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**LIVELIHOOD RISKS AND COPING
STRATEGIES: A CASE STUDY IN THE
AGRARIAN VILLAGE OF CHERUMAD,
KERALA**

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ABSTRACT

This paper examines the various dimensions of livelihood risk as informed by a in-depth case study of an agrarian village namely, Cherumad in Kerala. The livelihood risk in Cherumad since the last quarter of the 1990's has been unique and unprecedented in their nature and intensity. The effect of price risk and productivity risk of crops became an income risk to the farming community. For agricultural labour too it was an income risk with double effects of wage risk and employment risk. These risk have resulted in a general fall in the living standards of people.

The livelihood dynamics in Cherumad shows that improvement in livelihood assets improves livelihood outcomes and vice versa. Institutions (both formal and informal) affect access to assets and livelihood outcomes. Across socio-economic groups, livelihood outcome are determined by the portfolio of livelihood assets, especially land. The households have developed a number of coping strategies in response to distress. These strategies are meant to smooth consumption and income and rebuilding household livelihood. In this context, the overall emphasis of state intervention should be in strengthening their livelihood assets.

Key words: Livelihood risk, Coping Strategies, Livelihood, Livelihood Assets, Institutions, Kerala

JEL Classification: Q, Q 00.

I. Introduction

Rural households in developing countries face several livelihood risks. In their struggle to achieve a secure livelihood, households try to cope with and even to mitigate or prevent such risks. Whether they succeed in this struggle or not is so crucial that it determines the sustainability or vulnerability of their very livelihood. A livelihood system could be sustainable if and only if it can cope with and recover from the risks and maintain (or enhance) its capabilities and assets without undermining the natural resource base (see also Chambers and Conway, 1988). As such, case studies of such livelihood struggles by rural people in the wake of varying risks to their livelihood, contributes significantly to the understanding and making of sustainable rural livelihoods. The present paper discusses the various dimensions of livelihood risk as informed by an in-depth case study of an agrarian village in Kerala. The study assumes significance in the emerging agrarian situation in which rural households, which depend on the production of cash crops, especially plantation crops such as tea, coffee, pepper and rubber, are now facing an unprecedented price risk and uncertainty. Since the last quarter of the 1990s, a contemporaneous collapse of prices is experienced in almost all major cash crops the rural households produce. The fact that this price risk emerged in a period after the signing by India in the Agreement on Agriculture with WTO has aggravated the concerns and anxieties of people. The Agreement on Agriculture with WTO, at least in principle, is expected to foster larger market access and better prices.

So, it is natural that rural households look at the State as being responsible for the plight and demand remedial measures from it. It would be interesting to see how the State and, in particular, its most proximate and visible unit in the rural Kerala, namely, the local Panchayat have responded to such demands.

The organisation of the paper is as follows. Section II brings to light the framework of the study. The study area and methodology is described in Section III. An analysis of the present livelihood outcome, the risks and vulnerabilities and the livelihood strategies are analysed under three sections. Section IV describes the present livelihood outcomes. Section V examines the livelihood risks of the farming and agricultural labour communities and in Section VI their coping strategies are analysed. The last section highlights the main conclusions of the study.

II. Analytical Framework

In the popular sense of the term, livelihood describes the means of living or sustenance. An economic definition of livelihood could be the organisation of productive resources of households to maximise their standard of living. In their definition, Chambers and Conway include assets and capabilities along with activities or strategies in the productive resources. To quote: 'Livelihood comprises the capabilities, assets, and activities for a means of living' (Chambers and Conway, 1992: 7). By capabilities, they mean something akin to Sen's notion of a set of alternative beings and doings that a person can achieve with his/her economic, social, and personal characteristics (Dreze and Sen, 1989; Sen, 1993; 1997). Assets comprise several components, some of which represent the economic categories of capital, and others - claims and access to resources. Generally, five categories of assets are identified as contributing to livelihoods. They are natural assets, physical assets, human assets, financial assets, and social assets (Scooner, 1998; Bebbington et al., 1997; Bebbington, 1999; Carney, 1998; Serageldin and Steer, 1994).

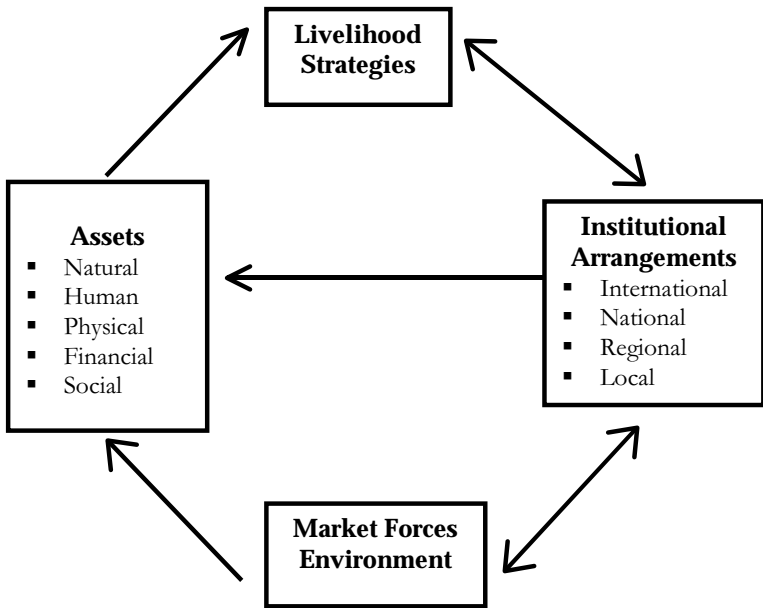
Natural assets refer to natural resources like land and water that contribute to production and consumption activities. Physical assets are produced means of production such as tools, machines, and irrigation systems. Human assets chiefly refer to education, skills and health of household members. Financial assets are basically the stocks of cash and access to credit. Social asset could mean social networks and organisations. Interactions among people in markets, government and civil society provide access to resources or/and development of assets into commodity bundles (Sen, 1981; Evans, 1996; Bebbington, 1999).

