

TAPPING LABOUR SHORTAGE AND THE STALEMATE IN FEMALE LABOUR PARTICIPATION: A DISAGGREGATE LEVEL ANALYSIS OF RUBBER SMALLHOLDER SECTOR IN KERALA

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One of the major constraints faced by the rubber smallholder sector in Kerala is the growing shortage of rubber tappers. Increasing female labour participation is considered as one of the better options to address this issue. The present analysis reveals that the share of female labour in the total workforce of rubber tappers in the state was 7.5 per cent with notable regional variations. The study shows that the continuance of the lower female labour participation in the smallholder sector is more than a supply side issue with important socio-economic and region-specific aspects. Analysis of age and caste compositions of rubber tappers, tapping tasks and wage rates did not reveal any significant entry barrier for female rubber tappers across the regions. However, the unique socio-economic milieu encompassing tapping job in the smallholder sector, especially the smaller size of holdings, appears to be the critical barrier in ensuring adequate supply of female labour. Hence, any long-term policy has to consider the multi-dimensional aspects of the issue for promoting group approaches rather than implementing *ad hoc* measures for addressing the shortage of rubber tappers.

Keywords: Female tappers, Labour participation, Labour shortage, Rubber tappers, Smallholder sector, Tapping job

INTRODUCTION

At the farm management level, one of the major constraints faced by the rubber smallholder sector in Kerala is the growing shortage of labour for harvesting the crop. Tapping is a labour intensive operation and accounts for 84 per cent of the total labour requirement during the mature phase (Burger *et al.*, 1995). Concerted efforts of the Rubber Board to address tapping labour shortage in the smallholder sector, which accounts for over 90 per cent of the total area

under natural rubber cultivation in the state, through a number of schemes such as tappers' training schools, tappers banks, welfare schemes for tappers and training people from North East India to be deployed in Kerala for NR harvesting had yielded only limited results. Technically, the labour shortage for harvesting rubber in the smallholder sector has been primarily perceived as a supply side issue in relation to the most popular tapping system, *viz.*, alternative daily tapping, with its

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organizational arrangements rooted in the single grower dependence. More than 80 per cent of the holdings are following the alternative daily tapping system (George, 1992; Chandy *et al.*, 1998; Viswanathan and Rajasekharan, 2001; Chandy *et al.*, 2003). Accordingly, the estimated annual tapping labour requirement of Kerala's rubber smallholder sector was more than 48 million man days during the year 2010-11 (George, 2012).

An important characteristic of tapping labour market in the smallholder sector is its highly skewed nature with very low level of female labour participation ranging from 3 to 13 per cent (Ushadevi and Jayachandran, 2001; Viswanathan *et al.*, 2003; Mohankumar and Chandy, 2009). This is in sharp contrast to the higher female labour participation of around 60 per cent in large rubber plantations in the state (George, 2012). Increasing female labour participation is considered to be one of the options to address the issue of tapping labour shortage. In this background, the study was conceived with the specific objectives to examine the level of female labour participation in the smallholder sector across regions in Kerala and to study gender discrimination in wages, if any, and its role as an entry barrier for female tappers.

MATERIALS AND METHODS

The paper is primarily an outcome of the first ever census conducted on tapping labour in the smallholder sector during the year 2013. The analysis was based on primary data collected on the total number of female labour (5790) in the population of 77207 tappers. The data was post-stratified into South, Central, North Central and North Kerala regions in accordance with the agro-climatic classification of rubber

growing regions in the state. Descriptive statistics was employed for the analysis.

RESULTS AND DISCUSSION

Female labour composition in the total workforce of tappers in the smallholder sector of the state was 7.5 per cent with notable regional variations (Table 1). South Kerala region had the highest female labour participation (16%), whereas North Kerala recorded the lowest (3.3%). In effect, the institutional interventions during the past one decade had not been effective in facilitating notable increase in female labour participation. Despite the regional variations, lower female tapping labour participation deserves realistic approaches and appropriate policy interventions.

Table 1. Region-wise gender composition (%) of rubber tappers in Kerala

Region	Male	Female
South Kerala	84.0	16.0
Central Kerala	94.6	5.4
North Central Kerala	91.0	9.0
North Kerala	96.7	3.3
State Average	92.5	7.5

Demographic features such as age and caste of the participating female tappers were analysed to understand the composition of female workforce in the sector. The analysis of age-composition revealed that the average age of female tappers in the State was 45 years (Table 2) with an average tapping experience of 7 years. The age distribution of the participating female tappers showed that 67.5 per cent of the workforce belonged to the age-group of 40-60 years followed by the age-group of less than 40 years (28.4%) in the State. North Central Kerala had the highest share of female labour (37.5%) under

Table 2. **Region-wise age composition of female tappers in Kerala**

Region	Age distribution (%)			Average age (Years)
	<40	40-60	>60	
	Years	Years	Years	
South Kerala	32.6	64.1	3.3	44.0
Central Kerala	15.2	78.0	6.8	48.0
North Central Kerala	37.5	60.2	2.3	42.8
North Kerala	34.2	63.5	2.3	43.6
State average	28.4	67.5	4.1	45.0

below 40 years age-group followed by North Kerala (34.2%) and South Kerala (32.6%). Although majority of the female labour is in the productive age-group with an average age of 45 years, the lowest participation rate of the youngest age-group in Central Kerala demands further analysis. A closely related aspect of the labour participation is the caste composition. The region-wise caste composition of female tappers at the aggregate level is given in Table 3. Except in Central Kerala, where the general category (representing upper castes) topped the list, majority of the female tappers in the state belonged to the backward castes.

