

# Women Labourers Participation and their Constraints in Post-harvest Activities of Dry Chilli

Bojjagani Jhansi\* and Annapurna N Kalal

*Department of Extension and Communication Management, College of Community Science, UAS, Dharwad, Karnataka, India*

\*Corresponding author: jhansibrp@gmail.com

Received: 11-12-2022

Revised: 22-02-2023

Accepted: 02-03-2023

## ABSTRACT

Women labourers socio-personal, participation and their constraints in post-harvest activities of dry chilli – A comparative study in Karnataka and Andhra Pradesh was undertaken during 2019-2020 in Haveri district of Karnataka and Guntur district of Andhra Pradesh with a sample of 60 women labourers. Purposive random sampling technique was used to select the respondents and data was analyzed through frequency, percentage, range and t-test. The results showed that, 80.00 per cent of Haveri and 63.33 per cent of Guntur district respondents belonged to middle aged (36-50) category. More than two third (66.66 %) of Haveri and 56.67 per cent of Guntur district women labourers were illiterates. Most of Haveri (60.00%) and Guntur district (66.67%) women labourers belonged to small family size. The family income was medium for 63.33 per cent of Haveri and 56.67 per cent for Guntur district women labourers. More than half (56.67%) of Haveri and around one third (30.00%) of Guntur district respondents belonged to backward castes. Remaining belonged to SC/ST and forward castes. They had low extension, organizational and mass media participation. Social participation was medium. The women labourers faced many constraints while performing post-harvest activities at field such as health problems by 90.00 per cent of Haveri and 83.33 per cent Guntur district field level women labourers. Similarly 83.33 per cent of Haveri and 90.00 per cent of Guntur district respondents said that they are unable to manage time between household work and farm. More than 70.00 per cent told low wages and no off seasonal jobs as a constraint. More than 70.00 percent of respondents said joint pain, whole body ache, hand pain and back ache followed by 65.00 percent told eye burning were the health problems faced by them while performing post-harvest activities of dry chilli in the fields. The results in the study revealed that, overall participation index was 26.09 for women, 30.22 for men and 23.68 for both in Haveri, whereas 26.85 for women, 31.36 for men and 21.87 for both men and women in Guntur respectively. The results in the study also revealed, there was a significant difference between Haveri district and Guntur district field level labourers.

**Keywords:** Participation, Dry chilli, Post-harvest activities, Field level, women labourers

India is the largest agricultural dependent country wherein, the culturally diverse population still depends on 'agriculture' and for them farming is not merely a business but is the "True Culture of India". Demographically, agriculture is the largest economic field and plays a significant role in India's entire socio-economic structure. Throughout India,

agriculture determines family tradition, social relationships and gender roles. Women's role and

**How to cite this article:** Jhansi, B. and Kalal, A.N. (2023). Women Labourers Participation and their Constraints in Post-harvest Activities of Dry Chilli. *Agro Economist - An International Journal*, 10(01): 69-81.

**Source of Support:** None; **Conflict of Interest:** None



contribution is no longer a matter of contention because in rural India the percentage of women who depend for their livelihood on agriculture and allied activities is more than 80.00 per cent. In majority of the developing nations including India women play a vital role in post-harvest activities which varies with the different crops and regions. Women are more concentrated in certain phases or activities of the supply chain. They play numerous intensive jobs in post-harvesting operations especially in threshing, dehusking, cleaning, drying, storage, grading, processing and marketing as reported by Sidhu, (2007). Thus women are the key contributors in production and post-production activities of various crops across the countries and globe.

### Women in chilli post-harvesting

Chilli is also known as red pepper or hot pepper and is one of the most valuable crops of India for two qualities, i.e. red colour because of the pigment capsanthin and the pungency or spiciness attributed to capsaicin. India is the largest producer and exporter of chilli across the world and also the largest consumer of chilli in the world. Andhra Pradesh stands and Karnataka are the two major chilli growing states together contribute 14.00 per cent of the country's production (Patil and Nagnur 2015). Andhra Pradesh is known for its spicy Guntur chilli which exports premium quality chilli and is in a high demand around the world for its extreme spiciness. Byadgi chilli of Karnataka is equally famous as that of Guntur but this variety is prized for its colour rather than spiciness. Women play multiple roles in production and post-production activities of dry chilli. Especially in post-harvest activities of dry chilli women labourers involvement is high. Either individually or alone with men their participation is seen in harvesting, drying, gading, weighing and bagging, trampling process, marketing and processing. Hence an efforts are made to list their involvement in post-harvest activities of dry chilli.

### Objective

1. To study socio-personal profile for the respondents and to list their constraints and health problems.

2. To study the participation of field level women labourer in post-harvest activities of dry chilli
3. To identify the participation difference of field level women labourers in Karnataka and Andhra Pradesh

### MATERIALS AND METHODS

The post-harvest activities of dry chilli at field level are continuous to cultivation. They start with harvesting and end up to marketing. The present study was conducted in Haveri district of Karnataka and Guntur district of Andhra Pradesh. For this study three chilli cultivating villages namely Guthla, Agadi and Devihosur from Haveri taluka of Haveri district and three villages namely Rytunagar, Nadigadda and Dondapadu were selected from Vinukonda taluka of Guntur district. From each selected village 10 women labourers involved in post-harvest activities of dry chilli at field level were randomly selected. Thus a total of 60 respondents were purposely selected for the study (30 respondents from Karnataka and 30 respondents from Andhra Pradesh). The data was collected through personal interview method with the help of pre-structured interview schedule. Ex-post facto research design was used. The data was analyzed through frequency, percentage, range and t-test.