Institutions play a crucial role in livelihood dynamics. A classic definition of institution is given by North (1991:97):

Institutions are the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, tradition, and codes of conduct) and formal rules (constitutions, laws, property rights).

Institutions, market and assets interplay in livelihood dynamics. Access to natural assets like land, financial assets, social organisations etc. is defined by rules and social norms (institutions); value of the flow of benefits from productive assets is determined by the market forces. By impacting on transaction cost, institutions can make markets efficient or inefficient.

Institutions also affect livelihoods directly. State policies on social security directly affect livelihood outcomes. Conversely, changes in livelihoods might make certain institutions redundant and certain others necessary. An understanding of these and other inter-relationships among assets, institutions, markets and livelihoods becomes important in unravelling the different dimensions of sustainable livelihoods. These relationships are diagrammatically represented in the figure below.



Outcome of livelihood strategies could be viewed in terms of income received or consumption achieved by households (Ellis, 2000). However, it could be adversely affected by the presence of livelihood risks. Livelihood risk is defined as the likelihood of occurrence of (external) shocks and stresses plus their severity (OECD development association committee network on poverty reduction). In the rural scenario, livelihood risks can be categorised among four main divisions: i) harmful trends such as increasing soil erosion, frequent droughts, unfavourable development of commodity or input prices; ii) shocks such as earthquakes, floods, disease, loss of jobs, violent conflicts, destruction of physical infrastructure etc., iii) harmful seasonal fluctuations such as price fluctuations in crop and livestock markets, fluctuations in food availability due to climatic changes, and iv) unfavourable socio-political environments, characterised by absence of rule of law, deprivation of rights, gender-related discrimination etc. (ibid).

As and when livelihood faces risks households may develop strategies to overcome them. Such strategies may be of two types: risk coping strategies and risk mitigation (adaptive) strategies. While the former represent ex-post short-term strategies to cope with risk mainly through smoothing consumption, the latter is ex-ante steps to mitigate risk potential in the long-run through income smoothing strategies (Aderman and Parxson, 1994; Morduch, 1990; Dercon, 2000).

The empirical unfolding of this framework may be illuminated well in an appropriate micro location, since the analysis of livelihood has to be studied at close quarters holistically. It may be noted that livelihood is conditioned by extra local factors. Therefore, understanding the micro-macro linkages is important to obtain a comprehensive grip on the factors and processes conditioning livelihood strategies.

III. The Study Area and Methodology

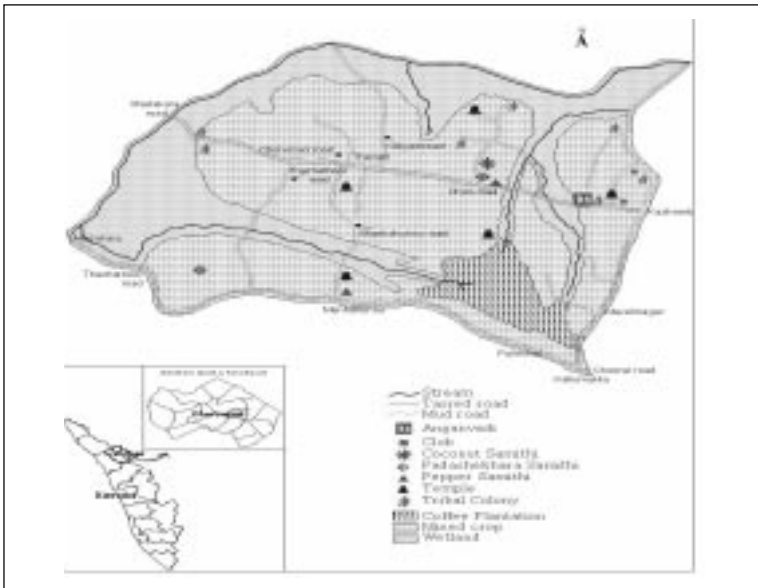
The study area is Cherumad village of Wayanad district, Kerala, India (see Map). Three considerations influenced the selection of the study village. First, in this region (as well as in the whole district of Wayanad) the recent external shock namely, the price crash in agricultural commodities, had a big impact quite intensely and extensively on agrarian livelihoods. Second, it is a representative region of the district, which has the largest proportion of scheduled tribe (ST) population that constitutes one of the most socio-economically backward communities in the state¹. Third, Cherumad is one of the fourteen wards in Nenmeni panchayat. This panchayat bagged the Swaraj Trophy from the government of Kerala for the best performance in the implementation of participatory planning. Therefore, it could form a good backdrop to study how local self governments intervene in the coping strategies. Moreover, Cherumad is characterised by the presence of a relatively

1. 36 % of the total ST population in the state resides in Wayanad followed by Idukki district with 16 % according to 1991 census (GOK, 2001).

large proportion of small and marginal farmers and agricultural labourers. Cherumad could therefore provide a suitable location to study how different groups of actors with varying levels of assets cope with the fast-changing economic and socio-political and institutional environment. (see the Map).

