

Original Research Article

Small Millets Production and Marketing Trends of the Tribal Farmers in the Bastar Plateau Zone

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ABSTRACT

Present study was focused to investigate the production and marketing trends of the tribal millet farmers which are affecting their level of awareness and utilisation of the recommended cultivation practices of small millets in the Bastar Plateau Zone of Chhattisgarh State of India. Data were collected through the personal interview, with the help of interview schedule prepared in Hindi. The small millets production and marketing trends were studied and the results revealed that the selected respondents were educated up to primary level, residing in nuclear families of up to five working members, having experience of 11 to 30 years and members of one or more organizations existing in villages. The respondents were cultivating Kodo millet (94.12 %), Little millet (97.37 %) and Finger millet (91.30 %) for sole domestic consumption only. Majority of the respondents were regularly directly consuming kodo millet (48.52 %) in their daily diet, occasionally consumed little millet (43.70 %) in their daily diet and regularly consumed finger millet (77.41 %) in alternate form. Marketing pattern of millets differed from maximum of kodo millet sale from home to consumer and for exchange, little millet for exchange and sale at local market and finger millet sale at local market and for exchange. Majority of the produce of kodo millet (94.49 %), little millet (96.50 %) and finger millet (92.20 %) was used for domestic consumption, while rest surplus was for sale.

Keywords

Small Millet,
Tribal farmers,
Production,
Marketing,
Consumption

Introduction

Small millets are the traditional crops, agronomically more adapted to impoverished soils. These crops are grown in diverse soils, varying rainfall regimes and in areas widely differing in thermo and photoperiods. The resilience exhibited by these crops is helpful in adjusting themselves to different kinds of ecological niches. All these have made them quite indispensable to rainfed, tribal and hill agriculture where crop substitution is difficult. That is why it is important to

enhance production and productivity of these crops to ensure food and nutritional security not only to people living in harsh and difficult terrains, but also in other areas.

Chhattisgarh has 5.88 million hectares of cultivable land. Rice is the principal crop of the region. In 2006, Chhattisgarh occupied 248.5 thousand hectares of land (which is 21.18 % of India's 1173.5 thousand ha) under small millets with total production of 52.1 thousand tons (which is only 10.22 %

of total national production of 509.8 thousand tons) and yield of 210 kg ha⁻¹ against national productivity of 434 kg ha⁻¹ (www.dacnet.nic.in).

In Bastar Plateau Zone, the area under small millets was 28.41 thousand hectares, which was 39.73 per cent of Chhattisgarh State area of 71.50 thousand hectares. While, the total production was 7.95 thousand tons which was 37.06 per cent of Chhattisgarh State production of small millets of 21.45 thousand tons (Anonymous, 2009).

A state cannot progress further till our farmers and agricultural labour improve their living conditions. There is need to provide the benefits of advancements in agricultural sciences to the farmers. There is need to start agro-based village specific activities as the farming alone could not raise the living standard of farmers. Chhattisgarh is very aptly called the *rice bowl*.

However, paddy alone would not bring prosperity and food security. It is high time to promote and secure other crops, the most prominent ones being the small millets. In earlier times millets were grown on large areas especially in the tribal belts. But now they are very rapidly being replaced by other crops or being pushed to less remunerative soils, in lack of motivation and market support.

The present study was carried out in Bastar Plateau Zone of Chhattisgarh State with the following objectives:

To study the Socio-personal traits of the small millets growers in study area,

To study the marketing trends and alternative uses of small millets by the respondents.

Materials and Methods

The study was conducted in Bastar Plateau Zone of Chhattisgarh state. This agro-climatic zone was purposively selected because the maximum area under small millets exists in this agro-climatic zone.

Out of the total six small millet crops, only three important crops viz., Kodo millet, Little millet and Finger millet were selected purposively for this study as they were having the maximum area under coverage as compared to other millets.

Out of the total 25 blocks of Bastar Plateau Zone comprising of Bastar, Dantewada, Narayanpur and Bijapur districts, only one third of the total blocks i.e., 9 blocks were selected purposively on the basis of maximum area under selected small millets for the purpose of the study.

Out of the selected 9 blocks, a total of 18 villages (2 villages from each block - $9 \times 2 = 18$) were selected purposively on the basis of area under small millets for collection of data.

