

NRPPD Discussion Paper

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**LIVELIHOOD AND EMPLOYMENT OF
WORKERS IN RUBBER AND SPICES
PLANTATIONS**

D Rajasenan

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ABSTRACT

The status report on workers in rubber and spices plantations tries to capture the various dimensions of livelihood among the workers in these two sectors. History of plantation sector in Kerala was also studied to analyze the socio economic issues persistent in these sectors. As these two sectors provide significant amount of revenue and employment to the state their share in Kerala's economy was also studied. Conceptual framework developed by USAID and ILO was used to evaluate the livelihood assets of plantation workers. Livelihood assets were classified into physical, natural, financial, human, social, political and welfare for the study purpose. A pilot study was undertaken because of lack of available data. The report was able to reach at a general conclusion that the workers in rubber plantations are better off whereas the condition of workers in spices plantation remain vulnerable in every sphere of livelihood necessitating further study in this regard.

1 Introduction

Livelihood plays a determining role in molding the identity of an individual in a society. Without a better livelihood it is impossible to aim for a better quality of life. Livelihoods may be defined as the means by which households obtain and maintain access to the resources necessary to ensure their immediate and long-term survival. The factors essential for livelihood can be classified into six categories: physical, natural, human, financial, social, and political (US Aid Livelihood and Conflict Report, 2005). Households use these assets to increase their ability to withstand shocks and to manage risks that threaten their well-being. UNDP (2000), in its Millennium Development Goal (MDG) considers livelihood as an important factor responsible for eradicating extreme hunger and poverty and thereby attaining a better human development index. The concept of poverty and livelihood is intertwined to a very great extent. The higher the livelihood option the higher is the chance of the individual to get rid of poverty. The inability to get livelihood options results in the persistence of poverty and inability, ultimately leading to “culture of poverty”. So far that is concerned a sustainable livelihood is what it advocates for.

The International Labour Organization notes that the term ‘Plantation’ at first referred to group of settlers or the political unit formed by it under the British colonialism especially in North America and in the West Indies (ILO Report, 2001). Plantation can be defined as an instrument of force wielded to create and to maintain a class-structure

of workers and owners connected hierarchically by a staff line or overseers and managers (Bhoumik, Sharith 1980). Plantation is being distinguished from peasant agriculture by its large scale enterprise which normally requires more labour per unit of land (Hyla Mynt, 1973). The development of plantations necessitated two basic requisite i.e. large areas of cultivable land and large labour force. During the formative years plantations faced the problem of acute labour shortage. They had to depend on migrant labour whose migration had to be induced by the planters. This resulted in large scale migration of labourers from far flung areas lured by the planters of attractive wage and living conditions. The characteristic features of a plantation can be termed as those agricultural enterprising which gave prime importance to produce cash crops rather than other agricultural crops mostly of one or two types of crops in large areas of land using cheap labour which was readily available during those days. Most of the labour in the plantations is informal in nature. Employees are considered to have informal jobs if their employment relationship is in law or not practice not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefit (advance notice of dismissal, severance pay, paid annual leave or sick leave etc). The reasons may be the following non declaration of the jobs or the employees, casual jobs, or jobs of limited short duration or wage below a specified threshold (eg. for social security contribution), employment by unincorporated enterprises or by persons in households, jobs where the employee's place is outside the premises if the employer's enterprise (outworker without employment contract) or jobs for which labour regulations are not applied, not enforced or not complied with for any other reason (ILO Report, 1993).

2 Scope and Coverage of the Study

Plantation plays a very important role in Kerala's economy in terms of employment and income generation. Idukki, Kottayam, Pathanamtitta and Wayanad districts are having high concentration of

plantations in Kerala. The scope of the study is limited to the livelihood aspects of the two most important commodity subsectors of India ie, rubber and spices, which in a way is a clear monopoly of Kerala. Owing to this, the coverage of the study is limited to the four districts of Kerala, which are considered to be rubber and spices hub of India. A pilot study was carried out to mitigate the secondary data deficiency pertaining to the livelihood aspects of workers of these two subsectors of plantation. The USAID framework is used for the purpose of identifying the livelihood assets of labourers.

3 History of Plantation Sector in Kerala

The history of plantation sector in Kerala dates back to the pre independence period i.e. during the colonial rule in India and can be considered as a product of colonialism (Ravi Raman, 1986). In Kerala the erstwhile Travancore state was the first to have plantation estates in the late 1860s. The plantation estates in the earlier period were specialized more in growing tea and coffee. The planters mostly British with their influence in the imperial government made constant political pressure on the Travancore princely state to acquire cheap land, labour and capital necessary for establishing plantations. The number of local planters was very less and they owned only small area of land when compared to British planters. The institutional role played by the British government paved the way for the establishment of plantations in Kerala (Umadevi, 1989). The institutional factors like government, family, caste were very beneficial in the growth of plantation sector in the state. Governmental measures like provision of land at easy terms and promotion of labour migration played a significant role in the flourishing of plantation sector in Kerala in the 19th century.

A dual economy consisting of a market based production of cash crops and other tertiary industries related to trade and transport on one hand and the traditional sector consisting of the cultivation of crops like paddy etc on the other side (Uma Devi, 1989).

Plantation requires large tracts of cultivable land and a large labour force. The areas most suited for plantation crops were sparsely populated and hence local labour was not easily available. Thus during the early days plantations were faced with acute labour shortage. Most of the labourers were immigrant labourers hired from distant places. The push and pull factors were very much visible there in the migration of labourers to the plantations during those time. Most of the plantation workers came from areas where they had only limited or no access to the means of production and where many of them were indebted to landlords and money lenders. For the low caste Indian labourers the opportunity to work on plantation meant a way out of their depressed conditions in their caste ridden villages. Some of the workers left areas affected by severe famine. Only extreme poverty and scarcity of work in their own villages such as famines, flood etc could drive them to this alternative (Uma Devi, 1989). Thus the push factors like the prevalence of famine, caste enmity and pull factors like higher salary and better living conditions attracted workers to the plantations. Labourers came from distant places dreaming of high wages but they were met with harsh treatment from the part of planters in the form of wages lower than promised, unhygienic working and living conditions. As labourers were from faraway places it resulted in the permanent settlement of workers with their family. This permanent settlement of workers resulted in the availability of cheap labour as the whole family including women and children worked on the plantations at the wage determined by the planters. The migration of family also ensured that labour could be reproduced which in turn would ease the problem of further recruitment in the future (Kanchan and Bhowmik, 1999). Women labourers were entrusted with the task which requires no skills. This later turned advantageous for the plantation owners as they used the *difference in skill* argument to justify the lower wages paid to women workers compared to men workers, in a sector where the wages were already low! There was also a phenomenal trend in the plantation sector regarding the participation of women.

Women became an indispensable part of labour in plantation from the very beginning.

4 Share of Rubber and Spices on Kerala Economy

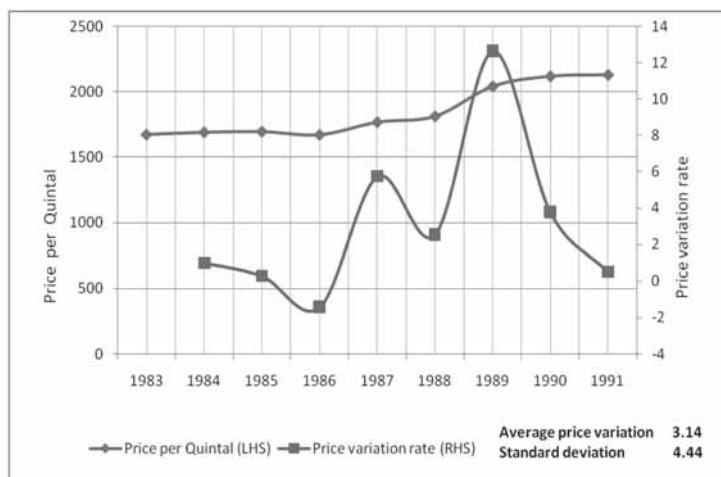
The principal plantation crops in Kerala namely tea, coffee, rubber and cardamom has an important share in the agriculture income of the state. These crops occupy about 6.80 lakh hectares accounting for 32.15 percent of the net cropped area in the state and about 43 percent of the area under these crops in the country. The plantation sector in Kerala struggled after the New Economic Reforms of 1991. The price of most of the plantation crops slipped to the minimum. The price of plantation crops has a direct impact on the livelihood of lakhs of workers as well as farmers. The price of most of the plantation crops slipped to the minimum which is being discussed below.

Kerala accounts for 81 percent of the area under rubber in the country. The coverage under the crop in 2008-09 was 5.17 lakh hectares, higher by 5430 ha over the previous year. The production of natural rubber in the state during the year 2008-09 was 7.83 lakh MT indicating a 4.03 percent increase over the previous year (Economic Review, 2009). Rubber is providing livelihood to a large section of the population in the state. Rubber plantations in Kerala struggled due to fall in price during the period from 1997 -2002 because of the large scale import from major rubber producing countries like Indonesia, Malaysia and Thailand resulting in high volatility in the price of natural rubber. Price of rubber fell from Rs 51 per kg in 1996 to Rs 31 Rs per kg in 2001. From 2003 onwards rubber prices has been showing some signs of recovery because of the fall in production of natural rubber in major producing countries, increased demand from emerging economies like China and India and strict import policy by the central government to check the fall in rubber price in the domestic market to protect the interest of farmers. The increased price of crude oil resulted in the increased cost of production of synthetic rubber which resulted in the upward movement

of the price of natural rubber. The price of rubber has now gone as high as Rs 173 per kg which is an all time high. The current surge in the price of rubber has provided the much awaited relief to farmers through better income. This has also provided the labourers to demand for a concomitant higher wage. During the time of price fall tappers were not in a position to ask for a hike in wage. The current surge in the price of rubber has enabled the workers to demand for a higher wage. In small scale plantations tappers are now receiving wages up to Rs 100 per 100 rubbers which was about Rs 55-60 in 2007. Figure 1 (Appendix 13) shows the rubber price and its fluctuation during the period from 1983-1991 i.e. before the New Economic Policy (NEP). Figure 2 (Appendix 14) shows the rubber price and its fluctuations after the introduction of New Economic Policy i.e. from 1992 to 2008. The fluctuation in price of rubber was more during the period of 1992-2008. Important factors responsible for this volatility are the introduction of future trading in plantation commodities since 2004, the ever increasing supply demand gap as a result of the increase in income in the emerging economies including India and China and the concomitant spurt in demand in automobile sector and the increase in crude petroleum makes it uneconomic for the production of synthetic rubber *inter alia* the recent political crisis in the major rubber producing countries in South East Asia. All these factors have ubiquitous tendency for hoarding and speculation. This is significant in the context of evaluating the livelihood of workers in rubber plantations.