Cherumad village is located in the north-east of Nenmeni panchayat. The nearby town, Sultan Batheri, is only 15 kms away. Yet the village remained isolated owing to lack of transport facilities till recently. The village consists of five sub-regions: Thavani, Cherumad, Kazhamp, Thazhathoor and Manjakunnu. A stream flows through the northern and western boundaries of the village. The wetlands in the village are located adjacent to this stream. The rest of the area is elevated and has an undulating terrain mostly intercropped with coffee and pepper.

Map of Cherumad



This study makes use of both quantitative and qualitative data obtained from primary and secondary sources. In order to study the various aspects of the present status of livelihoods in the study area, a household level sample survey was conducted in the year 2003-04. The sampling frame for the survey was constructed through a complete listing of all the households in the village that provided data on the main source of household income and ownership of land. The sample frame is given in Appendix I.

The survey questionnaires were finalised after field test. The survey covered a range of questions relating to household assets, employment profile, consumption expenditure, availability and utilisation of social safety nets, participation in decentralised planning etc. In addition, another survey of 18 self-help groups (SHGs) that were found to build up major social assets, especially for women in the study area, was also conducted.

The recent history of livelihoods in the villages was traced through in-depth interviews and focus group discussions (FGDs). The interview checklist covered issues such as changes in the livelihood asset portfolio, agricultural practices, marketing processes and institutional innovations besides impact of globalisation and the panchayat level decentralised planning process. Altogether, we conducted 48 interviews and 8 FGDs. Qualitative methods of data collection included ethnographic methods like life history, direct observation and triangulation of data. The research team stayed in the study area throughout the period of the survey.

IV. The Present Livelihood Outcomes

The present livelihood pattern in Cherumad had evolved over a long period of time as evident from the analysis presented in Appendix 2. In this section, we take up a detailed analysis of the present livelihood dynamics in Cherumad since 1999-2000. This phase is very significant as it has witnessed an unprecedented level and type of livelihood risks,

vulnerabilities and coping strategies. The analysis of the present livelihood dynamics is done under three Sections. First, we analyse the present livelihood outcomes of the various socio-economic and occupational groups of households in Cherumad in terms of household income and its association with their asset levels. In Section VI, we examine the specific livelihood risks of this period and in Section VII, the coping strategies evolved at Cherumad during this period are examined.

The livelihood outcome could be measured in terms of consumption achieved or income received (Ellis, 2000). On account of getting accurate data on income, consumption data is often taken as its proxy (Ravallion, 1988). The mean per capita household consumption expenditure (MPCE) may be taken as an approximate indicator of livelihood outcome. As per the NSSO estimate of poverty line for the states in India for the year 1999-2000, the rural poverty line for Kerala is fixed at Rs 374.79 (and the urban poverty line at Rs 477.06). This amount was adjusted on the basis of consumer price index for Wayanad district for 2004 and the adjusted figure comes to nearly Rs 500. Therefore, the upper limit of the poorest class was fixed at Rs 500. The division of households applying this criterion in the study area by occupation and community is given in Tables 1 and 2.

It is found that twenty-two percent of the households in Cherumad are poor. However, the proportion of the poor among agricultural labour households in the study area is more than double this figure (45 %), followed by non-agricultural labour (42 %). Both together add up to 94% of the poor. Also, it is important to note that more than 70 % of the poor belong to the Paniyar community (see Table 2).

Table 1: Distribution of Households by MPCE and Occupation Groups

Occupation	MPCE groups						
	0-500	501-1000	1001-1500	1501-2000	2001-2500	2501& above	All
Farming	4(2)	33(19)	53(30)	40(23)	32(18)	15(8)	177(100)
Agricultural labour	83(45)	64(34)	16(9)	23(12)	0(0)	0(0)	186(100)
Non-Agricultural labour	11(42)	10(38)	5(20)	0(0)	0(0)	0(0)	26(100)
Regular salaried & wage paid employment	0(0)	4(10)	4(10)	9(23)	4(10)	18(47)	39(100)
Trade transport , commerce	2(12)	2(12)	5(29)	3(18)	3(18)	2(12)	17(100)
Total	100(22)	113(25)	83(19)	75(17)	39(9)	35(8)	445(100)

Note: figures in parentheses are percentages to row totals

Table 2: Distribution of Households by Monthly per Capita Expenditure and Communities

