested in poultry(¥)	773,225	1,531,904 ~ 166,980	
Capital equipment in poultry(¥)**	701,720	1,451,904 ~ 139,330	

* average of the numbers of each month

** Capital invested minus Land capital

Table III - 2 Financial Summary of Poultry Enterprise

	Average 15 farms	Range	
		Highest	~ Lowest
Gross return to poultry (¥)	1,872,355	3,769,557~295,496	
egg	1,565,500	3,159,933~254,766	
by-product*	306,855	609,624~ 12,623	
Expense of poultry	1,391,136	2,669,921~228,293	
purchased	1,345,459	2,641,221~207,523	
self-supplied	10,219	28,085~ 0	
depreciation	35,458	69,811~ 6,650	
Net return to poultry	481,219	1,099,636~ 67,203	
Gross return	3,000	3,413~ 2,345	
per laying hen			
egg	2,510	2,861~ 2,245	
by-product*	490	668~ 100	
Expense	2,217	2,443~ 1,750	
Net return	783	1,059~ 533	
Net return to poultry			
per day of family labor	1,949	3,124~ 776	
per ¥10,000 of capital investment	6,294	10,413~ 2,933	
per ¥10,000 of capital equipment	6,981	11,218~ 3,229	
Net return to family labor per day	1,754	2,929~ 685	
Interest rate of capital invested	0.378	0.745~ 0.050	
Net profit of poultry enterprise	279,158	784,512 ~ ①1,628	
Net return ratio** (%)	26	38~ 19	

* Includes increase of poultry inventory

** % net return is of gross return

Table III - 3 Other Factors of Poultry Enterprise

		Average 15 farms	Range
			Highest~Lowest
Kg. of egg produced		8,307	16,702 ~ 1,280
per laying hen	Egg production (kg)*	13.3	15.0 ~ 11.6
	Days worked (day)	0.46	1.00 ~ 0.20
	Capital invested (¥)	1,301	2,004 ~ 934
	Expense	2,217(100)	2,443 ~ 1,750
	feed	1,917(86)	2,096 ~ 1,544
	poultry	170(8)	225 ~ 60
	fuel and light	14(1)	42 ~ 0
	small machinery	40(2)	79 ~ 24
	depreciation of fixed asset	64(3)	102 ~ 23
	other	12(0)	23 ~ 2
Feed cost per hen-equivalent (¥)		1,324	1,433 ~ 1,150

Table III - 4 Cost control

		Average 15 farms	Range
			Highest~Lowest
per laying hen	Total cost (¥)	2,616	2,971 ~ 2,305
	expense	2,217	2,443 ~ 1,750
	cost of family labor	321	726 ~ 137
	capital interest	78	120 ~ 56
	Value of by-product (¥)	490	668 ~ 100
	Production cost of egg (¥)	2,126	2,396 ~ 1,863
	Egg production (kg)**	13.1	15.0 ~ 11.6
Production cost of egg per kg. (¥)		163	200 ~ 142
Average price of egg per kg. (¥)		192	202 ~ 175
% cost of egg is of price		85	106 ~ 74
% purchased cost is of egg sold		86	98 ~ 71
% feed bought is of egg sold		76	86 ~ 64

* includes broken eggs

** does not include broken eggs

Table III - 5 Average of 5 Farms Grouped According

Range	Number of laying hen			Egg production per hen		
	Large	Middle	Small	Large	Middle	Small
	1,172 ~750	668 ~394	377 ~107	150Kg ~138	136Kg ~129	126Kg ~116
Number of laying hen	1,073	551	227	758	603	490
per laying hen Egg production (Kg)	13.6	13.7	12.5	14.2	13.3	12.2
per laying hen Days worked (day)	0.31	0.40	0.66	0.38	0.48	0.51
per laying hen Capital invested (¥)	1,171	1,510	1,222	1,411	1,249	1,243
per laying hen Gross return (¥)	3,023	3,157	2,820	3,182	3,046	2,779
per laying hen Expense (¥)	2,227	2,349	2,075	2,326	2,197	2,127
per laying hen Net return (¥)	796	808	745	856	849	645
Net return to family labor per day (¥)	2,409	1,797	1,057	2,123	1,704	1,436
Interest rate of capital invested	0.509	0.368	0.257	0.464	0.415	0.254
Net profit of poultry enterprise	538	241	56	415	259	161
Net return ratio	26	25	26	27	28	23
per laying hen Total cost (¥)	2,511	2,721	2,616	2,675	2,609	2,564
per laying hen Expense	2,227	2,349	2,075	2,326	2,197	2,127
per laying hen Cost of family labor	214	281	467	264	337	362
per laying hen Capital interest	70	91	74	85	75	75
Production cost of egg per kg. (¥)	152	159	178	152	160	178
Average price of egg per kg. (¥)	191	192	195	188	193	196
% cost is of price of egg	80	83	92	81	83	91
% feed bought is of egg sold	74	78	77	76	74	78
Feed cost per hen-equivalent	1,359	1,358	1,256	1,379	1,302	1,292