From the total small millet growers of the each selected village, 15 farmers (who were growing at least two crops out of the selected three small millet crops) were selected randomly as respondents for the study. Thus, in this way, a total of 270 farmers ($18 \times 15 = 270$) were considered as respondents for collection of data.

Data processing and statistical framework used for analysis of data

The raw data obtained through interview schedule were entered in the worksheet and tally sheet. They were processed, tabulated, classified, analysed and given statistical treatments.

Results and Discussion

Socio-personal traits

Brief profile of the respondents on the basis of their Socio-personal characteristics is presented in Table 1. Some selected Socio-personal traits of the farmers, were studied under this investigation. Under the category of Socio-personal characteristics, six independent variables namely, education, family type, family size, working members, farming experience and social participation were studied.

Education

Education is the symbol of knowledge, which is associated with adoption and better learning about new technologies in agriculture and allied fields. Among the selected respondents, 57 per cent were educated, whereas remaining (43 %) were illiterate.

The study was conducted in tribal areas of Chhattisgarh, where least emphasis is given for education owing to availability of schools at distant places and poor transport facilities. Government is promoting several schemes for educating the tribal by providing the hostel, scholarship and other facilities to the students.

With these efforts it was possible that tribal are educating themselves at primary and middle school level. None of the respondent was educated above high school level.

The findings are in line with results of Patel (1988), Baidiyavadra (1993), Amir (1996), Verma (2000), Jahagirdar & Sundaraswamy (2003), Sahoo (2004), Patel (2005) and Yadav (2007), while are partially supported by Khan (2001) and Geetha and Geetha (2008).

Family Type

Fragmentation of farm families is common feature in the study area. Increasing demands and low income of the family are the major reasons for fragmentation in farm families. In the study area, about 51 per cent of the respondents were living as nuclear families, whereas 49 per cent as joint families. This indicates that the respondents were residing in the villages in nuclear as well as in joint families (Table 1). This is in line with the results of Ingle *et al.*, (1999).

Family Size

There were five members in majority (54 %) of the farm families. About 44 per cent respondent's families were having 6 to 10 members, whereas less than 2 per cent families were having more than 10 members.

Similar findings were reported by Bharti *et al.*, (2000), Mukim (2004), David (2005), Mishra (2006), Sahu (2006), Dangi and Bairathi (2007), Yadav (2007) and Geetha and Geetha (2008).

Working members in family

The family members above 15 years of age were considered as working members in this study. Working members in each family was analysed and data are presented in Table 4.1. There were up to five working members in two third of the respondents' families, whereas, 6 to 10 members in 32 per cent of the farm families.

This indicates that majority of the farm families were having enough working force for doing agricultural operations. Khan (2001) had also reported almost similar findings regarding working members in tribal families of Chhattisgarh.

Table.1 Distribution of the respondents according to their Socio-personal Characteristics

(n=270)

Characteristics	Frequency	Percentage
• Education		
Illiterate	115	42.59
Primary	132	48.89
Middle	18	06.67
High School	05	01.85
Above High School	00	00.00
• Type of Family		
Joint	131	48.52
Nuclear	139	51.48
• Size of Family		
Up to 5 members	146	54.07
6 – 10 members	119	44.07
Above 10 members	05	01.86
• Working Members		
Up to 5 members	181	67.04
6 – 10 members	87	32.22
Above 10 members	02	00.74
• Farming Experience		
Up to 10 years	06	02.22
11 – 30 years	175	64.82
31 – 50 years	87	32.22
Above 50 years	02	00.74
• Social participation		
No Participation	06	02.22
Member of one organisation	126	46.67
Member of two organisation	61	22.59
Member of more than two organisations	56	20.74
Office bearer	21	07.78

Table.2 Distribution of the respondents according to their purpose of production of small millets

Purpose of Production	Kodo Millet (n=187)		Little Millet (n=228)		Finger Millet (n=161)	
	F	%	F	%	F	%
For domestic consumption	176	94.12	222	97.37	147	91.30
For domestic consumption and marketing	11	05.88	06	02.63	14	08.70
For marketing	00	00.00	00	00.00	00	00.00

Table.3 Distribution of the respondents according to mode of consumption of small millets (n=270)