Community	Monthly Per capita Expenditure(Rs/-)						
	0-500	501-1000	1001-1500	1501-2000	2001-2500	2501 & above	All
Paniyar	72(70.6)	25(24.5)	5(4.9)	0(0.0)	0(0.0)	0(0.0)	102(100.0)
Kurumar	5(45.5)	6(54.6)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	11(100.0)
Pathiyar	5(50.0)	0(0.0)	5(50.0)	0(0.0)	0(0.0)	0(0.0)	10(100.0)
Chetti	0(0.0)	16(21.3)	24(32.0)	19(25.3)	0(0.0)	17(22.7)	75(100.0)
Ezhava	7(7.0)	31(31.0)	20(20.0)	16(16.0)	22(22.0)	4(4.0)	100(100.0)
Christian	6(9.7)	13(21.0)	11(17.7)	23(37.1)	5(8.1)	5(8.1)	62(100.0)
Muslims	5(17.9)	0(0.0)	9(32.1)	10(35.7)	0(0.0)	4(14.3)	28(100.0)
Nair	0(0.0)	7(28.0)	5(20.0)	6(24.0)	7(28.0)	0(0.0)	25(100.0)
Others	0(0.0)	16(50.0)	5(15.6)	2(6.2)	5(15.6)	4(12.5)	32(100.0)
Total	100(22.5)	113(25.4)	83(18.7)	75(16.8)	39(8.8)	35(7.9)	445(100.0)

Note: figures in parentheses are percentages of row total

Table 3: Distribution of Land Possessed by Households across MPCE Groups

MPCE groups/ Size of holding (cents)	Number and percent of households						
	0-10	11 -50	51 -100	101-200	201-300	301& above	All
0 - 500	57(57.0)	23(23.0)	15(15.0)	5(5.0)	--	--	100(100.0)
501 - 1000	28(24.8)	22(19.5)	31(27.4)	22(19.5)	5(4.4)	5(4.4)	113(100.0)
1001 - 1500	5(6.0)	6(7.2)	15(18.1)	7(8.4)	16(19.3)	34(41.0)	83(100.0)
1501 - 2000	5(6.7)	12(16.0)	7(9.3)	20(26.7)	16(21.3)	15(20.0)	75(100.0)
2001 - 2500	--	--	--	25(64.1)	--	14(35.9)	39(100.0)
2501 & above	--	6(17.1)	4(11.4)	4(11.4)	11(31.4)	10(28.6)	35(100.0)
All	95(21.3)	69(15.5)	72(16.2)	83(18.7)	48(10.8)	78(17.5)	445(100.0)

Note: figures in parentheses indicate percentages to row totals

The crucial relationship of land and livelihood is clear from Table 3. Eighty percent of the poor households possess below 50 cents of land. Of them, fifty-seven percent fall within 0-10 cents category. On the other hand, 60% of the households belonging to the highest MPCE group have landholdings above 2 acres in size.

Education and Livelihood Outcome

Positive relationship between education and livelihood outcome is clear from Table. 4

Whereas the illiterate and the less educated are concentrated in the lowest MPCE groups, the highly educated get concentrated in the higher MPCE groups. More than three quarters of the illiterates in the study area, (more than half having no schooling at all) and around 60% of persons with below primary school level of education belong to MPCE groups of less than Rs 1000. Conversely, about 84% of graduates and 70% of persons with higher secondary level of education are in the top three MPCE groups.

The poor households own not even a single pucca house and around half of them do not have any sanitation facility. Own drinking water sources are found, in general, to be low in the study area. Only 34% of the households had own drinking water sources. Even among them the lowest two MPCE groups fall distinctly far below the average. Though the house electrification was extended at Cherumad by the Kudil Jyothi scheme implemented by the panchayat, 64 % of the poor do not have access to electricity.

Table 4: Distribution of Adults (above 18 years) by MPCE Group and Education

Education	Monthly per Capita Expenditure (Rs/-)						
	0-500	501-1000	1001-1500	1501-2000	2001-2500	2501 &above	Total
Illiterate	146(54.1)	60(22.2)	29(10.7)	22(8.1)	0(0.0)	13(4.8)	1270(100.0)
Literate without schooling	21(22.3)	33(35.1)	11(11.7)	22(23.4)	8(8.5)	0(0.0)	94(100.0)
Below primary	55(28.6)	56(29.2)	38(19.8)	17(8.9)	5(2.6)	21(10.9)	192(100.0)
Primary	49(22.6)	84(38.7)	26(12.0)	31(14.3)	22(10.1)	5(2.3)	217(100.0)
Middle school	54(14.4)	87(23.3)	104(27.8)	73(19.5)	13(3.5)	43(11.5)	374(100.0)
Secondary	5(2.3)	29(13.2)	71(32.3)	51(23.2)	58(26.4)	6(2.7)	220(100.0)
Higher Secondary	5(4.5)	12(10.7)	15(13.4)	37(33.0)	25(22.3)	18(16.1)	112(100.0)
Graduate and above	5(10.2)	3(6.1)	0(0.0)	21(42.9)	10(20.4)	10(20.4)	49(100.0)
Total	339(22.2)	364(23.8)	294(19.2)	274(17.9)	141(9.2)	116(7.6)	1528(100.0)

Note: Figures in parentheses are percentages to row totals

Physical Assets and Livelihood

Table 5: Physical Assets Across MPCE Groups

MPCE groups	Physical assets (Number of houses)			
	Pucca	Sanitation Facilities	Own drinking water sources	Electrified
0-500	0(0.00)	55(55.00)	16(16.00)	36(36.00)
501-1000	18(15.93)	67(59.29)	29(25.66)	40(35.40)
1001-1500	41(49.40)	63(75.90)	43(51.80)	57(68.67)
1501-2000	40(53.33)	62(82.67)	22(29.33)	60(80.00)
2001-2500	24(61.54)	34(87.18)	22(56.40)	39(100.00)
2501 & above	31(88.57)	35(100.00)	21(60.00)	31(88.57)
All	153(37.38)	316(71.01)	152(34.16)	262(58.88)

Note: Figures in parentheses are percentages to the total households in the respective MPCE groups.

