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Impact of introduction of improved small millet technology in Haveri district of Karnataka

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ABSTRACT

Small millets are now considered as nutritious grains. The FLDs were implemented to demonstrate the improved production technology of small millets in the farmers' fields. The data revealed that the grain yields of improved variety of small millets increased by 31 to 34 per cent and the Stover yield increased by 29 to 48 per cent, respectively. The technology subsequently spread from beneficiary farmer to other farmers to the range of 75 to 502 farmers by each beneficiary. The produced grain was superior in comparison to the local varieties. The economic impact of the district can also be changed as the yields can be increased tremendously if majority of the farmers adopt the improved technology in their fields.

Key words : Small millets, impact, beneficiary, food security.

INTRODUCTION

Importance of small millets as the substitute for the major cereal crops is gaining ground with emphasis shifting on conserving bio-diversity in order to ensure food security to the younger generations. In the world, small millets are cultivated on an area of 39.39 million hectare with a production of 30.8 metric ton, while in India they are cultivated on an area of 16.25 million hectare producing about 8.5 metric ton (FAO 1998). The low productivity of these crops has caused farmers to shun these crops, while choosing crops with higher returns. The low productivity can be attributed to the various reasons amongst which prominent being non-availability of HYVs and growing these crops in marginal lands. In this regard demonstrations were conducted to impart production technologies in these crops in the Haveri district, Karnataka. The impact of these demonstrations was assessed by PRA techniques.

MATERIAL AND METHODS

Promising varieties of small millets were identified and released after

multi location trials. These varieties along with agronomic practices were popularised among the farming community of the district through Front Line Demonstrations and sale of quality seeds both by Krishi Vigyan Kendra and Agricultural Research Station, Hanumanamatti under the jurisdiction of University of Agricultural Sciences, Dharwad (Anon 1991).

The impact of the introduction of various production technologies were assessed amongst the randomly drawn sample of the beneficiaries. The sample size for the study was 100 randomly selected respondents which comprised of 50 little millet respondents, 25 foxtail millet beneficiaries and 25 finger millet beneficiaries. The list of all the beneficiaries was organised year-wise and village-wise and the required sample was randomly selected for the study. Based on the impact to be monitored and indicators to be used, an interview schedule was developed with participation of the clients at each and every level.

RESULTS AND DISCUSSION

Table 1 reveals the characteristics of little millet transfer of technology beneficiaries. It is clear from the table that highest percentage of beneficiaries belonged to middle age group (67%), majority of them were educated upto secondary school (38%), chunk of them belonged to other caste category (92%), more than half of the respondents had medium land holding, maximum respondents had low annual income and nearly three fourth of them had joint family setup.

Regarding other characteristics nearly half of them (46%) had 3-6 cattle, majority of them cultivated small millets as inter crop (49%) and chunk of them (74%) stayed at a distance of 8 to 13 km away from the market.

The information regarding increased grain and Stover productivity of small millets is presented in Table 2. The data reveal that the grain yield of improved variety of small millets increased by 31 to 34 per cent and the Stover yield increased by 29 to 48 per cent, respectively. Thereby the improved varieties proved to be superior compared to local variety both in terms of grain and fodder yield.

The data regarding impact of transfer of technology project on increase in knowledge and awareness of improved technology of small millets by the beneficiaries is presented in Table 3. It is evident from the data that 70 per cent of the beneficiaries had clarity regarding awareness about the improved variety. Only 37 per cent of the respondents had clarity regarding differences between improved and local varieties, whereas, 36 per cent had clarity with respect to

Table1. Characteristics of beneficiaries of small millet transfer of technology

Characteristics	Categories	Percentage
1. Age	Young < 31 years	16
	Middle aged 31-58 years	67
	Old > 58 years	17
2. Education	Illiterate	26
	Neo-literate	02
	Primary	30
	Secondary	38
	Graduate	4
3. Caste	SC	8
	Others	92
4. Land holdings	Small < 2 Ac	25
	Medium 2 –30 Ac	57
	Large > 30 Ac	18
5. Annual income (Rs)	Low < 6945	35
	Medium 6945-51055	50
	High >51,055	15
6. Family	Nuclear	30
	Joint	70
7. Livestock	< 3	26
	3-6	46
	>6	28
8. Cropping pattern	Sole	51
	Intercrop	49
9. Distance from market (km)	<8 km	09
	8–13 km	74
	>13 km	17

Table 2. Increased production and productivity of small millets

Crops		Improved (q/ha)	Local (q/ha)	Percent increase
Little millet	Grains	14.00	10.45	34.00
	Stover	4.70	3.53	34.00
Foxtail millet	Grains	15.63	11.88	31.57
	Stover	6.13	4.13	48.43
Finger millet	Grains	13.43	10.18	31.93
	Stover	5.50	4.25	29.41

Table 3. Increase in knowledge and awareness of improved technology of small millets by the beneficiaries

Improved technology components	Basic	Understanding	Clarity
Awareness about the improved variety	18	12	70
Difference between improved and local varieties	20	43	37
Adaptability of improved variety	18	46	36

adaptability of improved variety. The findings are generally in agreement with the findings of Vennila and Annamalai (2005)

Table 4 reveals the farmer to farmer spread of small millet technology in Haveri district. The average quantity of seeds spread by each farmer was highest in the little millet (300 kg), while it was lowest in foxtail millet (50 kg). The total quantity of seeds spread was 5008 kg, 508 kg, and 1502 kg in little millet, foxtail millet and finger millet, respectively. The maximum spread by a single framer was 20 while largest quantity given out by a farmer was 300 kgs of little millet. The total number of spread by the beneficiaries was to 502, 75 and 1252

Table 4. Farmer to farmer spread of small millets technology in Haveri district

Subject	Little millet	Foxtail millet	Finger millet
Average quantity of seeds (kgs)	25	15	32
Total quantity (kgs)	5008	508	1502
Maximum quantity (kgs)	300	50	185
Average no farmers	05	05	09
Maximum no	20	15	18
Total no	502	75	252

Table 5. Production scenario of small millets of Haveri district

Crop	Area (ha)	Production (tons)	Potential yield at farmers field (tons)	Research station yield levels (tons)
Little millet	9174	6320.6	12912	16054
Foxtail millet	3932	2201.9	6143	8355
Finger millet	3270	3103	10975	13080

farmers in little, foxtail and finger millet, respectively.

Area and production of small millets in Haveri district has been presented in the Table 5. The production levels of little, foxtail and finger millet were 6320.6, 2201.9 and 3103 tons per hectare, respectively.

Potential yield deduced from the average yields of beneficiaries and research station have been presented in the Table 5. The results indicate major change in the production scenario, with research station yield levels of 16054, 8355 and 13080 tons of little, foxtail and finger millet, respectively.

CONCLUSION

From the study, it can be concluded that the adoption of improved production technologies of small millets by the farmers of the arid regions would not only derive them economic benefits but also provide them with nutritious traditional grains for their own consumption alongside conserving the biodiversity.

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