Mode of Consumption	Kodo Millet		Little Millet		Finger Millet	
	F	%	F	%	F	%
Regularly direct consumed in daily diet	131	48.52	92	34.07	14	5.19
Occasionally consumed in daily diet	103	38.15	118	43.70	39	14.44
Regularly consumed in alternate form	25	09.26	36	13.33	209	77.41
Rarely used	11	04.07	24	08.89	08	02.96
Not used	00	00.00	00	00.00	00	00.00

Table.4 Distribution of the respondents according to marketing pattern of small millets

Marketing Pattern	Kodo Millet (n=11)		Little Millet (n=06)		Finger Millet (n=14)	
	F	%	F	%	F	%
From home to consumer	04	36.36	01	16.67	03	21.43
At local market	03	27.27	02	33.33	05	35.71
Used for exchange	04	36.36	03	50.00	04	28.57

Table.5 Distribution of the respondents according to use of produce of small millets (n=270)

Use of Produce	Kodo Millet	Little Millet	Finger Millet
Total production (q)	107.61	36.76	146.58
Used for consumption (%)	94.49	96.50	92.20
Surplus for sale (%)	05.51	03.50	07.80

Table.6 Distribution of the respondents according to rate of produce of small millets

Rate of produce (Rs. kg ⁻¹)	Kodo Millet	Little Millet	Finger Millet
	Range	8-16	8-12
Average	12	10	14

Fig.1 Distribution of the respondents according to their purpose of production of small millets

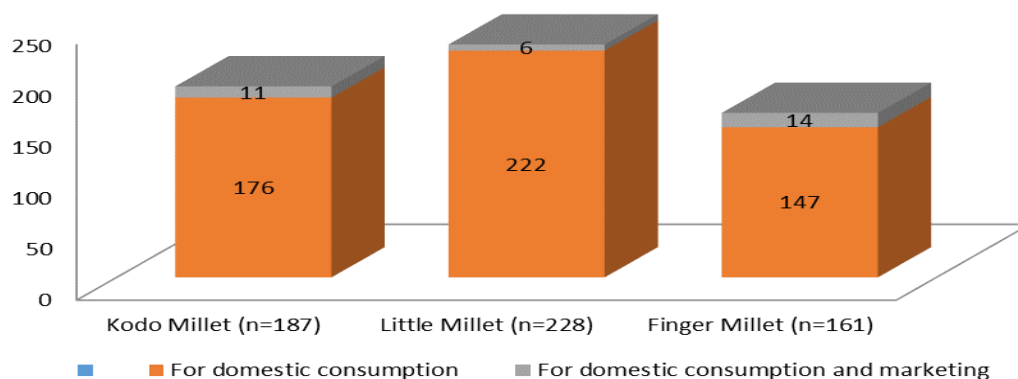


Fig.2 Distribution of the respondents according to mode of consumption of Kodo Millet