Social Assets and Livelihood

Membership in social organisations and networks could become a source of power in getting access to resources or developing the existing capabilities. Table 6 captures participation in any of the social organisations by household members in the study area such as SHGs, co-operatives, tribal associations, religious organisations, sports and arts clubs, political organisations, farmer organisations and trade unions

Per household organisational participation has moved sympathetically with MPCE groups. This, in turn, indicates that the social assets of households tends to improve with improvements in livelihood outcomes

Table 6: Social Asset across MPCE Groups

MPCE groups	Total number of participations in organisations	Number of participations in organisations per Household
0-500	111	1.1
501-1000	208	1.8
1001-1500	239	2.7
1501-2000	158	2.3
2001-2500	108	2.8
2501 & above	131	3.8
All	955	2.2

The analysis so far points to a possible positive association between asset holdings of the households and livelihood outcomes. As the stock of assets declines or deteriorates, or the flow of benefits from the given asset stock declines, livelihoods become vulnerable. Such instances of risks, as was mentioned earlier have severely hit almost all categories of households in Cherumad. For unravelling these risks, extending the analysis from the micro to the macro level linkages is necessary. Some of these linkages are market-related; some are institutional; and others are environmental. As the livelihoods of more than eighty percent of the Cherumad population are centred on agriculture either as farmers or as agricultural labourers, the present analysis of risks and vulnerabilities is confined to these two types of households.

V. Livelihood Risks and Vulnerabilities

V.1. Livelihood Risks and Vulnerabilities of Farming Households

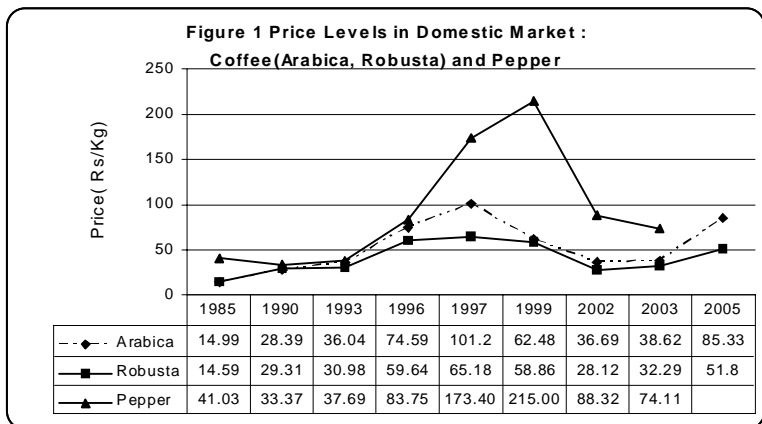
a) Price crash of agricultural commodities

Prices of almost all agricultural commodities and of cash crops in particular, produced by the farming community in the village plummeted from their peak levels reached in the last quarter of the 1990s. The

magnitude of this crash becomes clearer when the post-crash situation is compared with the pre-crash scenario. In Cherumad as well as in the state as a whole, the first three quarters of 1990s marked the start of buoyancy in the agricultural economy with a fairly high growth rate of production and attractive prices. Prices of almost all agricultural commodities started picking up and reached their peak levels around 1997-98 and thereafter came the steep fall. Price fluctuations of cash crops were not a new experience to farmers. It was a part of their daily lives. Usually, prices of some products rose and some others fell and hence the net effect remained small.

But this time, they had the unprecedented experience of prices plummeting simultaneously of most of the commodities, especially of coffee and pepper (see Figure 1).

The fall in prices of both the commodities since 1997/98 was quite drastic. In order to understand the causes of such unusual rise and fall of these prices, international movements in their prices have to be appreciated as their domestic and international. prices move sympathetically (George et al., 1989). Though India is the largest producer of pepper in the world, it has strong competitors. Indonesia, and more recently Vietnam, with its dramatic increase in productivity,



give rise to intensification of the competition. The spurt in prices during 1997-99 and the fall since 2001 are attributed respectively to the decline and revival of pepper production in Brazil and Indonesia.

Coffee is more export-dependent than pepper. India's production is only 4% of world production and its exports also constitute about 4% of world exports. Domestic consumption of coffee is very low. It is observed that coffee prices remain supply-dependent. Once total production exceeds 6 million tonnes, often world prices start falling (Joy, 2002). The production by the coffee-giant Brazil is a crucial determinant of international prices. The spurt in coffee price in 1997-98 corresponded to the drastic fall in production of coffee in Brazil from 27.6 million bags to 22.7 million bags. Again, the price fall in 1998-99 corresponded to the increase in Brazilian production from 22.7 million bags to 36.6 million bags.

The price fall affected the farmers of Wayanad more adversely because they cultivate the Robusta variety of coffee. Wayanad produces about 80 % of coffee produced in the state as a whole. Wayanad concentrates on the Robusta variety though it is Arabica coffee that commands a higher price in the international market. The Arabica variety is not suitable to the climatic conditions of Wayanad (see Table 7).