### RESULTS AND DISCUSSION

The details of socio-personal profile of women involved in post-harvest activities of dry chilli are presented in Table 1.

#### Age

The age category of the women involved in post-harvest activities of dry chilli revealed that 80.00 per cent of the Haveri and 63.33 per cent of Guntur district respondents belonged to middle age. Very few (16.66%) of Haveri and 26.67 per cent of Guntur district women labourers belonged to old age category. Remaining belonged to young aged category in both the districts respectively. The reasons attributed to this finding are, in villages women get married at an early age and by 35 years their children are grown. Middle aged women will be free from household responsibilities as their children are grown up. These women can divert themselves

**Table 1:** Socio-personal profile of women involved in post-harvest activities of dry chilli at field (n = 60)

Sl. No.	Variables	Category	Haveri (n <sub>1</sub> =30) f (%)	Guntur (n <sub>2</sub> =30) f (%)	Total (n=60) f (%)
<b>1</b>	<b>Age</b>				
		Young (18 - 35 years)	01 (03.33)	03 (10.00)	04 (06.67)
		Middle (36 - 50 years)	24 (80.00)	19 (63.33)	43 (71.67)
		Old (51 years and above)	05(16.66)	08 (26.67)	13 (21.66)
<b>2</b>	<b>Caste</b>				
		Forward caste	—	02 (06.67)	02 (03.33)
		Other Backward Caste	17 (56.67)	09 (30.00)	26 (43.33)
		SC	10 (33.33)	06 (20.00)	16 (26.67)
		ST	03 (10.00)	13 (43.33)	16 (26.67)
<b>3</b>	<b>Education</b>				
		Illiterate (0)	20 (66.66)	17 (56.67)	37 (61.67)
		Primary (class 1-4)	05 (16.67)	03 (10.00)	08 (13.33)
		Middle school (class 5 - 7)	03 (10.00)	08 (26.66)	11 (18.33)
		High school (class 8 -10)	02 (06.67)	02 (06.67)	04 (06.67)
		PUC (class 11 - 12)	—	—	—
		Degree (> 12)	—	—	—
<b>4</b>	<b>Family type</b>				
		Nuclear	23 (76.67)	26 (86.67)	49 (81.67)
		Joint	07 (23.33)	04 (13.33)	11 (18.33)
<b>5</b>	<b>Family size</b>				
		Small (1 - 4 member)	18 (60.00)	20 (66.67)	38 (63.33)
		Medium (5 - 8 members)	11 (36.67)	10 (33.33)	21 (35.00)
		Large (9 & above)	01 (03.33)	—	01 (01.67)
<b>6</b>	<b>Annual income</b>				
		Low up to ₹ 1,32,000	11 (36.67)	13 (43.33)	24 (40.00)
		Medium (₹ 1,32,000 - ₹ 5,72,000)	19 (63.33)	17 (56.67)	36 (60.00)
		High (> ₹ 5,72,000)	—	—	—
<b>7</b>	<b>*Family occupation</b>				
		Agriculture	10* (33.33)	07* (23.33)	17* (28.33)
		Animal husbandry	02* (06.67)	05* (16.67)	07* (11.66)
		Service	—	—	—
		Business	—	—	—
		Wage labour	30 (100)	30 (100)	60 (100)
		Others	—	—	—
<b>8</b>	<b>Marital Status</b>				
		Married	27 (90.00)	24 (80.00)	51 (85.00)
		Unmarried	—	—	—
		Widow	03 (10.00)	06 (20.00)	09 (15.00)
		Divorce	—	—	—
<b>9</b>	<b>Land holding</b>				
		Landless/ No land	19(63.33)	23(76.67)	42(70.00)
		Marginal farmers(<2.5 acres of dry land)	08 (26.67)	06 (20.00)	14 (23.33)
		Small farmers (2.5 - 5.0 acres of dry land)	03 (10.00)	01 (03.33)	04 (06.67)
		Medium farmers (5-10 acres of dry land)	—	—	—
		Big farmers (>10 acres of dry land)	—	—	—

<b>10</b>	<b>Extension participation</b>			
	Low (0-6)	30 (100)	30 (100)	60 (100)
	Medium (7-12)	—	—	—
	High (13-18)	—	—	—
<b>11</b>	<b>Mass media participation</b>			
	Low (1-6)	23 (76.67)	25 (83.33)	48 (80.00)
	Medium (7-12)	07 (23.33)	05 (16.67)	12 (20.00)
	High (13-18)	—	—	—
<b>12</b>	<b>Extension contact</b>			
	Low (1-8)	30 (100)	30 (100)	60 (100)
	Medium (9-16)	—	—	—
	High (17-24)	—	—	—
<b>13</b>	<b>Social participation</b>			
	Low (1-5)	—	01 (03.33)	01 (01.67)
	Medium (6-10)	17 (56.67)	13 (43.33)	30 (50.00)
	High (11-15)	13 (43.33)	16 (53.33)	29 (48.33)
<b>14</b>	<b>Organizational participation</b>			
	Low (1-7)	30 (100)	30 (100)	60 (100)
	Medium (8-14)	—	—	—
	High(15-21)	—	—	—