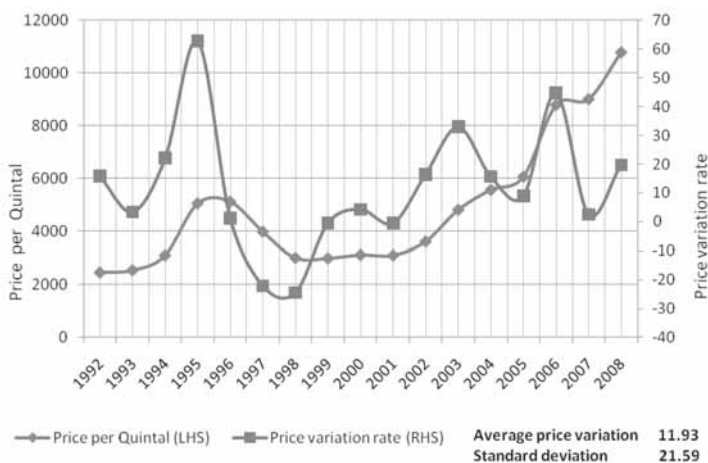
In the case of cardamom Kerala enjoys a lion's share of about 70 percent of total production in the country. Productivity which was more or less stagnant around 50 kg/hectare in the 1980s had improved to the level of around 203 kg/hectare by 2001 and further increased slightly to 206 kg per hectare in 2008-09. The share of production also, Kerala showed an improvement from 28 percent in 1992-93 to 75 percent in 2007-08, however the area under cardamom cultivation has come down from 65,000 hectares to 39,763 hectares during the same period. The

Figure 1: Rubber Price movements for the period 1983 - 1991



Source: Rubber Board Statistics (various issues)

Figure 2: Rubber Price movements for the period 1992 - 2008



Source: Rubber Board Statistics (Various issues)

price of cardamom declined considerably due to the stiff competition from Guatemala in the export front. The average price for cardamom in 2000-01 was Rs 570/kg which improved to Rs 622.96 per kg in 2001-02 and declined to Rs 561.13 in 2002-03. In the year 2007-08 the price of cardamom declined to Rs 463.14 but increased to Rs 506.44 in 2008-09. The Indian export of cardamom has increased in the early nineties and reached a peak level of 1545 MT in 2000-01 and then declined 51.46 percent in 2008-09 to reach 750 MT. The unit price of cardamom increased steadily to Rs 630/kg in 2008-09 from Rs 495/kg in 2007-08 (Economic Review, 2009). However the market for cardamom is domestic oriented rather than export oriented with only 5 percent in the export front. Pepper also is having a significant share in Kerala's plantation economy with 97 percent of the production in the country. Districts of Idukki and Wayanad possess considerable number of pepper plantations. The average productivity of pepper in Kerala is 537 kg per hectare. Price of pepper which stood at around Rs 80/kilogram in the early 1990s sky rocketed to about Rs 260 in the late 1990s and remained in the range of 180-200 in 2001 and 2002. The price of pepper receded to a low of about Rs 60 and Rs 70 in 2004 and 2005 respectively.

During 2008-09 export of spices through port in Kerala stood at 73710.70 tonnes valued at Rs. 147087 lakhs. In the year 2009 Kerala exported 23525.85 tonnes of pepper valued at Rs. 38543.29 lakhs as against a volume of 29216.21 tonnes and an export value of Rs. 43183.46 lakhs in the previous year. Though a decline is observed when compared to the previous year Kerala's export of pepper represented 93 percent of India's export of pepper both in quantity and value, but showed an increase in the export of cardamom of about 76 percent during the same period (Economic Review, 2009).

5 Plantation Labour in Kerala

Plantation sector in Kerala acts as linchpin in providing livelihood opportunities for about 14 lakhs families. It has also been instrumental

in developing many of the remote areas into extensive rubber, coffee, tea plantations etc. Among the plantation crops, rubber provides the maximum number of employment opportunity. During the early day's rubber plantations were concentrated in the districts of Idukki, Kottayam and Pathanamtitta. Later, fall in the profit margin of crops like rice and coconut and increased price of rubber shifted the interest of farmers to rubber which resulted in growth of rubber plantations extensively in the state. In the case of spices like cardamom and pepper most of the plantations in our state are concentrated in the districts of Wayanad and Idukki. Discussions with the officials in the Spices Board helped to understand that most of the cardamom plantations are owned by big land holding farmers, while about 90 percent of the pepper plantations are owned by small growers. Most of the cardamom plantations in Kerala now a day hire contract labourers from Kambam area of Theni district in Tamil Nadu. The planters are not supposed to give any extra benefit like medical benefits, accommodation etc in the case of contract labourers and hence it is profitable for the planters.

The workers employed in spices sector are more organized when compared to rubber plantations. The socio-economic conditions of workers in spices sector are also miserable. Even though the Plantations Act of 1951 specifically mentions about the basic amenities to be provided for labourers, most of the plantations fails to provide many of the facilities. The workers are forced to work and live in unhygienic surroundings leaving a heavy toll on their health conditions. Insecure and unhealthy working conditions make them socially as well as economically weak which automatically exclude them from the social strata. Bad health conditions and low education leave them with lesser options causing them to enter into a vicious circle of poverty and thereby inherit the culture of poverty. Plantation workers play an important role in plantations as the production and productivity of rubber plantations depend heavily on the performance of the workers employed therein. So the welfare of plantation workers has to be taken into consideration with utmost concern.

The exposure of the plantation crops to world market has resulted in stiff competition from foreign markets. Fall in price of plantation crops resulted in increased indebtedness among farmers. In the case of pepper the fall in price of pepper from Rs 260 in the late 1990s to Rs 60 to Rs 70 in 2003-04 resulted in large scale misery in the pepper plantations. During the days of price boom the wage of workers were also relatively high. But the fall in price and crop failure resulted in the indebtedness of farmers. Most of the farmer suicides in Wayanad district were because of this volatility in the price of pepper and spices (Vineetha and Nair, 2007). Farmer's indebtedness automatically paved the way for increased problems among the labourers causing large scale unemployment of agriculture labourers there. This resulted in the fall in wages and thereby causing labour redundancy. They were forced to migrate in search of other jobs. Lack of other skills forced them to remain unemployed especially in spices plantations.

The increase in rubber plantation has been accelerated by a host of socio-economic and political factors including the land reforms initiated in the state since 1957 exempting all plantation crops from land ceiling, progressive nature of the provision of the Plantation Labour Act 1951, Agricultural Income Tax and Plantation Land Tax and the prevailing Law of Inheritance. Consequently the relative share of area under small holdings in the state increased from 34 percent in 1946 to 90 percent in 1995-96 (Prakash, 1999).

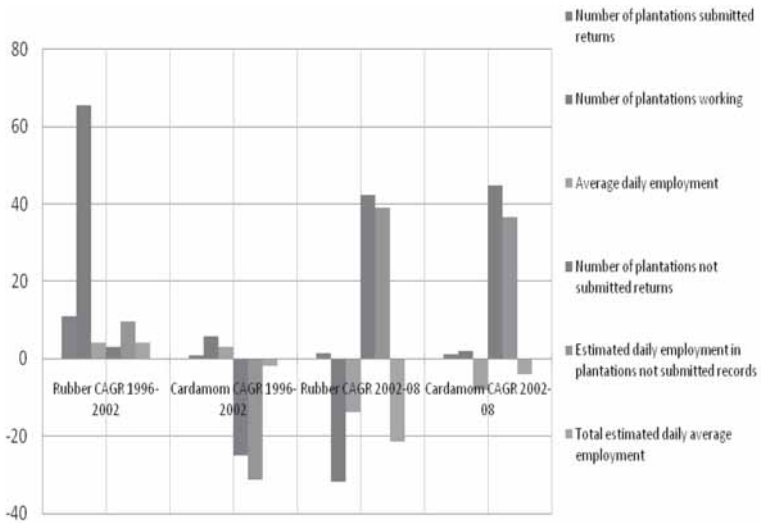
A cropping pattern has an implication for the demand for labour. Rubber is not generally considered to be labour absorbing. It generates demand for labour during the initial three to four years. After that maturing, the tree requires a less quantum of labour. Once the tree has grown the major source of demand for labour is in tapping the rubber. The labour supply function in the rural economy of Kerala has been made extremely complicated by the interaction of a number of inter connected and varied factors. Closely related to a high wage rate are the various subsidies

both direct and indirect given to the vulnerable sections by the central and state governments. These subsidies influence the labour supply to a great extent by not only enhancing the real earnings of workers, but also contributing to their retention price.

The rubber farmers seemed to be offering the labourers different types of incentives. Some of them offered a few days wage in advance which was to be deducted in easy installments with a view to ensuring continuous availability of workers. Some others gave the workers interest free loans with fairly long repayment periods. Casual workers who are employed for a fixed wage rate are often offered the additional incentive of mid-morning meals and evening tea and some time breakfast also. It saves the working time of the labourers who otherwise may go for tea and snacks to a restaurant which may not be in the immediate neighborhood.

The overuse of fertilisers is adversely affecting the health of the plantation workers. As per the study report of CENTAD by Sengupta and Gopinath (2009) states that increased use of fertiliser cause severe headache, vomiting, lack of concentration, difficulty in breathing, neurological diseases like depression, lung diseases and may contaminate the water which they use for drinking and other domestic purpose.

Wage disparity persist even in agriculture with female on an average earning Rs 54.51 compared to Rs 71.16 by men (NSSO 61st Round 2004-05). The percentage share of women in agriculture compared to other sectors seem to have fallen from 86.2 percent in 1999-00 to 83.3 in 04-05 (NSSO 61st Round 2004-05). Plantation labour in Kerala is organized in most of the tea and coffee plantations in Kerala. One of the reasons for this organized nature in tea and coffee plantations is that most of the plantations are big in size. So the work force is having a better possibility to get organized. Contrary to this, workers in the rubber and spices plantations are not organized except in large plantations because majority of pepper and rubber plantations falls under small holdings.

Figure 3: Compound Annual Growth In Plantation Employment

Source: Pilot survey by CSSEIP (2010)

Figure 3 (Appendix 24) works out the compound annual growth rate in large scale rubber and cardamom plantations in terms of daily employment in plantation which submitted returns and plantations not submitted returns. Figure 3 is based on data on the average employment in large scale rubber and cardamom plantations from the year 1996-2002 and 2002- 2008. From this we could be able to reach at a conclusion that the average daily employment in large scale rubber plantations had a dip even though the price increased after 2002. This is significant in the context that, at the same time employment in small scale rubber plantations got a hike in terms of average daily employment with the increase in rubber prices. The transition from large scale to small scale was the result of a structural change happened in the rubber plantation sector with respect to several random factors happened in the economy at the end of 1950s. Firstly, panic among the planters pertaining to the Land Reforms Act of Kerala that the Rubber Plantation would be covered

under the Act. The second response was triggered with respect to the Rubber Board incentives for small growers in the form of subsidies. The last and the most important reason for this kind of immediate response for the small scale conversion was the strict norms in the Plantation Labour Act of 1951 for the way of functioning of the large scale plantations stipulating requirements, such as hospitals, schools, canteens, quarters for the workers. For comparison between average daily employment in large scale and small scale cardamom plantation requires adequate data set for both the factions, but data with respect to small cardamom plantations are unavailable.

5.1 Women Workers in Plantation

As mentioned in the introduction, women have occupied a very important role in the plantation labour because of the relatively unskilled nature of job. Women workers constitute about 50 percent of the total workers in the plantation sector. However, in rubber plantations only 39.9 percent women workers are reported to be employed (MoL Report, 2009). Most of the plantations are located in difficult terrains which are sparsely populated. So a large workforce required in the plantations was recruited from other areas which resulted in the migration of the whole family. As a result women workers were inducted in to the labour force because the wages to women workers were less compared to men and job in plantations required less technical skill when compared to other jobs. Women employees' working in plantation sector is mostly confined to lower level jobs. Their occupancy in the supervisory level or other higher level of post is somewhat minimal. It can be attributed to the low level of educational qualification or lack of technical skills among the women workers.

