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Farm business analysis (pd)

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FARM ECONOMY ANALYSIS REPORT

From The Results of 15 Simplified Farm Records

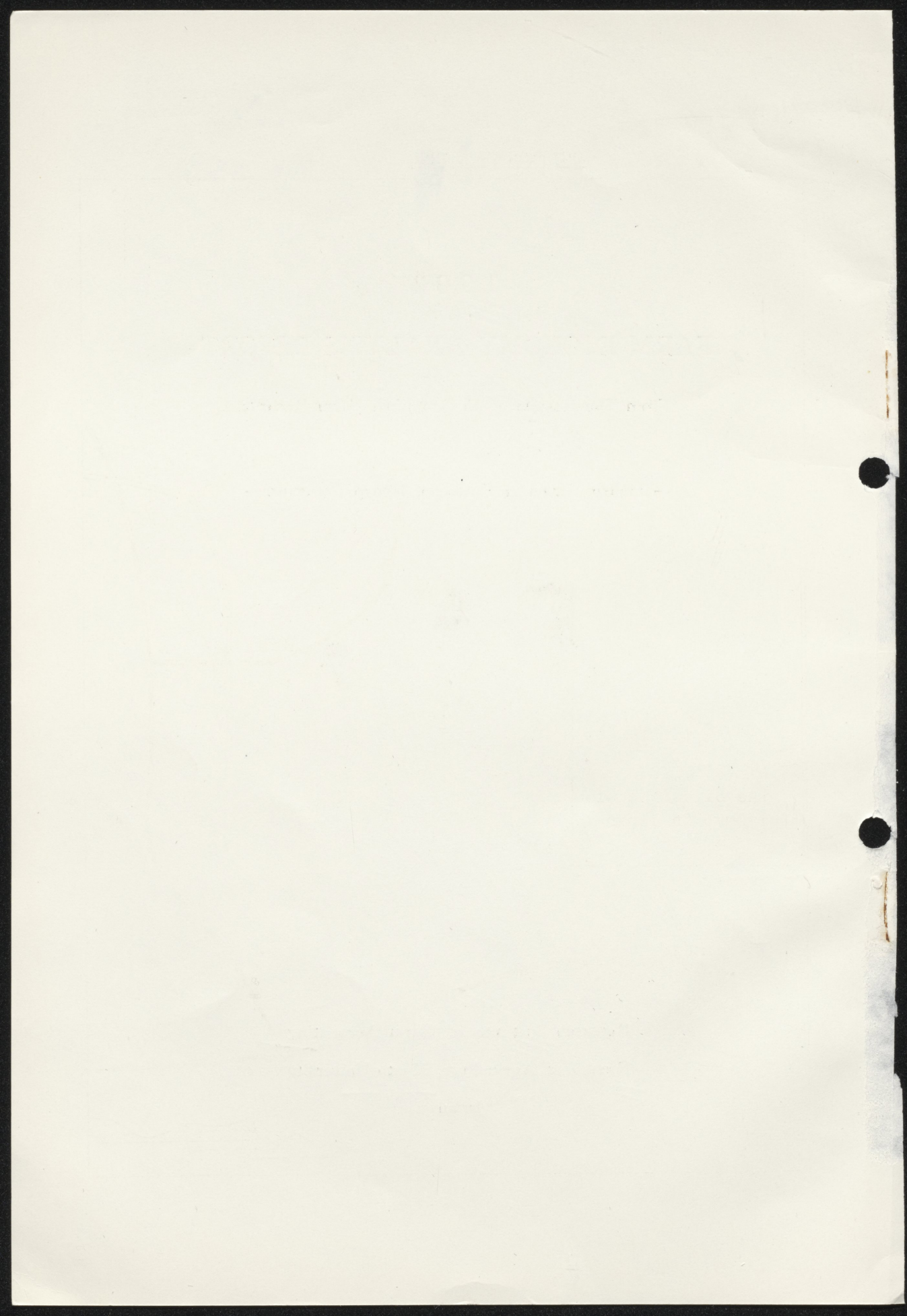
—Poultry Farms in Kasaicho, Hyogo Prefecture—