**Note:** \*Multiple responses are possible.

towards income generating activities. In rural areas unmarried women do not go out to work till they get married. These reasons could have resulted in more involvement of middle aged and very few young aged women in post-harvest activities of dry chilli. Similar results were reported by Santhi and Kalirajan (2019) whose study resulted in majority of women working on farms were middle aged.

### Caste

More than half (56.67%) of the Haveri district and 30.00 per cent of Guntur district respondents belonged to other backward caste. One third (33.33%) and 20.00 per cent belonged to schedule caste in both the districts respectively and 10.00 per cent of Haveri district and 43.33 per cent of Guntur district field level labourers belonged to schedule tribe. Very few (06.67%) of them from Guntur labourers belonged to forward caste.

In terms of caste both the districts displayed variations for field level women labourers. In Haveri district backward caste women were in more in number as compared to scheduled tribe in Guntur district. In Haveri district, more number of women labourers belonged to Ambiga (Fishing community), Kambar (Pot makers), Maratha community and Nekar community (Weavers community) which are listed

in other backward community. The district profile of the Haveri district also shows that more number of families belonged to other backward communities. Whereas, in Guntur district, scheduled tribes and scheduled castes like Yerekula and Koya (Make baskets, mats and other products from bamboo), Chenchu and Yanadi (Collecting forest products) also scheduled castes viz, Madiga (do leather works) and Mala(Weavers community) are more in number in the study area. The district profile of the Guntur district also shows that more number of families belonged to scheduled tribes and scheduled castes. Moreover, these families are shifting from their caste-based family occupations to labour activities as their family occupations are declining day by day and they also do not own lands. Therefore, they are working as labourers in nearby farms. The above mentioned findings were in consonance with the findings of Chamandeep (2017), who found in his study that most of the women labourers involved in maize post-harvest activities belonged to other backward castes.

### Education

The education profile of women labourers in post-harvest activities of dry chilli showed that more than half (66.66%) of the Haveri district field level

labourers were illiterates, very few (16.67%) were educated up to primary school and 10.00 per cent studied up to middle school followed by high school (06.67%). Similarly in Guntur district more than half (56.67%) of the women labourers were illiterates. Very few (26.66%) educated up to middle school and 10.00 per cent educated up to primary school followed by high school (06.67%). Therefore, it is clear from the above details that, in both the districts most of the women labourers involved in post-harvest activities of dry chilli were illiterates.

The possible reasons could be that, most of the women labourers are from low socio-economic status in their villages. Gender bias in educating girls might be the other reason as parents hesitate to send their daughters to school and involve themselves in household work and to take care of siblings. Other contributing factors may be lack of desire, lack of family support and lack of awareness about importance of education. All of these factors might have contributed for the majority of the respondents as illiterates. The findings are in consistent with Hada and Bansal (2017) and Chamandeep (2017).

### **Type of family**

Majority of women labourers from both the districts belonged to nuclear family (76.67 per cent from Haveri and 86.67 per cent from Guntur) and very few 23.33 per cent and 13.33 per cent belonged to joint family from both the districts respectively. It is observed in both the districts that, women labourers at field level belonged to nuclear families. During earlier time people preferred to live in joint families. But trends are changing and families wish to be independent. The other reason may be migration of families in search of jobs. Another important reason could be the Government programmes which are beneficial to low income families, small and marginal holders. In order to avail the benefits, many families have fragmented. Hence, majority of labourers belonged nuclear families.

### **Family size**

More than half (60.00%) of the Haveri district and 66.67 per cent of Guntur district field labourers belonged to small (1-4) family size. A little more than one third 36.67 per cent and 33.33 per cent belonged to medium (5-8) family size from both the

districts respectively. Very few (03.33%) belonged to large (9 and above) family size. Most of the respondents belonged to nuclear families with one or two children. The reasons explained earlier about more number of nuclear families holds good here also. Many people prefer living in nuclear families for the sake of safety and fulfilling of essential needs in a better way, which might have resulted in small family size in the present study.

### **Annual Income**

The results from Table 1 indicated that, more than half (63.33%) of the Haveri district respondents belonged to medium income (₹ 1,32,000 - ₹ 5,72,000) category and a little more than one third (36.67%) of them belonged to low income (upto ₹ 1, 32,000) category. In Guntur district more than half (56.67%) of them belonged to medium income (₹ 1,32,000 - ₹ 5,72,000) category and 43.33 per cent belonged low income (upto ₹ 1, 32,000) category. In both the districts respondents belonged to medium income level category with little high percentage in Haveri district. None of them belonged to high income category.