Despite variations, significant share of the general category across the regions is unique as it is contrary to the predominance of labour from backward castes in the general agriculture sector of the state (Nair, 1997). At the disaggregate level, the caste composition of the youngest age-group (<40 years) was in tune with the composition at the aggregate level. Therefore, the

contributory factors for the lowest participation rate (15.2%) of the youngest age-group in Central Kerala have to be sought outside the ambit of the tapping labour market, as it is closely influenced by region specific socio-economic factors.

Table 4. **Gender-wise average number of trees tapped per day**

Region	Male	Female	Difference (%)
South Kerala	332	238	28
Central Kerala	277	230	17
North Central Kerala	304	233	23
North Kerala	275	242	12
State average	292	236	19

The most important factor determining the wage earnings of the labour has been the size of the holding (represented by the number of trees available for tapping), given the predominance of the single grower dependence. The notable gender-wise differences across the regions of the state were shown in Table 4. An important observation is the higher differences in the number of trees tapped between male and female labour in South Kerala (28%) and North Central Kerala (23%) where the share of female labour from backward castes are higher compared to Central Kerala (17%) and North Kerala (12%). It is also important to note that in South Kerala and North-Central Kerala number of trees available to male tappers was highest in the state. Contrary to the popular perceptions, the

Table 3. **Region-wise caste composition (%) of female tappers in Kerala**

Caste	South Kerala	Central Kerala	North Central Kerala	North Kerala	Kerala
General	27	48	38	46	37
OBC	57	39	52	48	50
SC	15	10	9	3	11
ST	1	3	1	3	2

Table 5. Gender-wise wage rates (₹ tree⁻¹) for tappers in Kerala

Region	Male	Female	Per cent difference
South Kerala	1.31	1.25	4.6
Central Kerala	1.57	1.48	5.7
North Central Kerala	1.34	1.30	3.0
North Kerala	1.54	1.48	3.9
State Average	1.47	1.35	8.2

average number of trees available for tapping per day was less than 300 for female tappers across the regions and even for the male labour, the status is the same except in South Kerala and North Central Kerala.

Analysis of wage rates revealed that female tappers received only marginally less wages (8.2%) compared to the male tappers (Table 5). In sharp contrast to the prevailing wage rates in the general agriculture sector, gender-wise discrimination in wage rates is negligible in the case of the rubber tapping labour. The lowest average wage rate was observed in South Kerala while the Central and North Kerala had the highest rates. Despite the low wage rates in South Kerala, female labour participation in the region was highest in the state (Table 1) which is indicative of the point that wage rate is not a barrier for entry of female tappers. The highest difference in wage rate was observed in Central Kerala followed by South Kerala. Tapping wage rates in the state were also found influenced by the tasks included in the tapping job (Table 6).

Latex harvesting job, which included only tapping, realised the lowest wage rate whereas tapping job with tasks from tapping to sheet making obtained the highest rate. The wage paid in 78 per cent of the cases included tasks from tapping to sheet making. The predominance of single grower dependence was evident as 76 per cent of the female tappers were attached to a single grower. The estimated earnings of the female tappers per tapping day was ₹ 318.6 with an annual average income of ₹ 45,878/- obtained from 144 tapping days. In this context, it is important to underline the fact that 97 per cent of the female tappers were engaged in high frequency tapping (S/2 d1 and S/2 d2). Given the nature of the job and socio-economic setting of rubber smallholdings, tapping time, early morning hours, is a critical factor which affects female labour participation in the sector.

As required by the nature of the job, 91 per cent of the female tappers start their work before 6 am and 66 per cent of them complete their tasks before 12 in the noon (Table 7). The time of tapping job coupled with the smaller size of holdings compel lonely engagement of the labour though 14 per cent of the female tappers in the smallholder sector were found using helpers like friends, relatives or husband to accomplish their tasks. This situation is in sharp contrast to the group approach existing in the estates due to the larger size of the holdings. Therefore, higher female

Table 6. Tasks included in tapping job and wage rates of female tappers in Kerala

Task	Percentage of female tappers	Wage rate (₹ tree ⁻¹)
Tapping	3.0	1.20
Tapping and latex collection	7.1	1.30
Tapping, latex collection and coagulation	2.3	1.30
Tapping to sheet making	78.5	1.40
Tapping and delivering of latex to the collection center	9.1	1.40

Table 7. Working time of female tappers in Kerala

Starting time	(%)	Ending time	(%)
≤ 5 am	24	≤ 9 am	8
>5 ≤ 6 am	67	>9 am ≤ 12 pm	58
>6 am	9	>12 pm	34

labour participation in the smallholder sector has been primarily constrained by the scale barrier with its attendant socio-economic aspects.

CONCLUSIONS

The study revealed that the continuance of the lower female labour participation in the smallholder sector is more than a supply side issue with important socio-economic

and region-specific aspects. Analysis of age and caste compositions of the labour tapping tasks and wage rates did not reveal any significant entry barrier across the regions. However, the unique socio-economic milieu encompassing tapping jobs in the smallholder sector, especially the smaller size of holdings, appear to be the critical barrier in ensuring adequate supply of female labour. Hence, any long-term policy approach has to be considered in the multi-dimensional aspects of the issue for promoting group approaches through the network of Rubber Producers Societies (RPS) rather than implementing *ad hoc* measures for addressing the tapping labour shortage.

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