An extensive study by the National Productivity Council (2009) on "Globalization and Gender" relationships in Plantation sector, food processing, textiles and clothing, handicrafts, and fisheries and other marine products, finds evidence of increased employment in most of

these sectors after the trade liberalization. The study points to the fact that the gender-wage disparity irrespective of industry, region or location is still prevalent especially in the context of globalization. In addition, according to the report, gains in income are comparatively higher for men than women in a globalised environment. Constrained by their lack of skills, women have been pushed towards lower-paid lower-skill jobs. Even though the report states an increase in the income of women and economic independence, it cautions that “the situation is yet to achieve a notable improvement in terms of real empowerment for women, equitable distribution of household responsibilities, equal pay for work of equal value and gender balance across occupations”. It also mentions that the globalization has brought a number of benefits to the labour market in the country but the benefit received by women workers are less when compared to the male workers (NPC, 2009). A study conducted by the Ministry of Labour (2009) states that only 38.9 percent of cardamom plantations provide maternity benefits to women workers

5.2 Work Participation Rate

There is a high correlation between the plantation employment and work participation rate in the context of Kerala economy. The presence of plantation employment in the districts of Idukki and Wayanad has enabled these districts with the reputation of having the highest work participation rate in Kerala. Idukki has recorded the highest total WPR as per both 1991 and 2001 censuses. The lowest rank goes to Malappuram district in corresponding census. The significant fact is that the highest increase in total work participation rate during 1991-2001 is also recorded in Idukki (3.6 percent) closely followed by Kannur (2.9 percent). In the rural WPR Idukki (43.8 percent) and Malappuram (24.1 percent) have the first and the last ranks respectively in 2001 census. In urban areas the first rank in respect of work participation rate is held by Wayanad district (40.8 percent) and lowest by Malappuram district (24.4 percent) (Martin, 2005).

The wide spread implementation of various poverty alleviation programmes like Integrated Rural Development Programme (IRDP), Jawahar Rozgar Yojana (JRY), Training of Rural Youth for Self Employment (TRYSEM) and Development of Women and Children in Rural Areas (DWCRA) in the state provided significant employment opportunities to the rural people outside the farm sector. Secondly, many small scale and auxiliary industrial units flourishing in the urban and rural areas throughout the state and their labour requirements are largely met by the rural people (Prakash, 1999). The Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) formerly known as NREGA was introduced in the September 2005 aiming at providing employment to rural people. The scheme came into force in 200 districts and later to another 130 districts. In Kerala MNREGA programme was implemented in all the 14 districts. One of the interesting findings about MNREGA is that women comprises of the 80 percent of the total workforce. Uniformity in wage is one of the important reasons for the increased participation of women. Women workers are actively engaged in MNREGA related jobs. The wage uniformity irrespective of gender is one of the important features of MNREGA. This has resulted in the increased participation of women in the districts of Wayanad and Idukki. The implementation MNREGA in the districts of Wayanad and Idukki has provided alternative employment opportunities and additional source of income which otherwise is solely dependent on plantation jobs. The MNREGA promises to provide employment to workers in plantation sector who owns job card. Most of the jobs under the MNREGA scheme are offered during peak seasons when job is available in plantations itself. The plantation owners are of the opinion that it would have been advantageous if jobs were provided during off seasons when there is no job facilities. The lack of availability of women labourers in plantations, especially in spices gardens at the time of harvest as they are paid a higher and equal wage under the scheme.

The agriculture sector in Idukki district which was primarily dependent on plantation crops like tea, coffee, pepper and cardamom was struggling due to the fall in the price of plantation crops. A special commission under Dr.M.S. Swaminathan was appointed by the centre government to enquire into the causes for the misery and a package of Rs 12 billion was announced by the Central Government to boost the plantation sector in the district similar to the Kuttanad package introduced in Alappuzha district to the tune of about Rs 18.4 billion for supporting the reeling agriculture sector in the district.

5.3 Employment in Rubber Plantations

The ownership of rubber plantations in Kerala is classified in to two categories i.e. small and large growers depending on the land holdings according to the Rubber Act Rules of 1947 which was amended in 22nd January 2010. Those owning upto 10 hectares (24.7acres) are considered to be small growers and planters who possess more than 10 hectares are considered to be large growers. About 93 percent of the total rubber plantations fall under the small holders with a total productivity share of about 85 percent.

A perennial crop like rubber demands an uninterrupted supply of skilled workers relatively for a longer period of time. About 80 percent of the total employment in rubber plantation arises out of tapping and the labour requirement for fertilizer application is only 20 percent (Viswanathan et. al., 2003). After the post liberalization period the fall in price of natural rubber resulted in less usage of fertilizer and thereby the production of natural rubber declined during the period from 1997-2002.

The characteristics of the market for tapping labour may be attributed to a very great extent to the following features.

1. Regular work with an average number of days of employment of 111 days.

2. The existence of a permanent employer.
3. Interest free wage advances and other pecuniary benefits.
4. Tapping work being confined to forenoon hours a facility which enables tapping labourers to go in for other work if they wish.
5. The supply of tapping labourers to the natural rubber sector is influenced not only by the wage level but also by the employment conditions in the next best alternative employment avenues in the rural sector.

Therefore wage rate for tapping labourers may be compared with the wage rates for other agricultural labourers in the locality. (Mohankumar and Binny, 2005)

In rubber plantations, the main work is collecting latex from the rubber trees and it is mainly done by the male workers. Unlike other types of casual works in the farm sector rubber tapping demands labourers to undergo apprenticeship for not less than a year and then later they go for fulltime employment in rubber tapping (Mohan and Binny Chandy, 2005). Tapping normally takes place early in the morning, because during the early hours the internal pressure of the tree will be very high which is suitable for tapping. A good tapper can normally tap between 450 and 650 trees. Trees are usually tapped alternate or third daily which varies from plantation to plantation. The latex, which contains 25–40 percent dry rubber, is in the bark, so utmost care is required while tapping as cutting right through to the wood will result in later tapping difficult because of the deformity in the bark. Usually a panel is tapped at least twice, sometimes three times, during the tree's life. All these depend on the skill and efficiency of the tapper because the critical factor is bark consumption. 25 centimeters of (vertical) bark consumption per year is considered to be the standard tapping in Malaysia. The latex tubes in the bark ascend in a spiral to the right. For this reason, tapping cuts usually ascend to the left to cut more tubes.

This nature of rubber tapping demands special skill which has to be acquired through training. So there is a necessity to work as an apprentice for a certain period for earning the skills. The situation is same in every rubber plantation irrespective of the size of holdings. With the increase in the price of rubber the wages for tappers have also increased from Rs 55 to Rs 95–100 Per 100 rubber trees. Most of the rubber tappers tap up to Rs 350 to 450 rubbers per day. This has resulted in a commensurate increase in income to a great extent. The rubber shades is being extensively used in plantations irrespective of the size because of the increased price of rubber. It has enabled the rubber farmers to earn yield during rainy season and thereby providing employment and wages for the tappers. It has been observed that tappers used to get advances wages from farmers varying from Rs 1000 to Rs 5000. During the decline of price the situation was quite different. They also avail other benefits like assistance for house construction, Children's education and also incentives during festival occasions like Onam and Christmas.

The efficiency and high skill requirement for the job has resulted in less availability of tappers. The higher wages in other unskilled jobs also is a cause for the situation. So the existing tappers are able to demand for a higher wage.

Table 1: Age of the tapper and tapping performance

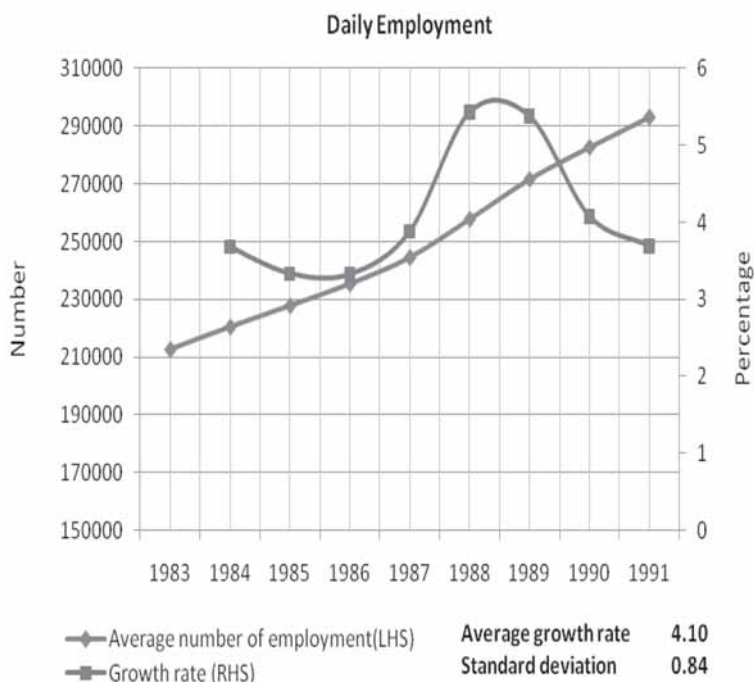
Age group	Percentage of tappers	Number of trees tapped daily
20-30	16	319
30-40	24	325
40-50	34	339
50-60	18	303
60-70	8	283

Source: Mohankumar and Binny Chandy (2009)

Table 1 shows the age of tappers and the number of trees tapped daily. About 58 percent of the tappers fall under the age group of 30-50. The tappers in the age group between 40-50 daily tap the highest number of trees daily, whereas it is the lowest among the age group of 60-70.

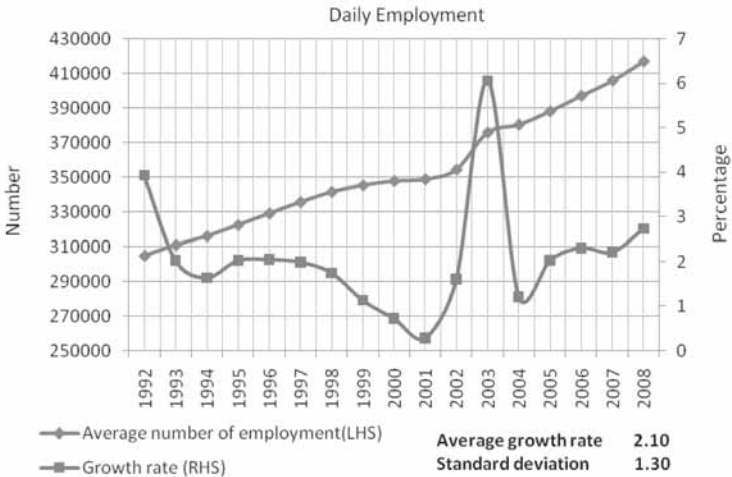
Figure 4 (Appendix 11) shows the average daily employment in small scale rubber plantations during the period 1983-1991. Growth rate in average daily employment was 4.10 during the period where as the growth rate during the period 1992-2008 was 2.10 as shown in Figure 5 (Appendix 12).

Figure 4: Average daily employments in Small Scale rubber plantation 1983-1991



Source: Rubber Board Statistics (Various Years)

Figure 5: Average Daily Employment in small scale rubber plantations 1992-2008



Source: Rubber Board Statistics (various years)

Table 2 clearly states that the average daily employment is growing at a consistent rate and is highly correlated with the area of rubber plantation. As the price of rubber started increasing since 2003 there has been a substantial increase in the average employment in the small holdings. The average daily employment was 375770 in 2003 when the price of rubber was Rs 48 per kg which later increased to 416900 in 2008 by the time rubber prices increased to an all time high of Rs 107 per kg. This is significant as 93 percent of the total rubber holdings falls under small holders contributing 85 percent of the total production. For the purpose of promoting the welfare of workers in rubber plantations various acts were passed. Another important aspect of the employment in rubber plantation is that employment is guaranteed throughout the year.