to Some Important Measures in Poultry Enterprise

Net return per hen			Net return to Family labor per day			Production cost of egg		
High	Middle	Low	High	Middle	Low	High	Middle	Low
1,059 ¥ ~881	862 ¥ ~765	619 ¥ ~533	2,929 ¥ ~2,192	1,962 ¥ ~1,381	1,348 ¥ ~685	200 ¥ ~168	165 ¥ ~156	155 ¥ ~142
613	579	659	966	631	254	470	616	765
13.9	13.1	12.7	13.6	13.6	12.6	12.6	13.4	13.7
0.47	0.51	0.40	0.31	0.43	0.63	0.55	0.39	0.43
1,212	1,348	1,344	1,144	1,358	1,401	1,363	1,379	1,161
3,157	3,081	2,761	3,079	3,124	2,798	2,846	3,061	3,093
2,180	2,281	2,189	2,230	2,333	2,088	2,181	2,325	2,145
977	800	572	849	791	710	665	736	948
2,100	1,680	1,482	2,541	1,671	1,050	1,206	1,778	2,278
0.543	0.336	0.254	0.555	0.360	0.217	0.211	0.358	0.564
376	268	190	537	245	53	137	232	467
31	26	21	27	25	25	23	24	31
2,588	2,725	2,535	2,515	2,716	2,617	2,652	2,681	2,515
2,180	2,281	2,189	2,230	2,333	2,088	2,181	2,325	2,145
335	363	266	216	301	445	389	274	300
73	81	80	69	82	84	82	82	70
150	168	172	150	163	177	182	160	149
192	195	190	192	194	191	197	189	191
78	86	90	78	84	92	92	85	78
72	76	80	75	77	76	77	80	72
1,296	1,333	1,344	1,347	1,344	1,283	1,350	1,299	1,324

Figure III - 1

Number of laying hen	per laying hen													
	Egg production		Days worked		Capital invested		Gross return		Expense		Net return		Gross re- turn of egg	
hen	kg		day		¥		¥		¥		¥		¥	
1,120	15.3		0.86		1,700	3,400	2,620	1,180	2,910					
1,020	14.8		0.76		1,600	3,300	2,520	1,080	2,810					
920	14.3		0.66		1,500	3,200	2,420	980	2,710					
720	13.8		0.56		1,400	3,100	2,320	880	2,610					
620	13.3		0.46		1,300	3,000	2,220	780	2,510					
520	12.8		0.36		1,200	2,900	2,120	680	2,410					
420	12.3		0.26		1,100	2,800	2,020	580	2,310					
320	11.8		0.16		1,000	2,700	1,920	480	2,210					
220	11.3		0.06		900	2,600	1,820	380	2,110					

The farm number circled is determined on the basis of the number of laying hen.

Figure III - 2

Net return to family labor per day		Interest rate of capital invested		Production cost of egg per kg.		Average price of egg per kg		% cost is of price		Feed cost per hen equivalent		% feed bought is of egg sold		% of grss farm income in poultry	
¥				¥		¥		%		¥		%		%	
2,550	(2) (1) (3)(5)	0.78	(2)	183	(14)(15) (11)	200	(7) (11)(15)	93	(14)(15)	1,400	(3)(4) (2) (7) (8) (11)	84	(9)	91	(3) (2) (4)(5)
2,350		0.68		178		198		91	(9) (11)	1,380	(9)	82	(1)	86	(1) (4)
2,150	(8)	0.58	(5)	173		196	(8)	89	(3)(4)	1,360		80	(11)	81	(8)(9)
1,950	(6)	0.48	(3)(8)(13) (1)	168	(4)(7)	194	(6)(14)	87	(12)	1,340		78	(4)(6)(12)	76	(10)
1,750	(7)	0.38	(6)(10) (7)(12)	163	(12)	192	(5)	85	(2)	1,320		76	(7) (10)	71	(6)
1,550	(4) (10)	0.28	(4)(11)	158	(1) (6)(7) (8)(10)(13)	190	(1)(4)(10)(12) (2)(3)(13)	83	(7) (10)(13)	1,300	(6) (10)	74	(2)(5)(15) (3)(14)	66	(11)
1,350	(9)(12) (13)	0.18	(9)	153		188		81	(6)	1,280	(1)	72	(8)	61	(12)(13)
1,150	(11)	0.08		148	(3)	186		79	(8)	1,260	(15)	70		56	(7)(15)
950	(14)(15)	0.02		143	(2)(5)	184		77		1,240	(5)(12)	68		51	
							(9)		(5)		(13)(14)		(13)		(14)

IV CHANGE OF MEASURES FOR THREE YEARS

Averages of common selected measures of farm family economy, years, are listed in Tables IV - 1-3 respectively. They would organization and management of book-keeping farms.