Women labourers at field level perform various post-harvest activities and earn around ₹ 250-300 per day. In addition, the other family members are also earning from other sources as auto drivers, vegetable sellers, wage labourers, cooking for marriages. While some were having agricultural land, animal husbandry, poultry etc. The total income of all the family members was taken into consideration for the annual family income, hence majority of the respondents belonged to medium annual income category.

### **Family occupation**

The results in Table 1 revealed that, cent per cent of women from both the districts were labourers doing chilli post-harvest activities in the chilli fields. The results in the study also indicated that one third (33.33%) of Haveri district respondents had agriculture and 06.67 per cent involved in animal husbandry activities. Whereas in Guntur district, 23.33 per cent had agriculture and 16.67 per cent had animal husbandry apart from women working as labourers in chilli post-harvesting activities.

Since agriculture is India's traditional occupation and backbone of country's economy. It is largest sector providing livelihood irrespective of land holding to many women especially in rural area. The respondent's family members were involved in other occupations such as auto drivers, vegetable sellers, wage labourers, cooking for marriages etc. This is because they do not have land and family-based occupations are declining due to globalization. Thus, the family occupation of the respondents was mainly as wage labourers. The findings were similar to Santhi and Kalirajan (2019).

### **Marital status**

It is seen in Table 1 that, large majority (90.00%) of Haveri and 80.00 per cent of Guntur district respondents were married and remaining were widows. In this study, most of the women belonged to middle aged category. Generally during this age most of the women will be married. Due to age related problems many old aged women are widows. In villages, unmarried women generally do not go out to work before marriage. Hence the study has resulted that, all women respondents were married.

### **Land holding**

It is clear from Table 1 that, more than half (63.33%) of the Haveri and majority (76.67%) of Guntur district women labourers had no land. Very few (26.67%) of Haveri and 20.00 per cent of Guntur district respondents belonged to marginal land holding and remaining belonged to small land holder category.

From the findings it was evident that greater proportion of the respondents had no land. These respondents must have come out from their family based occupations as they are declining due to globalization. Hence majority were working as labourers. Whereas, in villages the labourers are more likely to have at least small pieces of land. Women with marginal land holding in villages works in others field also because their lands are not sufficient to meet the needs of the family. The findings of the present study were similar to Hada and Bansal (2017).

### **Extension participation**

The results from Table 1 indicated that cent per cent

respondents belonged low extension participation category.

In the study it was found that, none of the respondents from both districts participated in any trainings, demonstrations, meetings, study tours, krishimela and exhibitions which has resulted in their extension participation being nil. The reason could be that most of the respondents belonged to landless category. Who had very small land holdings or no land at all. So they might not have felt the necessity to participate in any extension activities. Lack of awareness about extension activities might be the other reason.

### **Mass Media participation**

Table 1 shows the overall mass media participation of field level labourers. It is clear from the table that majority (76.67%) of Haveri and majority (83.33%) of Guntur district respondents had low mass media participation. Remaining respondents in both the districts belonged to medium level of mass media participation. Of all the mass media considered, it was seen that, television has become the best source of entertainment for women for relaxing after their domestic work. Most of the respondents had basic mobile phones for day today communication. But the usage of phone for other purposes like usage of social media and internet was nil as they had basic mobile sets. Since most respondents were illiterates, the usage of print media such as newspaper and magazines was practically nil. Hence the results in the study shows that majority of the women labourers belonged to low mass media participation.

### **Extension contact**

It is evident from the above results that, respondents in both the districts never contacted any extension worker other than Gram Sevaka in Haveri district and Grama Sachivalayam Volunteer in Guntur district. It is clear from the table that cent per cent of the respondents from both the districts belonged to low extension participation.

Most of the respondents belonged to landless category and so did not felt the need to contact extension workers. Other reason might be that, majority of the women labourers were illiterates and not aware about the need to contact any one. This might be the reason which resulted in most of them

with low extension contact. The findings were in line with the results of Santhi and Kalirajan (2019).

### Social participation

More than half (56.67%) of Haveri district women labourers had medium level of social participation and 43.33 per cent had high social participation. In case of Guntur district respondents 43.33 per cent had medium social participation. A little more than half (53.33%) of them belonged to high social participation category and low participation was seen in among 03.33 per cent of the respondents.

Social functions are a part and parcel of the Indian culture where, women more than men are active so it we see that, women participate in one or other function either in their family or outside their family. Women expressed that they participate in fairs and festivals which are in and around their villages. They also go to neighbours/friend's house during special occasions like marriages, naming ceremonies etc. Thus, majority of women labourers belonged to medium social participation category.

### Organizational participation

Cent per cent of the respondents participation on organizations was low. It is due to the fact that women labourers were unorganized. They are being earning their livelihood and so they might not have felt the importance to be in organization. The other reason could be lack of education, time and consequently low self-esteem and confidence leading to hesitation to participate in organizations like panchayatis, religious groups etc. However, few of the respondents were members of self-help groups like that of Shri Dharmasthala Manjunatheshwar Society and Navachaitanya in Haveri district. Similarly in Guntur district, few women labourers were members in Development of Women and Children in Rural Areas (DWACRA) and chit fund groups. This is mainly for saving money weakly/monthly basis. The findings were in confirmation with the findings of Chamandeep (2017) who found that majority of the women respondents had low organizational participation.