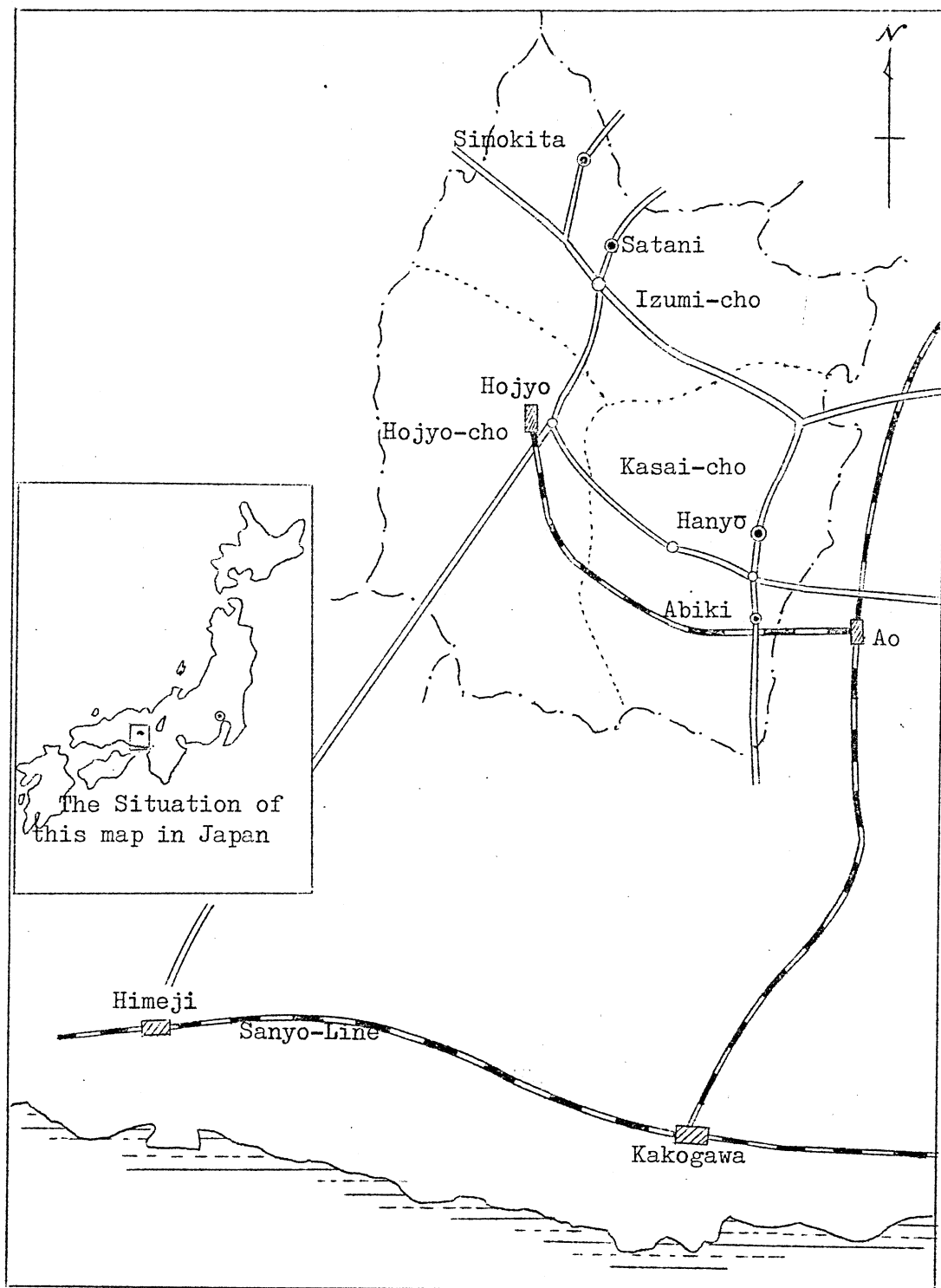
Research Institute of Farm Accounting

Faculty of Agriculture, Kyoto University

Japan



LOCATION OF FARMS



1968-1969

1968-1969

1968-1969

1968-1969

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 bookkeeping." It is sponsored by "The Council on Economic and Cultural Affairs (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, K. Kamegai, and graduate student Y. Imamura. Some extension workers in Kasai District helped farmers to keep and close records in cooperation with us.

June 1963

Research Institute of Farm Accounting
Faculty of Agriculture, Kyoto University

Method of Analysis Used

For this analysis, there were 15 farmers who completed Simplified Farm Records devised by our Institute for the year 1962. 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:

- (1) Analysis of farm family economy....including non-farm and living aspects
- (2) Analysis of farm business....dealing with farm business as a whole and excluding non-farm and living aspects
- (3) Analysis of poultry enterprise....dealing with only poultry enterprise extracted from farm business

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 owned farm assets and family labor and management worked on farm.

Farm labor income

Net farm income minus Interest on owned farm assets.