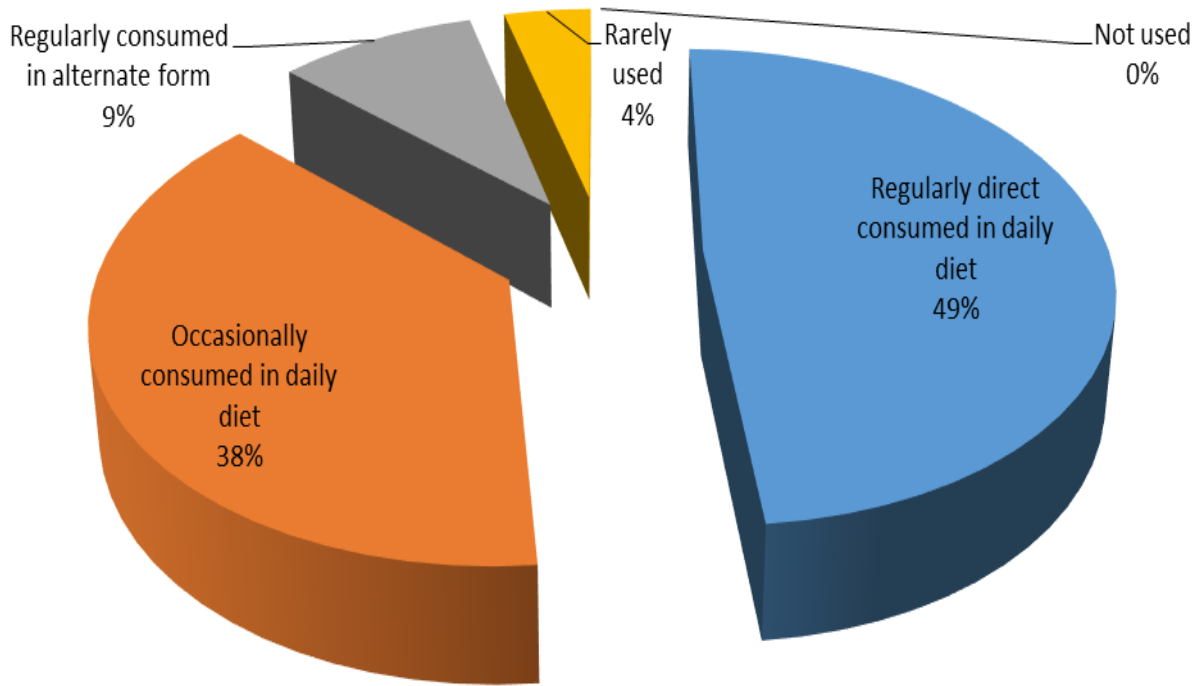


Fig.3 Distribution of the respondents according to mode of consumption of Little Millet

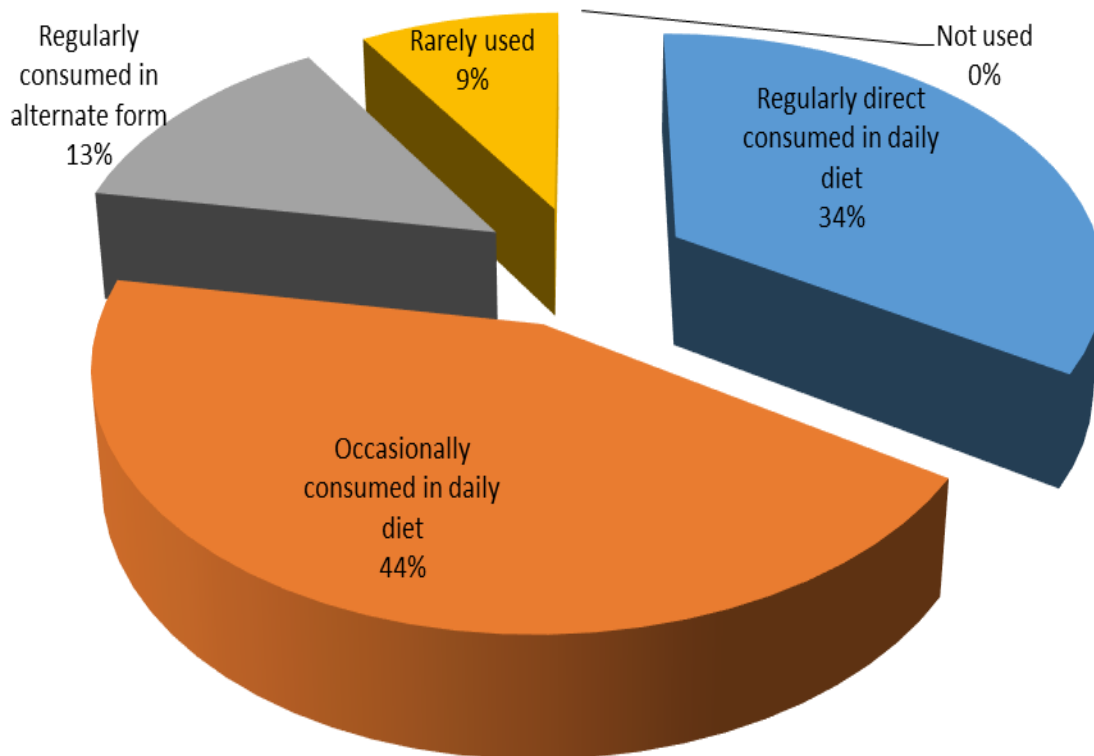


Fig.4 Distribution of the respondents according to mode of consumption of Finger Millet

