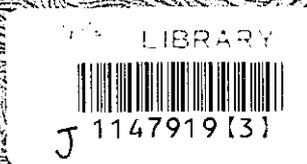


THE SURVEY REPORT
ON
JAPANESE FARMER'S LIFE

1977



Rice cultivation and its extension Course
Uchiyama International Agricultural Training Centre

JICA

TAC
JR

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PROGRAMME OF FARM HOUSEHOLD PRACTICE

1. Purpose

Purpose of the practice is to impart the practical information of rice growing area, the environment of rice growers and technical standard of rice cultivation to participants by sharing daily routines in Japanese farm households with their counterparts.

Content of training

To attain the above objective, participants were particularly suggested to call attention to the following items while in practice.

a) Farmers

To get a complete view of their life, behavior of the family members, farm management in general, the technical standard of rice cultivation and technical analysis of each factor which materialized high yielding through out the stay.

b) Rural milieu of the farmers

General condition of the community (Buraku) to which host farmer belongs and their history if there is any thing worth mentioning organization or human relationship, customs, etc.

c) Others

The relationship among host farmers and public organization like Agricultural Cooperatives, Agricultural Training Center and Agricultural Extension office, etc.

2. Place

Kanasawa Buraku

Nakayama Machi

Yamagata Prefecture

Nagasaki Buraku

3. Duration

From 21st of July to 27th of July

4. Accompanied staff

T. Seino from 21st to 27th

N. Chida from 25th to 27th

K. Miura from 21st to 27th

5. Necessaries

Yellow card, Stationary goods, Field wears, Field shoes or Sport shoes, Toilet goods, Hat, Under wears, etc.

Farmers House Practice Report

Burhanuddin Seraj (Afghanistan)

Introduction

The house stay practice is a most successful program for me. From close discussion and living to gather with the farmers I have clearly known their technical knowledge and experience and methods of rice cultivation. The relationship between the farmers and technical agencies, such as Agricultural extension, Agricultural experiment stations and Agricultural co-operative association.

The farm house stay practice is a very interesting and successful program for me. I am sure, all participants will satisfy and gain many new useful practical knowledge of rice cultivation as well as the cultural and customs of the Japanese rural life.

Family condition

	Name of member	Age	Relation	Final education	Occupation
1.	Satory Aoyagi	46	Father	High School	Farmer
2.	Sachuiko Aoyagi	46	Mother	High School	Farmer
3.	Kazuhiko Aoyagi	22	Son	High School	Farmer
4.	Shinji Aoyagi	20	Son	Commerce	Company

Location

It is located in the northern part of Japan. Yamagata Prefecture is most famous for high yielding of rice production, Yamagata is about 600 km away from Ujihara Center. The population was 1,210,000 and total land area 377,483 km². In 1976, production was 509,000 ton of brown rice from 101,800 ha of paddy land.

Yamagata Prefecture is divided into four Agricultural zone.

1. Murayama
2. Mogami
3. Okitama and Shonai zone

My host farmer house is located in the Murayama zone. Total land area for paddy field was 27,100 ha.

Total production is about 142,546 ton. The average yield is about 526 ton per ha. Farm house holding average is 1.59 ha. My host farmer are full time farmer.

Resident condition

The house is very big with only one floor all rooms are covered by tatami. Tatami is made by straw.

Facilities

- | | |
|--------------------|-------|
| 1. Telephone | 2 set |
| 2. Television | 1 set |
| 3. Tape cassette | 1 set |
| 4. Electric vaccum | 1 set |
| 5. Stereo | 1 set |
| 6. Electric fan | 1 set |
| 7. Air condition | 2 set |

Kitchen facilities

- | | |
|--------------------|-------|
| 1. Pressure cooker | 1 set |
| 2. Gas stove | 2 set |
| 3. Refrigerator | 1 set |
| 4. Washing machine | 1 set |
| 5. Electric stove | 1 set |

Religion service

They are buddhism, they visit temple once a year during the New year time. They give rice, cake, flower and fruit to bhudda. They also give fire insence stick then pray. They do service every morning before taking breakfast.

The small temple has two Buddha, 1st one is bigger then 2nd one they made small shrine above the Buddha image place and they pray to that shrine after praying to Buddha.

Meal custom

They took meal 3 times in a day. Wife do the household work everyday. She cooked five menu every meal.

The following menu are as follows:

1. 21-7-77 Dinner 7 P.M.

- a) Rice
- b) Japanese soup
- c) Omelet
- d) Chicken carry
- e) Vegetable

2. 22-7-77 Breakfast 7 A.M. Lunch 12 A.M. Dinner 7:30 P.M.

- | | | |
|----------------------|-------------------|------------------|
| a) Fried egg | a) Fried noodle | a) Rice |
| b) Rice | b) Omelet | b) Fried chicken |
| c) Boiling vegetable | c) Japanese suace | c) Japanese soup |
| d) Japanese soup | | d) Vegetable |

3. 23-7-77 Breakfast 7 A.M. Lunch 12 A.M. Dinner 7:30 P.M.

- | | | |
|--------------|------------------|---------------|
| a) Fried egg | a) Fried rice | a) Rice |
| b) Sandwich | b) Vegetable | b) Fried fish |
| c) Milk | c) Japanese soup | c) Carry |
| d) Vegetable | d) Omelet | d) Vegetable |

4. 24-7-77 Breakfast 7 A.M. Lunch 12 A.M. Dinner 7:30 P.M.

- | | | |
|--------------|----------------------|------------------|
| a) Fried egg | a) Mochi (rice cake) | a) Suki-yaki |
| b) Sandwich | b) Anako mochi | b) Rice |
| c) Milk | c) Nato mochi | c) Curry |
| d) Vegetable | | d) Japanese soup |

5. 25-7-77 Breakfast 7 A.M. Lunch 12 A.M. Dinner 7 P.M.

- | | | |
|------------------|-----------|------------------|
| a) Fried egg | a) Noodle | a) Rice |
| b) Fish cake | | b) Tempura |
| c) Fried fish | | c) Japanese soup |
| d) Japanese soup | | |
| e) Vegetable | | |

6. 26-7-77 Breakfast 7 A.M.

- a) Rice
- b) Fried chicken
- c) Japanese soup

Farming condition

- A. Labor available 3 member
- B. Agricultural land
 - a) Paddy field 230 a
 - b) Hopp field 15 a
 - c) Cattle house 50 m²
- C. Land situation
 - a) Own land 160 a
 - b) Tenance 80 a
- D. Agricultural machine
 - a) Power tiller 1 set
 - b) Tractor 1 set
 - c) Transplanter 1 set
 - d) Sprayer and duster 2 set
 - e) Harvester 1 set
 - f) Huller 1 set
 - g) Dryer 1 set
 - h) Pumping set 1 set
 - i) Car and track 3 set
 - j) Binder 1 set
 - k) Trailer 1 set
 - l) Weeding machine 1 set
 - m) Incubator 1 set
- E. Animal
 - a) Beef cattle 17 heads

Cultivation technique for high yield of rice

My host farmer for the year 1977 were cultivated 2 different varieties, Sasanishiki and Kiyonishiki. Sowing date 20th of April, transplanting 15th of May the seed was selected by the method of salt water with egg, specific gravity from 1.08 - 1.13, Treated with Benlate, rate of seed 200 - 230 gm per box after sowing they put the boxes into incubator for 5 days accumulated temperature 100°C, after 5 days shifted to open place and covering by

by vinyl sheet. After 20 - 23 days of seedling, the stage of 2.5 mean leaf age is ready for transplanting, every 1 ha land 230 boxes is needed.

After 3 times plowing and puddling it the beginning of May, 2 days before transplanting, apply herbicide MO, depth of transplanting is about 2 - 3 cm. Planting density is 80 hill per 3.3 m² 1st top dressing of fertilizer was applied at the end of May, beginning of June they start intercultivation weeding, in August before heading they applied pesticide control to Neck Blast Sheath Blight, at the same time they drained water out in September. 45-50 days after heading is good time for harvesting, during time of harvesting the humidity of seed is about 15 - 17 % accumulative temperature from sowing to harvesting date is 1,100°C.

Fertilizer application

Applied compost 1300 kg/0.1 ha, Calcium silicate 120 kg/0.1 ha and Magnesium sulphate 60 kg/0.1 ha.

Amount of fertilizer application in each step.

Item	N (kg)	P ₂ O ₅ (kg)	K ₂ O (kg)
1. Basic applied fertilizer	40	7.20	6.40
2. 1st top dressing 5 days after transplanting	2.0	3.60	3.2
3. 2nd top dressing 2 days before heading	1.60	-	1.8
4. 3rd top dressing 10 days before heading	1.60	-	1.8

Plant protection

The farmers joint together and make some organization in such organization 1 group is consist of 8 persons. They go together to survey their field and after that they discussed and make planning to spray pesticide.

1st use of pesticide July 10 - 11	E.P.N + Labcide + New Azogin
2nd use of pesticide July 26 - 28	Azogin + Labcide
3rd use of pesticide August 8 - 10	Hinobycide
4th use of pesticide August 16 - 18	Kasumin

Water management

Interval irrigation is practiced during the month of June and July water management is one of the factor to produce high yield farmers pay more attention for water management they keep water depth about 5cm for 15 days after transplanting, after that they drained water out and keep water level 2 - 3 cm interval drainage and shallow irrigation is employed during tillering stage up to maximum tillering. Complete drainage is done near the ripening stage.

Farm Income

(a) Income

Sale of rice	3,757,740 yen	(16.50) ton
Beef cattle	11,390,000 yen	(17 heads)
Hopp	11,000,000 yen	
Total	172,477,000 yen	

(b) Expenditure

Rice production cost	928,000 yen
Cattle production cost	833,000 yen
Hopp production cost	935,000 yen
Total	10,193,000

(c) Net income $17,247,700 - 10,193,000 = 7,054,740$ yen

Related organization for their life and family

Mr. Aoyagi is one of the member of agriculture cooperative association and member of progressive farmer. He goes to extension office 7 - 10 times in a year. He study about new technique of rice cultivation, fruit and animal production. Extension officer come to their house 1 - 3 times, he sale his agricultural production through the cooperative association channel and he recieved money after 3 - 4 days. Fertilizer, pesticide, herbicide for them through the agricultural cooperative association.

Conclusion

1. More attention of the farmers in the field for soil fertility by use of chemical fertilizer in defferent stage of growth, using

of improved and high yielding varieties of rice, disease and insect control and proper water management in different stage.

2. Sufficient and helpfull relationship of agriculture experiments station and agriculture extension officers for solving problems of the farmer.
3. Presence of agriculture cooperative and agricultural bank.
4. Policy of the government in the price of rice production for interest of the farmers.

Farmer's House Practice Report

Juan Bellott Montalvo
(Bolivia)

Introduction

As a part of rice cultivation and its extension training programme, it was farm house stay practice. The purpose of the practice was to impart the practical information, of rice growing area, the environment of rice growers and technical standard of rice cultivation to participants by sharing daily routines in Japanese farm households.

The Japanese farmer's life practice began from 21st of July to 27th of July, 1977. The place of this practice was in Yamagata Prefecture, Nakayama Machi.

1. Family Condition

1-1. Family member:

The total members Mr. Shiguemi Tanno's family including himself were six person as follows:

1. Mr. Shiguemi Tanno (61) graduated Agriculture College (Farmer)
2. Mrs. Kaneko Tanno (52), graduated High School (Wife)
3. Mrs. Nonshi Tanno (72), graduated primary school (Mother)
4. Mr. Tsutomoto Tanno (36), graduated High School (Son)
5. Miss Niako Tanno (33), graduated High School (Daughter)
6. Mrs. Shigeko (28), graduated High School (Daughter)

1-2. Life Territory:

The son and two daughter of the family Mr. Tanno, they are living separately. Mr. Tsumoto (son), he works and lives in Aomori, 400 km of distance from his native place, he work in publicity.

Miss Niako (daughter), she works and lives in Nakayama 4 km of distance from her native place.

Mrs. Shigeko (daughter), she is married and lives in Saitama 350 km of distance from her native place.

Besides those members, Mr. Tanno has an other relatives, one brother and one sister, his brother is farmer he work and lives in Yamanobe machi, 8 km of distance. His sister work in Asahi machi, she is a staff of gasoline station 14 km of distance.

1-3. Residential Condition:

Mr. Tanno's house has two built, one built of first construction and other one built of new construction, around of his house there is garden with many kinds of flowers. The house is located in 185m² with 9 rooms such as; Bed rooms, Dinning room, Living rooms Japanese style and Western style, Kitchen, working rooms, reading room and etc., every room has sufficient amount of furnitures and T.V. sets radio sets etc., for comfort life.

1-4. Religion:

Their religion is Buddhism and they have one special room for their God. They pray every morning before breakfast.

1-5. Meal Custom:

Usually they take meals three times a day.

1. Breakfast at 8:00 A.M.

2. Lunch at 12:00 Noon

3. Dinner at 7:30 P.M.

Food are generally prepared by his wife assisted by his mother.

The principal food is rice accompany by many kind of vegetables, fruits, egg, chicken meat, pig meat, every day it was different menu.

2. Farming Condition:

Mr. Tanno has 0.4 ha of paddy field, 0.35 ha of upland field, 5.0 ha forest land, divided in different location, he manage this farm land himself, he has never engaged labour to execute his farming.

A part of work in his farm land, he take care of 300 pigs, that pertain to group of five persons by this work he gain salary.

The agricultural facilities that appropriated are:

a. Power tiller

- b. Transplanter
- c. Sprayer
- d. Harvester
- e. Thresher
- f. Huller
- g. Dryer
- h. Pumping set
- j. Car and Truck

This agricultural facilities pertain 3 person including himself. The method of rice cultivation in the paddy were fully mechanized the nursery preparation and seed began during the month of April, treatment of seed with chemical for diseases. He used the variety Kionishiqui high yielding variety.

2-1. Transplanting, fertilizer application and weed control:

According to Mr. Tanno's the seedlings were transplanted on May 18, by machine. He used chemical fertilizers.

- a. Chemical fertilizer (N.P.K) for basic application.
- b. Chemical fertilizer, Urea from the Nitrogen application in top dressing.

The basic application were:

N .	P.	K.	Kg per 10a
5.7	10.0	4.7	

During the growth of rice he applied 4 times of top dressing. For controlling of weeds he used chemical herbicides, the herbicide are as follows:

1st application herbicide MO to rate 3kg/10a

2nd application herbicide Mameto 20 days after transplanting to rate 3 kg/10a

After this application he weeds by hand one at a time.

2-2. Plant Protection:

For control insects he used chemical insecticides PMP, rate 3kg/10a, the major common diseases in these area were blast, and

sheath blight for both diseases he use fungicides systematically.

2-3. Water Management:

The amount of water in the field maintain about 5 cm of depth after tranplanting, and drained during heading time. The water management was done in practice recommended by extension office according to the type of soil.

2-4. Harvesting:

He starts harvesting operation during the month of September, rice combine are used for this work.

3. Farm Income:

The farm income is as follows:

Rice net income	330.000
Orchard net income	40.000
Pigs Co-operative	1.500.000
Total income	1.870.000
Total expenditure	1.200.000
Net income	670.000

4. Community (Buraku):

The community is located in Kanasawa Nakayama Machi, Yamagata Ken, there are 234 household family.

In this area the principal group is rice, the average production of farmers in term of brown rice is from six to seven tons/ha. In Upland areas farmers raised vegetables of different kind and their production are mostly used for home consumption, too they have in upland orchard with different kind of fruits.