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	5.2	5.0	4.2
Male	2.4	2.6	1.6
Female	2.8	2.4	2.6
Man equiv. of family consumer*	4.3	4.4	3.5
<u>Operating land**</u>			
Ares of operating land	123.7	164.5	88.1
Ares of arable land	117.4	155.8	82.4
<u>Property***</u>			
	thousand yen (%)	thousand yeh (%)	thousand yen (%)
Value of total assets	6,147(100)	7,352(100)	4,082(100)
Fixed assets	4,809(79)	5,355(73)	3,030(74)
Land	2,686(44)	2,986(41)	1,902(47)
Building	1,465(24)	1,886(26)	842(21)
Tree	407(7)	94(1)	32(0)
Livestock	95(1)	144(2)	129(3)
Machinery	156(3)	245(3)	125(3)
Flowing assets	513(8)	696(9)	432(11)
Cash & Credit assets	825(13)	1,301(18)	620(15)
Liabilities	78	144	40
Net worth (total assets- liabilities)	6,069	7,208	4,042

* 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>	1,994.8	2,891.1	1,478.5
Revenue receipts	1,663.5	2,459.5	1,240.0
Value products consumed by family	202.3	260.7	132.4
Appreciation of fixed assets	61.8	69.7	44.8
Increase of poultry	67.2	101.2	61.3
<u>Revenue expense of farm family</u>	1,033.2	1,548.3	824.4
Revenue expenditures	927.7	1,399.8	740.3
Depreciation of fixed assets	105.5	148.5	84.1
<u>Net income of farm family</u> (Gross income-Revenue expense)	961.6	1,342.8	654.1
<u>Living expense</u>	528.8	674.1	359.7
Living expenditures	326.5	413.4	227.3
Value products consumed by family	202.3	260.7	132.4
<u>Living expense of family</u> (Living expense-Board of hired labor)	528.6	673.6	359.7
<u>Net surplus over living expense</u> (Net income-living expense of family)	433.0	669.2	294.4
<u>Other indicators</u>			
Farm index*	83.6%	88.0%	83.8%
	thousand yen	thousand yen	thousand yen
Net income per family consumer	228.8	313.4	194.1
Living expense per family consumer	127.7	158.3	114.3
Consumption ratio**	56.9%	49.2%	59.2%
Engel's coefficient***	34.8	30.4	38.8
Self supplied ratio of living- expense	38.3	38.8	37.2
Self-supplied ratio of food & drink	60.1	64.2	61.0

* 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	397.8(21)	491.2(18)	291.8(21)
Other grain	33.8(2)	48.6(2)	14.9(1)
White & sweet potato	11.5(1)	19.7(1)	8.8(1)
Vegetable	73.6(4)	184.1(7)	13.0(1)
Fruit	-(-)	-(-)	-(-)
Other crop	2.8(0)	7.9(0)	-(-)
<u>Subtotal of crop</u>	<u>519.5(28)</u>	<u>751.5(28)</u>	<u>328.5(24)</u>
Poultry	1,019.3(55)	1,493.2(55)	784.3(57)
Other livestock**	73.6(4)	136.2(5)	84.7(6)
<u>Subtotal of livestock</u>	<u>1,092.9(59)</u>	<u>1,629.4(60)</u>	<u>869.0(63)</u>
Forestry***	3.1(0)	2.8(0)	0.8(0)
Processed goods	13.6(1)	4.8(0)	36.0(3)
Property use****	109.2(6)	154.7(6)	53.9(4)
Wage	82.5(4)	119.6(4)	75.1(5)
Subsidy and gift	22.6(1)	31.0(1)	7.2(1)
Miscellaneous	22.4(1)	26.4(1)	1.9(0)
<u>Total revenue*</u>	<u>1,865.8(100)</u>	<u>2,720.2(100)</u>	<u>1,372.4(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	6.0(1)	10.8(1)	3.2(0)
Fertilizer	30.3(3)	52.8(4)	13.3(2)
Chemical	9.9(1)	13.9(1)	6.2(1)
Feed	706.0(76)	1,065.3(75)	584.7(78)
Other supplies	6.0(1)	10.2(1)	2.9(0)
Livestock*	56.9(6)	84.2(6)	49.9(8)
Hired labor	5.4(1)	9.0(1)	2.1(0)
Machinery**	31.7(3)	38.7(3)	35.9(5)
Building***	9.4(1)	12.8(1)	4.6(1)
Fuel and light	16.6(2)	31.8(2)	6.9(1)
Interest on debt	5.7(1)	9.0(1)	3.2(0)
Rent and Fee	6.6(1)	11.2(1)	4.7(1)
Irrigation charge	3.5(0)	2.0(0)	2.5(0)
Insurance	2.7(0)	7.9(0)	0.1(0)
Tax	20.1(2)	28.2(2)	15.0(2)
Miscellaneous	10.9(1)	12.1(1)	5.1(1)
<u>Total</u>	<u>927.7(100)</u>	<u>1,399.9(100)</u>	<u>740.3(100)</u>

