

BIBLIOGRAPHY

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Adviser: Hilario C. Perez, MSc.

ABSTRACT

The study was conducted to assess the cultural management practices of hybrid rice in Mabini, Alicia, Isabela. Specifically to determine the socio-economic profile of the respondents, the cultural management practices on hybrid rice production, and the problems encountered in hybrid rice production. A survey questionnaire, supplemented with personal interview and actual observation was used to gather information. Thirty rice farmers served as respondents of the study.

The profile of the respondents showed that most of them were middle aged. Most of them were males and only a few were single. Most of them had no formal schooling, had an average of five with of children and farming 1 to 5 years. Majority of them owned the land they are farming and cultivated less than one hectare.

All of the respondents cultivated the hybrid rice varieties and follow the cultural management practices. All the farm activities from land preparation to harvesting are done by purely through manual labor, except for land preparation where few farmers use a tractor.



The production problems encountered by indentified on Golden kuhol, Rats and Birds, Typhoon, Pest and Disease and weed control. The farmers were used chemicals for the indentified problems in hybrid rice production.



RESULTS AND DISCUSSION

Socio-economic Profile

Table 1 presents the socio-economic profile of the respondents. This includes their age, civil status, sex, educational attainment, occupation, monthly income, farm size and the number of years in farming.

Age As shown in table 1, forty percent (40%) of the respondents belong to the age group of 39 to 48 years old. This was followed by 6 respondents or 20% within the age bracket of 19-28 years old; 5 or 29% between 29-38 years old, 4 or 13% with age between 49-58 years old. The findings indicate that majority of the respondents were middle aged.

Civil Status Of the thirty respondents, 26 or 87% were married while 4 or 13 % were single.

Sex Majority of the respondents were males with 25 Or 83% while only 5 or 17% were females. The data indicates that more males were involved in hybrid rice production. However, the woman also played a major role in agriculture activities.

Religion With regards to the religion, most of the respondents are Roman Catholics (70%), the Pentecostal (20%) and the rest were Pagans. This indicate that the most of the respondents are Christians

Educational Attainment Literacy among the respondents was high with 15 or 50% finished elementary while 6 or 20% high school and 2 Or 7% with college degrees. Results also relieved that only 7% were elementary dropouts.



Table 1. Socio-economic profile of the respondents

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
<u>Age</u>		
19-28	6	20
29-38	5	17
39-48	12	40
49-58	4	13
59-68	1	3
69 and above	2	7
TOTAL	30	100

Number of Respondents, The data shows that 15 or 50% of the respondents have more than 5 dependents. This was followed by 6 or 20% with 1 to 2 dependents and 2 or 10% with 2 to 3 dependents. This indicates that the respondents were medium households.

Other Source of income, Aside from farming the respondents were also engaged in other activities where they derive additional income. Sixty percent were engaged in daily wage and 40% Backyard livestock production such as raising swine and other animals,

Farm Size, Among the respondents, 18 or 60% cultivated less than a hectare while 11 or 37% cultivated between 1-2 hectares and only 1of the respondent cultivated an area of 3-4 hectares (Table 1).

Number of years in farming, The table shows the farming experience of the respondents. The results show that 11 or 37% had 1-5 years experience in farming. This



was followed by 9% with more than 20 years in farming and 7 or 23% with 16-20 years in farming. The results indicate that the respondents were experienced farmers.

Table 1. Continued.....

<u>Sex</u>		
Female	25	83
Male	5	17
TOTAL	30	100
<u>Civil Status</u>		
Married	26	87
Single	5	13
TOTAL	30	100
<u>Religion</u>		
Roman Catholics	20	70
Pentecostal	8	25
Pagan	2	5
TOTAL	50	100
<u>Educational Attainment</u>		
Elementary	15	50
High school	6	20
College	2	7
Elementary dropouts	7	23
TOTAL	30	100



Table 1 Continued.....

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
<u>Number of dependents</u>		
1-2	6	20
3-4	4	13
5 and above	20	67
TOTAL	30	100
<u>Other Source of Income</u>		
Daily Wage	20	60
Backyard Production	10	40
TOTAL	30	100
<u>Farm size</u>		
Less than 1 hectare	18	60
1-2 hectare	11	37
3-3 hectare	1	3
TOTAL	30	100
<u>Number of Years in Farming</u>		
1-5 years	11	37
5-10 years	1	3
11-15 years	2	7
16-20 years	7	23
Over 21 years	9	30
TOTAL	30	100



Cultural Management Practices

Land preparation

Table 2 shows the method of land preparation used by the respondents. Sixty percent (60%) of the respondent cultivated their land with the use of carabao. Land preparation is usually done by the men with the use of carabao while 18% used the tractor method. The data indicates that manual labor was widely used due to more expenses than by using the tractor method. As cited by Moody (1977) and IRRI (1991) used biomass and grain yields were not significantly reduced used of biomass and increased grain yield.