All the farmers are members of the cooperative society, these cooperative play a vital role, becuase help to the farmers such as, credit marketing facilities, purchasing facilities wire telephone etc., apart to this facilities cooperative, the farmers have visits Extension Officer once a month for resolving any problems.

5. Opinions:

During my staying at my host farmers house I got more information, before coming to Japan I had one question, how can Japanese farmers get high yield of rice. Now it is clear, because Japan used good technique, scientific methods, mechanization, also play vital role to the following points.

- a. Presence of agriculture cooperatives.
- b. Good relationships of agriculture experiment stations and agriculture extension officers, for resolving problems of the farmers.
- c. Much attention in soil fertility by using chemical fertilizers, diseases and insecticides control, good water management in different stages of rice plant.

Besides agriculture activities also I got information about Japanese life, culture, customs and their very good hospitality.

Finally, I like to express my thanks to my host farmer Mr. Tanno and my great thanks to all the authorities in this program, especially to staff of Rice Cultivation and its Extension Course.

REPORT ON THE FARMER'S HOUSE PRACTICE

Mauro Sakai (Brazil)

I - INTRODUCTION

I came to Japan as a participant of Rice Cultivation and Its Extension Course because I was so much interested to know how Japan has been able to reach self-sufficiency in its rice production with very small area of arable land.

When the time passed I have felt that the technique of rice cultivation which I am learning in Japan is not so different from ours.

Here I was particularly interested in topics like how does the farmer get high yield of rice. What factor is favourable influencing for getting high yield? Is it because of climate, good soil condition, or the farmer's capacity, etc...? With an intention to solve these doubts I went to farmer's house in Kanasawa "buraku" as the programme of Farmer's House Practice is conducted by Rice Cultivation & Its Extension Course.

II- GENERAL INFORMATION ABOUT LOCATION OF STUDY

The place of study was in Kanawa "buraku", community of Nakayama town, Yamagata prefecture. This "buraku" is located about 4 km from Nakayama town and 12 km North-west from Yamagata City.

There are 234 house-holds in Kanesawa community in which 176 house-holds are of farmers.

This region of Japan, where Kanesawa "buraku" is located, produced the highest rice yield per unit area in 1976.

Although main crop of that area is rice, the mountainous area is covered up by fruit-trees like apple, pear, grape, cherry, etc.

III- FAMILY

My host farmer was Mr. Shiguemi Tanno. He is 61 year old and his family consists of his wife, mother, one son and two daughters. But the son and daughters are married already and living separately.

Table of family

Name	Age	Relation to house-master	Education	Occupation
1. Mr. Shiguemi Tanno	61	House-master	High School	Farmer
2. Mrs. Kaneko Tanno	59	Wife	High School	House-wife
3. Mrs. Noshi Tanno	79	Mother	Primary	- -

IV - Relatives

The relatives are as follows:

Name	Age	Relation to house master	Education	Occupation	Place
1. Mr. Tsumoto Tanno	36	Son	High School	Business	Aomori
2. Mrs. Niako Suzuki	33	Daughter	High School	Farmer	Nakayama
3. Mrs Shigueko	28	Daughter	High School	House-wife	Saitama
4. Mrs. Kimuko Tanno	-	Sister in law	High School	Business	Yamagata
5. Mr. Reiho Tanno	-	Brother	High School	Farmer	Yamanobe
6. Mrs. Ume	-	Sister	High School	Staff	Asahi

Note: In addition to that he has three grand-daughters, one grand-son, one sister in law, two son in law and one daughter in law.

V - RESIDENTIAL CONDITION

Mr. Tanno's house is made of two parts. The first part was constructed in 1965 and the Second in 1975. The residential condition were as follows:

A - The constitution of the house

1. Two waiting room
2. One living room with built in closet
3. One dinning room with built in closet
4. One religion room with built in closet
5. Kitchen
6. Five bed room with built in closet and small firing place.
7. One bath room with two compartments and with hot water tub and a basin for cold water

8. One lavatory
9. One wash room
10. One store room
11. One garage house
12. One store house and
13. One house for keeping swine.

B - Furnitures

- | | |
|-----------------------------|---|
| 1. Table | 5 |
| 2. Refrigerator | 2 |
| 3. Freezer | 1 |
| 4. Television | 3 |
| 5. Telephone with extension | 4 |
| 6. Electric fan | 3 |
| 7. Stereo | 1 |
| 8. Sewing machine | 1 |
| 9. China closet | 2 |
| 10. Book case | 4 |
| 11. Linen closet | 1 |
| 12. Air conditioner | 1 |
| 13. Sofa set | 1 |
| 14. Heater | 1 |
| 15. Washing machine | 2 |
| 16. Stove | 1 |
| 17. Hearth | 1 |
| 18. Water heater | 1 |
| 19. Sleeping berth | 1 |
| 20. Chair | 6 |
| 21. "Butsudan" | 1 |

VI - Religion

Mr. Tanno's family is Buddhists by religion, and every morning and night they pray in their own holy room. Besides that they also pray in certain souls'day and New Year's Day.

VII - MEAL CUSTOM

Usually they take their meal three times a day. Breakfast at 8:00 am, lunch at noon and dinner at 7:30 to 8:00 pm in summer and 6:00 pm in winter. The meal is prepared by Mrs. Kaneko. The main food is rice, and besides that they usually eat vegetables, pork, chicken, soup, tohu, egg, fermented soy-bean, sea weed and fish. Dishes are prepared of five or more kinds including "miso" soup. They drink "osake" in the evening before their dinner. Green tea is served after dinner.

VIII - FARMER'S CONDITION

Mr. Tanno has 5.75 ha of land in total in which 0.4 has under paddy field, 0.35 ha of upland field where his house is constructed and 5.0 ha of forest land. He also has one power tiller, two cars and 60 head pigs. He is a member of joint farming association formed by uniting several farmers, which having essential farm machinery and tools such as:

1. One transplanter
2. One sprayer
3. One duster
4. One harvester
5. One huller
6. One thresher
7. One dryer and
8. One pumping set

IX - CROPPING PATTERN

Kind of Crop	Season	Period	Area (ha)	Yield (kg)	Average (kg/ha)
Rice	15/4 - 25/9	160 day	0.40	2,400	6,000
Cherry	Perennial	-	0.10	not produced yet	-
Plum	"	-	0.02	400	20,000
Vegetable	Spring to Autumn	-	0.20	-	-

Note: The vegetable is cultivated only for house consumption.

He has 60 head pigs for meat production.

He wants to expand the orchard of cherry, apple and plum in future.

X - WORK IN THE FIELD

Mr. Tanno is engaged mainly in pig breeding and so he looks after the paddy field only at the time of plowing, puddling, transplanting and harvesting. His wife Mrs. Kaneko sometimes works in orchard. Since Mr. Tanno does not have enough time for working in rice field he contracts about 10 day-men in season.

XI- RICE CULTIVATION TECHNIQUES

The rice field is divided into two plots. One plot is near by pig-house and another is located about 2 km from the first plot. The variety of rice now growing in the field is Kionishiki. He liked this variety because it is resistant for lodging, disease and pest. Moreover it has good eating quality and finally high yield.

Seedling preparation: Mr. Tanno's rice field is looked after by Mr. Hideo Suzuki, who prepared the seedling by nursery box system. The date of sowing was April 4th.

Transplanting: Transplanting was done by using two row transplanter machine in Mya 18th. The plant density which I found was 80 hill per 3.3 m^2 and 4 to 5 plants per hill. According to this density the a spacing is 30 cm., between rows and 13.5 cm between hill.

Weed control: The weed is controlled by use of herbicides. The herbicides used were MO. at the rate 8kg/ha before transplanting, Mame-to at the rate of 8 kg/ha 20 days after transplanting and MCP at the rate of 8 kg/ha on July 4th. The MCP also helps in inhibiting the excess tillers. According to Mr. Suzuki's technique it is enough to have 24 to 26 effective tillers per hill for better development of panicle and to get high yield. Interculture is done as it is needed.

Pest and disease control: The popular disease and pest in this region are: blast, brown spot, sheath blight, bacterial leaf blight,

plant hoppers and green leaf hoppers. Therefore, Mr. Tanno had used chemical to prevent the plant from those diseases and pests. He used Kazumon at the rate of 8 kg/ha to control the blast, brown spot and sheath blight in July 3rd, and PMP for controlling the plant hoppers, green leaf hoppers and another pests. He is going to use Kazumon or Hinobaycid at the time of heading to prevent the plant from neck-blast.

Fertilizer application: The basal dose of fertilizer was applied before puddling the field at the rate 57-100-46 kg/ha of the N-P-K respectively and 2 ton/ha of manure and 600 kg/ha of silicon. Top-dressing is done according to the requirement of plant in its growing period to prevent the plant from malnutrition, lodging and disease. The top-dressing in paddy field is done in following days:

Nitrogen: Total 60 kg/ha of nitrogen is or will be top dressed in three split doses during crop life. The first application is already done in July 11th to 13th by coinciding with primordial panicle initiation period of rice plant. The 2nd and 3rd application will be done after heading.

Phosphorous: Phosphorus is also applied along with the first application of nitrogen at the rate of 50 kg/ha.

Potassium: Total 50 kg/ha of potassium fertilizer is or will be applied in three times together with nitrogen application.

Water management: Gravity system of irrigation was used in an open canal. Deep level of water in the field was maintained during transplanting recovery stage and shallow after the stage. However, water level will be maintained deeply again at heading period.

Harvesting: The harvesting of rice crop is expected around middle of September. All paddy field will be harvested by binder, and the drying of harvested rice plant will be done in the field. Threshing as well as seed drying and hulling will be done by machine as soon as plants get ready for it.

Marketing: The Agricultural Cooperative is responsible for marketing of farm products.

XII - HOST FARMER INCOME (1976)

Rice net income	¥ 330,000
Orchard net income	40,000
Salary for pig management	1,500,000
Animal net income	not available
Total house expenditure	1,200,000

Note: Mr. Tanno got salary because he is taking care of 300 head-pigs from the farmers association.

XIII- RELATED ORGANIZATION TO FARMING

1. Agricultural Cooperative: The Cooperative handles various functions to benefit the farmers such as financial support, marketing of farm products as well as to supply the house and farm necessities like food, clothes, some commodities for modern living, machinaries, fertilizers, seeds, etc. And the Cooperative offers the extension service to the farmers for helping and advising them in their farm operation. The Cooperative also has radio-telephone to transmit the agricultural notice and emergency advice.
2. Agricultural Extension Office: The Extension Office offers assistance to the farmers through direct orientation, demonstration, training and study trip in order to promote their technical knowledges. Home assistance also functions as an emergency for further improvement of living condition of the farmers.

XIV - CONCLUSION

This programme of farmer's house practice organized by Rice Cultivation & Its Extension Course is extremely useful for me. I think because of following reasons farmers of Japan getting high yield from rice cultivation.

1. The level of technical knowledge and cultural of farmers were very high.
2. The farmer himself is working in the field.
3. The farmer accepts the advice of extension worker.

4. The research work on rice cultivation in Japan is quite advance.
5. The environment for rice cultivation is favourable in Japan although it has to suffer sometimes from unexpected troubles like typhoon and cold weather.
6. The farmers class is politically strong.
7. The price of rice in Japan is very high.
8. The farm is small, so that no need to hire labourer.
9. Most of farmers have the knowledge of yield constituting factor, and they study them one by one to improve their techniques year after year.

I am sure, all participants will be satisfied and gain many new useful knowledge of rice cultivation as well as the customs of the Japanese rural life which is very much different from our lecture & books.

XV - GRATEFULNESS

I would like to express my thanks firstly to my host farmer Mr. Tanno and his family who treated me so nicely and kindly. I am also much thankful; to the concerned authorities for organizing such a nice and educative programme.

Mauro Sakai
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MY EXPERIENCES ON FARM HOUSEHOLD PRACTICE

Mr. Myo Thwin (Burma)

Preface

The better understanding for the development of agriculture production all over the world, essential to humans survival. The scientific basis and systematic methods of Japanese farmers are also explained in this paper. The scope of it and general points of view have been determined by my own experiences, and includes much informations and sources which I have had more readily available when I was practiced in Japanese farmers house. As an agriculturist in the field may obtained an idea, a piece of useful information or perhaps only the encouragment to try a new approach.

Acknowledgement

I was very fortunate to have Indonetian language speaking Mr. Shoi-chio Suzuki to prepare the original informations of my host farmer, through my Indonesian partner Mr. Sihonbing. I owe much to everybody concerned, including my host farmer, teaching staffs of U.I.A.T.C, Extension office and Co-operatives employees, 4-H club members and a large number of people from all part of Yamagata prefecture with whom I have had the opportunities to discuss problems and developments in Japanese farmers life. I had such a short time of study in farmers life, much of the informations in this way cannot be properly accomplished. So if there any mistakes or short commings, I'm apologetic for it.

Introduction

Purpose of this practice is to take part practical works in widely rice growing area, to study the environment of the growers and their related organizations, to get technical method of rice cultivation by sharing daily rountines in farm with our counterparts. This farm household practice is one of the major programs of our course, which make me to get more general knowledges. As I am a training officer as well as assistant farm in charge myself, I should have more experiences and technical knowhow. Lucky, I got a big chance to study in detail about Japanese cultivation

systems in rural area. Duration of this practice was started on 21st of July 1977 and lasted 27th of July, 1977.

Location

I have an opportunity to study in high yielding and widely rice growing area, Yamagata prefecture. It is located in northern part of main island, having population of over 1,200,000 and 377,483 km/sq of land. Total rice cultivation area is 101,800 hectare and average yield is 5.5 ton/ha in term of brown rice. Not only she is famous for her production of high yielding, good quality of rice but also producing of orchard fruits, vegetables and animal products.

1. Family Condition:

My host farmer Mr. Hideo Suzuki is a progressive farmer as well as a member of Toyoda Agricultural Co-operative Association and Union Members Association. He himself and his family members are as follow mentioned.

a) Family member

Name of family	Age	Relation to housemaster	Education	Occupation
1. Hideo Suzuki	49	Housemaster	High School	Farmer
2. Masuko Suzuki	48	Wife	High School	Farmer
3. Eriko Kemoko	28	Daughter	High School	House-wife
4. Hidotosi Suzuki	24	Son	University	Mechanical line
5. Hidioki Suzuki	22	Son	College	Clerk YKK Co.

B) Life territory

Among these family members only Mr and Mrs. Suzuki have been living in that house, their oldest daughter living with her family. Older son and younger son are still living in Tokyo area. The Suzuki family was originated from this Yamagata prefecture. Some of their close relatives also living in the same community. Most of them are earning with farming but some are salaried employees.

They have good collaboration and mutual understanding among their relatives. Besides, they made equal shares to established agricultural mechaneries, joint animal breeding and others.

c) Residential Condition

Mr. Suzuki's house was made up of brick built foundation and two storied wooden building. It had been well furnished and decorated in Japanese style. They had planted some ornamental plants in front of the house and fruit trees, vegetable are in the back garden. Their house consists of 3 bed rooms, the dinning room, the kitchen, the lounge, toilet and shower room. Ohter furniture and accessories are as follows:

1. Cup board	5	8. Tape recorder	1
2. Table	8	9. Radio cassette	1
3. Television set	2	10. Gas stove	2
4. Washing machine	1	11. Electric oven	1
5. Electric fan	2	12. Telephone	2
6. Refrigerator	1	13. Table regulator grid	1
7. Radio	2	14. Fire extinguisher	1
		15. Air conditioner	1

d) Religious Service

They believe in Buddhism. Every day, in the morning Mr. and Mrs. Suzuki warship to lord Buddha and offer foods, water, flowers, holy smokes and light. They use to make ten to twelve major services in every year, occationally they go to the shrines and pay homage to Buddha image and Buddhist priests. I suppose that the majority portion of the Japanese rural people are Buddhism faith and they are more religious than urban people. As I am a Buddhist, I was very pleased to stay in farmer house and got for a good chance to wordship lord Buddha.

e) Meal custom

Breakfast	from 7 am to 8 am
Lunch	from 12 am to 1 pm
Supper	from 7 pm to 8 pm.