* 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	74.7(14)	90.8(13)	58.0(16)
Other cereals	3.6(1)	3.7(0)	3.4(1)
Subsidiary food	62.3(12)	73.0(11)	51.4(14)
Other food and drink*	38.4(8)	37.5(7)	25.3(8)
<u>Subtotal</u> <u>(Food & drink)</u>	<u>179.0(35)</u>	<u>205.0(31)</u>	<u>138.1(39)</u>
Clothing	42.1(8)	48.3(7)	39.4(11)
Housing and furnitures**	133.2(25)	179.2(27)	87.2(24)
Light, heat, & water	18.3(3)	18.8(3)	16.3(5)
Sanitation	20.9(4)	19.2(3)	22.1(6)
Education	7.4(1)	7.4(1)	7.6(2)
Recreation ***	60.4(11)	83.9(12)	39.5(11)
Miscellaneous	67.5(13)	112.3(16)	9.5(2)
<u>Total</u>	<u>528.8(100)</u>	<u>674.1(100)</u>	<u>359.7(100)</u>

* includes liquors and tobacco

** includes estimated dwelling rent for land and building

*** includes entertainments and gifts

Figure I

Number in family	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
6.3	1,015	319	136	93	83	104	39
5.8	915	289	126	83	73	99	35
5.3	815	259	116	73	63	94	31
4.8	715	229	106	63	53	89	27
4.3	615	199	96	53	43	84	23
3.8	515	169	86	43	33	79	19
3.3	415	139	76	33	23	74	15
2.8	315	109	66	23	13	69	11
2.3	215	79	56	13	3	64	7

△, ○ 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
Man equiv. of family members working on farm*	1.9	4.1	0.7
Ares of farm operating land	123.7	296.6	43.3
Arable land	117.4	283.1	38.0
paddy field	101.1	171.5	34.0
upland field	16.3	113.9	0
Other	6.3	15.4	1.4
Farm capital** (¥1,000)	3,697(100)%	7,239	1,189
Fixed assets	3,184(86)	6,389	1,019
land	2,416(65)	5,146	782
building	538(15)	1,007	141
tree	3(0)	48	0
livestock	95(2)	560	0
machinery	132(4)	379	4
Flowing assets	513(14)	851	170
Farm equipment***	1,281	2,093	407

* 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.

*** 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> (¥)	1,716,900	3,404,356	553,235
Farm revenue	1,619,957	3,258,361	570,435
Appreciation of farm fixed assets	29,746	190,000	0
Increase of poultry	67,197	211,500	⊖20,600
<u>Farm expense</u> (¥)	973,923	2,064,410	313,490
Farm expenditure	901,886	1,971,910	249,250
Depreciation of farm fixed assets	72,037	168,193	12,085
<u>Net farm income</u> (¥)	742,977	1,843,565	214,058
(Gross farm income - Farm expense)			
Net farm income per 10 ares of arable land (¥)	63,817	107,972	34,553
per man equiv. of family laborer (¥)	360,265	503,287	228,395
per ¥10,000 of farm equipment (¥)	5,972	9,499	3,705
per ¥10,000 of capital investment (¥)	1,976	3,420	1,144
Net farm return to family labor per day (¥)	1,023	1,406	452
Interest rate of farm capital	0.103	0.202	0.030
Net farm income index*	44.5%	59.0%	29.0%

* 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	98.2	170.8	34.0	15	481.0	595	403
Wheat & barley	40.3	94.0	11.0	15	293.9	379	193
Total crops	199.0	518.4	54.0	15	-	-	-
					Average 15 farms	Range	
						Highest	Lowest
Gross crop income per 10 ares					42,045¥	60,884¥	34,168¥
Value fertilizer purchased per 10 ares					2,248	5,037	145
Value chemical purchased per 10 ares					838	1,396	582

Table II - 4 Livestock Production

	No. of poultry. Animal unit			Number of farms	Egg production per hen		
	Average 15 farms	Largest	Smallest		Average	Highest	Lowest
Laying hen	400	854	130	15	13.0	14.6	11.5
Chicken	262	669	67	15	-	-	-
Animal unit*	3.66	6.86	0.79	15	-	-	-
					Average 15 farms	Range	
						Highest	Lowest
Gross income of livestock per animal unit					354,319¥	438,550¥	175,878¥
Value feed purchased per animal unit					210,416	283,610	76,942

Table II - 5. Land Use

	Average 15 farms	Range	
		Highest	Lowest
% of operating land in arable land	94.8	98.1	88.0
% of arable land in paddy field	88.6	100.0	59.8
% of paddy field in double cropping	65.2	100.0	22.7
Cropping ratio**	164.3	200.0	111.5