Table 7: Area and Production of Coffee in Wayanad and Kerala (2000-01)

Place	Type of Coffee		
	Arabica	Robusta	Total
<i>Area (ha)</i>			
Wayanad	184(4.42)	67376(83.62)	67560(79.73)
Kerala	4159	80576	84735
<i>Production (tonnes)</i>			
Wayanad	100(5.71)	51200(81.66)	51300(79.60)
Kerala	1750	62700	64450

Note: figures in parentheses are share of the district

Source: Coffee Board

The other two crops in which farmers of Cherumad pin their hopes are ginger and arecanut. Ginger price is inherently volatile. Farmers in Cherumad pronounce that ginger price is so uncertain that it is similar to a lottery. From a meagre Rs 350 per 60 kg bag in 1997, the price of vegetable ginger rose to more than Rs 2000 in 1998. It came down to Rs 600 by 1999/2000. Not only supply factors, but price expectations of farmers also influence ginger production and ginger price. It is a short-duration crop. Farmers pin their hopes on bumper prices and record production is the outcome. The popular cob-web theorem that explains price cycles of agricultural products is relevant here, because the quantity of ginger produced depends on the price anticipated by farmers at the time of sowing. The supply at the time of sale determines the actual market price. Formation of rational expectations are limited by lack of information about the supply conditions elsewhere in the world, especially in the North-Eastern states like Assam where ginger is cultivated on an extensive scale. Areca nut, also faced a steep fall in price from Rs 104 per kg in 1999 to Rs 35 per kg in 2002.

Apart from excess production, another factor that led to the price crash is reportedly the cheap imports of agricultural products to India for the purpose of re-exports under the liberalised provisions of imports. The free trade agreements of India such as Indo-Sri Lankan Free Trade Agreement and the obligatory import of 3% of domestic production under the Agreement on Agriculture² are institutional arrangements though good in principle are misused by traders in the case of commodities like tea, coffee, and pepper. It is learnt that low quality products are imported

2. In 1998, India and Sri Lanka entered into a Free Trade Agreement (FTA) as part of regional trade integration through complete or phased elimination of tariffs within a three year time frame. Accordingly India was to give duty-free access to all imports of Sri Lankan tea, textiles and items which were included in India's negative list. Rules of origin (ROO) criteria were reduced to a level of 35%. That is, a product with a minimum domestic value addition of 25% and an aggregate value addition of not less than 35% of f.o.b. value, would become eligible for free imports. Since the year 2001, the number of items with zero duty from Sri Lanka has reached 4150.

under the pretext of re-export and with very little, or even without any value addition, they are re-exported and sold in Indian markets To quote: "It is reported that low quality materials (tea for instance) are imported from competing countries and re-exported with nominal value addition to our traditional market, by making use of loophole in the law that does not stipulate that any minimum addition of value should be provided to prevent the misuse / abuse of the provision of allowing imports of agricultural commodities for re-export in order to earn foreign exchange through value addition" (GOK, 2003: 75). Allegedly, the lack of monitoring of root of origin (ROO) in the India-Lankan trade gives rise to dumping of goods from other low-cost producing countries in the Indian market via Sri Lanka. Spices import, that remained quite nominal prior to 1990s increased enormously in recent years. A similar trend was also noted in the case of coffee and tea as well.

b) Decline in Agricultural Productivity

Increase in productivity helps farmers to compensate for decline in prices. Unfortunately, in the study area, farmers had to bear the brunt of a simultaneous decline in productivity as well as price. It is true that the agricultural stagnation of the 1970s was followed by a notable recovery in agricultural production during the 1980s and the 1990s with a compound annual growth rate of 2.83% (GOK, 2003). However, from the last quarter of the 1990s coffee and pepper farmers in the village faced an unprecedented decline in yield levels. Though pepper productivity in Wayanad is generally much higher than the state average (400 kg / ha vs. 240 kg) farmers report that the present yield is far below as expected.

In the case of coffee, the all-India experience is an increasing trend in productivity. But the present experience in Wayanad is a declining trend. The productivity of Robusta increased from 136 kg/ha in 1950/51 to 1175 kg/ha by 2000/01. However, at present in most of the coffee gardens in the study area the yield is lower than 1000 kg/ha. The thumb

rule of ginger productivity is believed to be seed/output ratio of 1: 40. However, since the late 1990s ginger productivity has just halved to seed/output ratio of 1: 20. Several reasons are attributed for the decline in yield. Pests and diseases affecting the plants and environmental problems are reportedly the most important ones.

Pests and Diseases

Farmers have reported that incidence of pests and diseases has increased in recent years. A big problem faced by pepper growers is the fast spread of the 'quick-wilt (phytophthora foot rot) disease. It was first observed in the pepper monocrop gardens in Pulppally and later in other parts in Wayanad. This disease devastated several pepper gardens in the village. In coffee gardens the attack of mealy bugs that destroy the tender branches, nodes, leaves, spikes, berries and roots is on the increase. Coffee-berry borers that bore into berries and make tunnels in the beans are also reported to be widespread. Fungal diseases affecting the ginger crop is a serious risk factor. Some of the farmers were forced to harvest ginger pre-maturely due to the fungal attack. One of the farmers who spent Rs 40,000 for planting ginger this year had to resort to premature harvesting, incurring a loss of Rs 24,000.