Rice is their main food, one or two kind of meat such as pork, beef, chicken, fish curry or tempura are their main dishes and eggs, vegetables fruits, tohu, noodles, soy-bean, different kinds of soup are side dishes. Milk, black tea, green tea and other soft drinks included for breakfast and lunch, but osake and other alcohols are also included especially for dinner. Mrs. Suzuki was mainly responsible to prepare those meals, table arranging, serving and cleaning also.

2. Farming Condition

A) Labor availability:

Mr and Mrs. Suzuki only, either engaged person as casual hired laborer needs.

B) Agrilian land

Paddy field 70a and orchard field 32a.

C) Land situation

Own land 102a.

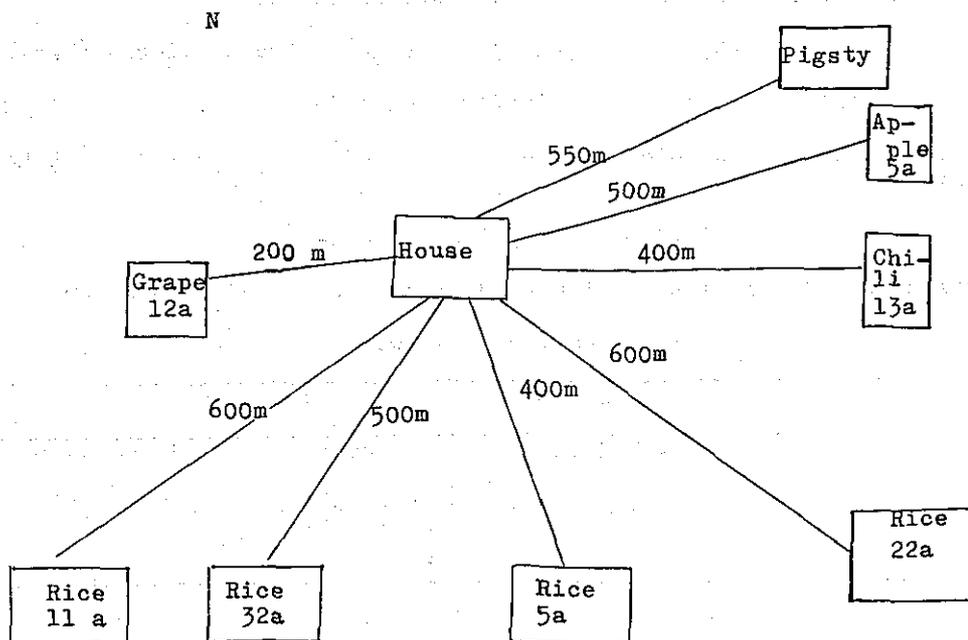
D) Agricultural machineries (Nos. of set)

- a) Power tiller 1
- b) Tractor 1
- c) Transplanter 1
- d) Combine harvester 1 (belongs to 5 personed group)
- e) Thresher 1 -do-
- f) Huller 1 -do-
- g) Dryer 1 -do-
- h) Polisher 1 -do-
- i) Pumping set 1 -do-
- j) Power sprayer and duster 1 -do-
- k) Car and truck 2
- l) Motor cycle & trailer 1
- m) Handling tools & others -

E) Animals (Nos of head)

Swine 275 (Joint farming system of 5 members)

F) Sketch of scattered land. (Approximate distance from the house)



G) Cropping Pattern:

No.	Kind of Crop	Season (Month to Month)	Period (Days)	Area (ha)	Total Yield (kg)	Average Yield (ton/ha)
1.	Rice	April - Sept.	150	0.72	4,900	6.8 ton/ha
2.	Apple	-	365	0.05	1,000	-
3.	Chili	-	-	0.13	1,200	-
4.	Grape	-	-	0.12	1,500	-
5.	Vegetables	-	-	-	-	-

VEGETABLES are for domestic consumption.

3. Paddy Cultivation Techniques

Varieties and acreage Mr. Suzuki is possessing 70a of paddy land. Out of which variety asaki was under 10.5a. Biked 44 was under 38.5a and Sasanishiki was under 21.0a being cultivated respectively. Those are recommended varieties, non-glutinous, medium maturing, and having high yielding and good quality.

Time and amount of fertilizer application- Mr. Suzuki has been using both of natural and chemical fertilizers on to his field for every year.

Pig waste manure and other composts being applied at the amount of 1500 kg per 10a. The rate of chemical fertilizers are as shown.

	(N)	(P ₂ O ₅)	(K ₂ O)	(No. of times)	(Varieties)
1) Basic application	7 kg/10a	11kg/10a	8kg/10a	1	Asaki
2) Additional top dressing	4 -do-	-	4 -do-	3 - 4	Bike 44
Total	11 -do-	11kg/10a	12 -do-		

Times of fertilizer application on different stage of plants for varieties Asaki and Bike 44 are as mentioned below.

Base	Additional top dressing		
25 days	40-45 days	40 days	40-50 days
Seedling period	Tillering period	Young panicle development period	Ripening period
Sowing	Planting	Heading	Ripening
a) Basic dressing		2-3 days before transplanting	
b) Additional dressing 1st		20-25 days after transplanting	
c) Additional dressing 2nd		40-45 days after transplanting	
d) Additional dressing 3rd		80-85 days after transplanting	

Times and kinds of other chemicals: Mr. Suzuki is taking emphasis on weeding. The effective weedicides application and interculture practices are appreciated by my host farmer.

<u>Kinds of weedicides</u>	<u>Rate/10a</u>	<u>Nos. of time</u>	<u>Time of application</u>
A) Satarn	4 kg	1st	15 days after transplant
B) Satarn	"	2nd	Tillering stage
C) MCP	2 kg	1st	heading stage
D) Interculture	-	-	24 days after transplanting.

Above usage of weedicides are only for Asaki and Bike 44 varieties. On the other hand, Mr. Suzuki has been conducting on Sasanishiki varieties. This variety is recommended for Yamagata prefecture because of its high yielding and good qualities. In case of this variety special doses of chemicals were applied and times and duration of applications were also

different as compare to other varieties. The cultivation system is being done by Mr. Suzuki under the guidance of extension officers. Before transplanting heavy doses of compost and chemical fertilizers had been applied as basic application. Land preparation is the same as other varieties, but plant density is 25.3 hills/m² (30 cm x 13 cm). The doses of fertilizers, weedicides and times of application are as shown in the diagrams.

Variety - Sasanishiki

Prospective yield - 800 kg/10a

Time of transplanting - 14th May, 1977

Application	Date	Types of fertilizers and weedicides	kg/10a Rate	Ingredient activities
B	30th April	Compost	600	-
A	7th May	Silica	160	-
S	8th May	Fused Phosphate	40	N-20.0 kg
I	"	Tripple superphosphate	20	P-18.8 kg
C	9th May	Ammonium phosphate	20	K-12.0 kg
	"	Compound P and K	40	
Additional Top dressing	22nd May	Ammonium chloride	8	
	12th July	Compound P and K	10	
	21st July	-do-	20	
Weed control	22nd May	Mershet	4	
	13th June	Satarn 5	3	
	27th June	MCP	3	
Weeding	6th June	Interculture	-	

Mr. Suzuki has five years experiences in Sasanishiki varieties last year yield was 700 kg/10a. To achieve 800 kg/10a, he used heavy doses of fertilizers and the emphasis were given on this variety.

Disinfection chemicals: Chemicals have been used extensively throughout the cultivation season for controlling diseases and pests. So any pests and diseases occurrence could not be seen in those days. However, blasts, sheath blights, Bakanae virus diseases and preventions have being continuously

applied by Mr. Suzuki. In order to control blast diseases and other pests such as hoppers and bugs, Hinodiazan (Hinosan + Diazenon), being used at the rate of 3 kg/10a. Shiragen is one of the preventive measure for bacterial diseases. Mr. Suzuki had sprayed those chemicals to his fields 2 time before heading and one time after heading at the same rate.

Rice planting method: In general sowing date is started on 20th of April and it is scheduled to transplant in the month of May between 15th and 20th. Healthy seeds are selected and treated with fungicides Usplum or homine before sowing in the boxes. The seedlings are transplanted in the fields at the age of 25 - 30 days, with their leaves age 3.5 - 4, by means of machines transplanters. The seedlings take place 3 - 5 plants/hill at the measurement of 27 cm x 15 cm and 3.5cm in depth. On the date of 24th July 1977, variety Sasanishiki showed 25 - 33 tillers/hill, about 58 hills per meter. The other varieties also seemed to be same conditions as Sasanishiki. Their prospective yield is 800 kg/10a.

Irrigation Systems: All of the communities in that area receiving water source which come through irrigation channels. Then every rice lands in that area had been completely consolidated already. So Mr. Suzuki can manage the irrigation practice at any time for his land. About 2 weeks after transplanting he maintained the water level at 6-8 cm and then drained out half of it up to heading stage. Occasionally he used to emptied all of the field water about 3-4 days for the sake of achieving good aeration. At the end of the maturity stage, no water level will be allotted on the surface of the soil but still there will be sufficient moisture content in the soil. Actually, the requirement of the moisture and water content in the soil are very much changeable due to the different conditions. Those water managements are determined by Mr. Suzuki, using his experiences and considerations.

4) Annual growth income

The income can be noted at the result of last year.

a) Rice (low land)	¥1,372,000	(¥280/kg)
b) Apple	200,000	(¥200/kg)

c) Chili	¥ 600,000	(¥500/kg)
d) Grape	750,000	(500/kg)
e) Piggery	1,200,000	(-)
Total	¥4,122,000	

5) Their community

My host farmer is residing in 592-2, Kanasawa, Nakayama Machi, Yamagata. There are five communities in Nakayama namely, Koshio, Oka, Tsushibashi, Yanagisawa and Kanesawa. Nagayama constitutes 800 farmer households and 903 union members. This community is located between forest clad plateau and wide range of plains. Along the undulated hill sides, the orchard trees have been grown. The plains also completely land consolidated, so low land rice can be grown all of these areas. Kanesawa consists of 100 full time farmers, 70 part time, 64 non-farmer total number of household 234.

6) Related organization for their lives and farming.

The Kanasawa, where Mr. Suzuki live in is directly connected with Toyada Co-operative association. In that association, 44 employees have been conducting on five major roles between farmers and association, such as (1) General management - Depositing, lending money (loan), purchasing, marketing, subsidising etc. (2) Agriculture management - Giving general instructions, ideas and supporting. (3) Farm management - Live stock and others. (5) Broadcasting - Educating, advertising, forecasting and warning for pest and disease occurrence.

There are good understanding and communication between farmers and this association, they are depending each other practically. In Co-operative Bank, farmers can get loans at 8% interest for one year and 5.7% interest for depositing. The selling prices of farm products are fixed by farmers productive association and Co-operative. Selling of farm outputs and purchasing of farm inputs can be produced through Co-operative to Yamagata Co-operative, so they can contact at any time.

7) Agricultural Extension Office

Nagayama extension office is situated about 5 km distance from Mr. Suzuki's house. If he has any matters he can contact at any time and any days.

So also extension officers use to visit to his house or to his field and make discussion on farm improvement. The extension office has much responsibility to give encouragements for agricultural development. Most of the extension officers are educated and well experienced personnels or subject matter specialists. So farmers believe in their abilities and appreciate to apply their ways of instructions and guidances. The main objectives of the extension office are as follows:

- 1) Agriculture improvements - Instructions, guidance, subsidising, joint operations and others.
- 2) Home and living improvement - Educating, instructing, advertising, house keeping, sanitation and health activities.
- 3) Rural youth education - Educating to farmers successors, 4 H-club members and other youth affairs.

There are good collaborations between farmer bodies, co-operative and extension officer, and they are taking part for agriculture developments.

8) Others

Not only farmers have been enjoying in their farms but they have many recreational activities during their leisure times. There are many accomodities, public buildings, clubs and play grounds for their ceremonies, meetings, welfares and sports. They are use to celebrate the festivals according to their traditional customs.

Conclusion

Modern advanced agriculture has accelerated in Japan by using the application of existing knowledges, experiences and techniques. The main activities along which the farmers are proceeding to attain more agricultural products are; By complete soil conservation, by proper use of water source and irrigation system, by using recommended varieties, by applying adequate amount of organic and inorganix fertilizers, by using the introduction of disinfections and weeding, by more efficient utilization of farm machineries, by the development of animal husbandry which will adaptable to the crop farming. So it can be easily understood that my host farmer

has had more income every year from his farm products because of his scientific method of farming.

As a conclusion, I would like to thank every one concerned during my stay at Kanasawa, Yamagata prefecture, without their help I don't think this trip would have been such a great success. Thanks for great reception that my host farmer give me when I was in his house.

REPORT ON THE FARM HOUSE PRACTICE

Ir. Truman Maruli Sabam Sihombing
(Indonesia)

In the month of July, 1977, we had Farm House Stay Practice, in conformity with schedule of Rice Cultivation and Its Extension Course. The aim of this program is to get some informations about Japanese Farmers life and their agricultural activities.

The practice was done in Kanasawa, Nakayama of Yamagata prefecture. On this occasion we got some informations and explanations about farm work datas, farmers daily life, relation of family, farm management, rural community, agricultural association and etc.

1. Farm Work Record:

In the case of my host farmer Mr. Hideo Suzuki, I got some data as follows:

1.1 Family Condition:

Name	Age	Final Education	Occupation
1. Hideo Suzuki	49	Sr. High School	Farmer
2. Matsuko Suzuki	48	-do-	-do-
3. Eriko Kenoko	26	Machinery college	Not working
4. Hiditosi Suzuki	24	-do-	Driver
5. Hidioki Suzuki	22	Sr. High School	Journalist

1.2 Relation to Housemaster:

Name of family member	Relation to housemaster
1. Hideo Suzuki	House master
2. Matsuko Suzuki	Wife
3. Eriko Kenoko	Daughter
4. Hiditosi Suzuki	Son
5. Hidioki Suzuki	Son

1.3 Life territory (Relatives and their scattering, distance from native place, some time their occupation)

- 592 Kanesawa Nakayama-Machi, Higashi Merayama Gun,
Yamagata-Ken (4km)

1.4 Residential Conditions (Furnitures, kitchen utensils and rooms or building arrangement for natural disasters, especially for winter).

a) Cup board	5
b) Tables	8
c) Television	2
d) Washing machine	1
e) Room cooler	-
f) Electric fan	2
g) Refrigerator	1
h) Radio	2
i) Fire extinguisher	1
j) Gas stove	2
k) Electric oven	1
l) Rectangular table griddle	1

2. Religion

Buddhism was their religion. Prayers were performed every day (in the morning) especially by the housemaster, but sometimes by his wife.