* 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	489	1,129	175
Days worked on 10 ares of arable land	44	64	25
per man equiv. Ares of operating land	65.7	106.8	34.3
Ares of arable land	62.2	100.9	32.7
Farm capital (¥1,000)	1,992	3,254	1,227
Gross farm income (¥1,000)	896	1,538	453
Days worked on farm	253	288	210

Table II - 7 Capital Use

	Average 15 farms	Range	
		Highest	Lowest
Farm capital turnover*	0.47	0.76	0.28
Machinery investment per 10 ares of arable land (¥)	10,740	32,307	986

Table II - 8 Combination of Enterprises

	Average 15 farms	Range of %	
		Highest	Lowest
Rice	397,869(23) %	36.0 %	9.5 %
Other grain	33,815(2)	4.1	0
White and sweet potato	11,479(1)	3.3	0.3
Vegetable	73,588(4)	24.9	0.1
Fruit	1,173(0)	0.5	0
Other crops	2,780(0)	1.3	0
<u>Subtotal (crop)</u>	<u>520,704(30)</u>	50.6	10.7
Poultry	1,086,433(63)	89.0	26.8
Other livestock	102,222(6)	41.5	0
<u>Subtotal (livestock)</u>	<u>1,188,655(69)</u>	89.2	48.6
Other	7,541(1)	2.0	0
Total	1,716,900(100)	-	-

* Gross farm income divided by farm capital

Table II - 9 Average of 5 Farms Grouped According to

	Average of 5 farms grouped according to man equiv.			Average of 5 farms grouped according to arable land		
	Largest	Middle	Smallest	Largest	Middle	Smallest
Range	4.1-2.0	2.0-1.6	1.4-0.7	283 are - 141	118 are - 84	62 are - 38
Average	2.8	1.8	1.2	182 are	102 are	68 are
<u>Size of farm</u>						
Man equiv. of family members	2.8	1.8	1.2	2.5	1.8	1.4
Ares of arable land	148	123	81	182	102	68
Ares of rice	107	113	75	143	93	59
Number of laying hen	471	496	231	480	358	360
Farm equipment (¥1,000)	1,733	1,296	814	1,629	1,317	896
Farm capital (¥1,000)	4,522	3,950	2,619	5,255	3,541	2,295
<u>Financial summary</u>						
Gross farm income (¥1,000)	2,255	1,926	969	2,331	1,534	1,285
Farm expense (¥1,000)	1,190	1,206	526	1,249	879	793
Net farm income (¥1,000)	1,065	720	443	1,082	655	492
net farm income per 10 ares of arable land	76	61	54	59	64	69
net farm income per man equiv. (¥1,000)	381	394	366	431	383	327
net farm income per ¥10,000 of farm equipment (¥)	6,292	6,154	5,461	6,876	5,362	5,679
net farm income per ¥10,000 of farm capital (¥)	2,404	1,856	1,668	2,022	1,847	2,058
Net farm return to family labor per day (¥)	1,087	1,059	922	1,153	1,016	899
Interest rate of farm capital	0.126	0.099	0.084	0.115	0.097	0.098
Net farm income index (%)	48	42	44	47	45	41
<u>Other indicators</u>						
Total days worked on farm by family (day)	722	452	294	661	450	357
Days worked on 10 ares of arable land (day)	53	41	39	37	44	52
Machinery investment per 10 ares of arable land (¥)	11	8	13	12	10	10
Farm capital turnover	0.53	0.48	0.39	0.44	0.43	0.53
% of gross farm income in poultry	53	68	66	54	62	71
Rice production per hen (kg)	516	477	451	513	468	463
Egg production per hen (kg)	12.3	13.6	12.8	13.1	12.4	13.2