## Participation in post-harvest activities of dry chilli at field level

The results in table 1 indicates the participation of women, men and both in post-harvest activities of dry chilli at field level. The activities performed by women, men and both were studied with respect to harvesting, field level activities after harvesting, chilli drying activities, grading/sorting, weighting and bagging, storage and transportation. The participation indices of Haveri district filed labourers in harvesting of chilli are 92.00 for women and only 08.00 for both men and women. In Guntur district it was 88.00 for women and only 11.00 for both men and women are involved. After harvesting managing the left over materials and covering the harvest activity involvement indices were 28.33 for women and 71.66 for both men and women participation in Haveri district. In Guntur district the indices were 38.33 for women and 61.67 for both men and women respectively. In chilli drying activities the participation index was 27.33 for women and 02.66 for men. Whereas, 30.00 for both men and women involvement in Haveri district. In Guntur district it has shown 23.33 for women, 06.66 for men and 30.00 for men and women. Grading/sorting activity participation index was 35.00 for women, 15.00 for both men and women in Haveri district. In Guntur district it was 38.33 for women and 11.66 for both men and women. Weighting and bagging indices has showed 30.00 for men, 20.00 for both men and women participation in Haveri district. Whereas, it was 36.66 for men, 13.66 for both men and women in Guntur district. In storage of dry chilli and transportation the participation has showed 100.00 for men in both the districts.

The overall participation index in Haveri district was 26.09 for women, 30.22 for men and 23.68 for both men and women. In Guntur district also similar indices i.e., 26.85 for women, 31.26 for men and 21.87 for both men and women have been observed.

### 1 Harvesting

The results revealed that majority of women (86-96.00%) women from both the districts were involved in harvesting of chilli harvesting in first picking, second picking, third picking and last picking through manual harvesting. Whereas (20.00%) of both men

and women were jointly engaged in harvesting activities from both the districts.

## 2. Field level activities after harvesting

In Haveri district, about three fourth (73.33%) of both men and women together and 26.67 per cent women were involved in managing the left over plant after harvesting. Around one third of (30.00%) women and 70.00 per cent of both men and women were engaged jointly in heaping and covering of harvested chilli with clean gunny bags. Where in case of Guntur district more than half (66.67%) of both and 33.33 per cent of women were involved in managing the left over plant after harvesting. Whereas, little more than two third (43.33%) of women and more than half (56.67%) of both men and women were engaged jointly in heaping and covering of harvested chilli with clean gunny bags.

## 3. Chilli drying activity

The results indicated that in Haveri district, more than half (70.00%) of women and one third of the (30.00%) both men and women were jointly engaged in traditional sun drying activity. Whereas 40.00 per cent of women, 46.67 per cent both men and women and 13.33 per cent of men were involved in spreading/turning dry chilli to get uniform drying. About three fourth (73.33%) of both men and women and 26.67 per cent of women were engaged in heaping and covering of dry chilli with gunny bags during nights and spread during day time.

With respect to Guntur district more than half (60.00%) of women and 40.00 per cent of both men and women were jointly involved in traditional sun drying activity. Whereas one third (33.33%) of women, 43.33 per cent of both men and women and 23.33 per cent men were engaged in spreading/turning dry chilli to get uniform drying. More than half (66.67%) both men and women together, 23.33 per cent women and 10.00% men were involved in heaping and covering of dry chilli with gunny bags during nights and spread during day time. None of labourers from both the districts were involved in solar drying and mechanical drying.

## 4. Grading/Sorting

In Haveri district, 70.00 of women and 30.00 of both

men and women were jointly involved in manual grading activity. With respect to Guntur district 76.67 per cent women and 23.33 per cent both men and women together involved in manual grading. In motorized grading none of the respondents from both the districts were involved.

It is clear from the Table 1 that harvesting i.e. first picking to fourth picking of red chilli was done exclusively by women. After picking the chilli, sun drying is done in open areas near fields by women. Grading and putting the chilli in gunny bags for weighing were also exclusively done by women at field level. These three activities are linked with each other. They are less laborious and traditionally done by women. Hence women involvement was found to be more. Moreover this female dominated activity is considered unskilled work and women are paid less wages compared to men.

## 5. Weighing and Bagging

More than half (60.00%) of men and 40.00 per cent both men and women involved in putting chilli in gunny bags for weighing. Whereas, in Guntur district about three fourth (73.33%) women and 26.67 per cent both men and women together were engaged in putting chilli in gunny bags for weighing. None for respondents from both the districts were engaged in bagging of dry chillis in polythene bags.

Women from both the districts said that weighing & bagging and storage& transportation activities are mainly done by men. These activities are laborious requiring strength. Women cannot do transportation as it includes loading and unloading activities at field level. The general perception is that laborious activities need to be done by men. This might have resulted in less involvement of women in these activities.