3. Meal Customs

They are taking meals for:

Breakfast	around	8 am
Lunch	around	12 am
Dinner	around	6 - 7 pm
Snacks	around	3 pm

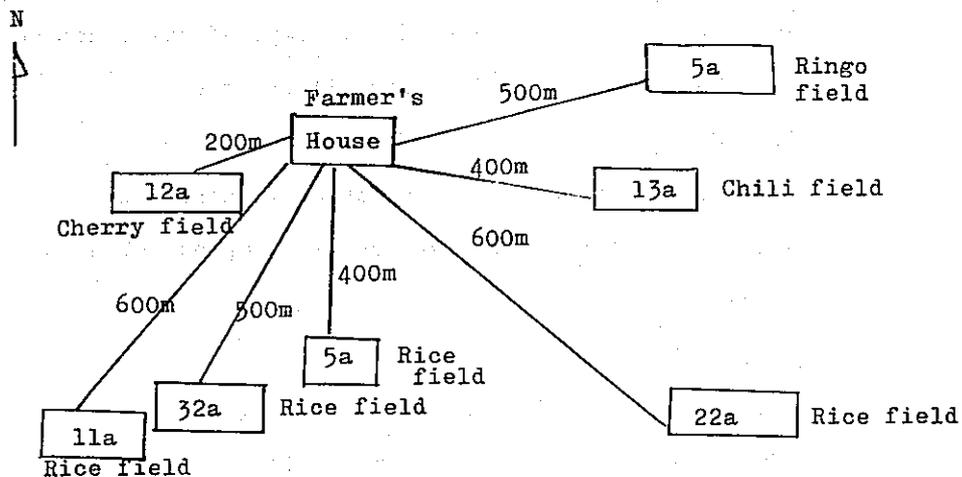
In general their usual menu are rice, vegetables, soup, meat, fish (sasimi), Buckwheat, noodles, egg, etc.

4. Farming Condition:

A. Labour availability	2
Family member	5
Male	3
Female	2

B. Engaged Person	
Male	
Female	
C. Casual hired labour	
D. Agrarian land (H.A)	
Paddy fields	0.70
Upland rice	-
Forest	-
Pasture	-
Orchard Field	0.30
E. Agricultural machinery	
Power tiller	1
Tractor	1
Transplanter	1
Sprayer	(Belongs to group 5 members)
Huller	-do-
Harvester	1
Thresher	1
Dryer	(belongs to group 5 member)
Polisher	-do-
Pumping Set	-do-
Car and mini truck	2
Motor cycles	1
Bicycle	1
F. Animal (nos. of head)	
Swine	60 (belongs to group 3 members)

G. Sketch of scattered land (Approximate distance from house)



5. Paddy Cultivation Technique:

- A. Paddy Field 0.70 ha
- Variety Sasanishiki
- Age of seedling 25 - 30 days
- Plant density 27 x 15 cm
- Sowing date April 20
- Transplanting date May 20

B. Fertilizer Application per 10 are:

- a) Basic dressing NPK (7 : 11: 12)
- b) Top dressing I NPK (2 - -)
- c) Top dressing II NPK (2 - -)

C. Time of Fertilizer Application:

- a) 2 days before transplanting for basic dressing
- b) 20 - 25 days after transplanting for top dressing I
- c) 40 - 45 days after transplanting for top dressing II

D. Herbicides Application per 10 are and Interculture:

- a) Herbicides Saturn, 4 kg/10a
- MCP, 2 kg/10a

- b) Time Application (10 are)
- | | |
|--------------|--------------------------------------|
| 1st Saturn | 4 kg for 15 days after transplanting |
| 2nd Saturn | 4 kg for tillering stage |
| 3rd MCP | 2 kg for heading stage |
| Interculture | 24 days after transplanting |

E. High Yielding of Rice Cultivation (In demplot belong to Mr. Hideo Suzuki):

- a) No. of hills/m² 28
- b) No. of tillers/hill 25 - 33. Average 29
- c) Target yielding in 1977 (for demplot) 800 kg/10a
- d) According to Mr. Hideo Suzuki, the yield of rice achieved last year was generalized as follows:

Maximum yield of rice 7,000 kg/ha

Minimum yield of rice 6,000 kg/ha

F. Plant Protection:

In this season, fortunately there are no incidences of pests and diseases, anyhow there are farmers has to applied some pesticides for prevention.

Insecticides, fungicides and herbicides were widely used systematically. To control stemborers, green hoppers, blast and sheath blight and bakanae.

6. Income

The main income is from sale of rice, last year 4900 kg of brown rice was produced, with price ¥280/kg. Boadly the income obtained by farmer can be classified as fallows:

a) Rice	4900 kg	1,372,000 yen (280 yen/kg)
b) Ringo	100 kg	200,000 yen (200 yen/kg)
c) Chili	1200 kg	600,000 yen (500 yen/kg)
d) Cherry	1500 kg	750,000 yen (500 yen/kg)
e) Piggery		1,200,000 yen
Total Income		4,122,000 yen

7. On Related Organization

All farmers in Japan are members of agriculture cooperative, besides they are also members of farmers association. I have been saw that agriculture cooperative association has multiple functions to care for all farmers need for insurance, tility services and farm guidances. So that there are no difficulties in farmers side, in other words cooperative association is a body to support farmers life in general.

In case of agriculture training center and agriculture extension office, the farmers has a good relationship among them. If farmers have some difficulties in solving agriculture problems, they will contact (by telephone), the agriculture extension center to solve their problems and extension center will give guidance.

8. Difficulties of Troubles in this Practice

I did not have some troubles or difficulties during stay in the farmers household. The common difficulty of participant is due to the limited knowledge of Japanese language. So we could not get so much information and explanations directly from the farmer. But I was very interested and wanted to discuss everything with the farmers, especially in agriculture field.

9. Self Assesment of my Experiences

For participating in farmers house stay practice, I think that it was the best opportunity to see and to observe on the spot, the Japanese way of life, their culture custom and thier agricultural activities especially in rural community. What I have seen and studied in this practice, I hope can be used with the adjustment situation or condition in my country (especially in lampung province, Indonesia).

TOGETHER WITH JAPANESE FARMER

By: Padma B. Shakya (Nepal)

Introduction

Japan, today, is one of the highest rice producing country from unit area of land in the world. The country had rice yield of 3.07 tons per hectare before world war II. Where as national average of rice production is recorded as high as 4.81 tons per hectare in the year 1976 inspite of cold damage in the northern part of country. How Japan could able to grow such as excellent crop has become a matter of question to the people of world. No doubt creation of new high yielding varieties is the result of effort of researchers working in the field. However one can not disagree that farmers have a key role in acceleration of rice production so rapidly. Then, it is because of new variety or mechanized farming or proper cultivation method or good management of field? Although it is difficult, but would be very much interesting and beneficial to find out the answer for above questions for agriculturists, farmers and interested persons in the subject. Thus it becomes essential to have a close study of Japanese farmer to clarify the matter.

With above view point five days long "farmers house stay programme" organized by U.I.A.T.C for Rice Cultivation and its Extension Course participants is found to be very much useful to observe and acquaint with actual field management activities of farmers and also to study facilities available for agriculture development in the community.

Site for Programme

Yes, I had an oppurtunity to participate in mentioned programme as a member of Rice Cultivation and its Extension Course. This year we were taken to Yamagata, one of the leading prefecture in rice production in Japan. Nagasaki Buraku of Nakayama Machi is selected as right place for observation and stay with.

Host Farmer and His Family

I'm along with my Pilipino friends was introduced with Mr. Ishichi Tokairin as our host farmer. I stayed in his house and studied about his

farming techniques for 5 days. The information and data I collected are presented in this paper.

Mr. Tokairin is a full time farmer in the community. He is the master of 3.00 hectares of agricultural land and 14 heads of beef cattle at the moment. He obtained 16.46 tons of brown rice from 2.4 hectares of his paddy field in the year of 1976 which comes about 5.8 tons per hectares.

Tokairin family consists of four members in total. They are:

No.	Name	Age	Education	Remarks
1.	Mr. Ishichi Tokairin	54	High School	House master
2.	Mrs. Toyoko Tokairin	53	-do-	Wife
3.	Miss Keiko Tokairin	26	-do-	Daughter, physically unfit.
4.	Mr. Toshinori Tokairin	22	-do-	Son

Daily life

Mr. Ishichi Tokairin is head of the family. He himself and his son are fully engaged in field work. Where as Mrs. Tokairin looks after all sort of home work right from cooking to cleaning of the house. Nevertheless she joins the field work when get rid of from domestic works. Unfortunately her daughter can not perform any work because of her physical and mental unfitness by birth.

In season they fo to the field at 5 in the morning and come back at 8:00 for breakfast. After that they again get lost in the work till sun get hard. From 12 to 2:00 O'clock is their schedule break for lunch and nap. Almost every morning junior Tokairin clean up the cow shade and put the feed and water to the cattle. In absence of junior Tokairin senior Tokairin follows the same work. They have lovely newly built house equipped with all kind of modern luxurious facilities like TV, Telephone, etc. Two story house has eight rooms for their use besides kitchen, bathroom and store. Moreover, they also have a car, truck, and motor bicycle.

Food Customs

Like other Japanese family, they also take their meal three times a day. They take breakfast at '8:00 O'clock in the morning and lunch starts

at 12:00. Dinner at the evening suppose to be started at 7:00 as they say but sometimes it is delayed. They prefer to change the menu every day as far a possible however, rice and soup are served every time. After rice and soup, they like to include either of one in beef, pork, chicken, fish, vegetable pickles depending upon their choice. Some fruit and green tea are also served at the end.

Relatives

Mr. Tokairin has a brother and a younger sister. First one is staying at Yamagata city with some business. Sister is already fot married and staying at Sangai City 6 kilometer away.

Religion

Tokairin family is Buddhist by religion and have faith on Shintoism too. They pray every morning infront of statue of Buddha placed in a corner of the room and offer some fruits.

Farm Condition

My host farmer has nine small pieces of agriculture land scattered around his house within the radius of two kilometer. The total land accounts three hectares including 2.5 hectares under paddy, 0.4 ha and 0.1 ha under the crops hopu and vegetable respectively.

Area under different varieties of paddy

<u>No.</u>	<u>Variety</u>	<u>Area</u>	<u>Remarks</u>
1.	Sasanihiki	0.4 ha	Good palatable taste, grown for home consumption
2.	Hanahikari	0.7 ha	Lodging resistant
3.	BK-94	0.8 ha	
4.	Kiyonishiki	0.5 ha	
5.	Hamino mochi	0.1 ha	

The farmer is using box nursery since last few years. 4 kg of seeds sown in 20 nursery boxes is enough to plant 0.1 ha of land if seedlings are quite healthy. This year the seed was put on the box nursery on April 20. Transplanting, tillering date and expected of heading date and harvesting are mentioned below variety wise.

	<u>Variety</u>	<u>Transplanting</u>	<u>Tillering</u>	<u>heading</u>	<u>Harvesting</u>	<u>Yield/10a</u>
1.	Sasanihiki	May 20 - 25	June 20	Aug. 10	3rd week of September	700 kg or more
2.	Hanahikari	-do-	June 15	1st week of Aug.	-do-	-do-
3.	BK-94	-do-	June 20	-do-	-do-	-do-
4.	Kiyonishiki	-do-	-do-	-do-	-do-	-do-
5.	Hamino mochi	-do-	-do-	-do-	-do-	Around 625 kg.

Manure and fertilizer application

They are using compost and chemical fertilizer in the field. The rate of chemical fertilizer per 10a is given below:

	Variety	Basal application (kg)			Total amount of top dressing		
		N	P	K	N	P	K
1.	Sasanihiki	4.1	19.8	7.0	5.1	2.2	3.0
2.	Hanahikari	6.2	24.3	11.1	7.7	2.7	4.7
3.	BK-94	4.8	21.1	8.7	6.0	2.3	3.7
4.	Kiyonishiki	4.5	20.7	7.8	5.5	2.3	3.4
5.	Hamino mochi	4.1	19.8	7.0	5.1	2.2	3.0

The amount of fertilizer is top dressed in following split doses.

	<u>Percent of top dressing fertilizer</u>	<u>Time of top dressing</u>
1.	10% of Nitrogen	One week after transplanting
2.	15% of Nitrogen	20 days after transplanting
3.	15% of Nitrogen	45 days after transplanting
4.	10% Nitrogen and remaining dose of phosphorus and potash	60 days after transplanting
5.	5% of Nitrogen	80 days after transplanting

As they use heavy dose of fertilizer, also they pay more attention on timely irrigation and drainage so that plant can efficiently utilize the food nutrients provided to them. Weedicide is generally used to control the weeds in the fields.

Disease and insect

Below listed insects and diseases are oftenly occurred in paddy field.

This year the problem is not so severe. However, farmers are still spraying chemicals as preventive measures against those disease and insects.

<u>Name of diseases</u>	<u>Name of Insects</u>
1. Blast	1. Green leaf hopper
2. Brown spot	2. Stem borer
3. Bacterial leaf blight	
4. Bakanae	
5. Sheath blight	

They are spraying solution by mixing 200 cc of Baycid and 66 cc of Hino in 200 liters of water in 10a, area to prevent from fungus diseases and insects. This practices is followed four times in crop life at the interval of every 20 days. The local farmers have power sprayer got from agriculture cooperative for their common use. They are jointly spraying the chemicals in the fields of their group member.

Hoppu

The farmer is growing a commercial crop "Hoppu" in 0.4 hectare of land. The crop gives a good income to the farmer however it requires large number of labourers in the peak season and long duration to harvest it. The plants are about 5 meter high at present and supported by wire and bamboo sticks.

Agricultural machineries

1. Power tiller	1	6. Tresher	1
2. Tractor	1	7. Rice huller	1
3. Transplanter (Two row type)	1	8. Rice polisher	1
4. Sprayer and duster	2	9. Pumping set	1
5. Harvester	1		

Beef cattle

The farmer has 14 heads of beef cattle at present in which four heads are of 18 months old, 5 of six months and another 5 heads are of four months old. He purchases certain heads of calves almost every year and brings up them in supervision till 18 months old. Balance diet is supplied to the calves every day which includes wheat bran, pap soghum, rice bran, hay, chaffed fresh corn and water with antibiotic.

There is a good cattle shade constructed with two cages one for 18 months old cattle and another is for rest of cattles.

Farmer's relation with other organizations

A. Agriculture extension office

The farmer is well acquainted with agriculture extension office as a good source of getting informations about latest agricultural techniques. Since telephone facility is available in the home itself farmer just ring up to agriculture extension office if any problem arises. In addition, Mr. Tokairin or his son also visit above office if it is necessary. Agriculture extension office staff visit his home or community around once in a month. Of course, it depends upon the season and farm conditions.

B. Agriculture Co-operative

Agriculture cooperative is located about one kilometer away from the house of the farmer. Like others, he is also a member of that co-operative. Agriculture co-operative is working as a principal media of obtaining farm inputs like fertilizer, chemicals and other home needs for farmers. Moreover farmers including Tokairin family dispose of their farm produce through agriculture co-operative. In other word, farmers are getting assured market of their produce through this organization. Loans are also available to the members for purchasing agriculture implements and machineries home construction and land for cultivation. In this way the role of agriculture co-operative is encouraging to the farmers and appreciable.

Farmer's Income

The farmer's annual income is fully from agriculture., the source can be divided into three categories at the moment, though major income is through rice. The income shown here is based on the production of the year 1976.

The rice production in 1976 was 16.46 tons from which 2.640 tons of rice was separated for home consumption and rest 13.82 tons were sold through co-operatives at the rate of 16,000 yen per 50 kgs.

Thus, gross income from rice	3,684,412 yen
Gross expenditure	357,000 yen
Net income from rice	3,327,412 yen from 2.1 ha of land

Last year, the total Hoppu production from 0.4 ha was 1000 kgs which is sold at the rate of 2,300 yen per kilogram.