Table 2: Average Daily Employment in Rubber Plantations in Kerala

Year	Numbers	Year	Numbers
1975	157754	1992	304618
1976	162661	1993	310800
1977	168475	1994	315900
1978	176925	1995	322300
1979	184320	1996	328900
1980	192578	1997	335450
1981	099775	1998	341320
1982	206790	1999	345200
1983	212613	2000	347700
1984	220434	2001	348700
1985	227780	2002	354300
1986	235351	2003	375770
1987	244477	2004	380320
1988	257742	2005	388050
1989	271601	2006	397000
1990	282674	2007	405800
1991	293108	2008	416900

Source: Indian Rubber Statistics (2009)

5.4 Workers in Spices Plantations

Spices plantations provide significant employment opportunity in the districts of Wayanad and Idukki. Decline in the price of spice commodities has resulted in fall in wages and unemployment in the plantations. In the case of pepper, about 90 percent of pepper plantation comes under small growers and the average size of land holding is less than one hectare. Indebtedness of farmer's also had a great impact on the agricultural labourers in the plantations. The fall in income of the agrarian farmers resulted in farmers and labourers to go for alternative livelihood

strategies by cutting their day to day expenditure especially resorting to low cost food by avoiding fish, meat, milk etc. They also shifted their children to government schools instead of expensive private schools and to government hospital instead of private hospitals for healthcare (Vineetha and Nair, 2007). The presence of Tamil population was very high in the spices plantations of Idukki. But the successful implementation of MNREGA with a decent pay has resulted in the out migration of Tamil workers to their native places. Serious labour shortage is being faced by the planters especially during the period of harvesting. The boom in the construction sector in Tamil Nadu also has a negative impact on the labour availability in spices plantations. Another notable feature is that women encompass majority of workers in spices plantation. Employment in plantation does not demand any skill, results in high women participation in spices plantation and there is also large scale gender discrepancy in terms of wage.

Table 3: Sector Wise Employment in spices plantations

Sectors employed	Pepper	Cardamom
Estimated no of workers in farm level	253720	73795
Domestic market processing sector	25000	11986
No of small growers	482068	37190
Estimated no of women employed	176129	48898

Source: Unpublished Spices Board data (2010)

Table 3 shows the number of workers in farm level, domestic market processing sector and the number of small growers in cardamom and pepper plantations in Kerala which shows that women participation constitutes a significant number in both cardamom and pepper plantation.

6 Livelihood Assets of Plantation Workers

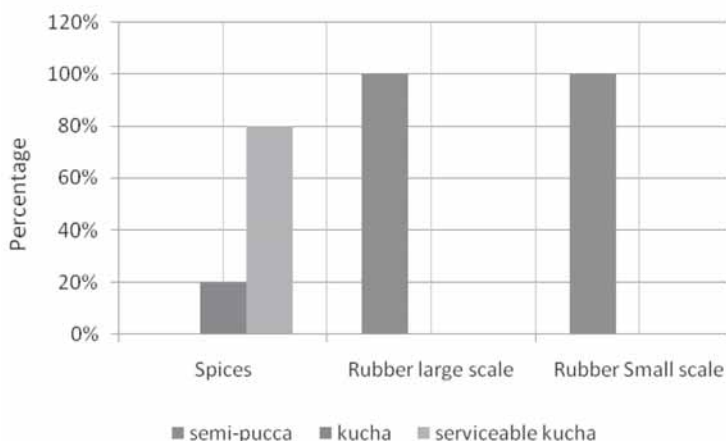
The study on livelihood of plantation workers tends to discuss according to livelihood assets identified by USAID as discussed earlier. The variables identified will be taken in to consideration to find out the

livelihood assets of plantation workers in the rubber and spice plantations.

6.1 Physical Assets

This includes house, vehicle, farm equipment, and seeds etc which form an important part of the livelihood assets. Physical assets are considered as a reflection of the quality of livelihood they possess. Because of the lack of availability of secondary data a pilot study was conducted (80 samples) at Thodupuzha and Nedungandum for identifying the livelihood assets of plantation workers. In order to evaluate the physical assets- type of house, area of house, ownership of house, land holding pattern, sanitary facility etc of workers were taken into consideration.

Figure 6: Type of house

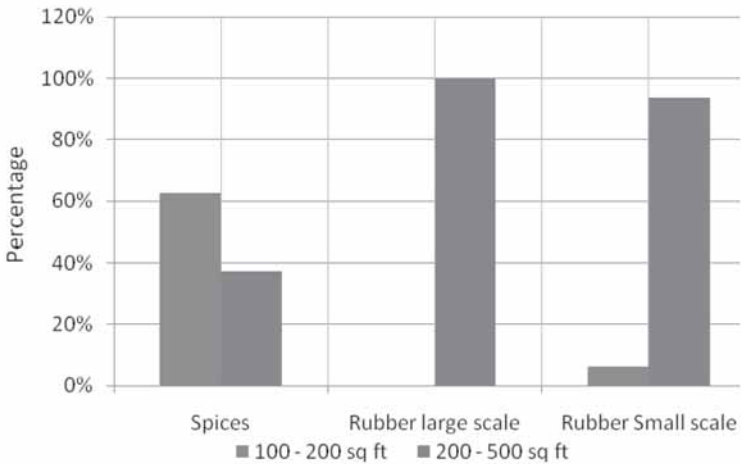


Source: Pilot survey by CSSEIP (2010)

Figure 6 (Appendix 5) shows that workers in rubber plantation irrespective of size of plantation live in pucca type of houses. An alarming finding is that about 80 percent of the workers in spices plantation stay

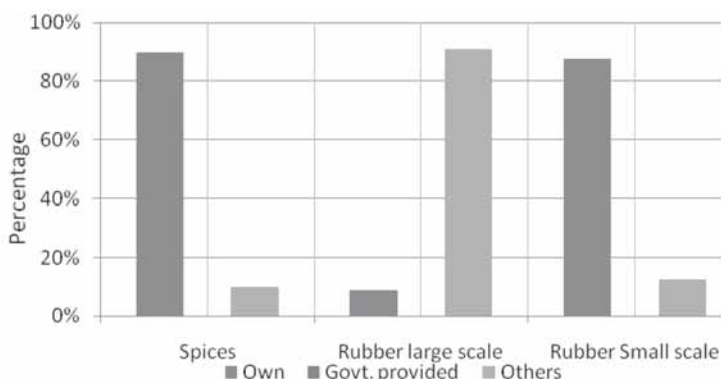
in serviceable type of kucha houses. Low level of salary is one of the reasons for most of the workers in spice plantation to have kucha type of houses. In the case of large scale rubber plantation, the plantation itself provides housing accommodation which is of semi pucca type. The relatively higher income has enabled the tappers in small scale rubber plantation to have semi pucca houses. In Idukki district the number of pucca, semi pucca and kuchha houses are 70185, 219102 and 61184 respectively where the pilot study was undertaken (Govt of Kerala, 2006).

Figure 7: Area of the house



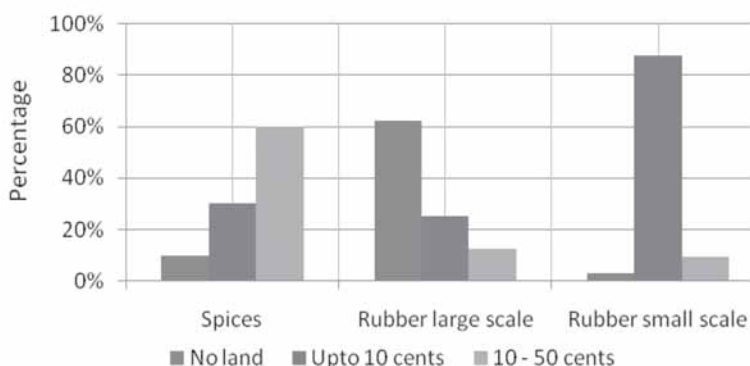
Source: Pilot survey by CSSEIP (2010)

Most of the plantation workers live in houses with an area of between 200-500 sqft as shown in Figure 7 (Appendix 4). As most of the workers in spice plantation live in kucha type of house the area of house is also less when compared to the workers in rubber plantation. Almost all the houses in large scale rubber plantation are having an area between 200-500 sqft, but in small rubber plantations it comes about 95 percent.

Figure 8: Ownership of House

Source: Pilot survey by CSSEIP (2010)

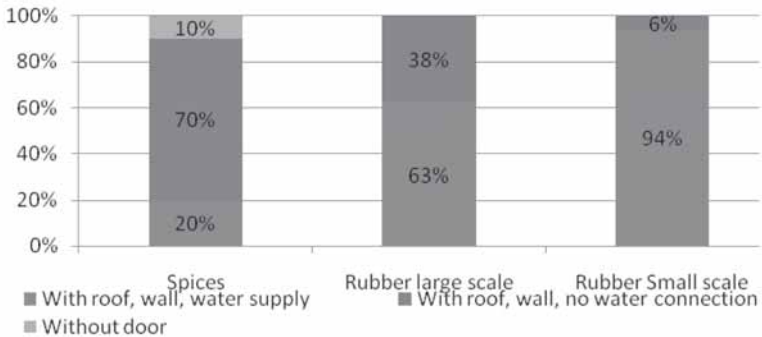
Ownership of house is a significant physical asset for livelihood. Figure 8 (Appendix 3) shows that almost 90 percent of the workers in the plantations live in their own houses. Whereas the workers in large scale rubber plantations stay in plantation quarters as most of them are from distant places or from neighboring states. Nobody in the plantation sector gets benefited from any of the government aided housing programmes in the study area.

Figure 9: Land Holding Pattern

Source: Pilot survey by CSSEIP (2010)

Figure 9 (Appendix 2) shows that spice plantation workers are having a higher land holding when compared to the workers in rubber plantation. About 60 percent of the workers in spice plantation own up to 10-50 cents of land, whereas 62.5 percent of the workers in large scale rubber plantations are not having any land at all. Most of the workers in large rubber plantations are living in quarters provided by the plantation. Most of workers employed here are living here for many years and the present group of workers belongs to the third generation.

Figure 10: Availability of Sanitary Facility

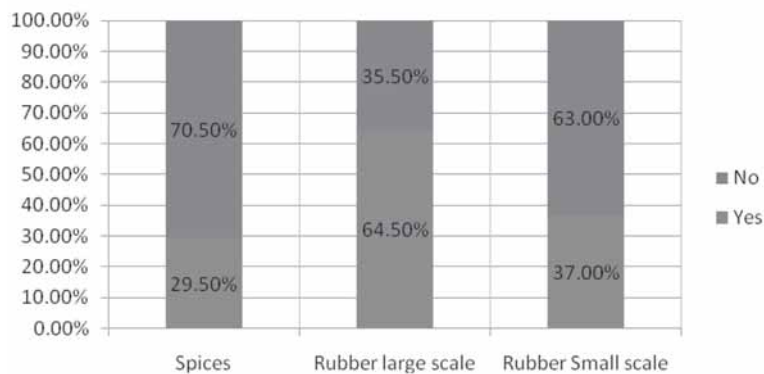


Source: Pilot survey by CSSEIP (2010)

Figure 10 provides information regarding the sanitary facilities in their houses. Only 10 percent of houses among the workers in the spices plantation are not having electric connection and the remaining houses of workers are electrified.