Environmental Factors

The major advantages that Wayanad enjoys in pepper and coffee cultivation are its rainfall characteristics and soil quality. *Thriuvathira njattuvella*, the uninterrupted and prolonged monsoon rains, is acclaimed as the unique strength of pepper cultivation in Wayanad. Farmers reminded us of the reported comment of a late Samoothiri of Calicut when he was cautioned about European merchants' attempt to transport pepper vines from here that they can take only the vines with them, but not *thriuvathira njattuvella*.

The agro climatic conditions of Wayanad which ensured fair distribution of rain for about 10 months in a year were conducive to

Robusta coffee cultivation. The Robusta beans of Wayanad are bold, are known to have high out-turns, cup quality and aroma. For coffee, the spread of rain is very crucial. Summer showers during February - March serve as the blossom showers critical for the blossoming of coffee plants. Such a rainfall pattern, nonetheless, is suspected to have become a phenomenon of the past. Wayanad district, characterised by annual rainfall of 2000 mm plus, has experienced considerable reduction in rainfall from about 1700 mm in 1998 to 1200 mm in 2002.

The soil of Wayanad had been very fertile and its organic carbon content was pretty high. However, intensive cultivation with over- use of fertiliser and pesticides has led to decline of soil fertility. This has contributed to productivity decline. In the case of ginger, farmers appear to be caught up in a situation of intensification of crop diseases which leads to more intensive application of pesticides. Farmers blame the government for the problem of excessive use of fertiliser on the ground and say that it was the krishibhavan officers and banks that forced them to use more fertiliser for boosting production which has led to the present imbroglio.

c) Declining Value of Farm Land

Land which constitutes the chief means of production in farming and is the most popular collateral for availing institutional credit³, has significantly lost in value during this period. The value of dry land has more than halved since 2000 (on an average, the value of one cent of dry land declined from Rs 6500 to about Rs 3000). Only wetland could retain its value, without great damage, thanks to the increasing demand for house sites from the poor (the present average value of cent is Rs 1100 as against around Rs1300). We shall see presently that even when the value of land is falling, some households are forced to sell off land to escape from vulnerability.

3. Land documents of 346 households (77.6 % of total households) in Cherumad are kept in banks as collateral for loans taken,

d) Decline in Support for Agriculture from the State

Support from government is a sure means for farmers to overcome vulnerability. However, the experience at Cherumad reveals that during the trying times for farmers, even the modest state support to agriculture has declined or dissipated with the new economic policies of the central government. The pace of such decline has been substantial since the second half of the 1990s. It was reported that till the end of the first half of the 1990s around Rs 30 lakh to Rs 50 lakh used to be annually disbursed under various schemes of the central and the state governments through the Nenmeni krishibhavan. The amount has been cut down to Rs10 to 15 lakhs since the year 2000. To cite an example: the central assistance for pepper cultivation, has significantly declined; in 1996 a subsidy of Rs 1200/ha was given for 60 hectares in Nenmeni; in 1997 subsidy became Rs 300/ha for 12 hectares; and it was further reduced to Rs 200/ha for 15 hectares in 1998. Since 2000, the assistance became quite nominal - Rs 5 per pepper vine for 1400 vines in the panchayat. The secretary of the Pepper samithi in Cherumad told us that after 2000, agricultural benefits like subsidised fertilisers and seedlings supplied by the krishibhavan through the samithis have almost entirely dried up. In the preceding year, only 10 members in their samithi which has around 400 pepper growers received any subsidy. The reduction in agricultural assistance is an aftermath of the economic reform strategy of cutting down government expenditure.

V.2 Risks and Vulnerabilities of Agricultural Labour Households

Risks to the farming sector certainly affects the agricultural workers. We have seen that Paniyars constitute the chunk of the agricultural labour force in Cherumad. Therefore, the present analysis is centred around them. Two of the most severe types of risks that have affected agricultural labour households recently are fall in employment opportunities and fall in wage incomes. Interestingly, both these are direct

consequences of the coping strategies undertaken by farming households (see Section VII.3).

a) Reduction in Labour Days

In the past, Paniyars used to get employment for at least 8 months a year. Paddy planting, weeding, harvesting, coffee picking, pepper plucking, and ginger cultivation were the main agricultural works available. Of these, works related to paddy and coffee picking were mostly done by female agricultural workers. Large scale conversion from paddy to other crops in the 1990s was a severe blow to Paniyar labourers whose expertise had been in rice cultivation since time immemorial. Besides, the increasing use of tractors has taken away much of the employment opportunities of ploughmen. The coffee estate in the ward, Vedankod estate, had been another source of employment where Paniyar women in the nearby settlements used to be employed seasonally for coffee-picking. Even there, employment opportunity has fallen from four weeks a year to two weeks. The severity of the present unemployment and underemployment situation would be clear from Table 8.

Table 8: Distribution of Days of Employment of Agricultural Labour households during the past 30 days, by community

Community	Number of days of employment of households					
	0	1-7	8-15	16-20	21 & above	Total number of households
Paniyar	5	36	21	15	20	97
Kurumar			6			6
Pathiyar			5			5
Chetty				8	10	18
Ezhava		5	6	2	6	19
Christian		11	5		10	26
Muslim					6	6
Others					10	10
Total	5	52	43	25	62	187

Around 50 % of the agricultural labour households of Cherumad and 62 % of Paniyar households of Cherumad remained unemployed for half of the survey month.

b) Reduction in Wage Rates

The strategy of reducing the wage rates of agricultural workers is reportedly found mostly in this part of Wayanad. Wage rates of male agricultural workers decreased from Rs.125 received in the late 1990s to Rs.80; for females wages fell from Rs 80 to Rs.50 by 2004.