Gross income from Hoppu $1000 \times 2300 = 2,300,000$ yen

Similarly, four heads of 18 month old cattles were sold at the rate of 650,000 yen each. So it comes about $650,000 \times 4 = 2,600,000$ yen as a gross income from the cattles.

General impression on field and farmer

Mr. Tokairin is a progressive farmer totally engaged in agriculture. He is very much hard worker and punctual in schedule works to be performed in the field. And also his son who has a good spirit in working can not be kept apart from his father. They have a very good rice crop this year. The crop is showing quite healthy and uniform growth. Average tiller number per hill is around 29. The plant is at blooting stage and expected heading after a week or two, depending upon variety. No doubt, the farmer will have a bumper harvest this year if weather favours till harvesting.

Tokairin family I found very much interesting, co-operative and ambitious. Although Mr. Tokairin is not the highest yielder in the community, but he hope to come to the level of those high yielding farmers. His young son who has a special interest in agriculture and is joining short period training of agriculture from time to time, certainly will take him ahead.

Conclusion

Though it is short period programme I found it very much useful and fruitful. During my stay at my farmers house I tried my best to collect all possible information with my broken Japanese language. I hope I could able to collect many things from them. In the same occassion, I also had a chance to observe and study high yielding plots of that community and surrounding area. I shared the experience and way of thinking of local farmers gropus. Indeed these all things will be with me as a memory and I shall try to utilize it in my country for the betterment of my farmers when and wherever it is applicable.

At the end I would like to extend my thanks to Agriculture extension office staff for their valuable cooperation and co-ordination to carry out the programme smoothly.

I appreciate the role of agriculture co-operative staff and town hall staff for their assistance and guidance in our programme. I am very much thankful to Tokairin's family for their kind hospitality shown to me during my comfortable stay at their house. Finally I would like to extend my sincere thanks to our guiding instructors who played the main role in making the trip comfortable, successful and fruitful.

FARMER HOUSE PRACTICE (FARMERS AND FARMING IN JAPAN)

Muhammad Ali Baloach (Pakistan)

As a part of a group training programme of rice cultivation and its extension course we proceeded on 22-7-77 to selected place for staying from 22-7-77 to 26-7-77 in the farmer house. The area selected for farmer house practice, is leading in per unit area production in Japan.

We started our training farmers house practice on 22nd of July, 1977 from Uchihara International Agricultural Training Center, we reached Yamagata in the afternoon. As we get down out of the train, the T.V. camera man came in action to take the shots of participants, the presence of T.V reporters for coverage of arrival news of the participants in Yamagata Prefecture, showed the importance attached to our visit. Our group was taken by bus to Nakayama town community hall. We were received warmly by the officers of public office, Host farmers, Officers of agriculture extension department, employee of co-operative association and officers of agricultural experimental station. After general introduction, we attended welcome party arranged in the community hall. A group of two participants each was taken by their host farmer, Mr. Yoshio Takahashi after party took us to his home by his own car. The home of the farmer is very near to community hall. The farmer house was in Minami Koji Buraku (community Nakayama town Ooza Nagasaki). I was given cordial welcome by the family of host farmer on reaching at his house.

The daily working schedule included field work, visit of farmers co-operative association, agricultural extension office, recreational spots, central markets, etc.

General information about Minami Koji Buraku (community)

Minami Koji Buraku (community is located in Ooza Nagasaki Nakayama town Yamagata prefecture. The community hall is located only about 300 meters away from farmers house, farmers co-operative association office is about 1 km far from farmers house, the distance of agriculture extension office is about 12 km. The total number of household in the Buraku was 55.

The number of farm household was 17 and non farm household was 38. Full time farmers were only 2 and part time farmers 15.

Mr. Yoshio Takahashi was working 8 months in a year on the farm and 4 months in the factory. The main crop of the area was rice, beside rice other crops like cucumber, tomato, potato, onion, eggplant, garlic, beans pumpkin, corn, radish, ground nut, watermelon etc., were being cultivated. The area under orchard was also quite large apple, peach and other fruits are grown in the area.

The farmers co-operative association are the representative organizations of farming community. The co-operative association has excellent net work, the purchase of rice from the farmers on behalf of Government is also being done by the associations, more over association is supplying almost agricultural inputs, credit and banking facilities to the farmers in the area. I have observed that farmers co-operative associations are strong institutions and very close to farmers for advancing technical guidance, marketing of agricultural products, and supplying modern agricultural machinery and other inputs to the farmers.

Agricultural extension is also working successfully in the area for transmitting the new agricultural technology as efforts of extension department the technical knowledge of the farmers in the area is very high.

I have also visited the central market, this market has a big capacity to handle the marketing of vegetables, fruits, fish and processing plant for imported banana also, this market is even superior than Tokyo Market.

Family Conditions

Mr. Yoshio Takahashi host farmer has six family members including himself in the house.

Family members	Age	Relation to host farmer	Education and occupation
1. Yoshio Takahashi	40	Host farmer	Graduate of Agri. High School Farming
2. Kayoko Takahashi	38	Wife	-do-
3. Yoko Takahashi	15	Daughter	Senior High School Student
4. Atushio Takahashi	11	Son	Junior High School Student

5. Toshio Takahashi	66	Father	Junior High School (Farming)
6. Chiyono Takahashi	62	Mother	-do- (House work)

The farmer has happy family life, I found better under staying among family members of host farmer.

Relatives

The host farmer has a younger brother but he lives separately and he is married. The wife of the farmer has also relatives, they live about 8 km away from farmer's house. The younger brother of farmer is employee in Toyota motor company.

Residential Conditions

Farmer house consists of double story. The house has 8 rooms excluding kitchen, bath, toilet, poultry room and motor car garage. The house is made of wood, it is ventilated and constructed well hygienic manner. The house has electric, telephone, water supply connection and drainage facility. The ground floor of house is covered with tatami Japanese straw carpet. Farmer house retains almost all household things which are needed to have a comfortable life, some details are as follows:

1. Sufficient stock of furniture, kitchen sets and meal dishes.
2. Coloured T.V. 1
3. Refrigerator 1
4. Clothing washing machine 1
5. Record player 1
6. Stereo-radio cassette 1
7. Electric heater 3
8. Gas stoves 2
9. Telephone 2
10. Car 1
11. Mini truck 1
12. Bicycle 2

Religion

The religion of host farmer family is Buddhism. The wedding ceremony

are performed by Shinto but funeral ceremony by Buddhism. The father of host farmer pray every morning in the house.

Meal Customs

All the family members take meal usually together three times daily.

1. Breakfast 7:30 am
2. Lunch 12:00 noon
3. Dinner 8:00 pm

Breakfast menu mostly include rice, fish, soup, green tea, egg plant, cucumber, cannage, and lettuce. Lunch menu is pork, chicken, rice, soup, cucumber, cabbage, eggplant, potato, tomato, and dinner menu usually consist of rice, pork, eggplant, noodles, fish, fruits, Osake or beer.

Farming Conditions

Mr. Yoshio Takahashi is one of the leading farmers of the area, he has a record of getting more than 8 tons of brown rice per hectare. He has total 12.7 hectare of land, he do not keep cattle but he has kept only 4 heads of popularity to get fresh egg for daily house consumption. The land of the farmer is scattered in three different locations. The area under rice crops is 2.25 hactares, 15 ha vegetables, 3 ha orchard. The distance between the farmers land and his house is about 1 km. Two varieties of rice has been cultivated by the farmer. The area under the ;

1. Kionishiki 9 ha
2. B.K 94 1.35 ha
3. Orchard apple, cherry, 3 ha
peach

The farming is fully mechanized, all the field operations are done by the farmer with the help of his wife and his father. The farmer daily attends the field works, he do the farming 8 months in a year and 4 months work in factory. I have observed that their is spirit of team work among the farmers of Buraku. The plant protection measures against the out break of pest and diseases, maintenance of irrigation channel and other such type of agriculture work which bears the common interests of farmers of Buraku, are mostly done as team work, the control of pest and diseases is carried by the study of

group of farmers who keeps constant watch over the out break of pest and diseases so as to decide the right time of starting plant protection operation collectively for getting desired results. The farmers of the Buraku has purchase tractor mounted power sprayer by contribution and collectively it is being use and maintained by the farmers of Buraku.

Agricultural Machinery

1. Pumping set	1
2. Power tiller	1
3. Rice transplanter	1
4. Harvester	1
5. Thresher	1
6. Binder	1
7. Polisher	1
8. Scoope	1
9. Rake	1
10. Long handle hoe	1
11. Sickles	5
12. Grass cutters	1
13. Puddling Implement	1

Nursery Preparation and Seed Rate

The farmer had grown two varieties of rice. The seed was selected by salt water method at 1.13 specific gravity. The specific gravity test was done by using fresh egg so as to insure healthy and good seed. The folling steps were taken by the farmer before using the seed for sowing.

1. Salt water selection of seed at 1.13 specific gravity
2. Washing with ordinary water.
3. Soaking the selected seed for 2 days
4. Drain
5. Dis-infection
6. Drain (10 minutes)
7. Soaking the seed 3 days
8. Drain
9. Pre-sprouting seed used for sowing

Omi fungicide was used for dis-infection of the selected seed to protect the seed from attack of diseases. The nursery was raised by box nursery method under the protected temperature conditions of 32°C. The sowing was done on 20th April. The boxes 30 x 60 cms size were used. Seed rate at the rate of 200 grams per box was used. 20 boxes were utilized for transplanting the field of 10a.

Field Preparation, Transplanting and Fertilizer Application

The land was prepared with power tiller in the month of April. The fertilizer at the rate of N 5kg, P₂O₅ 9 kg, K 8 kg per 10a was used as basal application. The puddling practice was done on 3rd of May and the transplanting was started on 8th of May and completed on 10th of May with rice transplanter. The detail field observation was carried by me, the observation note is as under.

1. The distance between two plants	15 cm
2. The distance between two rows	30 cm
3. Total numbers of tillers per hill	25 cm
4. Total numbers of panicles per hill	23 cm

The fertilizer was applied at different growing stages in different quantities as shows below:

a) Basal fertilizer application	N	P (kg/10a)	K	Date of application
Before transplanting	5	9	8	3rd of May
b) First top dressing	2	-	-	17th of May
c) Second top dressing	4	7	64	1st of June
d) Third top dressing	-	3.4	6	16th of July
e) Fourth top dressing	2.4	-	-	27th -do-
f) Fifth top dressing (expected)	2.4	-	-	4th to 6th of August

Weed Control

The weed control was completely carried out with the application of herbicides three times at different stages of rice growth.

1. First application 5 days after transplanting 5 kg, Mo. herbicides
2. Second application 15 days after transplanting 4 kg, MO herbicides

3. Third application 25 days after transplanting 4 kg Mamito herbicide per 10a.

Diseases and Insects

The host farmer applied plant protection measures againsts various type of pest and diseases. The most common diseases of the area were rice blast, sheath blight, brown spot, neck blast, false smut and leaf blast. The kilasumo and Kasumon fungicide were used by the farmer to control the various diseases of rice.

The leaf hoppers, stem borers are the major insect pests that cause considerable damage to the rice crop of the farmer. The green leaf hopper and striped stem borer (*Chilo-suppesalis*) are the species found in the area. The farmers has applied twotimes foliar spray with lebacid pesticide to control the out break of insects.

Irrigation

The irrigation water is a controlled water and is taken with water pump. The water level is kept 3 cm, in the field throughout the rice growing period. The mid-summer drainage is practiced by the farmer once in rice growing season in the end of June. The onject of practicing mid-summer drainage is to create oxidation conditions in the soil to make ne root development easy for effective take up of soil nutrients.

Protection from the bird damage

The host farmer is using synthetic fibre net to protect the crop against the birds damage. The net is used from the apperance of heading to on wards up, to harvest.

Harvesting and processing

The farmer is growing two popular high yielding varieties of rice, Kio-nishiki and B,K. 94 so the time of harvest also differs according to variety. The farmer decides the date of harvest when more than 95% spikelets colour changes from green to yellow. The harvesting, threshing; drying and other post harvest operation are carried out by the farmer with help of machine to reduce mechanical losses.

Yield

The yield last year's record i.e., 1976 is more than 8 tons per ha.

The last year data recorded is as follows:

1. No. of hills per sq. meter	24
2. No. of tillers per hill	24
3. No. of panicles per hill	22
4. No. of spikelets per panicles	99
5. Ripening ratio	82%
6. Wt. of 1000 grains	23 grams

Farm Income recorded from last year record

The farmer is working 8 months on the farm in a year and 4 months in the factory. The total income consists of income from selling of brown rice, vegetables, fruits and salary.

Income

1. Brown rice	¥5,328,000
2. Vegetable sale	143,000
3. Fruit sale	312,000
4. Salary	<u>320,000</u>
Total income	6,103,000

Expenditure

1. Household expenditure	¥2,000,000
2. Production cost	<u>1,050,000</u>
3. Total expenditure	3,050,000
4. Net income	3,053,000

My Impressions and Views

Since my arrival, farmers house practice was first such programme chalked out by the authorities to provide chance to the participants to observed farmers farming, culture, customs and socio-economical condition of the farming community in Japan.

I am very much impressed by the rapid urbanization of the rural areas and economic up lift of farming masses to the equal level of other people engaged in professions other than agriculture. I have seen no significant

difference in the house conditions of the farmer and other profession people. The house conditions and living standard of the farmers is quite high in comparison to the farmers of under developed nations.

The farmers in Japan are 100 % educated and majority of farmers have got agriculture education in agricultural school before joining the farming occupation. The land holding per house hold is an average 2 to 3 ha., that the reason that majority of the farmers are part time farmers, beside farming part time farmers are doing the other job also to earn more money.

The farming is fully mechanized, this increases the working efficiency, saves the time, labour and reduces the production cost. The main reason of high yielding in Japan is the mechanization of agriculture.

The interest of farmers are protected by way of price incentive of agricultural products. The marketing system is well regulated to assure the good return of agricultural products. The cost of agricultural implements, and other agricultural inputs is not so high.

The co-operative associations are the representative of the farmers. These associations have a well developed net work in Japan and are very close to the farmers. Farmers co-operative association meet almost all the agricultural needs of the farmers of area, right from supply of agricultural inputs, technical guidance up to marketing of farm products and credits and banking facilities are also provided.

In my opinion the farmers co-operative are doing excellent work for the uplift of famers in their consolidation of the energy and voice of farmers in their interests. Agricultural Extension Department is also functioning well to carry out the duty of transmitting technical knowhow to the farmers. There is good co-ordination between research and extension Department in the better interests of farmers of the area.

The buraku (community) system has also impressed me very much because this system has developed better understanding among the farmers of the Buraku and created team work spirit. I have onserved that all farming operation are done collectively by the farmers of Buraku which are individually very difficult perform, for example plant protection operations maintaining of

irrigation channels, organization of farmers study groups to kept strict watch over the out break of pest and diseases.

In short, the farmers household practice proved usefull in understanding the culture, customs and technical know how of Japanese farmers and it made this possible to summarize the factors which in my opinion are helping to boost up the farm production and farm economy.

1. Price incentive is a source of encouragement for the farmers to use modern agricultural machinery and other inputs which are bound to give positive results.
2. High literacy has made the job of organization easy to transmit the technical know how quickly which in return is absorbed very quickly by the farmers.
3. High yielding varieties, high techniques and use of optimum quantities of inputs accompanied with farm mechanization is increasing the yields per unit area.
4. Farmers co-operative associations supply timely farm inputs credit and other facilities which make the production high.
5. The good co-ordination between extension and research solve the farm problems.
6. Economic up-lift has increased the farm machinery and other inputs purchasing power of farmers.