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 (¥1,000)	Middle (¥1,000)	Lowest (¥1,000)	Highest (¥)	Middle (¥)	Lowest (¥)
854 ~ 576	407 ~ 261	239 ~ 130	1,844 ~ 856	763 ~ 657	639 ~ 214	1,406 ~ 1,172	1,170 ~ 962	928 ~ 452
710	312	177	(¥1,000) 1,108	(¥1,000) 726	(¥1,000) 395	(¥) 1,263	(¥) 1,062	(¥) 743
2.6	1.6	1.6	2.5	2.1	1.2	2.2	2.0	1.5
139	122	91	170	106	76	160	119	73
107	135	73	131	93	71	132	95	67
710	312	177	534	462	202	538	358	302
1,633	1,111	1,098	1,673	1,424	745	1,436	1,488	918
4,373	3,837	2,880	5,023	3,623	2,446	4,742	3,861	2,489
2,675	1,419	1,057	2,425	1,863	862	2,312	1,730	1,110
1,667	742	513	1,317	1,137	467	1,297	931	696
1,008	677	544	1,108	726	395	1,015	799	414
79	56	56	69	70	51	67	69	55
394	431	313	448	369	323	460	400	280
6,282	6,562	5,071	6,720	5,759	5,437	7,151	6,986	4,779
2,355	1,790	1,783	2,304	2,010	1,613	2,218	2,065	1,644
1,136	1,129	803	1,223	1,008	836	1,263	1,062	743
0.128	0.105	0.077	0.134	0.102	0.073	0.134	0.110	0.066
37	48	48	46	42	45	44	48	41
652	395	421	665	515	288	578	538	350
53	34	46	42	50	40	38	46	47
9	9	13	12	11	9	10	14	9
0.65	0.37	0.38	0.51	0.52	0.37	0.51	0.46	0.43
75	64	49	58	66	63	64	55	68
475	467	501	514	474	455	493	512	438
12.9	13.3	12.5	12.7	13.1	12.8	12.7	12.9	13.1

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.
3.9 ^①	197 ^①	800 ^④	570 ^①	64 ^{③ ⑧}	204	560 ^{② ⑥}	15.0
3.4	177 ^⑤	700 ^{⑧ ⑨}	520 ^⑤	59 ^⑨	194 ^⑪	540	14.5 ^⑦
2.9 ^⑧	157 ^②	600 ^{① ③}	470 ^②	54	184 ^{① ⑥}	520 ^⑤	14.0 ^⑤
2.4 ^②	137 ^{④ ⑦}	500	420	49 ^{⑥ ⑬ ⑮}	174 ^{② ④ ⑦}	500 ^{① ② ⑦ ⑪}	13.5 ^{⑨ ⑬ ⑮}
1.9 ^{③ ④ ⑥ ⑦ ⑨}	117 ^{⑥ ⑪}	400 ^⑤	370 ^{⑧ ④ ⑦ ⑪}	44 ^{⑨ ⑪}	164 ^{⑤ ⑩ ⑫}	480 ^{⑤ ⑨}	13.0 ^{① ③ ⑧ ⑪ ⑫ ⑮}
1.4 ^{⑩ ⑬ ⑭ ⑮}	97 ^{⑩ ⑧}	300 ^{⑦ ⑩ ⑫}	320 ^{⑩ ⑫}	39 ^{① ⑩}	154 ^⑦	460 ^{⑫ ⑬}	12.5 ^{④ ⑧}
0.9 ^{④ ⑤}	77 ^{③ ⑨ ⑬}	200 ^{② ⑪ ⑮}	270 ^③	34 ^{④ ⑦ ⑫ ⑭}	144 ^⑮	440 ^{⑤ ⑬}	12.0 ^{② ⑥ ⑪}
0.4	57 ^{④ ⑮}	100 ^{⑬ ⑭}	220 ^{⑬ ⑭}	29 ^⑪	134 ^④	420 ^⑩	11.5
0	37 ^⑮	0	170 ^⑮	24 ^⑤	124 ^⑨	400 ^⑧	11.0

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	
82	272	114	104	460	2.8	1.4	0.14
77	247	104	94	440	2.6	1.3	0.13
72	222	94	84	420	2.4	1.2	0.12
67	197	84	74	400	2.2	1.1	0.11
62	172	74	64	380	2.0	1.0	0.10
57	147	64	54	360	1.8	0.9	0.09
52	122	54	44	340	1.6	0.8	0.08
47	97	44	34	320	1.4	0.7	0.07
42	72	34	24	300	1.2	0.6	0.06

Table III - 1. Size of Poultry Enterprise

	Average 15 farms	Range	
		Highest	Lowest
Number of laying hen*	400	854	130
Number of chicken	262	669	45
Days worked in poultry	165	365	72
family labor	165	365	72
hired labor	0	0	0
Capital invested in poultry (¥)**	620,972	1,495,991	185,860
Capital equipment in poultry (¥)	585,867	1,445,991	158,210

* 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		1,125,770	2,333,604	318,935
egg		925,061	1,934,283	292,320
by-product*		200,709	448,137	26,615
Expense of poultry		792,296	1,822,355	243,031
purchased		758,026	1,773,435	214,301
self-supplied		11,300	28,220	2,620
depreciation		22,970	50,327	5,345
Net return to poultry		333,474	667,494	75,904
Per laying hen	Gross return	2,773	3,094	2,238
	egg	2,290	2,602	1,985
	by-product	483	903	205
	Expense	1,934	2,249	1,607
Net return to poultry	Net return	839	1,185	445
	per day of family labor	1,992	4,242	643
	per ¥10,000 of capital investment	5,657	8,534	2,821
	per ¥10,000 of capital equipment	6,022	9,105	2,917
Net return to family labor per day		1,770	3,930	549
Interest rate of capital invested		0.346	0.681	⊖ 0.036
Net profit of poultry enterprise		180,996	465,163	⊖ 17,848
Net return ratio**		30%	39%	20%