Varieties of hybrid rice

Table 3 shows the varieties of hybrid rice. Eighteen or 54% cultivated the SLH8 hybrid rice, while eight or 29%. MS8 and only four or 17% are planting Bigante hybrid rice. The result indicates that the most popular hybrid rice variety is SLH8, because SLH8 demands higher price in the market and it produces better yield varieties. As cited by Vergara (1992) modern varieties have better yield potential than traditional varieties even under the least conditions. The use of fertilizer and improve farming practices will increase grain yield more in modern varieties than the traditional ones.

Method of Growing Seedlings

The method used in growing hybrid rice seedling is shown in Table 4. 20 or 52% used the transplanting method, while 18 or 48% use direct seeding. The results indicate that the most popular method used by the respondents is direct seedling method because it is the easiest method to plant rice and it involves lesser expenses. As cited by Philrice (2000) the highest productivity is reported under the transplanting method, although it is labor-intensive with pre-harvest labor ranging man-days



Fertilization

Table 5 shows the different fertilizers applied by the respondents. Thirty or 30% used urea, 35% triple 14 and 35% use a combination of triple 14 & urea. The data indicates that the respondents applied both organic and inorganic fertilizers. As cited by Sung-ag (1997) found that plants that are fertilized with chicken manure produced large number of productive tillers, had highest length of panicles, and gave the highest net in return. As collaborated by IRRI (1991) timing of fertilizer application is also determined by the economic status and the educational level of the farmers.

Irrigation

All of the respondents irrigated their rice farm through communal irrigation which is supplied from the main irrigation dam of the province. In corroboration of IRRI (1993) as cited by Lumiwes (1997) found that irrigations should be done three days after transplanting at a depth of two to three centimeters for wet and one for adopt.

Harvesting

All of the respondents used a sickle in harvesting their palay. This indicates that the respondents did not use transverse-bladed knife in harvesting their palay because it was time consuming and they did not use mechanized harvester because they cannot afford with the cost of the technology.

Harvest as to Maturity

All of the respondents harvested their palay when fully matured as determined by looking at its color. The Leaves and rice grains are golden yellow in color or by counting the number of days done from planting until harvesting time and usually with an average



of 90 days for the “biit” rice 120 days for the “bayag” rice. This implies that majority of the respondents determined maturity by observing the appearance of rice plants.

Threshing Practices

Table 6 Shows that 90% of the respondents used a mechanical thresher and 10% manual threshing such as improvised wooden rock threshing materials. This implies that used of a mechanical thresher can make their work easier, reduced grain losses and reduced labor requirements as compared to manual threshing.

Table 2. Method of land preparation

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Use of Carabao	18	60
Tractor	12	40
TOTAL	30	100

Table 3. Varieties of hybrid rice grown by the respondents

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Bigante	4	17
SLH8	18	54
MS8	8	29

*multiple responses



Table 4. Method used of growing seedling

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Transplanting	20	52
Direct seeding	18	48
*multiple responses		

Table 5. Fertilization used by the respondents

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
14-14-14	20	30
Urea	25	35
Combinations of triple 14 & urea	25	35
*multiple responses		

Table 6. Threshing Practices

PARTICULAR	NO. OF RESPONDENTS	PERCENTAGE
Mechanical Threshing	41	89
Manual Threshing	8	19
*multiple responses		



Packaging Materials for Rice

All of the respondents used plastic sacks for harvested rice. This is attributed to its availability and is widely practice and acceptable in the market. In corroboration of Andales (1996) as cited by Martin (2006) stated that in small-scale production and processing, field-threshed and partially cleaned paddy is bagged in jute or propylene sacks for handling purposes in transporting paddy from the field to the roadside or to the house.

Methods of Drying “Palay”

All of the respondents dried their palay on concrete pavements, in the basketball court or along the national highway. The palay was uniformly distributed in the pavements until such time that it would be ready for storage. This indicates that the farmers don’t have a permanent drying area. Rice grains are dried until 14 percent MC before storage. Sun drying is a common method used by farmers in asia.

Milling Practices

All the respondents used the mechanized rice mill “kiskisan” in milling their palay. This shows that manual milling is not being practiced by rice farmers. As corroborated by Ilayat (2004), “kiskisan” is popularly and widely used in rural areas because of its availability, low capital outlay, and its low paddy volume requirements for milling and production of rice bran.