## 6. Storage of dry chilli

Cent per cent of the men from both the districts were involved in storage of dry chilli in cold storage/central warehousing/state warehousing corporation/ rural godowns/mandi godwons. More than half (63.33%) of both men and women together and 36.67 per cent of men from Haveri district and 26.67 per cent of men and about three fourth 73.33 per cent both men and women were jointly engaged

in storing of harvested dry chilli in gunny bags in farmers own house,

## 7. Marketing

Cent per cent of men from both the districts were involved in loading at field and unloading of dry chilli at mirchi yard/ APMC market yard.

### Overall participation level in post-harvest activities of dry chilli at field level

Table 2 indicates the overall participation level in post-harvest activities of dry chilli at field level by laborers. The results in the table shows that, cent per cent of men from both the districts had low participation. One third (30.00%) of the Haveri

district women labourers and (36.66%) of Guntur district women labourers had low participation. However, 70.00 per cent women labourers in Haveri district and 63.33 per cent women labourers in Guntur district had medium participation. Equal percentages (76.67%) of both in Haveri district and Guntur district had low participation. Equal percentage (23.33%) of both men and women together in Haveri and Guntur districts belonged to medium participation category.

The overall participation of women in post-harvesting activities at field level (Table 2) shows that, more than half of women labourers from both the districts belonged to medium category with respect to participation index. This is because many activities are jointly performed by both men and women as explained earlier.

**Table 2:** Participation in post –harvest activities of dry chilli at field level (n = 60)

Sl. No	Activities	Haveri (n <sub>1</sub> =30)			Guntur (n <sub>2</sub> =30)		
		Women	Men	Both	Women	Men	Both
		F(%)	F (%)	F (%)	F (%)	F (%)	F (%)
<b>(A) Harvesting</b>							
1	Manual harvesting (hand picking)	29 (96.67)	–	01 (03.33)	28 (93.33)	–	02 (06.67)
2	First picking	28 (93.33)	–	02 (06.67)	27 (90.00)	–	03 (10.00)
3	Second picking	28 (93.33)	–	02 (06.67)	26 (86.67)	–	04 (13.33)
4	Third picking	27 (90.00)	–	03 (10.00)	26 (86.67)	–	04 (13.33)
5	Last picking	26 (86.67)	–	04 (13.33)	25 (83.33)	–	05 (16.66)
Participation index of harvesting		92.00	–	08.00	88.00	–	11.99
<b>(B) Field activities after harvesting</b>							
1	Managing the left over plants	08 (26.67)	–	22 (73.33)	10 (33.33)	–	20 (66.67)
2	Heaping and covering of harvested chilli with clean gunny bags	09 (30.00)	–	21 (70.00)	13 (43.33)	–	17 (56.67)
Participation index of field level activities after harvesting		28.33	–	71.66	38.33	–	61.67
<b>(C) Chilli Drying Activities</b>							
1	Traditional sun drying	21 (70.00)	–	09 (30.00)	18 (60.00)	–	12 (40.00)
2	Solar drying	–	–	–	–	–	–
3	Mechanical drying	–	–	–	–	–	–
4	Spreading/ turning to get uniform drying	12 (40.00)	04 (13.33)	14 (46.67)	10 (33.33)	07 (23.33)	13 (43.33)
5	Chillies are heaped and covered by gunny bags during nights and spread during day time	08 (26.67)	–	22 (73.33)	07 (23.33)	03 (10.00)	20 (66.67)
Participation index of chilli drying activities		27.33	02.66	30.00	23.33	06.66	30.00
<b>(D) Grading/ sorting</b>							
1	Manual operating grading	21 (70.00)	–	09 (30.00)	23 (76.67)	–	07 (23.33)
2	Motorized grading	–	–	–	–	–	–
Participation index of grading/ sorting		35.00	–	15.00	38.33	–	11.66

<b>(E) Weighing and Bagging</b>							
1	Putting chilli in Gunny bags for weighing	—	18 (60.00)	12 (40.00)	—	22 (73.33)	08 (26.67)
2	Polythene bags	—	—	—	—	—	—
Participation index of weighing and bagging		—	30.00	20.00	—	36.66	13.33
<b>(F) Storage of dry chilli</b>							
1	Storing of dry chilli in cold storage/ central warehousing/ state warehousing corporation	—	30 (100)	—	—	30 (100)	—
2	Rural Godowns/ Mandi Godowns	—	30 (100)	—	—	30 (100)	—
3	Storing harvested dry chilli in gunny bags by the farmers in their own house	—	11 (36.67)	19 (63.33)	—	08 (26.67)	22 (73.33)
Participation index of storage		—	78.89	21.11	—	75.55	24.44
<b>(G) Transporting (loading/unloading)</b>							
1	Loading at field and Unloading at mirchi yard / market	—	30 (100)	—	—	30 (100)	—
Participation of transporting		—	100	—	—	100	—
<b>Overall participation index</b>		<b>26.09</b>	<b>30.22</b>	<b>23.68</b>	<b>26.85</b>	<b>31.26</b>	<b>21.87</b>

### t- test" on participation of field level women labourers

The analysis of data in the table 3 revealed that, between Haveri district field level women labourers and Guntur field level women labourers there was no significant difference (1.263NS). The data in the table 14 revealed that there was no significant difference (1.263NS) between Haveri district field level women labourers and Guntur field level women labourers regarding participation in post-harvesting activities of dry chilli. The reason might be due to similar type of activities carried out by women labourers from both the districts. The above-mentioned findings were in consonance with the findings of Adejo (2019), Yadav *et al.* (2018), Hada and Bansal (2017), Aggarwal *et al.* (2013), Soumya *et al.* (2009), Jethi (2008) and Singh and Sharma (2002).

