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STATISTICAL ASSESSMENT OF SOCIO-ECONOMIC STATUS OF FARMER THROUGH TECHNOLOGY INTERVENTION IN RAGI CROPS (FINGER MILLETS) IN BASTAR DISTRICT OF CHHATTISGARH STATE

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ABSTRACT

Due to intervention of new technology in Ragi production, for tribal farmers has raised their income status. The demonstration improved the skill of the tribal farmer as well as the socio-economic status

KEYWORDS : Technology, Tribal, Demonstration and Socio-Economic

INTRODUCTION

The region of Bastar in Chhattisgarh situated in southern part of Bastar plateau zone with a geographical area of 3. 91 m ha, comprising of 25 different tribes. It has only about 23.6% area under cultivation. The people are very poor and the livelihood depends on subsistence agriculture. Bastar plateau is having good agro climatic situation for *Ragi* production but the productivity of *Ragi* in the district is very low. **Seeetharam** (1997) reported importance of finger millets to Indian agriculture as food, feed and in processing for value addiction. This level of production has to be sustainability raised to meet its growing demand for food, protein & Calcium as well as for industrial processing by the wet and dry millers to produce value added products with the present available technology by **Kibey *et al***, (1984). **Pilane *et al*** *(*1997) define the package of practices for different region of the country are different and requires suitable adjustment to need the local specific need of the individual farmers so that it will help to increase the productivity to gain the profit response of finger millets. It is generally grown as rain-fed crop in upland soil namely marhan and tikra (local name). Various approaches were undertaken by National Agriculture Innovation Project (NAIP) team scientists for the introduction of improved package of practices and testing and refinement of technology for Ragi crop in Bastar district of Chhattisgarh. Some of them were: Training, frontline demonstration (FLD), group and individual discussion with farmers, visit of farmers to instructional farm, extension literature and regular visits by scientist to demonstration field's .The objectives of the project were- To demonstrate the performance of improved package of practices of Ragi at farmer fields. To compare the yield level of local farmer practice and improved practice and testing and refinement of technology for site specific management.

METHODOLOGY

The FLDs under *Ragi* crop were laid out in the Tokapal block of Bastar district of Chhattisgarh. Regular visits by scientists of National Agricultural Innovation Project (NAIP) - Project team to demonstration fields were ensured to guide the farmers. These visits were also utilised to collect feedback information for further improvement in research and extension programme. Field days and group meetings were also organized at the demonstration sites to provide the

opportunities for other farmers to witness the benefits of demonstrated technologies. The critical inputs were duly supplied to the farmers through NAIP - Project programme. Data were collected from FLDs at farmer fields and analysed with suitable statistical tools to compare with the yields of farmer practice.

TECHNOLOGY INTERVENED

The training on production technology was conducted for awareness and capacity building to farmers before sowing of crop. After the onset of monsoon, the high yielding variety GPU-28 was line sown with recommended dose of fertilizers and seed treatment. Plant protection measures were also adopted as and when required. Details of measures of cultivation were as follows:

Table 1: Comparison between Technology Adopted and Farmers Practice on *Ragi* Crop

Technology Intervention	Technology Intervention (TI)	Farmer's Practice (FP)
Variety	GPU-28	Local
Seed rate	08 kg / ha	12 kg / ha
Seed treatment	Thiram 3 gm/ kg seed	Nil
Sowing method	Line sowing	Broadcast
Fertilizers dose (NP:K kg/ha)	60:40:20	No fertilizers
Weed management	Stale seed bed technique Hand weeding	Nil
Plant protection	Need base Fungicides and Insecticides spray	No awareness
Technical guidance	Time to Time technical guidance is provided.	No technical guidance

RESULTS AND DISCUSSIONS

Performance of High Yielding Variety (HYV) *Ragi* (GPU-28)

The progress of FLDs on Ragi crop during the years of 2010, 2011 and 2012 is presented in the table- 2. The data presented in table-2 indicated that by adopting recommended package of practices fewer than 46 demonstrations covering 50 ha of lands in three villages resulted in 28.51 and 5.04 qha^{-1} in TI and FP respectively. This accounted for 472.4 per cent average increase in the yield over F P. The area under improved cultivation practices also increased in these villages up to 50 ha which accounted 483 per cent more during three years. Randomly five progressive farmers were selected to find out the economics of *Ragi* cultivation and remunerative benefits over conventional farmer practice.

Table 2: Performance of HYV *Ragi* (GPU-28) in Technology Intervention (TI) and Farmers Practices

Year	Village	No of Fld	Area(ha)	Yield		% Increase in Yield	% Increase In Area
				TI	F P		
2010	Sargipal	05	20	26.5	4.5	488	462
	Gumiyapal	04	15	27.2	4.2	547	
	Tahkapal	08	20	27.8	4.8	479	
2011	Sargipal	05	15	27.9	4.7	493	462
	Gumiyapal	02	10	28.8	5.1	464	
	Tahkapal	06	20	29.9	5.3	464	
2012	Sargipal	04	10	28.8	4.6	526	525
	Gumiyapal	02	12	29.9	5.4	453	
	Tahkapal	10	28	29.8	6.8	338	
	Mean	**46**	**50**	**28.51**	**5.04**	**472.4**	**483**

Area under finger millet (*Ragi*) before inception of project = 8 ha.

Using paired t-statistic for samples are significantly different at both (0.05) in 2.306 and (0.01) in 3.335 level of significance. Comparing the average economics of *Ragi* cultivation in technology intervention and farmers practices (TI and FP) in where net return (Rs ha^{-1}) are 50991.6 and 6210, average cost of cultivation (Rs ha^{-1}) are 5648.4 and 2340 and B:C ratio are 9.032 and 2.652 are respectively (TI and FP).

IMPACT OF TECHNOLOGY

A new awareness is being created on the Ragi cultivation from the point of view of ensuring nutritional and livelihood security. The wider adoption of improved variety GPU -28 has undoubtedly increased production and productivity of Ragi. As seeing is believing, the performance of *Ragi* FLDs especially on the eve of field day many farmers from adjoining villages showed their interest to adopt the technology. The farmers have also convinced with the technology and spreading it to his area. The technology raised the standard of living by changing the skill and attitudes of the farmers towards his traditional cultivation practices to commercial production. Due to increased income by the cultivation of *Ragi* in large scale, some of farmer purchased agricultural implements viz cultivators, winnowing fans and sprayers. So Bastar farmers moving towards the path of success by the adoption of new technology under NAIP Programme.

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