In the last I would like to express my thanks to the authorities for organizing such programme which has given me chance to observe the actual farming, cultur, custom and socio-economic condition of Japanese farmer. I am also thank full to my host farmer and his family for their kind hospitality. The farmer house practice was for short period but it has left life memorable memories in the mind. Inspite of different religion, culture, customs it have gave me feeling at the time of separation from host farmer family that in same manner my own family was saying me good-bye at air-port when I was seperated from them for coming to Japan.

REPORT ON FARMERS HOUSE STAY PRACTICE

Walter A. Cabardo (Philippines)

Introduction:

Rice Cultivation and its Extension Course is one, out of the four technical training courses offered at the Uchihara International Agricultural Training Center. This technical center is one of the many training centers maintained under the auspices of Japan International Cooperation Agency.

In order to acquire practical knowledge on rice cultivation techniques of higher yields done by Japanese farmers, a one week live-in practice is included in the curriculum. The activity was designed for studying the actual living situation of the farmer, his family, general farming business, and his ecological and social involvement. The success was made through the efforts and coordination of the staff members, Yamagata prefectural and municipal officials, personnel of the extension office, related civic organizations, such as womens club, youth organizations, and employees of agricultural cooperatives.

This live-in practice was conducted at Nagasaki Buraku, Nakayama Machi, Yamagata prefecture from 21st - 27th of July, 1977. Knowledgeable farming tips were obtained from our host farmer Mr. Ishichi Tokairin, and his son Toshinori. Technical data and pertinent statistics were handed out by key personnel of the agricultural cooperatives and field men of extension office.

General condition of the community:

The community is located on the North western part of Yamagata City. It well take around 30 minutes drive to reach the place from the train station. The area is highly suitable for rice production as manifested by crop vigor and over all appearance of the paddy fields. It has a very good irrigation and drainage facilities with feeder roads branching all through out the entire area. There were a total of 600 houses. 100 household are full time farmers while 500 are part time farmers. The general atmosphere of the community is calm and splendid.

Family condition:

There were four members in the family. Personal data are shown below.

No.	Name	Age	Relationship	Education	Remarks
1.	Ishichi Tokairin	56	House master	High School	Farmer
2.	Toyoko Tokairin	53	Wife	-do-	Housekeeper
3.	Toshinori Tokairin	22	Son	-do-	Farmer
4.	Keiko Tokairin	30	Daughter	None	Disabled

The father and son is full time in farming business. In the morning the son rounds-up the schedule of activities to be done for the day, while elder Tokairin keeps maintenance of their lawn. Early dawn just after wake-up my host farmer watch TV and hear broadcast about agriculture while drinking green tea. The wife prepares the food, household chores, and personal necessities of their disabled daughter. After field inspection young Tokairin clean the stable and feed their beef cattle. After breakfast, father and son board on their pick-up truck together with farming tools and proceed to their schedule tasks in the field.

Mr. Ishichi Tokairin has two brothers. Oya san, his elder brother is living in the same community, while the other brother Imoto lives at Sangai city 6 kms from Nagasaki Buraku. The parents of the wife and her sister lives also at Nakayama Machi around 1 km distant from their residence.

Religion:

They are of buddhist-shinto faith. One large room is maintained for religious purposes. It is complete with altar, decorations and image of Buddha. At the left side of the room on the upper shelf, one can find files of shinto scriptures. The wife offers agricultural products to the image and perform daily services in the altar. The family goes to shrines once a year to attend mass religious celebration.

Residential Condition:

Items	Number
House	1- With seven big rooms and well equipped facilities
Television	1

Washing machine	1
Refrigerator	1
Electric fan	3
Stereo	1
Telephone	2
Gas stove	1
Gas heater	1
Bath room	1
Toilet	1
Bath tub	1
Shower	1

The house is very clean and neat all the times. The flooring of the rooms are all covered with "tatami" mat. On the door steps of both entrance and back door slippers are available for indoor use. The door of the rooms are well designed that facilities full opening and closing of the rooms. Every room is provided with built-in cabinets where mattresses, pillows and blankets are kept.

The family take three meals a day. Breakfast is served 7:30 - 8:30 in the morning with varied dishes such as bread, rice, eggs, milk, tea, soup, "soba" and other Japanese menu. At lunch time the wife served vegetables, pork, fish soup, shrimps, chicken, etc. in which the table is ready from 12:00 - 1:00 P.M., just after the husband and son is back from farming activities. During dinner time raw fish "sasimi" is served first or pork which is roasted gradually through an electric roaster, with bottle of drinks such as beer or sake. One unique meal custom is that viand, soup and other dishes are served ahead than rice. Green tea is always available in the table in lieu of fresh water.

Farming Condition:

Available family labor are two male and one female. Casual laborers are hired during the peak of farming operation especially in the month of August and during maintenance of hopu plantation with around 30 persons annually.

Agrarian land:

- a) Paddy field 2.5 hectares
- b) Upland field 0.5 hectares (0.4 is planted to hopu crops and 0.1 for vegetables and roughage of beef cattle).

Land Tenure:

Mr. Ishichi Tokairin is the owner cultivator of his total land holding.

Agricultural Machineries:

- 1. Power tiller 1
- 2. Tractor 1 (15 H.P.)
- 3. Transplanter 1 (Iseke)
- 4. Sprayer and duster 2 (Seudoku)
- 5. Harvester 1 (binder)
- 6. Thresher 1
- 7. Huller 1
- 8. Polisher 1
- 9. Pumping set 1
- 10. Car and truck 2
- 11. Motorcycle 1
- 12. Bicycle 2
- 13. Storage house and garage 2
- 14. Stable 1
- 15. Vinyl house 1

Animals:

- Japanese beef cattle 14 heads

The landholding is scattered about 2 kms from the house. Paddy fields are located at the southernwestern, and the upland field near the river bank is on the notherneastern of his residence.

Cropping Pattern:

No.	Kind	Season	Period	Area	Total Yield	Average
1	Rice	April 20- Sept. 20	150 days	2.5 ha	16,500 kg	660 kg/ 10 ares
2	Hopu	-do-	-do-	0.4 ha	1,000 kg	250 kg/ 10 ares
3	Vegetable & feed grains	Early spring to Autumn		Family consumption and roughages		

Paddy Cultivation Techniques:

- A. Land Preparation. Plowing of paddy fields in dry condition is the usual practice. This is done during early spring. Soil fertility is maintained by applying compost and stable manure at the rate of 1 to 2 tons per 10 ares. The sources of compost are waste feeds and excreta of beef cattle raised by him adjacent to his house.
- B. Seedling Nursery. Due to the advancement of modern technology made by research institutions and private corporations, Japanese farmers are able to combat the adverse effects of climatic condition that limit rice cultivation. One of these is the growing of rice seedlings in incubator which are later on transferred to vinyl houses under controlled temperature. Growth of seedlings are controlled by regulating indoor temperature up to transplanting time. Twenty seed boxes of seedlings are prepared per 10 ares of paddy field. The rate of sowing is 200 grams per seed box. Prior to sowing, seed selection is practiced by submergence in saline solution. This technique gives vigorous seedlings, a fundamental factor for a sound rice field establishment. Sowing is done in such a way that ambient temperature has risen up when the seedlings are ready for transplantings, thus evading direct cold damage to the infant rice plants in the field.
- C. Transplanting. My host farmer begins transplanting his field when the rice seedlings are 25 days old or have developed 2 - 5 main stem leaves. It takes around 5 days to transplant the whole area. The seedlings are

gently removed from the seed boxes and fed to the transplanting machine. Usually, the three persons are necessary for the transplanting operation. One is operating the transplanter machine, another feeding the machine with seedlings and the other planting corners of headrun of the paddy fields. The distance of planting is 25 cm within rows and 30 cm between rows with 3 - 5 seedlings per hill. Efficiency of transplanting operation greatly depends upon two factors: 1. Skill of the operator, and 2. Condition of the field (mud not too deep, free from stagnant water or not hard enough to avoid toppling down of the seedlings).

Table on field data:

No.	Variety	Area	Plant Character	Purpose	Fertilizer		
					N	P	K
1.	Sasanishike	40 are	Lodging, non-glutinous	Consumption	4.2	22	10
2.	Himeno Mochi	10 are	Lodging, glutinous	-do-	4.2	22	10
3.	Hanashikare	70 are	Non-lodging, non-glutinous	Commercial	13.9	27	15
4.	BK-94	80 are	Medium, non-glutinous	-do-	10.8	23.4	12.4
5.	Kiyonishiki	50 are	-do-	-do-	10.8	23.4	12.4

D. Fertilizer Application Practices:

1. Basal application - 45% N, 80-90% P, 70% K of the total recommended rate per variety is incorporated in the soil before transplanting.
2. Side dressing practices:
 - a. Nitrogen fertilizer split application practices:

	<u>Percent</u>	<u>Days after transplanting</u>
	10	7 days
	15	20 days
	10	45 days
	10	60 days
	10	80 days

b. Phosphorous and Potassium:

<u>Percent</u>	<u>Days after transplanting</u>
15	45 days
Remaining balance	60 days

- E. Weed Control. Weed is not a problem in this field. Proper use of herbicides such as SM is strictly followed as directed. Aside from herbicides, rotary weeder is also used both for weed control and inter-cultivation practices.
- F. Pest Control. Pest control work is done cooperatively by group of farmers using poswer sprayer. Each group of farmers covers around 30 hectares and could perform the activity just in one day. The groups has a definite schedule for pest control work. If there is a forecast of outbreak, the leader just inform the members and they perform the work immediately. Any personal appointment is cancelled once there is a cooperative work. The most salient characteristic of a Japanese farmer is his cooperative attitude.
- G. Water management. Intermittent irrigation is applied. One week before heading time, an implement is pased between rows of rice plants to serve as drainage canal. This operation, at the same time, gives hilling-up of mud at the base of rice plants, thus making the base firm and to a minor degree prevent the growth of off-shoots or invalid tillers. This particular technique prevents lodging and exhaustion of stored food in plant body, hence, contributing for a higher ripening ratio of spikelets.
- H. Harvesting and Processing. Rice plants are harvested at field maturity by the use of a harvester binder. Harvester rice plants are stocked in poled condition for a number of days in the field to allow reduction in its moisture content. If the weather does not warrant natural drying in the field, harvested rice plants are gathered in a big shade near his house for natural air drying system. During threshing time, rice straws are bundled and kept, which later on, are wooven and used as protective material for trees planted in his lawn during winter time, or used as

materials for compost making. After husking, brown rice are packed at 60 kg plastic bags and delivered to agricultural cooperatives.

I. Marketing system. The agricultural cooperative is responsible in selling all of the farm products. Any sales done by the cooperative out of the farmer's produce are entered on the farmer's savings account.

J. Farm Economics:

Gross income	¥4.25 million	(\$14,166)
Total expenditures	¥0.425	" (1,416.5)
Net income	¥4.145	" (\$12,749.6)

The above data is based upon expenses and sale of crop during the interview wherein total expenses was "¥17,000 and gross income was ¥170,000 per 10 are. Aside from rice farming, he also derives income from "hopu" plantation with a total production of 250 kg per 10 are, which in return is sold at ¥2,300 per kg. Moreover, he is also engaged in beef cattle farming wherein the cow is disposed at the age of 18 months. The sale per head is ¥162,500.

Related Organization:

Agricultural cooperatives is the key factor that influence the farmer's higher standard of living for the reasons enumerated below:

1. All farm produce is handled by the cooperative.
2. All farming requirements are made available to farmers in due time and at a minimum cost.
3. Household appliances, luxuries in life can be acquired by farmers from private companies through the back-up of agricultural cooperatives.
4. Agricultural cooperatives always look for the advancement and welfare of the farmers to the extent of giving housing loan or purchase of land as long as a farmer is qualified and desires for it. His ne house and upland field is credence to this idiology.

Farm Youth Organization:

It is a general concept to train the youth as successors of farming business. Thus, farming technology does not regress. The youth are organized

and taught about recent technology on agriculture. It is done by extension workers and expert on the field of agriculture. By this scheme, the youth become more proficient in farming than their ancestors because the skill that they learned from the old father is still changed for the better by introduction of modern technology on their younger and more active minds.

Extension workers:

The vital role played by extension office and officers in the upliftment of the farmers' living condition, of course, could not be denied. They are the bridge between research institutions and the farmers. Not only the farmers are helped in the improvement and innovation of farmer science and techniques but also the wives and the children in general.

General impression:

If we will try to look back to the history of farming occupation in Japan, Japanese farmers are very lucky to have engaged in such profession. They have been well taken care of since the era of Tokugawa up to Meiji restoration and finally during the occupation period wherein favorable attention was always directed to their general welfare. Thus, today Japan's social pyramid constitutes a huge mass of middle class with a very little extreme. It is an ideal, stable, social and economic set-up of a country. This kind of social profile may not be matched by any developed country in the world.

The present status of Japanese farmers is highly esteemed in society because of their financial and economic standard. The reason behind these may be attributed to the following:

1. Farmers have very high net income. Government price support is very high that gives enthusiasm on the part of the farmer to produce more and more per unit area of brown rice.
2. Very strong agricultural cooperative network. Cooperative movement is always geared to serve farmers. Farmers in return adhere to the policies and are prompt in their obligations to the movement without mental reservation.

3. Efficient and advanced agricultural machineries and equipment. These factors enhance farming operation and are labor saving at the same time.
4. High rate of literacy. Dissemination of information and communication is easier because of high educational attainment.
5. Field management and infra-structures. Land consolidation program is efficient which is criss-crossed by feeder roads. Transportation therefore is highly mobile and easy.
6. Irrigation and drainage facilities. Very good irrigation and drainage canal system is the paddy field.
7. Soil conservation practices. Application of compost and manures is properly done in maintaining soil fertility. Ever green forest is maintained, providing humus soil, prevents denuding of forest which ultimately prevents soil erosion.
8. Efficient forecasting system on pest and disease outbreak.
9. Adequate and high rate of fertilizer application.
10. Maintaining proper green color of rice plants up to maturity time giving higher ripening ratio.

Lastly, credit is due to our host farmer and his family for their benevolence and hospitality and to our staff members, Mr. Seino, Mr. Chida and Mr. Miura for their enduring help and guidance throughout our farm house practice.

FARM HOUSE STAY PRACTICE

Jovito C. Balce
Philippines

Introduction:

One week farm house stay with a Japanese family was required of each participant of Rice Cultivation and Its Extension Course as a pre-requisite for the completion of the course. This report about said farm house stay was written with valuable assistance from the training course staff, extension workers of Yamagata-Ken, its municipal officials, Kanezawa residents, and fro Mr. and Mrs. Suzuki and family in particular.

The most striking features of the study was that it gave us more first hand information about Japanese agriculture, Japanese system of farming, its adaptability to each participant's country, and the farmer's social as well as economic status. It is also impressing to know the unique Japanese way of life, the tastefull furnishing of Japanese homes, the way they prepared the meals and the practice of eloborate courtesy.

Duration of the Study:

One week duration was given to each participants for this actual farm-house stay practice and two participants were made to stay with one Japanese family. The study started on July 21 and finished on July 26 which was highlighted by a "Sayonara" party in which each participant, was well as the host farmers, was requested to give the final impression of the program just finished.

Place of the Study:

The study was conducted at Nakayama-Machi, Kanezawa, Yamagata-Ken, approximately 12 kilometers away from Yamagata City and three kilometers away from the town proper of Nakayama. There are 234 households residing in the area, with 100 full-time farmers, 70 part-time farmers and 64 non-farmers. The major source of income of the farmers come from orchard planted with different varieties of fruit trees.