### Constraints faced by field level women labourers

The results presented in Table 2 indicate the constraints faced by women in Haveri district during post-harvest activities at field. Great majority (90.00%) of them said health problems as a major constraint followed by 83.33 per cent said they were unable to manage time between household work and farm. Low wages was constraint for 80.00 per cent of the respondents. Around one third (70.00%) said that, no off seasonal jobs followed by 66.66 per cent told no fixed wages are given. Less than half of the (43.33%)

of them felt irregular payment by host farmers as a constraint. A little more than one third (36.66%) said that poor incentives from the government as a constraint. The other constraints such as harassment while travelling, difficulty to work with in-laws in filed expressed by 23.33 per cent of respondents.

Whereas, in Guntur district great majority (90.00%) of them said that they were unable to manage time between household work and farm work. Majority said health problems (83.33%) as a major constraint. Whereas for 76.66 per cent of the respondents had no off seasonal jobs followed by low wages (70.00%) as a constraint. More than half of the respondents (60.00%) said no fixed wages for them. Little more than half of the respondents said irregular (53.33%) payment by the host farmer as a constraint. Other constraints such as harassment while travelling and other problems expressed by 30.00 per cent of the respondents.

Women are involved for more than eight hours per day at field level and after returning home in the evening they find it difficult to do household work. Often they have no electricity and drudgery reducing technologies. Some of the women labourers expressed delay in payment by middlemen. This is because of lack of monitoring activity at field level to check the timely distribution of labour charges to the workers. Many women expressed that they were not aware of government programmes. In India

**Table 3:** Overall Participation level in post-harvest activities of dry chilli at field level (n = 60)

Sl. No.	Category	Haveri (n <sub>1</sub> =30)			Guntur (n <sub>2</sub> =30)		
		Women	Men	Both	Women	Men	Both
		F (%)	F (%)	F (%)	F (%)	F (%)	F (%)
1	Low (0-6)	09 (30.00)	30 (100)	23 (76.67)	11 (36.66)	30 (100)	23 (76.67)
2	Medium (7-12)	21 (70.00)	–	07 (23.33)	19 (63.33)	–	07 (23.33)
3	High (13-20)	–	–	–	–	–	–

**Table 4:** t-test on participation of APMC and field level labourers (n=60)

Sl. No.	Participation	Mean	SD	Sig.
1	Haveri district field women labourers	7.266	2.585	1.263NS
	Guntur district field women labourers	6.533	1.851	

\*- Significant at the 0.05 level \*\*- Significant at the 0.01 level NS-Non-significant.

**Table 5:** Constraints faced by women in post harvesting of dry chilli at fields (n = 60)

Sl. No	Constraints	Haveri	Guntur	Total (n=60)
		(n1=30)	(n2=30)	
		f (%)	f (%)	f (%)
1	Low wages	24 (80.00)	21 (70.00)	45 (75.00)
2	No off seasonal jobs	21 (70.00)	23 (76.66)	44 (73.33)
3	No fixed wage	20 (66.66)	18 (60.00)	38 (63.33)
4	Health problems	27 (90.00)	25 (83.33)	52 (86.66)
5	Irregular payments by host farmer	13 (43.33)	16 (53.33)	29 (48.33)
6	Unable to manage time between household work and farm	25 (83.33)	27 (90.00)	52 (86.66)
7	Any others (Harassment while travelling, Difficulty to work with in-laws in field)	07 (23.33)	09 (30.00)	16 (26.66)

**Note:** \*Multiple responses are possible.

although many programmes have been implemented for upliftment of rural people, yet many people are not aware of these programmes because of illiteracy, low mass media participation and low extension contact. The findings were in the line with the results reported by Malek and Sisodia (2019).

### Health problems faced by respondents while performing post-harvest activities of dry chilli

Results from Table 3 shows the health problems faced during post-harvest activities of dry chilli by women field labourers from Haveri district. It is evident from the table that joint pain (86.66%), hand pain (80.00%), back ache and fatigue (76.66%), whole body ache (73.33%), head ache (66.66%), eye burning (43.33%),

respiratory problem (36.66%), neck pain (33.33%), skin problems (26.66%) and other problems (23.33%) such as over body heat were the health problems faced by women labourers at field level.

In Guntur district the health problems faced by women labourers at field level are joint pain (90.00%), back pain (86.66%), hand pain (83.33%), head ache (80.00%), fatigue (73.33%), whole body ache (63.33%), neck ache (46.66%), skin problems (36.66%), eye burning and respiratory problems (30.00%) and other health problems (10.00%) such as menstrual problems and over body heat.