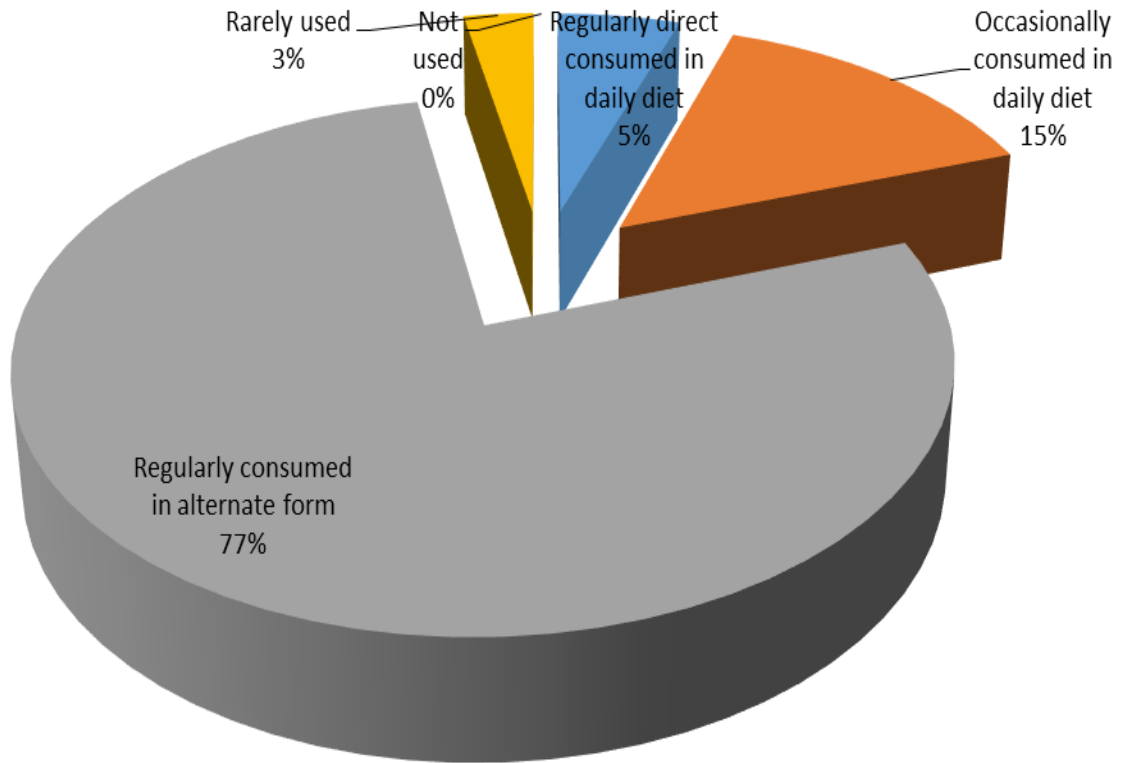


Fig.5 Distribution of the respondents according to marketing pattern of Small Millets