Host Family:

My host farmer was Kanei Suzuki, 44, and his wife Sizuko, 43. They have 2 sons and one daughter, namely: Kanji, 21, the eldest who graduated from senior high school and very recently just finished special studies about horticulture; Chiake, 18 years old, a senior high school student and Sayuri, 14 years old, the youngest, a junior high school student. Staying with them is his mother Misayo, 67 years old.

Life Territory:

Mr. and Mrs. Kanei Suzuki are both a native of the place. Mr. Suzuki is one of the members of the Board of Directors of the Toyoda Cooperative Marketing Association and is also an active official of Kanegawa.

Residential Condition:

Five years ago, their old house was dismantled and they constructed a new house with the financial assistance of the cooperative association of the new community. Their house is medium built, 2 stories, with 5 bedrooms. Upstairs are three permanently constructed bedrooms for their children, furnished with all essential items for studying, built-in cabinets, electric fans, bookshelves and beds which are constructed in western style. Rooms are nicely decorated that the students feel them conducive for studying. Downstairs are bedrooms for the couple and for the mother of Mr. Suzuki. The kitchen is well equipped with cooking facilities, refrigerator, gas range oven, toaster, dining table, etc. The bathroom with shower and bath tub, is located adjacent to the kitchen. Outside the bathroom is a washing machine. The room next to the kitchen is a rest room where one can spend "siesta" time while watching television after taking meals. This room is provided with sala set and sewing machine. Three rooms are not permanently fixed with movable sliding doors. Those rooms are intended as receiving room, guest room and special room for Buddhist-Shinto altar which is also utilized sometimes at dining room for guests. All these three rooms are covered with "tatami" mat. The toilet is separately located outside the house. They have two types of toilet, western style and Japanese style.

Religious Services:

Mr. Suzuki's family is a Buddhist-Shinto worshipper. It is a common sight in the morning before breakfast to see Mr. Suzuki always giving an act of worship in front of the Buddhist-Shinto altar.

Meal Custom:

The family takes meal three times a day; breakfast at 7:00 am, Lunch at 12:00 noon and supper at 7:30 p.m. Mrs. Suzuki always prepares a variety of food consisting of five to six kinds every meal. She is following a menu guide furnished by the home management adviser from the extension office. She does all household activities and is only assisted by her mother in law and her daughter only during vacation time. Her daily routine is to wake up at 6:00 A.M and so do all work in the house and retire at 8:00 P.M. Mrs. Suzuki always prepares a well balanced diet. Green tea is being served as the last menu.

Farming condition and labour availability:

Mr. Suzuki does all the agricultural activities of the rice field and in the orchard management, assisted by his older son Kanji. His other son and his daughter help them in the farm work only during vacation time. Mr. Suzuki is cultivating 1.35 hectares of rice field which is located at four different areas of the rice field in the community. All of his rice fields are benefited by gravity irrigation system which is controlled and managed by the rice farmers in Kanawasa. He is also owns and manages 1.35 hectares of orchard planted to variety of fruit trees. The corresponding areas and varieties planted to each are as follows:

<u>Variety</u>	<u>Area planted</u>
Apple	0.30 ha
Grape	0.30 ha
Pear	0.12 ha
Plum	0.40 ha
Cherry	0.25 ha

He also possesses 3.0 hectares of forest land scatteredly located in the nearby mountain where his orchard is also found.

Agricultural Machineries:

Mr. Suzuki owns several agricultural machines. Therefore, he could effectively and wisely manage his farm. The agricultural machines he owns are:

2 units of hand tractor	2 units of grass cutter
1 unit of transplanter	1 piece of knap sack sprayer
1 unit of harvester	2 units of service car
1 unit of binder	2 units of service motor cycle
1 unit of seed incubator	

He also possesses farm machines in partnership with other farmers, like one unit of 4 wheel heavy duty tractor and one unit of power sprayer.

Holding of Animals:

Backyard swine raising is also one of the farming activities of Mr. Suzuki. He has two pig pens located at the back of his house. Inside the pens are two landrace breed. One is a nursing sow with 9 piglets (45 days old at the time of survey) and the other is a pregnant gilt with expected date of farrowing on September 10, 1977. Aside from this back-yard swine raising, he is also a member of a piggery project corporation composed of five members. Every member has his own responsibility in the actual management of the project. Mr. Suzuki is in-charge of marketing. The project has 374 heads: 4 breeding boars, 20 sows, 200 gattening and 150 piglets.

Cropping Pattern:

Single cropping in rice production is followed. Inter-cropping and crop rotation is not practiced in the area due to pressure of work in some other field activities in the orchard management. Usually, rice production activities start on the second week of April and harvesting is on the second week of September, depending upon the variety grown.

Paddy Cultivation Techniques:

Preparation of seeds and care and management of seedlings. Two varieties of seeds have been prepared: Sasanishiki and Hanahikari. The former is known for its excellent eating quality and commands high market price, and the later is known for its high production in the area.

Approximately 65 kilograms of seeds were prepared for the entire area. After the seeds were soaked and incubated, they were sown in seed boxes with standard dimension of 60 x 30 x 3 centimeters. The germinated seeds sown in the seed boxes were incubated in a temperature-controlled incubator with a minimum temperature of 32 degrees Centigrade. The temperature was decreased gradually to 25°C until the fourth day. On the sixth day, the seed boxes were shifted in the nursery (vinyl house).

Proper care of the seedlings is done in a vinyl house to protect the seedlings from any adverse effect of temperature. In this system of raising seedlings, it takes only 25 days for the seedlings before they are ready for transplanting.

Land Preparation: The land was thoroughly prepared starting from the month of April, simultaneously with the preparation of seeds. Well prepared rice field paddy is a must among Kanazawa farmers because it is one of the leading factors for higher production.

Application of Fertilizer: Basal application of fertilizer was done before transplanting. Organic mater such as decomposed rice straws with hog manure was mixed with the soil during the initial land preparation activity. This system supplies additional plant nutrients to the soil, according to Mr. Suzuki.

Transplanting: Transplanting was done on May 18, 1977 for "hanahikari" and early maturing variety and on May 22 for "sasanishiki", a medium late maturity variety. A two-row transplanter was used to transplant the area. The planting distance was 30 x 15 centimeters. The area transplanted with its corresponding variety planted were:

<u>Varieties Planted</u>	<u>Area Planted</u>
Sasanishiki	0.20 ha
Hanahikari	1.15 ha
T o t a l	1.35 ha

Fertilization: The rate of plant nutrients applied after transplanting to his field were:

<u>Element</u>	<u>Amount of Fertilizer Applied</u>
Nitrogen	10 kg/10a
Phosphorous	20 kg/10a
Potassium	18 kg/10a
Ammonium sulfate	15 kg/10a

Weed Control: One of the preventive measures in controlling noxious weeds is by thorough land preparation. Nevertheless, combination of chemical and mechanical control by means of rotary weeder was also done. Chemical weed control was done by using pre-emergence herbicides which was applied two times: once just after transplanting and the second application was just after inter-cultivation or mechanical weeding.

Water management: Intermittent irrigation system is practiced in the area. The area has abundant water supply so there is no irrigation problem. Irrigation schedule is strictly followed by the farmer.

Pest and Disease Control: During our field observation and inspection, the plants showed no sign of any abnormality caused by the infestation and infection of pests and diseases, respectively. This shows that the farmer is up-to-date in his crop protection. Plant protection was done in cooperative efforts of the farmers with the use of a power sprayer and pesticides supplied by the cooperatives.

Harvesting and Marketing: Harvesting of rice started on the second week of September. Combine is used for harvesting. All of their produce are channeled to the agricultural cooperative which is responsible for the marketing of their product. Individual farmer has his own corresponding account in the cooperative in which sales of his produce is properly posted.

Income:

Mr. Suzuki has four sources of income all derived from agricultural products, which are as follows: (as of last year, 1976 income)

Orchard	¥3,500,000
Piggery project	3,000,000
Rice Production	1,500,000

Forest Product - - -

T o t a l ¥8,000,000

Piggery project income owned cooperatively

No income yet at the time of study

Related Organizations:

There is one existing agricultural cooperative association in the community in which Mr. Suzuki is an official. The marketing of their products and the supply of seeds and agricultural in-puts are handled by the cooperative. The cooperative is also extending long-term loans to farmer-members in the purchasing of agricultural machines, house construction, in the purchasing of household appliances and other various items essential for modern and comfortable living. Agricultural extension workers are also employed to assist and guide farmers for successful farm management.

Club For Homemakers:

Homemakers' club is also active in the area. The club always holds a series of home demonstrations or something related to culinary arts. Home extension agents of the extension office have a direct linkage with this kind of organization. They are active in the actual fulfillment of their duties.

Agricultural Extension Office:

The distance of the extension office to Kanezawa is approximately 4 kilometers. Extension officers are technically prepared that they play a very important role in the life of the farmers. According to Mr. Suzuki, he is always visited by extension officers and specialists every twice a month and he is given some periodicals or informative materials about a latest production techniques on every visit of those extension workers and specialists. His house is also the place for holding demonstrations by homemakers, for his wife is a member of a home-improvement club.

General Impressions:

During my short stay at the house of my host farmer, I was able to get acquainted with the relatives and neighbors of Mr. Suzuki and as a whole, I was able to established rapport with them. The immediate and

close relatives of the family usually came during the night after supper and I talked with them, disregarding the language barrier in communication. During the day time, the day's schedule was made by Mr. Suzuki with other host farmers in the "buraku". And we had our work rotated among the host farmers so that we were all able to get acquainted with all of them. Our stay was very fruitful and we have many unforgettable memories to remember by when we go back to our respective countries.

Five days stay with a Japanese farmers was too short for us in order to achieve the true objectives of the program. Anyway, this short stay of mine with my host family gave me enough knowledge on how Japanese farmers are successful in their farming business compared to those of developing countries.

To summarize, there are three contributing factors towards the Japanese farmers' success in their enterprises: high price support by the government which is an incentive for them to produce more, favorable climatic condition which inhibits the rapid multiplication of pests and good farmers attitude towards farmings and their knowledge about the modern and technological way of rice production. Other factors are considered only as minor elements in the achievement of their farming enterprise.

Lastly, I would like to express my heartfelt thanks, appreciation and gratitude to our course staff, to Mr & Mrs. Suzuki and family, Nakayama-Machi officials, and to the extension officers and friends and I met at Kanazawa district for extending to us their utmost cooperation and whole hearted support for the successful completion of the program.

"Japanese Farmer" A symbol to the Agricultural World

H. M. Kumarasinghe (Sri Lanka)

Introduction

With the intension of enlightning the practical knowledge and acertaining the various aspects of rice cultivation of a rice farmer in Japan, among the participants of Rice Cultivation and its Extension group, a "Farmer House Stay Practice" was performed under the patronage of Uchihara International Agricultural Training Centre in near past. Under this programme the participants enjoyed the life with farmers, staying in their houses as members attending to various agricultural aspects for a period of five days in the Northern part of the main Island "Honshu" where they collected valuable informations on agriculture and accertained the ways and means of improving yields of various agricultural crops. The locality was Kanasawa village of Yamagata Prefecture which is supposed to be the highest rice producing area in Japan.

Family Background

The farmer that I happened to share the daily life with, was Mr. Kanei Suzuki who is a sitting member of the Nakayama Town council. It was a great prestige for him to recieve and encertain foreigners at his house in spite of his busy programmes in various fields. The family of Mr. Suzuki consist of six members with him inclusively.

Family member	Age	Relation to	Education	Occupation
1. Kanei Suzuki	44	Housemaster	Agri. High School	Farmer
2. Mrs Suzuki	43	Wife	Dress Making Intermediate Elementary	House-wife
3. Misaya Suzuki	67	Mother	Intermediate Elementary	Farmer
4. Kanji Suzuki	21	Son	Agri. College (Horticulture)	Farmer
5. Chiaki Suzuki	18	Son	Sr. High School	
6. Sazuri Suzuki	14	Daughter	Jr. High School	

Mr. Suzuki bears a residence parallel to other farmers in the locality, which has one room for each family member and common room, dining room in addition. All the family members are enjoying their life with modern luxurious items, which could not be thought of an average farmer in a developing country. Perhaps the nature may insist on the various living pattern with the environmental and climatic conditions, with which the people have to equip with the necessities.

They are buddhists by religion and have a faith in Shintoism too, for which homages are performed daily. A sacred place is separated where Altar is made in which Buddha image is placed. It seems to be a habitual custom of all the members of the family to offer Buddha with food early in the morning and worship after lighting a candle at the foot of the Buddha Image. This process is repeated in the evening too. It is anticipate the object to be successfully achieved in the day by paying homages.

Close observations made, prove that they are enjoying a balance diet daily thrice a day for breakfast, lunch and dinner respectively, which helps in healthyness and vigoruosness. Though the farmer produces much rice, it looks that they are not consuming rice as other tropical countries do. They take vegetables, meat, fish, eggs and other protenious food along with a little rice. The meals are prepared by Mrs. Suzuki alone for which their daughter helps at times according to menu which is prepared for the whole week and hung on the wall.

Apart from the three major meals of the day intermittant short eats and dishes to suit the time, are being enjoyed by the members and served the visitors too. The greetings and other customs followed before, while and after eating are memorable.

Farming Conditions

Mr. Suzuki posses a fairly good amount of agricultural lands with various crops such as:-

1. Forest land 3 ha
2. Paddy (low land) 130 a (ares)
3. Apple 30 a

- | | |
|-----------|----------|
| 4. Grape | 30 a |
| 5. Pear | 12 a |
| 6. Plum | 40 a |
| 7. Cherry | 23 a |
| 8. Swine | 55 heads |

The paddy fields are located along the lowlying area in five blocks where these could be fed with irrigation water, while the orchard is covering the slopes, also in isolated spots which are accessible easily, except the forest land which is far away from home.

The farmer posses the following agricultural machines which ease the operational practices.

- | | | |
|-----------------------|---|---------------------------------------|
| 1. Four wheel tractor | 1 | |
| 2. Two wheel tractor | 2 | |
| 3. Transplanter | 1 | (In cooperation with another farmer) |
| 4. Harvester | 1 | -do- |
| 5. Binder | 1 | -do- |
| 6. Paddy Incubator | 1 | -do- |

Harvester, binder and transplanter are on a share basis with other neighbouring farmers which shows the solidarity among the farmers. As the rice cultivation of Mr. Suzuki is mechanized no labour problem is involved. The whole responsibility of agriculture is devoted to the elder son of him as he is busy in social activities.

He holds a share in a private co-operative of five farmers which runs a piggery of 290 heads at the moment. The management of the piggery is modern and well techniqued. Further to this Mr. Suzuki alone holds two breeder pigs from which he gets a satisfactory income twice a year by selling piglings.

Rice Cultivation Techniques

It looks Mr. Suzuki follows modern agricultural techniques in anticipation of good harvest from his paddy land. Nurseries are established in April under vinyl cover in boxes to ease the transplanting by machine. Thorough land preparation is performed numerously by using small scale machines which is followed by transplanting in May.

Fertilizer application according to the recommendations given by the agricultural extension office and local co-operatives is done, of which basal is applied at the time of land preparation. Top dressings are split-
 ted into four to five times according to the requirement of same by plant, which helps to keep the photosynthesis in operation till the yellow ripening stage of panicle. Weed control is done about twice with the help of weedicides and pests and disease control is practiced as and necessity occurs, with chemicals. Mr. Suzuki knows the significants of water management in rice crop and as such, whenever he visits the paddy field it is the first duty of him to see the condition of fields in regard to water.