These problems are common to many farm labourers while working in the field for the whole day. Harvesting, drying, grading, bagging are different

**Table 6:** Health problems faced women involved in post-harvest activities of dry chilli (n = 60)

Sl. No.	Health problems	Haveri (n1=30)	Guntur (n2=30)	Total (n=60)
		f (%)	f (%)	f (%)
1	Whole body ache	22 (73.33)	19 (63.33)	41 (68.33)
2	Hand pain	24 (80.00)	25 (83.33)	49 (81.66)
3	Joint pains	26 (86.66)	27 (90.00)	53 (88.33)
4	Respiratory problem	11 (36.66)	09 (30.00)	20 (33.33)
5	Skin problems	08 (26.66)	11 (36.66)	19 (31.66)
6	Back ache	23 (76.67)	26 (86.66)	49 (81.66)
7	Head ache	20 (66.66)	24 (80.00)	44 (73.33)
8	Neck ache	10 (33.33)	14 (46.66)	24 (40.00)
9	Fatigue	23 (76.66)	22 (73.33)	45 (75.00)
10	Eye burning	13 (43.33)	09 (30.00)	22 (36.66)
11	Others ( Menstrual problem, Over body heat )	07 (23.33)	03 (10.00)	10 (16.66)

**Note:** \*Multiple responses are possible.

activities in which women are either in squatting or bending postures. Over a period of time this may cause serious health problems like joint pain, back pain and body ache. Dry chilli may also cause eye burning and respiratory problems. These women also avoid visiting doctors because they find it costly and purchase medicine off the counter from pharmacy. They often buy eye drops or ointments as a remedy to the pain during serious issues like allergy. The women also do not wear gloves as they think it slows down the picking process. Therefore, there is a need to educate women to take care of their health while performing dry chilli post-harvest activities. The findings were in the line with the results reported by Patil *et al.* (2016).

## CONCLUSION

In Indian agriculture, women play multiple roles right from sowing to harvesting. She also plays crucial role in post-harvesting operations. Generally post-harvesting activities which are simple and less laborious are done exclusively by women and some activities which are more laborious and need more physical strength are done exclusively men. Women are therefore key contributors in agricultural production. Based on the findings majority of field level women labourers belongs to medium level of participation category both in Haveri district and Guntur district respectively. It was observed that,

there was a significant difference in participation of Haveri district and Guntur district field labourers (1.263 NS). Hence, it is utmost important to educate and train the field level women labourers regarding dry chilli post-harvest activities. So that improvement in the participation of field level women labourers for all these aspects can be made.

## REFERENCES

- Chamandeep, K. 2017. Knowledge and adoption of improved post harvest technologies of maize by farm women of agro-climatic zone IV A of Rajasthan. *Phd, Dept. HECM, Thesis*, Maharana Pratap Univ. Agric & Tech. Udaipur, Rajasthan.
- Girade, S. and Shambharkar, Y. 2012. A profile of farm women and constraints faced by them in participation of farm and allied activities. *Indian. J. Appl. Res.*, **1**(12): 69-71.
- Gwivaha, F.A. 2015. Factors that impact agricultural extension training programs for smallholder women farmers. *M.Sc, Agr. Ext. Edu, Thesis*, Iowa state university. Ames, Iowa.
- Hada, V. and Bansal, V. 2017. Participation of rural women in processing and preservation of fruits. *Int. J. Sci., Environ. and Technol.*, **6**(1): 33 - 39.
- Humayera, M., Halim, A., Rahman, M.Z. and Sarker, M.A. 2003. Training need of women in rice post-harvest activities. *Bangladesh. J. Ext. Edu.*, **15**(1&2): 117-122.
- Jadhav, V.D., Thombre, B.M. and Mande, J.V. 2010. Knowledge level of farm women regarding mango post harvest technology in Latur district. *Int. J. Agric. Sci.*, **6**(1): 69-71.

- Kiranjot, S. 2007. Participation of farm women in post harvesting. *Stud. Home Comm. Sci.*, **1**(1): 45-49.
- Malek, S. and Sisodia, S.S. 2019. Constraints faced by farm women in participation in agricultural activities in Udaipur district of Rajasthan, India. *Int. J. Curr. Microbiol. Appl. Sci.*, **8**(11):140-142.
- Naik, V.D., Singh, A.K., Roy, H. and Padmaja. 2019. Assessment of constraints encountered by the chilli growers of Khamman district in adoption of recommended chilli production technologies along with suggestions. *Int. J. Curr. Microbiol. App. Sci.* **8**(4): 2608-2613.
- Patil, S. and Nagnur, S. 2015, Empowerment of women involved in chilli cultivation. *Karnataka J. Agric. Sci.*, **28**(4): 596 – 600.
- Patil, S. 2015. Gender contribution in chilli (*Capsicum annuum L.*) cultivation: An assessment of women empowerment. *M.H.Sc. Thesis*, Univ. Agric.Sci. Dharwad.
- Patil, S., Nagnur, S. and Ashalata, K.V. 2016, Economic contribution and constraints faced by women in chilli cultivation. *J. Farm Sci. Spl. Issue*, **29**(5): 570-574.
- Santhi, S. and Kalirajan, V. 2019. Study the profile characteristics of farm women with reference to decision-making behavior. *Asian J. Agric. Ext. Econ. Soc.*, **21**(1): 1-5.