* 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		5,171	10,390	1,680
per laying hen	Egg production (kg)	13.0	14.6	11.5
	Days worked (day)	0.48	0.90	0.20
	Capital invested (¥)	1,574	3,163	1,066
	Expense	1,934(100)	2,249	1,607
per laying hen	feed	1,683(87)	1,951	1,391
	poultry	126(6)	192	49
	fuel and light	11(1)	39	5
	small machinery	39(2)	53	26
	depreciation of fixed asset	61(3)	109	29
	other	14(1)	62	1
	Self-supplied ratio of feed (%)		2.5	9.0
Feed cost per hen-equivalent(¥)		1,204	1,436	980

Table III - 4 Cost control

		Average 15 farms	Range	
			Highest	Lowest
per laying hen	Total cost (¥)	2,366	2,703	1,853
	expense	1,934	2,249	1,607
	cost of family labor	337	635	146
	capital interest	95	190	64
	Value of by-product (¥)	483	903	205
	Production cost of egg (¥)	1,883	2,385	1,506
	Egg production (kg)	13.0	14.6	11.5
Production cost of egg per kg. (¥)		146	185	119
Average price of egg per kg. (¥)		178	185	170
% cost of egg is of price		82	106	66
% purchased cost is of egg sold		82	95	69
% feed bought is of egg sold		73	85	61

Table III - 5 Average of 5 Farms Grouped According to Some Important

		Number of laying hen			Egg production per hen		
		Large	Middle	Small	Large	Middle	Small
Range		854~576	407~261	239~130	14.6 kg ~13.21	13.2 kg ~12.71	12.7 kg ~11.5
Average		710	312	177	13.7 ^{kg}	12.9 ^{kg}	12.0 ^{kg}
Number of laying hen		710	312	177	383	392	423
per laying hen	Egg production (kg)	12.9	13.3	12.5	13.7	12.9	12.0
	Days worked (day)	0.32	0.52	0.59	0.53	0.54	0.36
	Capital invested (¥)	1,422	1,967	1,334	1,846	1,598	1,279
per laying hen	Gross return (¥)	2,816	2,969	2,532	2,900	2,792	2,626
	Expense (¥)	1,985	1,981	1,835	1,954	1,947	1,901
	Net return (¥)	831	988	697	946	845	725
Net return to family labor per day (¥)		2,437	1,719	1,154	1,701	1,777	1,832
Interest rate of capital invested		0.450	0.356	0.233	0.341	0.310	0.387
Net profit of poultry enterprise		346	158	39	190	168	185
Net return ratio		30	33	27	33	30	27
per laying hen	Total cost (¥)	2,305	2,459	2,333	2,438	2,424	2,234
	Expense	1,985	1,981	1,835	1,954	1,947	1,901
	Cost of family labor	235	360	418	374	382	257
	Capital interest	85	118	80	110	95	76
Production cost of egg per kg. (¥)		141	140	158	143	150	145
Average price of egg per kg. (¥)		181	179	176	177	180	179
% cost is of price of egg		78	79	90	81	84	82
% feed bought is of egg Sold		74	71	75	70	72	78
Feed cost per hen-evivalent		1,196	1,165	1,251	1,200	1,201	1,209

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
1,185 ₪ - 987	892 ₪ - 780	691 ₪ - 445	3,930 ₪ - 2,002	1,801 ₪ - 1,502	1,449 ₪ - 549	185 ₪ - 151	147 ₪ - 140	139 ₪ - 119
1,067 ₪	860 ₪	589 ₪	2,617 ₪	1,679 ₪	1,015 ₪	163 ₪	143 ₪	132 ₪
384	381	434	610	296	293	416	371	412
13.3	13.1	12.3	12.6	13.6	12.4	12.6	12.7	13.3
0.56	0.39	0.48	0.30	0.51	0.61	0.58	0.39	0.46
1,461	1,834	1,427	1,312	1,923	1,488	1,399	1,504	1,820
2,846	2,941	2,531	2,845	2,938	2,535	2,607	2,870	2,841
1,779	2,081	1,942	1,967	1,970	1,865	1,959	2,050	1,792
1,067	860	589	878	968	670	648	820	1,049
2,103	1,904	1,303	2,617	1,679	1,015	1,220	1,854	2,236
0.482	0.350	0.207	0.504	0.355	0.180	0.208	0.364	0.466
249	186	107	344	146	53	101	177	264
37	29	23	31	33	26	25	29	37
2,262	2,471	2,364	2,268	2,444	2,385	2,445	2,420	2,232
1,779	2,081	1,942	1,967	1,970	1,865	1,959	2,050	1,792
396	280	337	223	359	431	402	280	331
87	110	85	78	115	89	84	90	109
135	142	162	136	141	162	163	143	132
179	179	177	182	178	176	177	180	178
75	80	92	75	79	93	93	80	74
65	76	79	74	70	76	78	78	65
1,115	1,231	1,265	1,195	1,200	1,217	1,270	1,252	1,090