Storage Practices

The respondents stored their rice within the premises of their houses. This shows that the rice was properly stored in order to maintain its good quality. Farmers stored their palay in traditional and non-traditional structures primarily for food security until the next



harvest. Also, as a source of cash during emergencies, for seeds, for future increase in price of palay during the lean months, and for anticipated future festivities.

Pest and Disease Control

The methods utilized in controlling pest and diseases are shown in Table 7. Fifteen (16) of the respondents or 50% used commercial chemical to control pest and diseases while 30% cultivated pest and diseases resistant varieties. About 5 or 7% practiced sanitation in their fields to prevent the occurrence of pest and diseases. In relation to Phil rice (2000), the golden apple snail (GAS) is the one major problem in the transplanted rice.

Table 7. Pest and Disease Control

PARTICULAR	NO. OF RESPONDENTS	PERCENTAGE
Chemical Control	16	50
Used of Resistant Varieties	10	33
Sanitation	5	17

*multiple responses

Problems Encountered in Rice Production

Table 8 shows the problems encountered by the respondents in hybrid rice production. Twenty (20) or 67 of the respondents said Golden Kuhol was a major problem. This was followed by Rats and Birds, typhoons, Insects pest and diseases, capital, Difficulty in weed control and the lack of technical knowledge in hybrid rice production.



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Drying Problems

Table 10 shows that 66 percent of the respondents had drying of occurrence of typhoon during harvest; 25 % for non-availability of drying pavements. 10% for non-availability of drying machine; and 5% of the respondents problem on labor. This indicates that occurrence of typhoon harvest was the major problem of the respondents.



Storage Problem

The table 12 shows that 34% of the respondents had problem on storage due to rodents; 21 or 31% are due to weevil; and 14 or 21% of the respondents had problem on chicken and birds

Transporting Problems

Table 13 shows that 16 or 24% of the respondents had transporting problem due to poor road condition; 14 or 21% for non-availability of vehicles; and 5 or 7% of the respondents transporting problems on expensive hauling fees. This indicates that their main problems in transporting their produced was due to poor road condition

Marketing Problems

All of the respondents claimed that was a problem that the buyers bought the palay/ rice at a low price during harvesting.

Table 8. Problems encountered in rice production.

PROBLEMS	NO. OF RESPONDENTS	PERCENTAGE
Golden kuhol	20	67
Rats and birds	17	57
Typhoons	15	50
Insects pest and Diseases	12	40
Capital	10	33
Difficult to control Weeds	5	17
Lack of knowledge in rice production	4	13

*multiple responses



Table 9. Threshing Problems

THRESHING PROBLEM	NO. OF RESPONDENTS	PERCENTAGE
Lack of workers	3	28
Lack of threshing machine	29	3
* multiple responses		

Table 10. Drying problems

DRYING PROBLEM	NO. OF RESPONDENTS	PERCENTAGE
Occurrence of typhoon During harvest	45	66
Lack of drying machine	17	25
Lack of workers	7	10
Lack of pavement/road	5	5
*multiple response		

Table 11. Milling problems

MILLING PROBLEM	NO. OF RESPONDENT	PERCENTAGE
Lack of milling station	7	10
The milling machine has no stoner	11	16
*multiple responses		



Table 12. Storage problems

STORAGE PROBLEM	NO. OF RESPONDENT	PERCENTAGE
Attack by rodents	34	50
Attack by chicken and birds	14	21
Attack by weevil	21	31
*multiple response		

Table 13. Transporting problems

TRANSPORTING PROBLEM	NO. OF RESPONDENT	PERCENTAGE
Lack of vehicles	14	20
Poor road condition	16	24
Expensive hauling fees	5	7
*multiple response		



SUMMARY, RESULT AND RECOMMENDATION

Summary

This study was conducted in Mabini, Alicia, Isabela to determine the profile of the hybrid rice farmers, identify their cultural management practices and identify the common problems encountered by the rice farmers related to their farm production. Thirty farmers were taken as respondents of the study.

It was conducted from April 2011 to May 2011 with the used of survey questionnaires and supplemented by personal interviews. The data gathered were tabulated and analyzed through percentage, frequency and weighted mean.

Thirty respondents were interviewed majority of them were males, and married were middle aged and most of them were undergraduates. Majority of them cultivated an area of less than one hectare. Most of the respondents cultivated the hybrid rice variety is SLH- 8 because of its good quality and it is the higher price and yield variety. Majority used of carabao for land preparation while others used a tractor. For growing seedling, most of them used the transplanting method while others used direct seeding method. Transplanting seedling was done in December while direct seeding method was done in January.