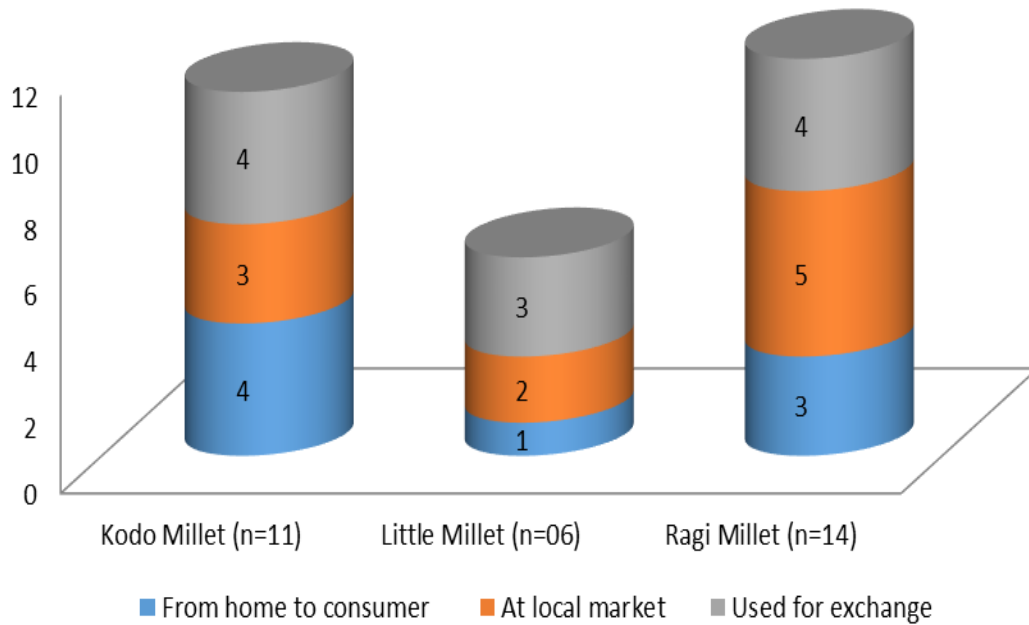


Fig.6 Distribution of the respondents according to use of Small Millets Produce

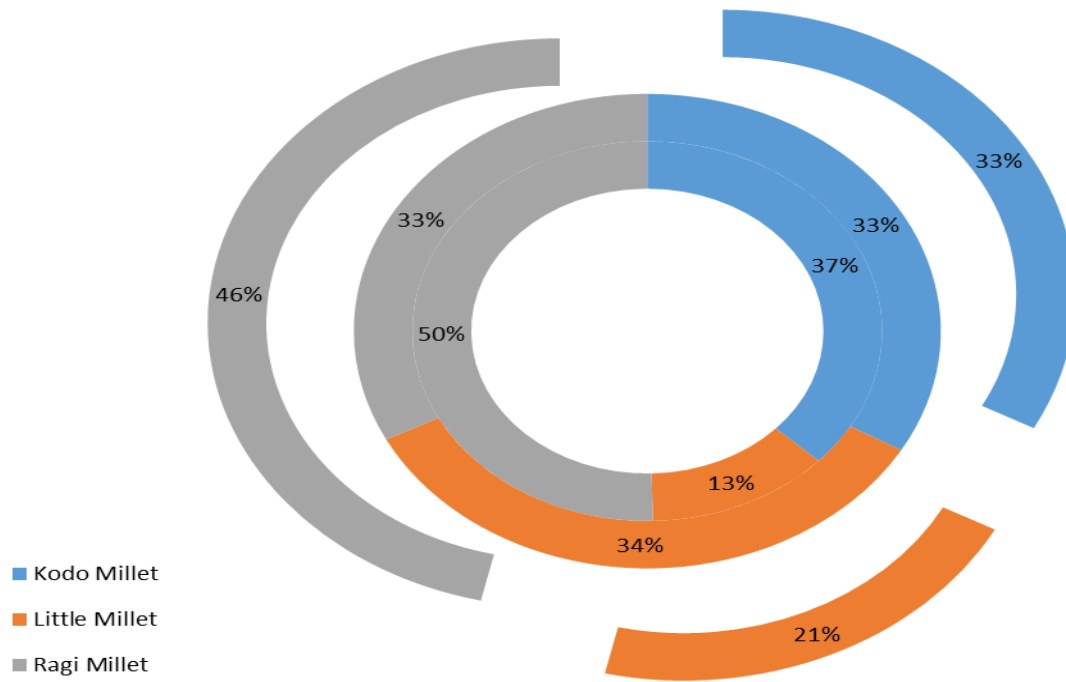


Fig.7 Distribution of the respondents according to minimum rate of Small Millets Produce