Figure III - 1

Number of laying hen	per laying hen						
	Egg production	Days worked	Capital invested	Gross return	Expense	Net return	Gross return of egg
	kg	day	¥	¥	¥	¥	¥
800 ①	15.0	0.9	1,970 ②③	3,170	2,330	1,240 ⑧	2,690
700 ②③	14.5 ⑦	0.8	1,870 ⑤	3,070 ②③⑥⑦⑩	2,230 ③	1,140 ⑦	2,590 ⑦
600 ④⑤	14.0 ⑥	0.7 ⑧	1,770	2,970 ⑦	2,130 ①②⑥⑦⑩⑬	1,040 ④⑤④	2,490 ②⑥
500	13.5 ②	0.6 ⑦	1,670	2,870 ③⑬	2,030	940 ②③⑥⑦⑩	2,390 ⑧
400 ⑥	13.0 ③④⑤⑬⑮	0.5 ③⑥	1,570 ②	2,770 ⑤⑪⑫⑭	1,930 ⑧⑦⑨⑮	840 ②③⑥⑦⑩	2,290 ③④⑤⑬⑮⑭⑮
300 ⑦⑧⑨⑩	12.5 ①④⑤⑮	0.4 ⑤⑥⑨⑩⑪⑫⑬	1,470 ⑩⑮	2,670 ④⑨	1,830 ⑨⑮	740 ⑬	2,190 ⑩⑮
200 ⑪⑫⑬	12.0 ⑪⑫⑬	0.3 ②	1,370 ⑫⑬	2,570 ⑫⑬	1,730 ⑤⑫⑬	640 ③⑪	2,090 ⑩
100 ⑭⑮	11.5 ⑩⑫⑮	0.2 ①④	1,270 ④⑤⑦	2,470 ⑤⑮	1,630 ④⑪	540 ①⑮	1,990 ⑪⑫⑮
0	11.0	0.1	1,170 ③④⑦	2,370 ⑪⑫	1,530	440 ⑫	1,890

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 gross farm income in poultry
¥		¥	¥	%	¥	%	%
2,570 ^④	0.55 ^{④⑤}	136	136	102	14.00 ^①	89	82 ^②
2,370 ^①	0.50 ^⑦	176	184 ^⑩	97	13.50 ^{⑬⑮}	85 ^③	77 ^⑤
2,170 ^②	0.45 ^⑩	166 ^③	182 ^{②③⑧}	92 ^③	13.00	81 ^{①⑩}	72 ^⑨
1,970 ^⑤	0.40 ^{②②⑩⑬}	156	180 ^{④⑤①⑬}	87 ^{④⑤}	12.50 ^{②⑥⑦}	77 ^{②④⑪}	67 ^⑧
1,770 ^⑦	0.35 ^⑬	146 ^{③⑦⑪⑬}	178 ^⑦	82 ^{⑥⑦⑪⑬}	12.00 ^{③⑩⑪⑬}	73 ^{⑪⑬}	62 ^{⑥⑦⑩}
1,570 ^⑧	0.30 ^{⑧⑩⑪⑬}	136 ^{②⑧⑨⑩⑪⑬}	176	77 ^{②⑧⑨⑩⑪⑬}	11.50 ^{⑪⑬}	69 ^{⑤⑨⑪⑬}	57 ^{⑤⑦⑩⑬}
1,370 ^⑪	0.25 ^{⑪⑬}	126 ^{⑤⑪⑬}	174 ^{⑪⑬}	72 ^{⑤⑪⑬}	11.00 ^{⑤⑧⑨}	65 ^{④⑦⑧⑪⑬}	52 ^{④⑦⑧⑪⑬}
1,170 ^③	0.20 ^{③⑨}	116 ^④	172	67 ^④	10.50	61	47 ^④
970 ^{④⑫⑮}	0.15 ^{③⑤}	106	170 ^⑨	62	10.00 ^④	57	42 ^{④⑪⑫}