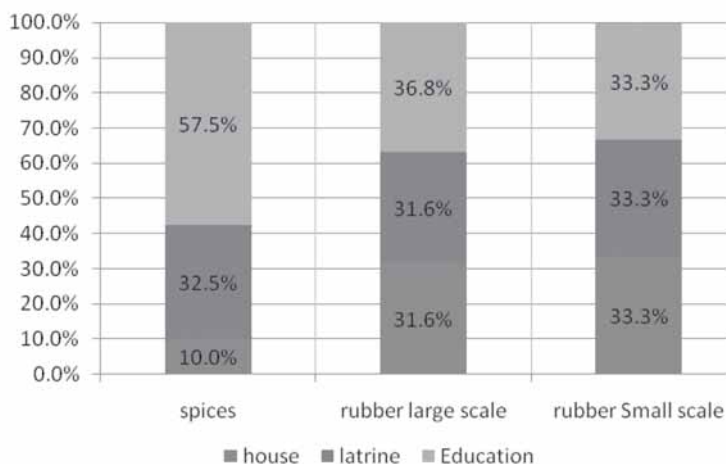
Figure 11 (Appendix 34) shows that majority of the workers do not receive any benefits from government in cardamom and small scale rubber plantations, while the workers in the organized (large) rubber plantations have received some benefits. Most of them are not even aware of the schemes provided by the governmental agencies. This fact is considered to be a major obstacle in the path of inclusive growth of the excluded community in the plantation sector. When making

Figure 11: The Degree of Government Benefits Received



comparisons between the spices and rubber plantations availing government assistance, it is clear that the spices workers are getting the least.

Figure 12: Beneficiaries of Government Schemes



The number of beneficiaries coming under various government schemes in plantations is minimal and most of the benefits received are under the components like education, construction of house, latrine etc

as shown in Figure 12 (Appendix 35). Compared to rubber plantations, workers in the spices sector are less benefited even in the provision of housing.

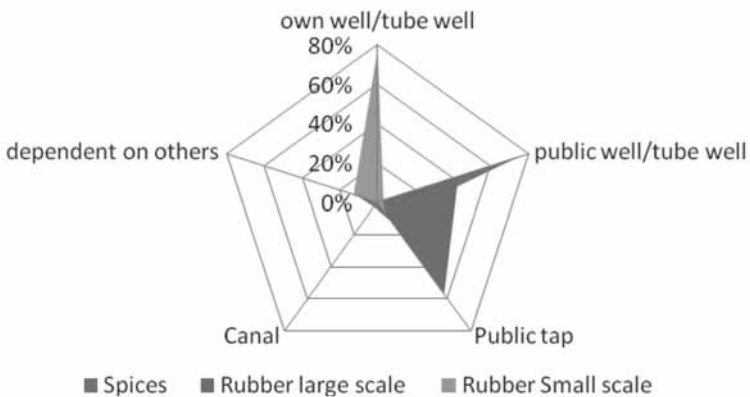
6.2 Natural Assets

Natural assets include accessibility to food, water resources, timber products etc. as most of the plantations are situated in high altitude areas where accessibility to the basic amenities are very less and dependent more on natural assets. But we were only able to get information regarding their accessibility to drinking water and its duration.

6.2.1 Water Supply

An adequate supply of water for drinking and household use is a basic pre-requisite for the health and welfare of the workers. Further, it reduces the time spent by workers to collect water from distant places. Many water borne diseases like typhoid, dysentery, jaundice etc can be reduced by the supply of adequate quantity of safe drinking water. Drinking water collected from underground springs in plantation may contain high concentration of pesticides because of the wide use of pesticides in plantation.

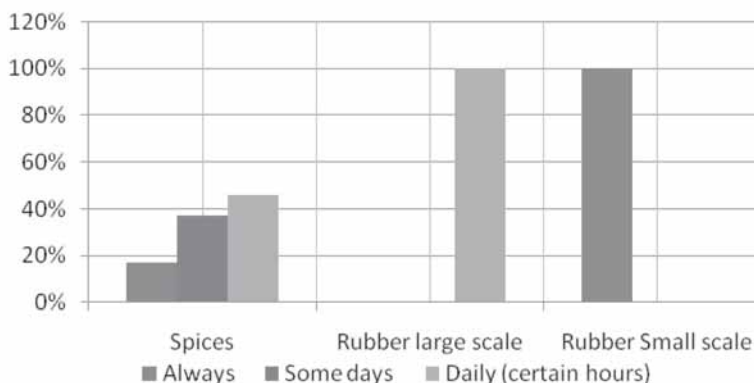
Figure 13: Source of Drinking Water



Source: Pilot survey by CSSEIP (2010)

Figure 13 (Appendix 18) display the source of drinking water among plantation workers. Majority of workers in small scale rubber plantation is having their own well as a source of water.

Figure 14: Status of Water Availability

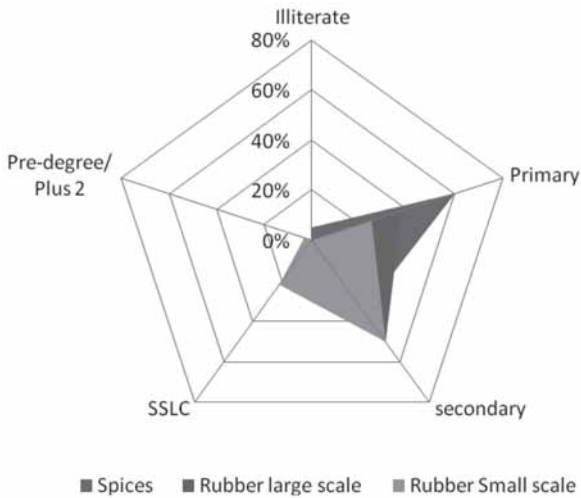


Source: Pilot survey by CSSEIP (2010)

Figure 14 (Appendix 19) shows that the water is available only in certain hours in a day or once in two days in spice plantation and large scale rubber plantations. But the small scale rubber plantations workers get round the clock availability of water. Based on the pilot study we would also be able to find out those workers solely dependent on timber as source of energy for cooking and not on cooking gas or any other forms of energy.

6.3 Human Assets

These are considered to be the key factors responsible for attaining a high quality of livelihood and thereby a better human development regardless of the type of society they belong. Human assets includes educational qualification, vocational training (include the secondary data regarding the apprenticeship) and labour power within the household.

Figure 15: General Education Attainments

Source: Pilot survey by CSSEIP (2010)

Figure 15 (Appendix 1) shows that majority of workers in spice plantation is not having even high school education which makes them very vulnerable in terms of livelihood options available with them. This is quite different in the case of workers in rubber plantation, where 50 percent of the workers are having high school education; out of this 21.90 percent have passed SSLC and three percent of them having qualification upto plus two. In addition to the low level of education the spices plantation lacks other types of skill for employability in other sectors. As tapping of rubber demands specific skill the workers in rubber plantations are treated as skilled workers.

Table 4 explains that in small scale rubber plantations tappers work as apprentice for a short duration to acquire the requisite tapping skills. The duration of apprenticeship varies from place to place and majority of the tappers do not receive any amount as wage during this period.

Table 4: Duration of Apprenticeship in Rubber Plantations

Region	Apprenticeship (In months)	Percentage of tappers who received wage during apprenticeship
Kottayam	11	10
Pala	15	17
Thodupuzha	18	15
Changanacherry	13	34
Kanjirapally	30	30
Average	17	22

Source: Mohankumar and Binny Chandy (2009)

6.4 Financial Assets

Livelihood is highly dependent on the financial assets of an individual. It includes wages, access to credit facility and saving habit. The more the financial assets the bigger will be the probability to acquire other livelihood assets. It also indicates whether their wages are enough to make a decent living and gives a picture about their ability to get access to credit facilities from financial institutions like bank and co-operative societies as well as their saving habits and financial inclusion features.

6.4.1 Minimum wages in plantation

The Minimum Wages Act of 1948 empowers to fix minimum wages payable to employees and workmen engaged in any of the categories of the employment specified in the schedule of the Act. Altogether, 81 employments have been included in the scheduled and minimum wages have been fixed in 41 categories. Upto 09/09 minimum wages have been revised in the sectors like agricultural operations, handling of elephants, hill produce, L.P.G, plantation, sales promotion of pharmaceuticals and shop and establishments.

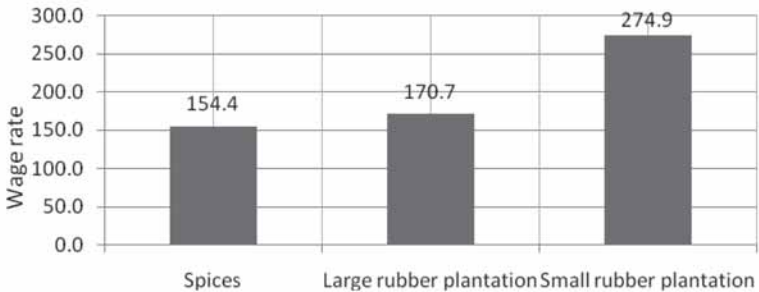
Table 5 shows the wage rate fixed by the Labour Department in the rubber and cardamom plantations which is reviewed quarterly.

Table 5: Minimum Wage in Rubber and Cardamom Plantation

Category of plantation	Minimum Wages	V.D.A	Total Wages
Rubber	87.01	80.41	167.42
Cardamom (Pure Cardamom)	60.92	80.41	141.33
Cardamom (Mixed Crops)	49.02	80.41	129.43

Source: Department of Labour, Govt. of Kerala (2010)

Figure 16: Average Wage Rates in Plantations

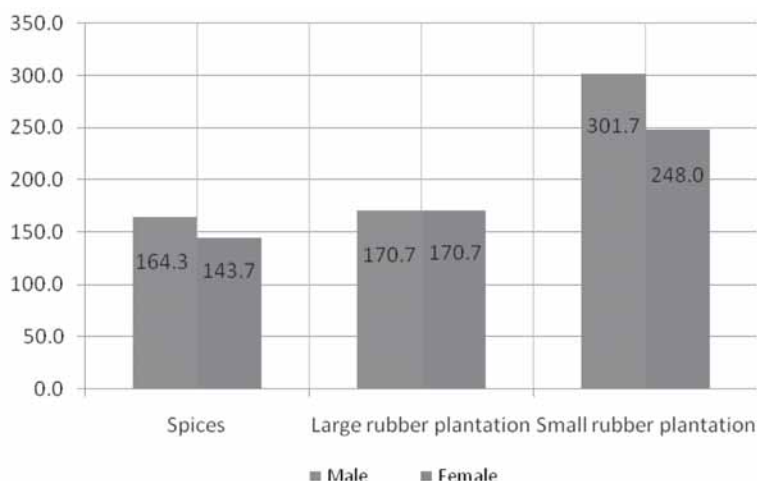


Source: Pilot survey by CSSEIP (2010)

Figure 16 (Appendix 16) states that average wage rate is the lowest among workers in spice plantation and the highest among workers in the small scale rubber plantations. The average wage per day is Rs 150, Rs 170 and Rs. 286 respectively in spice, large scale and small scale rubber plantations. Wages in large plantation is fixed by the Labour

Department and is revised every quarterly without any gender based discrimination. From the pilot study we were able to reach a conclusion that the average wage rate is higher than the minimum wages fixed (See page 38) in most of the plantations irrespective of spices and rubber plantations. Even though the wage in large scale plantations is less than the wages in small scale plantations, workers are provided with extra benefits like quarters, free medical facility, provident fund, gratuity etc.