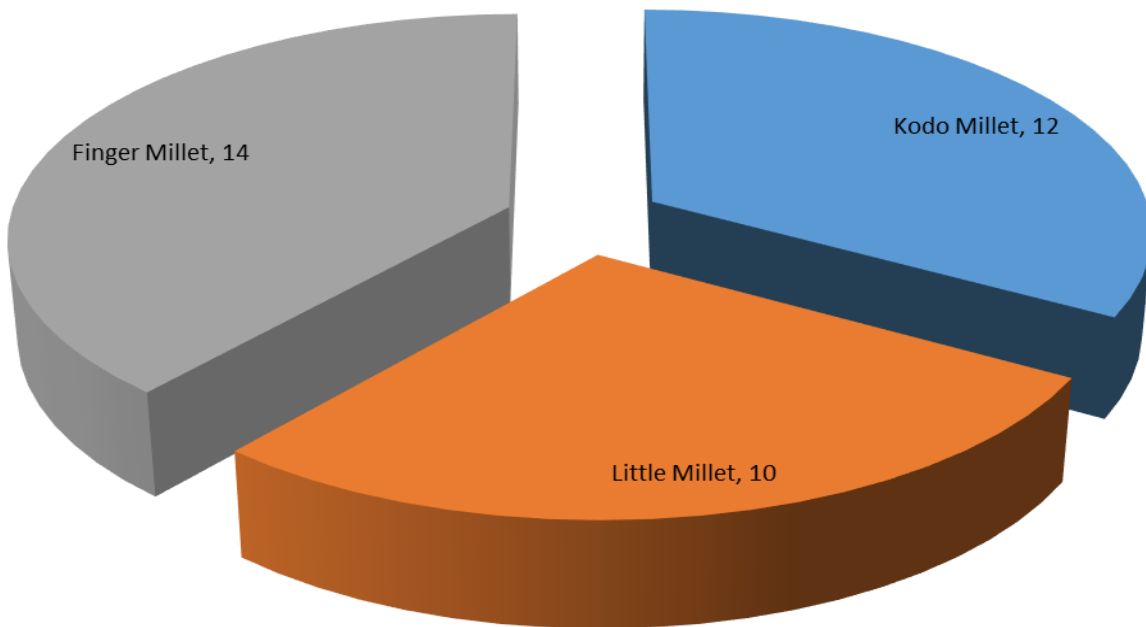
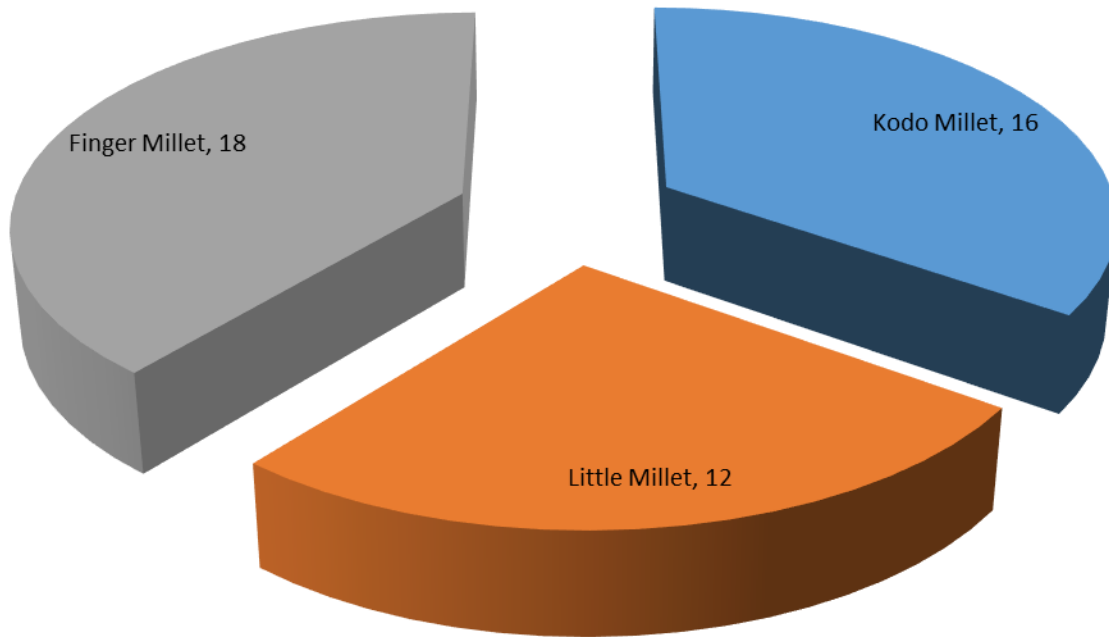


Fig.8 Distribution of the respondents according to maximum rate of Small Millets Produce



Farming Experience

It is obvious that age of a farmer itself represents their farming experience because a baby born in the village is hearing and seeing agriculture right from his/ her consciousness. Therefore, it is generally assumed that age of the person residing in the village is representing his / her experience in agriculture but in this study, experience was counted after completion of childhood (up to 12 years). The selected respondents were enough experienced in farming activities. 65 per cent respondents reported the experience of 11 to 30 years and 32 per cent reported the experience of 31 to 50 years (Table 1). This indicates that the respondents were enough experienced in agriculture and information given by them might be appropriate and represent the area. Khan (2001) also reported the similar findings concerning to tribal farmers in Bastar Zone of Chhattisgarh State.

