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RESOURCE CHARACTERIZATION AND TECHNOLOGY ADOPTION OF RICE BASED CROPPING SYSTEM

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INTRODUCTION

The study was conducted in the developmental block of Sipajhar in National Agricultural Research Project (NARP) Zone No. - 1 (NBPZ of Assam) as a part of cropping system research, Indian Council of Agricultural Research (ICAR), New Delhi, The total population were 2,40,768 and literacy percentage is 52%. Altogether, four rivers are passing through these operational areas. There were about 40 STWS and 101 lift irigations, Sali rice followed by Ahu is the main cropping system and the area is belonging to the medium and low and Eco-System. The study revealed that all the farmers of this area are knowing more or less all the package of practices of rice cultivation along with plant protection, fertilizer application measures. The farmers used to grow the most popular local variety viz. Baismuthi, Ijong, Moinagiri, Monohar Sali etc. Among the high yielding varieties viz. Ranjit, Bahadur, Kushal, Ketekijoha and Basundhora are most important in that areas. Farmers priority in crop varieties, crop sequence, soil and water conservation practices, irrigation methods, fertilizer preferences, weed management etc. are closely understood in this study. The agricultural production largely depends upon the efficiency and productivity of resources available and its efficient management functions. The Experiment on cultivator's field (E.C.F.) was launched by the ICAR, and implemented by Assam Agricultural University under the Cropping System Research Project in the state of Assam. The present study was taken up to investigate the technology adoption on rice-based cropping system in farmers field and also to identify the resources available at farmers field, predominant cropping sequences and cropping intensity of that area and the extent of adoption of practices of rice-based cropping sequence.

RESULTS AND DISCUSSION

The study was undertaken in five villages of Sipajhar block under the Agricultural Sub-Division of Sipajhar. Altogather, 50 numbers of farmers were selected randomly from five different villages of that area. Infirmation were collected from the rice growing farmers with the help of structured schedule. The rice-growing farmers were catagorised as complete, partial and non-adopters and the scores of 3, 2, 1 were assigned to them respectively. Rice (Sali) - Rice (Ahu); Rice (Sali) - Potato; Rice (Sali) - Wheat; Rice (Sali) - Rapseed were the important cropping sequences for this operational area.

RESULTS AND DISCUSSION

Data pertaining to the different cropping sequences and cropping intensity of the operatinal area of E.C.F. activities were presented in Table 1. All the five selected villages more or less similar type of cropping intensity; which ranges from 140 percent to 160 percent. This may be due to the fact that all the selected farmers were well acquainted with the various packages of practices of modern agricultural production. It is quite evident that rice (Sali) rice (Ahu) is the most important cropping system of those areas. Moreover, the resource persons were frequently appraised the new innovations developed in the nearest research station more particularly in respect of integrated plant nutrient management and insect pests control measures. The resource persons visited regularly in the respective crop area for proper execution of the programme. The extent of adoption of recommended package practices of rice growing area cropping sequences were given in Table 2. It was observed that 100% of the respondents were adopted correct method of land preparation followed by harvesting 96 percent. Time of planting 92%, manure 84% in respect of complete adoption

category. Adoption of other practices such as spacing, irrigation, intercultural operation and plant protection were below the half of the respondens regarding complete adoption level. Varieties an fertilizer application were adopted by half of the respondents. High level of adoption of recommended practices was due to the continuous contacts between the resource person and the active farmers. Similar findings were also observed by Gogoi (1997) and Supe et al (1990).

Higher percentage of the rice growers adopted re commended practices. Resource persons played a major role in order to create awareness of recommended technology andits adoption among the growers. They also executed frequent and extensive need-based practical work and demonstrations jointly by the agricultural scientiests an experts with the extension scientists of the state department of Agriculture.

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Table 1. Different cropping sequence and cropping intensity of operational area of E.C.F. activities

Farmer	Village-A	Village-B	Village-C	Village-D	Village-E
1	R(W) - R(a)	R(W) - R(a)	R(W) - Nil	R(W) - R(a)	R(W) - Nil
2	R(B) - R(W)	R(W) - Toria	R(W) - R(B)	R(B) - Nil	R(B) - Nil
3	R(B) - Nil	R(W) - R(B)	R(W) - R(B)	R(W) - R(a)	R(W) - Toria
4	R(W) - R(B)	R(W) - Nil	R(W) - R(B)	R(W) - Potato	R(W) - Toria
5	R(B) - Nil	R(B) - Nil	R(W) - Nil	R(W) - Toria	R(B) - R(W)
6	R(W) - Toria	R(W) - Potato	R(W) - Toria	R(B) - R(W)	R(W) - Nil
7	R(W) - Wheat	R(W) - R(B)	R(W) - Wheat	R(B) - R(W)	R(W) - Vig
8	R(B) - R(W)	R(W) - Wheat	R(W) - Veg	R(W) - Veg	R(W) - Toria
9	R(W) - Potato	R(W) - Nil	R(W) - Toria	R(W) - R(a)	R(W) - R(a)
10	R(W) - R(B)	R(W) - Potato	R(W) - Nil	R(W) - Nil	R(B) - Nil
Cropping Intensity	140%	138%	135%	128%	132%

R = rice, W = Winter rice; a = ahu; Veg = Vegetables; B = Bora; E.C.F. : Experiemtn on Cultivator's Field.

Table 2. Extent of adoption of recommended package of practice of Pulse based cropping sequence

Recommended practices	Adoption		
	Complete	Partial	Non-adoption
Varieties	25 (50%)	15 (30%)	-
Land preparation	50 (100%)	-	-
Time of planting	40 (80%)	4 (8%)	-
Spacing	15 (30%)	15 (30%)	20 (40%)
Manures	42 (84%)	8 (16%)	-
Fertilizer application	24 (84%)	24 (48%)	18 (36%)
Irrigation	18 (16%)	24 (48%)	8 (16%)
Intercultural operation	22 (44%)	12 (24%)	16 (32%)
Plant protection	19 (38%)	20 (40%)	11 (22%)
Harvesting	48 (96%)	2 (4%)	-