Table IV-1 Change of Measures for Farm Family

	Average of all farms		
	1961	1962	1963
	24 farms	15 farms	15 farms
<u>Resource of farm family economy</u>			
Number in family	5.5	5.2	5.5
Man equiv. of family consumer	4.5	4.3	4.4
Ares of operating land	122	124	126
Value of total assets (¥1,000)	4,777	6,147	6,458
Fixed assets	3,943	4,809	4,900
Flowing assets	307	513	629
Cash & Credit assets	527	825	929
Liabilities (¥1,000)	14	78	125
Net worth (¥1,000)	4,763	6,069	6,333
<u>Financial summary of Farm Family Economy (¥1,000)</u>			
Gross income	1,357	1,995	2,743
Revenue expense	685	1,033	1,642
Net income of farm family	672	962	1,101
Living expense of family	423	529	525
Net surplus over living expense	249	433	576
<u>Other indicators</u>			
Living expense per family consumer (¥1,000)	96	128	122
Engel's coefficient (%)	40	35	39
Self-supplied ratio of food & drink (%)	62	60	64
Farm index (%)	81	84	88

farm business, and poultry enterprise for the past three
 be helpful for us to observe the changing tendency of

Economies (1961-1963)

Average of the group of farms with higher net income			Average of the group of farms with lower net income		
1961	1962	1963	1961	1962	1963
8 farms	5 farms	5 farms	8 farms	5 farms	5 farms
5.5	5.0	5.6	5.4	4.2	5.0
4.6	4.4	4.6	4.4	3.5	3.9
176	165	167	85	88	115
6,878	7,352	7,649	3,260	4,082	4,816
5,500	5,355	5,326	2,736	3,030	3,689
385	696	909	262	432	434
993	1,301	1,414	262	620	693
29	144	155	10	40	100
6,849	7,208	7,494	3,250	4,042	4,716
1,998	2,891	3,951	939	1,478	1,653
977	1,548	2,516	532	824	876
1,021	1,343	1,435	407	654	777
535	674	711	335	360	425
486	669	724	72	294	352
118	158	157	81	114	114
35	30	34	44	39	41
67	64	62	57	61	59
85	88	92	80	84	89

Table IV-2 Change of Measurs for Farm Businesses(1961-1963)

	Average of all farms		
	1961	1962	1963
	24 farms	15 farms	15 farms
<u>Size of farm</u>			
Family laborer on farm (man equiv.)	1.9	1.9	2.2
Ares of farm operating land (are)	122	124	126
Farm capital (¥1,000)	3,246	3,697	3,881
<u>Financial summary</u>			
Gross farm income (¥1,000)	1,140	1,717	2,469
Farm expense (¥1,000)	645	974	1,579
Net farm income (¥1,000)	495	743	890
Net return to family labor per day (¥)	559	1,023	1,250
Interest rate of farm capital	0.039	0.103	0.137
Net farm income per man equiv. (¥1,000)	142	380	415
Net farm income per ¥10,000 of capital (¥)	-	1,976	2,358
<u>Other indicators</u>			
Rice yield per 10 ares (kg)	462	481	470
Gross crop income per 10 ares (¥1,000)	38	42	44
Gross income of livestock per animal unit	-	354	376
Cropping ratio (%)	174	164	151
Days worked on 10 ares of arable land	45	44	48
Farm capital turnover	0.35	0.47	0.65
Machinery investment per 10 ares of arable land (¥)	11,793	10,740	12,311
% of gross income in rice	29	23	18
% of gross income in total crops	39	30	21
% of gross income in poultry	-	63	76
% of gross income in livestock	61	69	78

Table IV-3 Change of Measures for Poultry Enterprises (1961-1963)

		Average of all farms		
		1961	1962	1963
		24 farms	15 farms	15 farms
<u>Size of Poultry Enterprise</u>				
Number of laying hen		224	400	617
Number of chicken		165	262	392
Days worked in poultry		134	165	223
Capital invested in poultry (¥1,000)		365	621	773
<u>Financial summary</u>				
per laying hen	Gross return (¥)	2,881	2,773	3,000
	egg (¥)	2,249	2,290	2,510
	by-product (¥)	632	483	490
	Expense (¥)	2,139	1,934	2,217
	Net return (¥)	742	839	783
Net return to family labor per day (¥)		1,061	1,770	1,754
Interest rate of capital invested		0.161	0.346	0.378
<u>Other indicators</u>				
per lay- ing hen	Egg production (kg)	12.5	13.0	13.3
	Days worked (day)	0.70	0.48	0.46
	Capital invested (¥)	1,722	1,574	1,301
Feed cost per hen-equivalent (¥)		1,199	1,204	1,324
<u>Cost control</u>				
per laying hen	Total cost (¥)	2,753	2,366	2,616
	expense (¥)	2,139	1,934	2,217
	cost of family labor (¥)	511	337	321
	capital interest (¥)	103	95	78
	Value of by-product (¥)	632	483	490
	Production cost of egg (¥)	2,121	1,883	2,126
Production cost of egg per kg. (¥)		172	146	163
Average price of egg per kg. (¥)		-	178	192
% feed bought is of egg sold		77	73	76