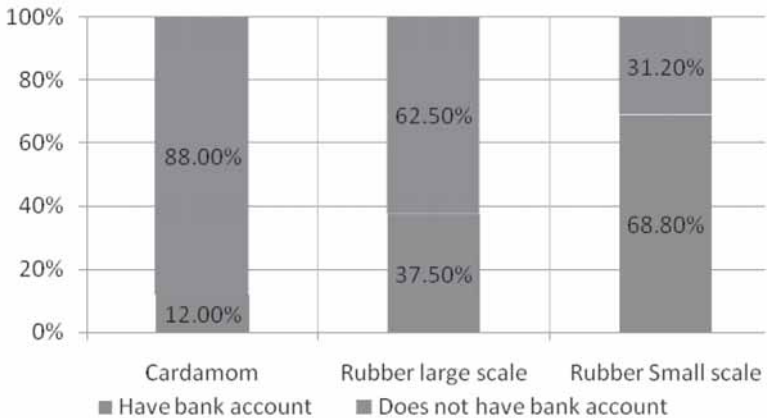
Figure 17: Male-Female Wage Rates in Plantations



Source: Pilot survey by CSSEIP (2010)

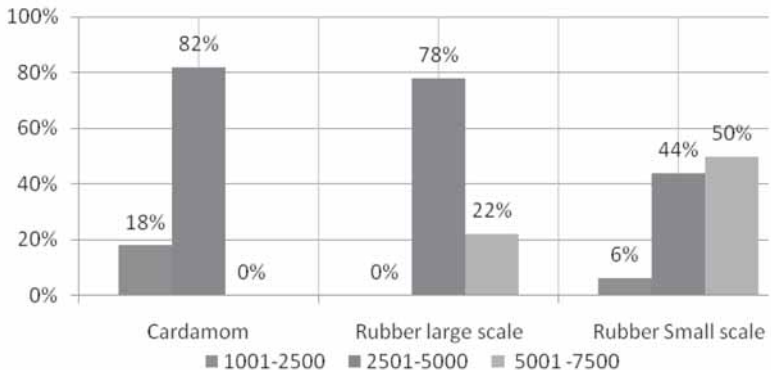
It is important to mention that gender discrimination in terms of wage is still prevalent in various sub-sectors of the plantation economy. Figure 17 (Appendix 17) clearly indicates the gender discrimination in terms of wage.

Figure 18 (Appendix 6) details about the possession of bank account. It is noteworthy that access to financial institutions is still a distant dream for most of the plantation workers.

Figure 18: Possession of Bank Account

Source: Pilot survey by CSSEIP (2010)

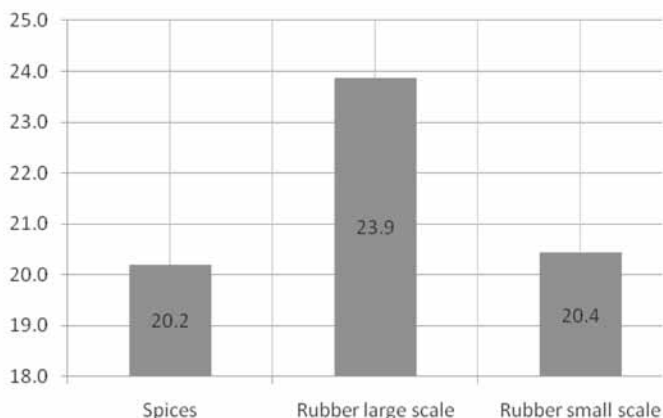
The situation is dismal in the case of spice plantation workers as 12 percent of the workers have bank account. But the situation is comparatively good with 37.5 percent and 68.8 percent respectively in large and small scale rubber plantations.

Figure 19: Average Monthly Earnings

Source: Pilot survey by CSSEIP (2010)

Figure 19 (Appendix 7) shows that 82 percent of workers in spice plantation and 78 percent of workers in large rubber plantations earn between Rs 2501–5000. It is significant to note that 50 percent of the workers in small rubber plantations earn between Rs 5001-7500 and 44 percent of workers earn an income in the range of Rs 2501-5000. This kind of relatively good average monthly income earnings could be because of the high bargaining power of the workers as a result of the recent spurt in the price (five to six fold increases) of natural rubber in the international market owing to multifarious reasons.

Figure 20: Average Days Worked by Workers in Plantation Per Month



Source: Pilot survey by CSSEIP (2010)

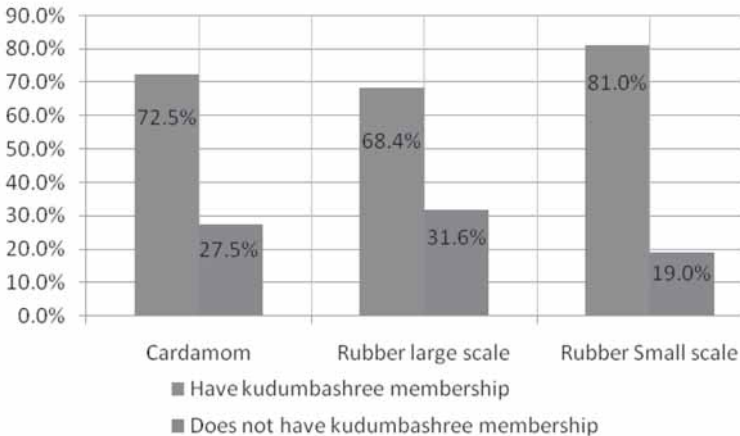
Figure 20 (Appendix 15) shows that the average number of days worked in the plantations is the highest among the workers in large scale rubber plantations. Almost all the workers are able to get an employment for 23.9 days on an average in the large rubber plantations. On the other hand, workers in the spices plantations and small scale rubber plantations are able to get employment for 20.2 and 20.4 days respectively. Workers in most of the small rubber plantations usually get employment in more than one plantation.

In most of the plantation estates the wages of women workers are now at par with that of male workers. But wage disparity is still prevalent in small estates especially in spice plantations.

6.5 Social Assets

Social assets include kinship structures, religious group, neighborhood etc. Among the social assets our pilot study was able to capture the neighborhood component alone.

Figure 21: Membership in Kudumbashree



Source: Pilot survey by CSSEIP (2010)

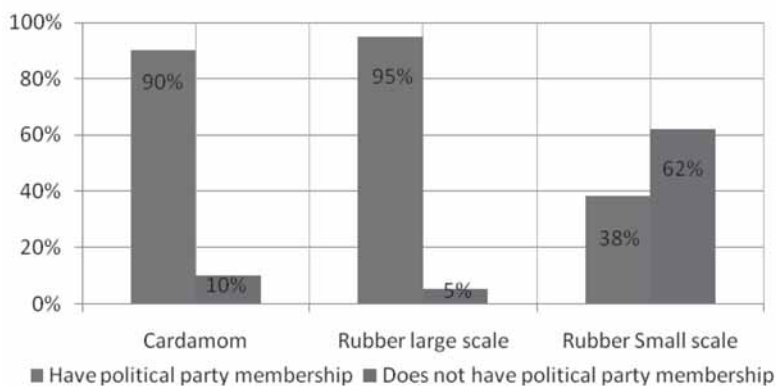
Figure 21 (Appendix 10) explains that the membership in kudumbashree units are the only social asset which we could be able to come across among plantation workers. The relative membership is more among the workers in small plantations. In Idukki district the number of families in kudumbashree unit is 168679 (Govt of Kerala 2006).

6.6 Political Assets

Political assets include citizenship, access to political leadership, recourse to a functioning legal system etc. Among the assets access to

political leadership is possible through gaining membership in political parties. The influence of political party among workers is considerable in any organized work group. In order to address their grievances and to attain their rights and benefits affiliation to any of the political party is necessary. There are ample evidences to substantiate the fact that most of the agitations made by workers for attaining their rights were accomplished with the involvement of political parties.

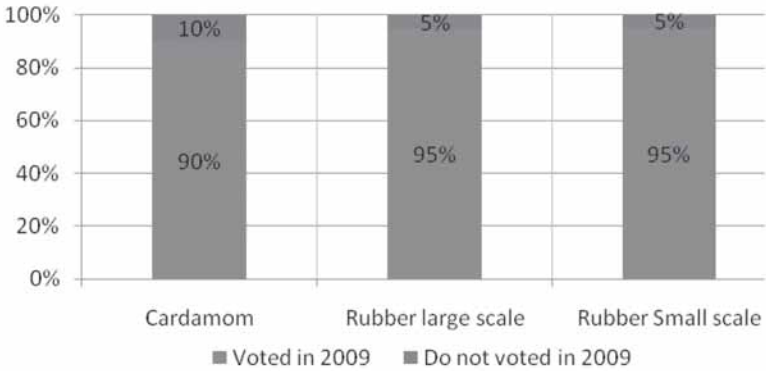
Figure 22: Membership in Political Party



Source: Pilot survey by CSSEIP (2010)

Figure 22 (see Appendix 8) shows that in spices plantation about 80 percent of workers are having membership in any of the political party. In the case of workers in large scale rubber plantation the number increases to 95 percent while in the small scale rubber plantations the picture is quite different with 62 percent having membership in political parties. The organized nature of workers in large scale rubber and spices plantations could be the reason for the relatively high political party membership when compared to small scale plantations.

Figure 23 (Appendix 9) explains that about 93 percent of the workers in plantation sector exercised their voting rights for the general

Figure 23: Voting Participation in 2009 Election

Source: Pilot survey by CSSEIP (2010)

elections of 2009 whereas the polling percent in idukki district was 73.87 percent (Govt. of Kerala 2006).

7. Welfare Measures

In addition to the livelihood assets identified by USAID, (2005) welfare measures received by workers are also significant in analyzing the livelihood issues of the commodity workers. In large scale plantations welfare measures are implemented according to the Plantations Labour Act of 1951, whereas the necessary welfare measures are implemented by the Rubber Board in the case of small scale rubber plantations.

Labour being a concurrent subject both at the centre and state governments have enacted several laws on social protection for labourers. Kerala has a good track record in the field of social protection measures particularly the one's directed at the working class. Abolition of child labour, awareness programme on inter-state migrant workers and daily waged employee's distress relief fund are the few important measures taken up recently. Rubber Act of 1947 was first of its kind intended to help them secure better working conditions and improvement of amenities and incentives for workers.

7.1 Welfare Measures Initiated By Rubber Board

The Plantation Labour Act covers plantations extending to an area of 5 hectares and above and employing 15 or more workmen on any day. Unfortunately majority of the rubber plantations are under small holdings. The average size of rubber plantations in Kerala is only 0.50 hectares; therefore 75 percent of the workforce remains uncovered under the Plantation Labour Act. In order to overcome the situation the Rubber Board has introduced various welfare schemes for the workers who are not entitled to any other benefits under the various labour legislations. Workers employed in estates recognized by the Rubber Board drawing a wage not exceeding Rs 5000 per month are entitled for the scheme. The important schemes implemented by Rubber Board includes the educational stipend for various courses and merit award for qualifying exams to children of workers undergoing studies in recognized courses, medical benefit as well as insurance to tappers. Financial assistance for the construction of houses and latrines are also being provided by the Board. Table 6 shows the number of beneficiaries and the amount disbursed by the rubber board for the purpose.