Farm Economy

Mr. Suzuki and his family of which six are members in all, are enjoying a luxurious life which could not be thought of by an average farmer in an underdeveloped country, as such it is evident that he is economically sound. The whole room income is from agriculture alone, according to him.

Income from varous crops per year

1. Apple	¥1,600,000
2. Grapes	700,000
3. Pear	400,000
4. Plum	800,000
5. Cherry	650,000
6. Paddy	6,158,125
7. Value of breedings pigs	8,700,000
8. Piglings	<u>32,720,000</u>
Total income	51,728,125

In addition to this he gets fairly good income from timber out of three hactares once in fifteen years according to him which is not included above.

Community Characters

1. Full time farming households	100
2. Part time farming households	70
3. Non-farming households	<u>64</u>

Total number of households 234

This community "Kanasawa" is in the Nakayama town of Yamagata Prefecture, where most of the farmers live mainly on agriculture. Rice Cultivation is the main agricultural performance of farmers and this area is supposed to give higher yields in Japan.

Rice cultivation in this area is well organized from the inception through co-operatives, and agricultural extension office. Farmer, co-operative and agricultural extension office are co-ordinated in the execution of all work pertaining to rice cultivation and every practice is done through organizations among the people, where maximum benefits could be achieved.

The farmers, themselves meet leisurely in evenings and discuss matters relating to any sort of improvement of agriculture apart from the advices and directions catered by co-operative and agricultural extension office. I witnessed the gatherings of farmers and discuss about agriculture in Mr. Suzuki's house almost daily during my short stay, which could be sighted as excellent. The sharing of experiences among the farmers is playing a vital role in the improvement of rice cultivation and is most appreciable.

The members of the co-operative in this community enjoy very many facilities scattered for rice production such as credit, fertilizer, agrochemicals etc., which are supplied at low interest and easy payments. It is a great note here that the functions of co-operative and agricultural extension office in the improvement of rice culture is excellent. The farmers of this community has a chance of knowing the day today information about marketing variance of agricultural produce directly at home as the co-operative has the facility of Radio Broadcast. Weather conditions and other informations too will be intimated to farmers directly over the telephone whenever such occasions arise, so as to facilitate the farmers in their activities. The youngsters of this community are fond of studying agriculture and are willing to be farmers in succession of their parents. The availability of young farmers organizations in the locality proves this concept very clearly.

Conclusion

The farm household stay practice was an unforgettable incident that I crossed in my life during the course of training in Japan, by which I was able to gather first hand information about the life of a Japanese farmer. I was highly impressed about the life of Japanese farmer in the activities of their daily life, the agricultural aspects followed for high production the customs in daily life like kindness, politeness, hospitality, punctuality and etc. To lead a happy, peaceful and harmony life between the members of a family, I am very much thankful to the host family who entertain me to the maximum possible way at their house for five days, the co-operative and the town office who unitedly organized the programme and assisted in various aspects to make this event a success under the patronage of Rice Cultivation Extension Course staff of Uchihara International Agricultural Training Centre.

The survey items of Farmer Houses Practice in Yamagata Prefecture

21 - 27 July, 1977

Mr. Praves Saengpetch (Thailand)

Introduction

Farmer's house stay practice is the best way to study the progressive technique of rice production, the environment of rice growers, the Japanese farmer way of life, Japanese culture and their custom. Five days at farmer's house, I had observed the activities of Agricultural Cooperative Association, Extension Work and among themselves. They joint together to produce high yield of rice such as pest control, method of how to apply fertilizer so that the yield in this area increase year by year. We can get idea and technique of rice production for good application to our country as soon as possible.

1) Family condition

a) Address: 410 Nagasaki, Nagasaki Machi, Yamagata Prefecture.

	<u>Name</u>	<u>Age</u>	<u>Relation</u>	<u>Final education</u>
1.	Satoru Aoyagi	46	Father	High School
2.	Sachiko Aoyagi	46	Mother	High School
3.	Kazuhiko Aoyagi	22	Son	Agri. College
4.	Shinji Aoyagi	20	Son	High School

b) Life territory

Yamagata prefecture is the most famous for high yielding of rice production in Japan. It located in the Northern part of Honshu Island, about 600 km from Ujihara International Agricultural Training Centre, with her population of 1,210,000 and 377, 483 km of land. In 1976 produced 509,000 tons of brown rice from 101,800 ha paddy land.

Yamagata Prefecture is divided into four Agricultural Zone.

- 1) Murayama
- 2) Mogami
- 3) Okitama
- 4) Shonai Zone

My host farmer's house is situated in Murayama Zone. Murayama

Zone is the middle part of Yamagata Prefecture, total area 27,100 ha the total production 142,546 ton the average yield is about 526 ton per ha.

Average size of holding per household is 1.59 ha. Yamagata extension office 15 km away from this area. My host farmer is fulltime farmer.

c) Resident condition

His house is very big with only one floor consists of 9 rooms, inside decorated in Japanese style. Floor by tatami (made by straw mat covered with fine layer) each room separated with sliding door, after opening the sliding door the room becomes big.

Facilities

1. Telephone	2 set
2. Television	1 set
3. Tape cassette	1 set
4. Electric vacuum	1 set
5. Stereo	1 set
6. Electric fan	2 set
7. Air condition	2 set
8. Pressure cooker	1 set
9. Blender	1 set
10. Gas stove	2 set
11. Refrigerator	1 set
12. Washing machine	1 set
13. Electric stove	1 set
14. Car	1 set

d) Religion Service

They are Buddhist, they visit Buddha's temple once a year during New year's day come. They give rice, cake, flower and fruit to Buddha, Fire incense stick, after that ring the bell and pray. They pray and service every morning before taking breakfast. The small temple has two Buddha images 1st one bigger than 2nd one. They made small shrine

above the Bhudda image place and pray that shrine after Bhudda.

e) Meal custom

They took 3 meal in a day. Mrs Sachiko cooked every day.

Five days menu in detail.

1. 21st of July, 1977

Dinner 7:20 P.M.

Rice, Japanese soup, Omelet, Chicken curry and
Vegetables.

2. 22nd of July, 1977

Breakfast 7:00 A.M.

Fried egg, rice, Japanese soup and boiling vegetables.

Lunch 11:30 A.M.

Fired noodle, Omelet and Japanese soup

Dinner 7:30 P.M.

Rice, fired chicken, Japanese soup and Vegetable.

3. 23rd of July, 1977

Breakfast 7:10 A.M.

Fired egg, sandwich, Milk

Lunch 11:30 A.M.

Fired rice, Omelet, Japanese soup and Vegetable.

Dinner 7:00 P.M.

Rice beef, fired fish, Curry and Vegetable

4. 24th of July, 1977

Breakfast 7:00 A.M.

Fired egg, sandwich Milk and Vegetable.

Lunch 11:30 A.M.

Mochi (rice cake), Angko Mochi, Nato Mochi and

Nuto mochi.

Dinner 7:00 P.M.

Sukiyaki, rice curry and Japanese soup.

5. 25th of July, 1977

Breakfast 7:20 A.M.

Rice, Fish cake, Fired fish, Japanese soup and
vegetables.

Lunch 12:10 P.M.

Noodle

Dinner 7:00 P.M.

Rice, tempura and Japanese soup

6. 26th of July, 1977

Breakfast 7:00 A.M.

Rice, Fired chicken and Japanese soup

2) Farming condition

a) Labor available 3 members

b) Agriculture land

1. Paddy field 230a

2. Hopp field 85a

3. Cattle house 100m²

c) Land situation

1. Own land 160a

2. Tenance 85a

d) Agricultural machine (No. of set)

1. Power tiller 1

2. Tractor 1

3. Transplanter 1

4. Sprayer & Duster 2

5. Harvester 1

6. Huller 1

7. Dryer 1

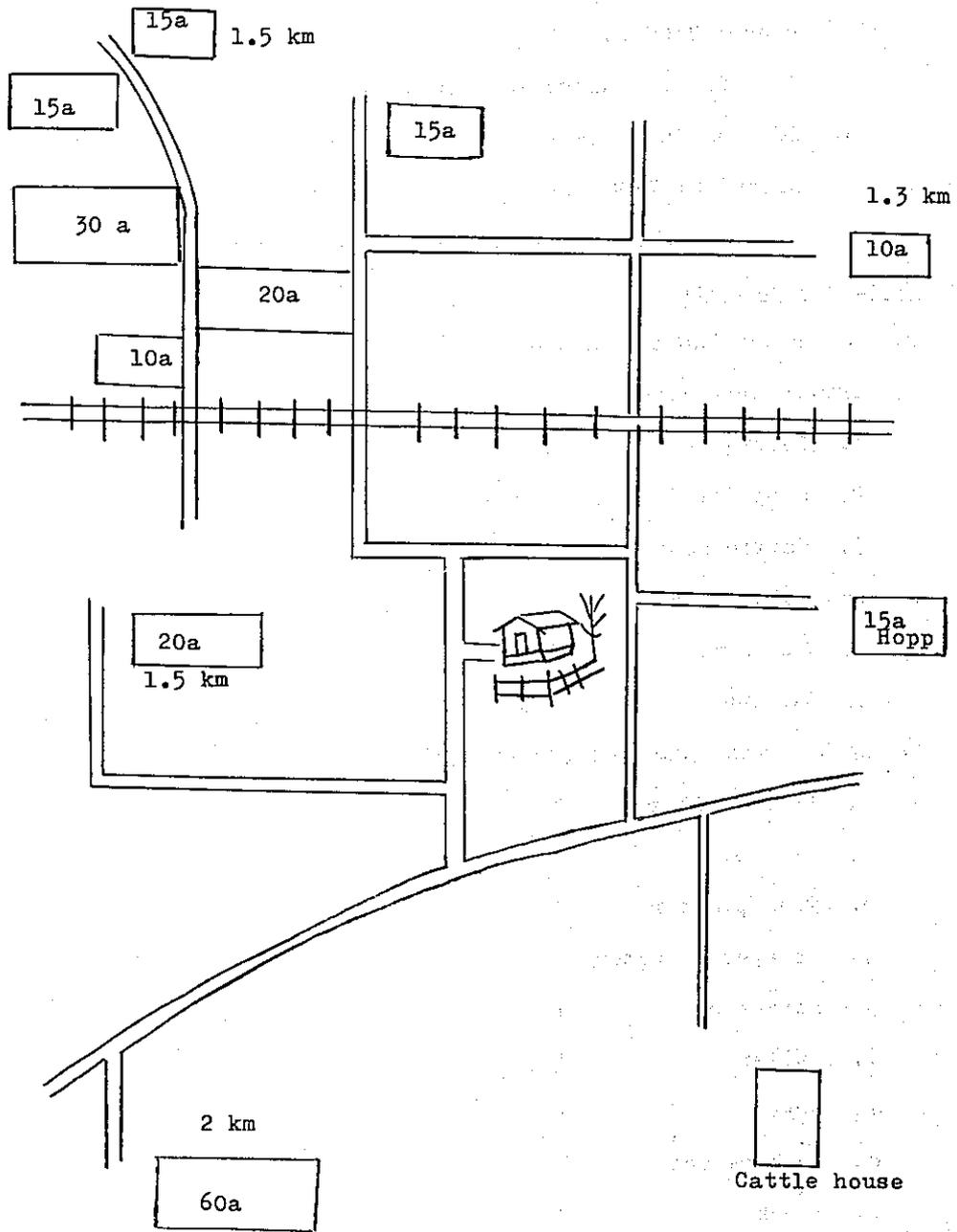
8. Pumping set 1

9. Truck 2

10. Binder 1

11. Tailler 1

- 12. Weeding machine 1
- 13. Incubator 1
- e) Animal (No. of head)
- 1. Japanese cattle 17 heads
- f) Sketch of scattered land.



3) Paddy condition techniques

For the year 1977 growing 2 varieties were cultivated Sasanishigi and Kiyonishiki. Sowing date 20 April, transplanting 15 May. They selected good seed by salt water selection, specific gravitation 1.08 - 1.13. Treated with Benlate, rate of seed 200 - 230 gm/box and putting into incubator 5 days accumulated temperature 100°C, after 5 days shift to open place covering by vinyl sheet. Seedling good for transplanting about 20 - 25 days mean 2.5 leaf age, 230 box over 1 ha.

Plowing paddy field, mixing composed 1300 kg/0.1 ha, applied basic fertilizer, puddling at beginning of May, applied herbicide MO 2 days before transplanting, transplanting depth about 2 - 3 cm., planting density 80 hill/3.3 m². End of May applied 1st top dressing fertilizer, beginning of June intercultivation weeding, water management and Blast control. Before heading in August applied pesticide to control Neck Blast and Sheath Blight at the same time. Drained water out in September harvesting after heading 45 - 59 days, good time for harvesting humidity of seed about 15 - 17 %, accumulative temperature from sowing date to harvesting date 1100°C.

Fertilizer application

They applied composed 1300 kg/0.1 ha, Calcium silicate 120 kg/0.1 ha and Magnesium sulphate 60 kg/0.1 ha.

Basic fertilizer before puddling	40.0 N	7.20 P ₂ O ₅	6.40 K ₂ O
1st top dressing after transplanting 5 days	2.0 N	3.60 P ₂ O ₅	3.2 K ₂ O
2nd top dressing before heading 20 days	1.60 N	-	1.8 K ₂ O
3rd top dressing before heading 10 days	1.60 N	-	1.8 K ₂ O

Plant protection

They went to the field every 8 days to serve their plant after came back they discuss themselves planning to spray pesticide. They organized 1 group 8 persons and joint together.

1st E.P.N + Labcide + New Azogin July 10 - 11

2nd Azogin + Labcide July 26 - 28

3rd Hinobycide August 8 - 10

4th Kasumin August 16 - 18

Water Management

Water management is one factor to produce high yield. These area farmer pay attention for the water management, farmer maintain amount of water in the field 5 cm., for 15 days after transplanting, after that drained water out and keep water level 2 - 3 cm for 15 days interval, end of June keep dry condition for 10 days, in July 2 - 3 cm for 30 days interval, before heading keep 2 - 3 cm of water level for 10 days and 2 - 3 cm 25 days interval after that drained water out to dry condition reached harvesting.

4) Farm Income

a) Income

Sale of rice 3,757,740 yen (1.65 ton)

Japanese cattle 11,390,000 yen (17 heads)

Hopp 1,100,000 yen

Total 17,247,700 yen

b) Expenditure

Rice production cost 928,000 yen

Cattle production cost 833,000 yen

Hopp production 935,000 yen

Total 10,193,000 yen

c) Net Income

=17,247,700 - 10,193,000 = 7,054,740 yen

5) Related Organization for their life and family

Mr. Aoyagi is one of Agricultural Cooperative association member & member of progressive farmer. They organized themselves that the farmers field located in same area. One group consist of 8 members, each farmers went to Extension office 7 - 10 times a year to study new technique of rice production, fruit production and animal production. Extension offi-

cer came to their 1 - 3 times to guide them about agricultural management and observe problem that occurred in farmer field.

Fertilizer, pesticide and herbicide supplied them by Agricultural Cooperative Association. Farmer sold their production pass through Agricultural Cooperative Association and they received money after that 3 - 4 days.

6) Conclusion

Factor of high yield.

- 1) Policy of government in the price of production.
- 2) Seedling box nursery produce healthy seedling.
- 3) Increasing seedling per unit area cultivation.
- 4) Well organized cooperation system.
- 5) Paddy field were consolidated in rectangular shape for efficient handling of machine.
- 6) Improve of soil production by applied composed or returning crop residues in the field to improve physical and biological soil properties.
- 7) Farmers competition themselves to get the first price of production.

MEMORANDUM

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