Social Participation

Information was collected from the respondents, who were residing in villages. Naturally, those residing in the villages and attained age of 18 years will automatically become member of *gram panchayat*. Some of them may be the member of caste panchayat, cooperative society, fish society, etc. in addition to gram panchayat. Majority of the respondents (46.67 %) were member of one organization. About 23 and 21 percent respondents were the members of two and more than two organizations, respectively. About 8 per cent respondents were office bearers of different organizations. Similar results were reported by Purohit (1981), Mathukia (1988), Patel (1988), David (2005), Sahu (2006) and Yadav (2007).

Thus, from the data presented in Table 1, it can be concluded that the selected

respondents were educated up to primary level, residing in nuclear families of up to five working members, having experience of 11 to 30 years and members of one or more organizations existing in villages.

Purpose of Production

The respondents were classified according to the purpose of production, mode of consumption, marketing pattern and use of produce of small millets and are presented in following Tables. Out of the total 270 respondents, 187 farmers were cultivating Kodo millet, 228 were engaged in production of Little Millet while only 161 respondents were producing Finger Millet.

The data compiled in the Table - 2 and depicted in Figure – 1, clearly reveals that majority of the kodo millet (94.12 %), little millet (97.37 %) and finger millet (91.30 %) farmers were cultivating it for sole domestic consumption only.

Rest farmers were growing kodo millet (05.88 %), little millet (02.63 %) and finger millet (08.70%) for both domestic consumption and marketing purposes. But none of the farmers was growing the millet for sole marketing purpose.

Mode of Consumption

All the respondents were enquired regarding their mode of consumption of the small millets and the results are presented in Table – 3 and depicted in Figures – 2 to 4.

While, the mode of consumption was concerned, majority of the respondents were regularly directly consuming kodo millet (48.52 %) in their daily diet, occasionally consumed little millet (43.70 %) in their daily diet and regularly consumed finger millet (77.41 %) in alternate form

A very small fraction of them were rarely consuming millets, while no respondent had reported that he is not at all consuming millets in their diet. While, surveying the utilisation of small millets in Nainital District of Uttaranchal, almost similar results were also reported by Kumari *et al.*, (2004)

Marketing Pattern

Marketable surplus is the excess of the produce, keeping aside the amount for self-consumption. It was observed that the surplus was very less, as the production of the small millets is primarily for self-consumption only. The prime objective of cultivation of small millets is for domestic consumption purpose. Therefore, a very little amount of small millet was marketed. The marketing pattern of the small millets was studied and the results are presented in Table – 4 and are depicted in Figure – 5.

The information compiled in Table 4 and Fig. 5 revealed that Marketing pattern of millets differed from maximum of kodo millet sale from home to consumer and for exchange, little millet for exchange and sale at local market and finger millet sale at local market and for exchange.

Use of Produce

The information regarding the fate of the produce of the small millets was collected from the respondents and the same is compiled, analysed and presented in following table 5 and depicted in Figure 6.

As far as production of millets is concerned, the total production of kodo millet was 107.61 q, little millet was 36.76 q and of finger millet was 146.58 q. Majority of the produce of kodo millet (94.49 %), little millet (96.50 %) and finger millet (92.20 %)

was used for domestic consumption, while rest surplus was for sale.

Rate of Produce

The information regarding the rate of the produce in which the small millets were sold was collected from the respondents and the same is compiled, analysed and presented in following table 6 and depicted in Figure 7 & 8.

The rate of produce was ranging from Rs. 8/- to Rs. 18/- per kilogram with average rate of kodo millet as Rs. 12/- per kg, little millet as Rs. 10/- per kg and Rs. 14/- per kg for finger millet.

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