Table 6: Number of Beneficiaries and Amount Paid

Year	No of beneficiaries	Amount paid (in Lakh)
1997-1998	16901	112.32
1998-1999	17900	112.56
1999-2000	15740	106.99
2000-2001	17410	121.14
2001-2002	16456	122.16
2002-2003	17965	225.39
2003-2004	20289	200.80
2004-2005	18614	168.81
2005-2006	18212	175.91
2006-2007	19467	170.00
2007-2008	31825	310.70
2008-09	24081	NA
2009-10	24236	NA

Source: The Rubber Board Statistics (2010)

Table 7: Schemes Implemented By Rubber Board in XI plan

Major components of the scheme	XI Plan Target	2007-2008		2008-09	
		Target	Achievement	Target	Achievement
Labour welfare (No. of Beneficiaries)					
Educational Stipend	55000	10000	16430	11000	1083
Medical Award	1050	210	322	210	380
Medical Attendance	3000	500	3594	500	1450
Housing Subsidy	5200	1100	1081	1000	888
Sanitary Subsidy	3700	700	790	710	790
Housing & Sanitary Subsidy for SC/ST	650	125	121	125	174
Insurance –Cum-Deposit Scheme	50000	8500	9487	9500	9596
Total no. of Beneficiaries	118600	21135	31825	23045	24081

Source: The Rubber Board Statistics (2010)

The Table 7 shows the number of persons benefited under various welfare components implemented by the Rubber Board during XI plan in the year 2007-08 and 2008-09 respectively. Most of the tappers in rubber plantations belong to the small scale holders, which make them ineligible to get benefits from the Labour Department. Because of the lack of availability of welfare programmes from the Labour Department, Rubber Board has initiated a number of welfare programmes for the tappers in rubber plantations. Table 7 gives a clear cut idea about the schemes and the number of beneficiaries under the schemes sanctioned by the Rubber Board ranging from education stipend for children of workers, assistance for maintenance and construction of houses for workers etc. Component-wise welfare measures adopted by the Rubber Board are given in Appendix 20 (b), (c) and (d).

8 Conclusion

The study made clear that the institutional role played by government was very significant during the early days. Plantation sector in Kerala got established in the 19th century under the direct patronage of the British rulers. The areas identified as suitable for plantations were sparsely populated, and this together with the ensuing growth in the plantation sector resulted in large scale migration of labourers to these plantations in search of jobs because of the poor living conditions in their native place. The settlement of workers also resulted in the participation of women in large numbers. It turned advantageous for the planters because women labourers were employed at a lesser wage as the job does not demand any skills.

The report looked whether there is causal relationship between price and average daily employment in rubber plantation. The price volatility of plantation crops after the 1990's is also discussed here. Important factors responsible for this volatility are the introduction of future trading in plantation commodities since 2004, the ever increasing supply demand gap as a result of the increase in income in the emerging economies including India and China and the concomitant spurt in demand in automobile sector and the increase in crude petroleum makes it uneconomic for the production of synthetic rubber *inter alia* the recent political crisis in the major rubber producing countries in South East Asia. All these factors have ubiquitous tendency for hoarding and speculation. It also mentions about the present scarcity of labour in the plantation sector because of the implementation of various poverty alleviation and employment guarantee programmes like the MNREGA. Gender neutral wage in MNREGA programme has resulted in large scale participation of women in MNREGA. It has resulted in shortage of women in plantation sector which is heavily dependent on unskilled women workers. The outmigration of Tamil labourers to their native places because of the recent construction boom in Tamil Nadu has also

resulted in labour shortage in plantations. It looks as if the wage in plantation sector is lower than existing market clearing wage in the labour market of Kerala and this seems to have paved the way for the workers to switch over from plantation jobs to other unskilled jobs where wage rate is higher.

The report discusses the livelihood assets of plantation workers according to the components identified by USAID and UNDP for a sustainable livelihood and for poverty alleviation. Seven assets are taken for identifying the livelihood assets of plantation workers viz. physical, natural, financial, human, social, political and welfare. The physical assets of most of the plantation workers remain minimal. The condition of workers in spices plantation is worse when compared to rubber plantation with most of them living in kucha type of houses. The land holding capacity of workers is also very low in all the plantation sectors. One significant fact is that most of them are having their own houses and the only exception in this case is workers in large scale rubber plantation where workers stay in plantation quarters who have migrated from distant places. In terms of government benefits received majority of the workers is deprived from getting any of the government benefits. Natural assets are considered to be very important especially due to the adverse geographical conditions. Water scarcity was a problem in the spices plantations during summer days. Workers depend mostly on tube well or public well for the routine affairs. The use of natural asset is limited to the use of well water and timber among the plantation workers. In the case of human assets most of the workers in plantation possess only high school education whereas workers in spices plantation have only primary education.

Workers in the spices sector seem to possess the least of skills among the plantation sector workers. As rubber tapping requires certain skill, tappers can be considered as semi-skilled labour. Lack of education and vocational skills make them vulnerable in the process of livelihood

options. In terms of financial assets like possession of bank account, savings etc the condition of workers are very poor. There is also the prevalence of gender based wage discrimination in small scale plantations. The situation of workers in the process of financial inclusion is dismal. About 70 percent of the sample workers earn between Rs 2501 and Rs 5000 monthly and get employment of 20 days per month on an average whereas workers in large scale rubber plantations having employed 23.9 days on an average earning between 2501-5000 per month. Wage has got a significant increase in small rubber plantation because of current increase in rubber price which have improved the living condition of tappers.

Participation in kudumbashree among women workers is the only identified social asset among the plantation workers. There was lack of information regarding social assets like religious group affiliation and kinship. So our study was not able to identify the other social assets among plantation workers. Regarding political assets the workers in large scale plantation are more affiliated to political parties even though almost all workers in the sector have actively participated in voting to the general elections of 2009. While comparing livelihood of workers in the two commodity sectors i.e. rubber and spices it is clear that the problem of decent livelihood is more perennial and severe in the spices plantation.

The report tries to capture the various welfare measures initiated by rubber board and labour department for the welfare of plantation workers in Kerala. However, the livelihood variables show that plantation workers' livelihood options are below the standard criteria and needs further study to identify the underlying issues for the malice.

The author wishes to thank Prof. K. J. Joseph, Centre for Development Studies, Thiruvananthapuram, for entrusting this work to CSSEIP as part of the National Research Programme on Plantation Development.

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The research group had benefitted from the discussions held with economists from the Rubber Board and Spices Board in developing this report. In this respect the author would like to mention special thanks to Dr. Tharian George, joint director and Dr. Toms Joseph, scientist, Rubber Research Institute of India, Kottayam and Dr. B Sreekumar, economist, Spices Board, Ernakulum.

Finally the author would like to thank his research team at CSSEIP for their commitment and diligent involvement in the project.

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Appendix 1 Education Attainments

Type of plantation	Illiterate	Primary	Up to SSLC	SSLC	Pre degree/ Plus 2
Spices	5.00%	5.00%	90.00%	0.00%	0.00%
Rubber large scale	0.00%	37.50%	50.00%	12.50%	0.00%
Rubber Small scale	0.00%	25.00%	50.00%	21.90%	3.10%

Appendix 2 Land Holding Pattern

Type of plantation	No land	Upto 10 cents	10 - 50 cents
Spices	10.00%	30.00%	60.00%
Rubber large scale	62.50%	25.00%	12.50%
Rubber small scale	3.10%	87.50%	9.40%

Appendix 3 Ownership of House

Type of plantation	Own	Govt. provided	Others
Spices	90%	0%	10%
Rubber large scale	0%	13%	87%
Rubber Small scale	88%	0%	12%

Appendix 4 Area of House

Type of plantation	100 - 200 sq ft	200 - 500 sq ft
Spices	62.5%	37.5%
Rubber large scale	0.0%	100.0%
Rubber Small scale	6.2%	93.8%

Appendix 5 Type of House

Type of plantation	Semi-pucca	Kucha	Serviceable kucha
Spices	0.00%	20.00%	80.00%
Rubber large scale	100.00%	0.00%	0.00%
Rubber Small scale	100.00%	0.00%	0.00%

Appendix 6 Possession of Bank Account

Type of plantation	Have bank account	Does not have bank account
Spices	30.00%	70.00%
Rubber large scale	37.50%	62.50%
Rubber Small scale	68.80%	31.20%

Appendix 7 Average Monthly Earnings

Type of plantation	Rs 1001-2500	Rs 2501-5000	above 5000 Rs
Spices	18%	82%	0%
Rubber large scale	0%	78%	22%
Rubber Small scale	6%	44%	50%

Appendix 8 Membership in Political Party

Type of plantation	Have political party membership	Does not have political party membership
Spices	80%	20%
Rubber large scale	95%	5%
Rubber Small scale	38%	62%

Appendix 9 Vote Participation in 2009 Election

Type of plantation	Voted in 2009	Do not voted in 2009
Spices	90%	10%
Rubber large scale	95%	5%
Rubber Small scale	95%	5%

Appendix 10 Membership in Kudumbashree

Type of plantation	Have kudumbashree membership	Does not have kudumbashree membership
Spices	72.5%	27.5%
Rubber large scale	68.4%	31.6%
Rubber Small scale	81.0%	19.0%

Appendix 11 Average Daily Employment in Rubber Plantation From 1983-1991

Year	Average number of employment	Growth rate (In percent)
1983	212613	-
1984	220434	3.68
1985	227780	3.33
1986	235351	3.32
1987	244477	3.88
1988	257742	5.43
1989	271601	5.38
1990	282674	4.08
1991	293108	3.69

Appendix 12 1991-2008 Average Daily Employment in Rubber Plantation from 1992-2008

Year	Average number of employment	Growth rate (In percent)
1992	304618	3.93
1993	310800	2.03
1994	315900	1.64
1995	322300	2.03
1996	328900	2.05
1997	335450	1.99
1998	341320	1.75
1999	345200	1.14
2000	347700	0.72
2001	348700	0.29
2002	354300	1.61
2003	375770	6.06
2004	380320	1.21
2005	388050	2.03
2006	397000	2.31
2007	405800	2.22
2008	416900	2.74

Appendix 13 Rubber Price From 1983-1991

Year	Price per Quintal	Price variation rate (In percent)
1983	1672	-
1984	1689	1.02
1985	1694	0.30
1986	1670	-1.42
1987	1766	5.75
1988	1811	2.55
1989	2040	12.64
1990	2117	3.77
1991	2128	0.52

Appendix 14 Rubber Price From 1992-2008

Year	Price per Quintal	Price variation rate (In percent)
1992	2463	15.74
1993	2546	3.37
1994	3107	22.03
1995	5059	62.83
1996	5122	1.25
1997	3988	-22.14
1998	3013	-24.45
1999	2997	-0.53
2000	3125	4.27
2001	3109	-0.51
2002	3621	16.47
2003	4814	32.95
2004	5571	15.72
2005	6068	8.92
2006	8783	44.74
2007	9006	2.54
2008	10775	19.64

Appendix 15 Average Days Worked By Workers in Plantation

Type of plantation	Average work days
Spices	20.2
Rubber large scale	23.9
Rubber small scale	20.4

Appendix 16 Average Wage Rate in Plantations

Type of plantations	Average wage rate
Spices	154.4
Large rubber plantation	170.7
Small rubber plantation	274.9

Appendix 17 Male – Female Wage Rates In Plantation

Gender	Spices	Large rubber plantation	Small rubber plantation
Male	164.3	170.7	301.7
Female	143.7	170.7	248.0

Appendix 18 Source of Drinking Water

Type of plantation	Own well/ tube well	Public well	Public tap	Canal	others
Spices	0.0%	76.3%	10.5%	2.6%	10.5%
Rubber large scale	0.0%	42.9%	57.1%	0.0%	0.0%
Rubber Small scale	77.4%	3.2%	6.5%	0.0%	12.9%

Appendix 19 Status of Availability of water

Type of plantation	always	Some days	Daily (certain hours)
Spices	17.10%	37.10%	45.70%
Rubber large scale	0.00%	0.00%	100.00%
Rubber Small scale	100.00%	0.00%	0.00%

Appendix 20 (a) Quantum of Stipend

A	Name of the course	Annual Lump sum Grant (Rs)	Monthly Hostel/ Boarding Fees (Rs)
1	Class VII to X	500.00	200.00
2	Class XI to XII	500.00	300.00
3	Degree Courses	1000.00	300.00
4	Post Graduate Courses	1500.00	300.00
5	Professional / Technical		
(i)	Certificate Courses	750.00	300.00
(ii)	Diploma Courses	1000.00	300.00
(iii)	Degree Courses	2000.00	300.00
(iv)	Post Graduate Courses	2500.00	300.00

Source: The Rubber Board (2009)

Appendix 20(b) Eligibility and amount of scholarship

Sl No	Name of the course	Minimum Marks	Maximum Amount (Rs)
1	S.S.L.C / Equivalent	80%	1000.00
2	Class XII or Equivalent	60%	1000.00
3	Degree Courses	60%	2000.00
4	Post Graduate Courses	60%	3000.00
5	Professional / Technical		
(i)	Certificate Courses	60%	1500.00
(ii)	Diploma Courses	60%	2000.00
(iii)	Degree Courses	60%	4000.00
(iv)	Post Graduate Courses	60%	5000.00

Source: The Rubber Board (2009)

Appendix 21 Medical Facility to be provided in Plantations

Category of Plantation	Nature of medical Facility to be provided
a) Plantations which employ 1000 or more workers	a) Own garden hospital with a minimum of 15 beds.
b) Plantation employing more than 200 workers but less than 1000.	b) Combined garden hospital and own dispensary
c) Plantation employing 200 or less workers	c) Dispensary and with necessary equipments and arrangements necessary for a visiting doctor who visits the dispensary at least thrice a week.