To control the pest and disease, all the farmers used the chemical method; while some used pest and disease and resistant varieties. A application of fertilizer, Majority of the farmers applied both triple 14 and urea in their rice fields. During harvesting plastic sacks were used for their harvested rice. Dying “palay”, all the farmers dried their palay in concretes pavements, in the basketball court or along the national hiway, and for storage



practices; all the farmers stored their rice within the premises of their houses to maintain its good quality.

The farmers encountered problems particularly on golden kuhol, rats and birds, typhoon and pest and disease. The solutions to solve their problems are the use of chemicals to control pest and disease and weeds, they build traps to catch the rats and birds that are eaten the palay. Others stay in their farm to drive the birds when the palay are ripened.

Conclusion

Based on the findings of this study, the following conclusions were derived.

1. Majority of the respondents were married, middle aged and literate. Furthermore, farming is there main source of livelihood. They also had adequate experience in farming.

2. The respondents use a variety of cultural management practices in rice production. Their fields were prepared manually; pest and diseases were controlled by using commercial chemicals. Both organic and inorganic fertilizers were applied to their crops.

3. Harvesting was done manually and the palay was dried on the cement pavements packed in plastic sacks and stored in their houses.

4. The respondents encountered several problems in rice production particularly insect pests and diseases, transportation and capital.



Recommendations

1. Government institutions should provide technical assistance to the farmers regarding rice production.
2. Demonstration farms especially on rice should be established so the farmers could see and adapt the latest technologies in rice production.
3. Establishment of farm to market roads to make more accessible to farmers.
4. Conduct of farm and home visits by extension technicians to get first hand information regarding farming situations and provide assistance to the farmers



LITERATURE CITED

- ANDALES, S.C. 1996. Post harvest components of Grain Production Enhancement Program
- ANGPEO, D.W. 2004. Development needs of rice farmers two Barangays of Alitem, Ilocos Sur. BS Thesis Benguet State University, La Trinidad Benguet.
- BAUTISTA, E.G. et al. 1983. Post harvest technologies for rice. Philippines Rice Research Institute, Maligaya, Munoz, Nueva Ecija P. 158.
- BUNUGAN, A. 1998. Swidden farming practices in Mayaoyao, Ifugao. BS Thesis Benguet State University, La Trinidad, Benguet.
- CASTANEDA, M.M. 1990. Impact of the Philippine-German seed potato in Benguet and Mountain Province. M.S. Thesis. Benguet State University, La Trinidad, Benguet
- IRRI. 1991. Direct seeded flooded rice in the tropics. Rural Development Administration, Korean. Rockefeller foundation. Pp. 37, 87-89.
- IRRI. 1993. Tropical climate and its influence in rice. Los Banos, Laguna. P. 16.
- KINMAKIM, A.S. 1995. Strawberry production in Tuba, Benguet. BS Thesis. Benguet State University, La Trinidad, Benguet P. 5.
- LUMIWES, F. L. 1997. Varietal evaluation of high yielding varieties of rice under Tagudud, Bagulin, La Union Conditions. BS Thesis (Unpub). Benguet State University, La Trinidad, Benguet.
- MANAOAS, L.T. 2001. Gayuman oranges production and marketing practices in Balbalan, Kalinga. BS Thesis. Benguet State University, La Trinidad, Benguet.
- Martin, Y. L. 2006. Assessment of post harvest practices in rice production in Pampang, Kayapa, Nueva Ecija. BS. Thesis. Benguet State University, La Trinidad, Benguet.
- MOODY, K. C. 1977. Weed control in rice in fifth BOITROP weed science training course. Rubber research Institute, Kuala Lumpur, Malaysia. P. 374.
- MORRIS, W. 1984. Encyclopedia America International. U.S.A growler international, inc.
- PATCHEL, A.D. 2004. Production practices of rice growers in five barangays of La Paz, Abra. BS Thesis. Benguet State University, La Trinidad, Benguet.
- PCARRD, 1993. The Philippines Recommends for grain legumes post production. Los Banos, Laguna. Pp. 6-8
- PHILRICE. 2000. Rice Research Institute. R and D Highlights. Science City of Munoz, Nueva Ecija. Pp. 1-3



- PODING, P. 2000. Rice technology adoption of farmers in the three barangays of Sagada, Mountain Province. BS Thesis. Benguet State University, LaTrinidad, Benguet.
- SUNG-AG, R. A. 1997. Effect of different animal manures on the growths and yield of NYU rice under Poblacion, San Gabriel, La Union Condition. BS. Thesis (Unpub). Benguet State University, La Trinidad, Benguet. P. 32
- WAITAN, V. J. 2003. Farming Practices of Farmers in Cervantes, Ilocos Sur. BS Thesis. Benguet State University, La Trinidad, Benguet P. 4.