Source: (Tessy Kurian, 1998)

Appendix 22 Rubber price from 1983-2008

Year	Price/Qt	Year	Price
1983	1672	1996	5122
1984	1689	1997	3988
1985	1694	1998	3013
1986	1670	1999	2997
1987	1766	2000	3125
1988	1811	2001	3109
1989	2040	2002	3621
1990	2117	2003	4814
1991	2128	2004	5571
1992	2463	2005	6068
1993	2546	2006	8783
1994	3107	2007	9006
1995	5059	2008	10775

Source: Rubber Board Statistics (various issues)

Appendix 23 Workers strength according to plantation size

		1996	1997	1998	1999	2000	2001	2002
Less than 15	A	62	83	123	106	112	101	111
	B	413	632	848	874	731	828	832
15 to 29	A	132	51	79	72	79	93	116
	B	2216	1779	1232	1210	1331	1901	2153
30 to 49	A	36	46	112	114	102	110	96
	B	1569	2607	3413	3411	3305	4104	3329
50 to 99	A	47	32	45	73	65	69	69
	B	3729	1572	2438	2401	6326	5029	4481
100 to 499	A	72	74	62	62	67	66	67
	B	15207	14479	7329	7287	10963	13811	12008
500 to 999	A	70	48	41	41	47	46	48
	B	39066	23196	20551	20513	27840	26313	27944
1000 to 4999	A	27	13	18	18	18	18	16
	B	28720	15092	18618	18630	31400	27875	22476
5000 and more	A	0	0	0	0	0	0	0
	B	0	0	0	0	0	0	0
Total	A	446	347	480	486	490	503	523
	B	90920	59357	54429	54299	81896	79861	73223
A= Number of plantations								
B= Average daily number of workers								

Appendix 24 Distribution of working plantations submitting returns according to the working strength

Distribution of working plantations submitting returns according to the working strength		2007				2008			
		Rubber		Cardamom		Rubber		Cardamom	
Category of plantation		A	B	A	B	A	B	A	B
Less than 15 workers		18	102	41	131	20	103	39	130
15 or more but less than 30		15	265	11	232	15	267	11	230
30 or more but less than 50		15	493	11	342	15	493	9	340
50 or more but less than 100		32	1642	15	818	32	1645	16	815
100 or more but less than 500		30	3245	-	-	30	3245	-	-
500 or more but less than 1000		8	4374	-	-	8	4374	-	-
1000 or more but less than 5000		-	-	-	-	-	-	-	-
Total (A & B)		118	10121	78	1523	120	10127	75	1515
A = Number of plantations									
B = Average daily number of workers									

Appendix 25 Average Daily Employment in Large Plantations

Year	Category	Number of plantations submitted returns	Number of plantations working	Average daily employment	Number of plantations not submitted returns	Estimated daily employment in plantations not submitted records	Total estimated daily average employment
1996	Rubber	117	107	19410	10	467	19877
	Cardamom	118	84	2099	34	815	2914
1997	Rubber	156	127	13478	29	1834	15312
	Cardamom	116	97	2316	19	813	3129
1998	Rubber	162	157	13672	5	1932	15604
	Cardamom	128	122	2421	6	1110	3531
1999	Rubber	162	157	13543	5	1967	15510
	Cardamom	128	123	2427	5	1124	3551
2000	Rubber	172	161	18605	11	1625	20230
	Cardamom	125	118	2926	7	149	3075
2001	Rubber	216	169	20456	47	3940	24396
	Cardamom	135	121	3235	14	169	3404
2002	Rubber	220	2208	24739	12	812	25551
	Cardamom	124	118	2520	6	87	2607
2007	Rubber	118	217	10121	99	5860	2783275
	Cardamom	78	134	1523	56	560	434055

cont'd....

Year	Category	Number of plantations submitted returns	Number of plantations working	Average daily employment	Number of plantations not submitted returns	Estimated daily employment in plantations not submitted records	Total estimated daily average employment
2008	Rubber	241	223	10127	100	5862	5989
	Cardamom	132	132	1515	55	568	2033
CAGR 1996-2002	Rubber	11.09797333	65.61609813	4.126059679	3.085332089	9.657883191	4.274035
	Cardamom	0.830041586	5.827967077	3.093515738	-25.10628238	-31.12521217	-1.83834
CAGR 2002-2008	Rubber	1.531092726	-31.75812268	-13.83125292	42.3868205	39.02139139	-21.4781
	Cardamom	1.047453737	1.886189625	-8.131064956	44.66669944	36.71143665	-4.06007
CAGR 1996-2002	Rubber	11.09797333	65.61609813	4.126059679	3.085332089	9.657883191	4.274035
	Cardamom	0.830041586	5.827967077	3.093515738	-25.10628238	-31.12521217	-1.83834
CAGR 2002-2008	Rubber	1.531092726	-31.75812268	-13.83125292	42.3868205	39.02139139	-21.4781
	Cardamom	1.047453737	1.886189625	-8.131064956	44.66669944	36.71143665	-4.06007

Appendix 26 Welfare Schemes and Its Beneficiaries in Large Scale Plantations

Year	Number of plantations covered by the act	Number of plantations submitted returns	Number of women employed in plantations submitted returns	Number of women worked for not less than 150 days	Number of women claimed the benefits	Number of claims accepted	Total amount paid (Rs)
1996	489	446	46373	0	2837	2837	10234179
1997	501	420	44741	0	3448	3448	9563562
1998	521	480	30951	0	3451	2697	9557479
1999	524	486	30936	0	3460	2655	11022539
2000	535	490	44267	0	1917	1917	11742028
2001	600	502	43587	1790	1790	1781	9703136
2002	556	523	43495	43495	1757	1757	9309955
CAGR 1996-2002	2.163161056	2.689917518	-1.06217539	-	-7.675123025	-7.67512302	-1.565102019
Year	Category of plantations	No of plantations covered by Maternal Benefits Act	No of women workers employed in plantations submitting returns during the year	No of women workers who claimed maternity benefits during the year	No of claims accepted and paid fully or partially	Total amount of maternal benefits paid (Rs)	
2007	Rubber	217	3838	31	31	125015	
	Cardamom	134	918	16	16	114105	
2008	Rubber	217	3800	37	37	288785	
	Cardamom	134	948	14	14	86422	

Appendix 27 Number of Days Worked Gender Wise

Year	Category	Total number of man days worked during the year	No of days worked	Men	Women	Total
2007	Rubber	2835560	280	6327	3800	10127
	Cardamom	439350	290	567	948	1515
2008	Rubber	2783275	275	6283	3838	10121
	Cardamom	434055	285	605	918	1523

Appendix 28 Actual Total Hours Worked by all Workers Including Overtime but Excluding Rest Interval during the year 2007 and 2008

Actual total hours worked by all workers including overtime but excluding rest interval during the year								
Category of plantation	2007				2008			
	Rubber		Cardamom		Rubber		Cardamom	
	A	B	A	B	A	B	A	B
For Men								
Up to 45 hours	-	-	-	-	-	-	-	-
Above 45 hours up to 48 hours	118	6283	78	605	120	6357	75	567
Above 48 hours	-	-	-	-	-	-	-	-
Total (A&B)	118	6283	78	605	120	6327	75	567
For Women								
Up to 45 hours	-	-	-	-	-	-	-	-
Above 45 hours up to 48 hours	118	3838	4	201	120	3800	75	948
Above 48 hours	-	-	-	-	-	-	-	-
Total (A&B)	118	3838	78	918	120	3800	75	948
A = Number of plantations								
B = Average daily number of workers								

Appendix 29 Sickness Benefit and Amount Paid in Plantation 1996-2002

Sickness benefit and amount paid in plantation (submitted returns)										
Year	1996	1997	1998	1999	2000	2001	2002			
Number of persons applied for the benefit	189724	223207	35116	36508	45170	57762	44260			
Number of persons received the benefits	189724	223207	35116	36508	45170	57762	44260			
Amount paid in (Rs)	17205599	20765568	21179610	24381371	20280787	271144711	8566455			

Appendix 30 Sickness benefit and amount paid in plantation 2007 and 2008

Category of plantation	2007		2008	
	Rubber	Cardamom	Rubber	Cardamom
No of persons who applied for sickness benefits	4792	880	5285	862
No of persons who received benefits	4792	880	5285	862
Amount paid (Rs)	3397891	703237	2003015	527544

Appendix 31 Housing Facilities in Plantations 2007-2008

Category of plantation	2007		2008	
	Rubber	Cardamom	Rubber	Cardamom
No of workers eligible for housing accommodation	9290	1030	9612	1330
No of workers already provided with accommodation	8612	1025	9290	1025
No of workers remaining to be provided with accommodation	4678	5	322	5
Shortage of houses (Nos)	4678	5	322	5

Appendix 32 Crèches Maintained By Plantation 2007

Category of plantation	Rubber	Cardamom
No of plantation covered under the Act	217	134
No of plantations/estates submitting returns	43	8
No of plantations/estates maintaining crèches	43	8
No of crèches	38	1
2 yr and below	139	14
Above 2 yr	103	12
milk	25	1
Food	25	1
Clothes	18	4
Toys	16	4
Medical Aid	16	4
Others	-	2

Appendix 33 Medical Facility in Plantation 2007

Category of plantation	Rubber	Cardamom
Number of doctors / nurses	2	-
Ayahs and attendants	14	1
Sweepers	11	1

Appendix 34 The Degree of Government Benefits Received

Type of Plantation	Yes	No
Spices	29.50%	70.50%
Rubber large scale	64.50%	35.50%
Rubber Small scale	37.00%	63.00%

Appendix 35 Beneficiaries of Government Schemes

Type of plantation	benefits received		
	house	latrine	Education
Spices	10.0%	32.5%	57.5%
Rubber large scale	31.6%	31.6%	36.8%
Rubber Small scale	33.3%	33.3%	33.3%

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