Agricultural labourers, Paniyars being the most numerous among them, who have no strong trade unions, are helpless to bargain for wages. To quote a Paniyar worker in the Kazhambu settlement:

"...They had not told us anything about the reduction in our wage rate when we went for work ...at the end of the day they contacted other muthalalis (landlords) and gave us a lower wage telling that prices had come down for pepper and coffee....so they said they cannot give the same amount as wages.....They also added that if only we were prepared to work for this amount, we need come the following day ...otherwise we would be replaced by others. There were a lot of people prepared to work for even a lower wage... We didn't say anything in reply. If we oppose they are sure to employ some others."

Many informants told us that INFAM, a farmers organisation, recently came up in the state had played a role in the reduction of agricultural wage rate in the area, though farmers denied this allegation outright. It is reported that it was the propaganda against the worker militancy that resulted ultimately in the reduction of wage rates. There was no concerted effort on the part of labourers to oppose the move.

VI. Coping and Adaptive Strategies

VI.1. Coping and Adaptive Strategies of Farming Households

i) Reduction in household consumption expenditure

One of the coping strategies commonly employed by the farmers (especially small and medium farmers) in times of livelihood crisis in the study area has been to tighten the belt.

Now, under the condition of distress, frequency of meat consumption in many households is cut down from two times a week to two or three times a month and of fish consumption from daily to once or twice a week. In the use of cooking fuel there is a marked shift to firewood from LPG. Even those who have LPG connections use gas sparingly. The practice of family members eating out in town restaurants has almost disappeared. The same is the case with travelling to town or visiting relatives' homes. The routine of going to Batheri town almost every evening is now drastically trimmed down. Now-a-days, the only entertainment for the people in Cherumad is watching TV and that too only on Sundays; they seldom go to cinema theatres. The externality of travel cuts by Cherumad area people has been the fall in the revenue of the Sreesabari bus service that plies between Cherumad and Batheri. Before the year 2000, its daily collection was around Rs 3500 and the number of travellers was on an average 1500, whereas now the collection is much smaller in spite of the hike in fare from Rs 3 to Rs 3.50.

Educational expense would be the last item to receive the axe in Kerala households. Our study area too revealed no exception to this rule. However, nearly 80% of the children study in government or government-aided schools. Students going to unaided self-financing schools are below 20 % (see Table 9).

Prior to 2000 the number of students attending unaided English medium schools was larger. Cutting down private tuition and shifting children from unaided to aided schools are the two strategies adopted in

a few small and medium farmer households. About twenty such instances were reported in the village.

Table 9: Types of educational institution attended (percentage)

Type of educational institution	ST community			All communities		
	Male	Female	Combined	Male	Female	combined
Government	50.0	50.0	50.0	49.8	53.8	51.8
Aided	50.0	40.0	45.0	26.1	27.2	26.6
Unaided	--	10.0	5.0	20.7	10.8	15.8
Others	-		--	3.4	8.2	5.8
All	100.0	100.0	100.0	100.0	100.0	100.0

ii) Reduction in hired labour, wages, and the use of agricultural inputs and increase in family labour

Not only the consumption expenditure but also production expenditure has been curtailed by almost all farmers. The major items of cut were hired labour, wage for hired labour, fertilizers and pesticides, improvement of land, and replanting. Twenty five households stopped in 2000 their practice of keeping permanent labourers. Forty one households reduced the number of part-time workers employed to nearly one-fourth (except in the case of rice cultivation). Meanwhile, the family labour input has increased several-fold. In most of the farming households, women get involved, much more than in the past in agriculture as helpers in agricultural operations⁴. The work load of women, who spend nearly 4 hours a day for domestic work, has doubled (Table 10). The average time spent by men to assist in daily domestic work is less than an hour.

4. Nearly 40 % of women are in the workforce and around half of them are engaged in agriculture as helpers.

Table 10: Daily hours of domestic work of working persons (in %)

Hours of work	Male	Female
0	74	10
1 to 2	19	12
3 to 6	5	67
Above 6	2	11
All	100	100
Average hours of daily domestic work	0.65	4.08

In order to reduce expenditure, farmers also have reduced maintenance works in garden lands, particularly, weeding, and pruning in coffee plantations. In several gardens over-aged coffee plants are not replanted owing to lack of funds. As a consequence, productivity levels have plummeted in these coffee gardens. Wage reduction was also a strategy as explained in Section IV.2.2.

iii) Distress sale of assets

To cope up with the fall in incomes, some households have sold off assets. One such asset is land. We have already seen that land value has come down in the study area. Usually farmers make use of such an opportunity to purchase land. Surprisingly, this time more sales than purchases of land have taken place here (Table 11). Since 2000, nineteen sales took place while the number of purchases was only seven.

In Cherumad 14 new jeeps had been purchased during the 1990s. A jeep had become a status symbol of the rich. However, eleven of them have been sold off during 2000. A distress sale dimension in ginger cultivation too was manifest in this period. One advantage of vegetable ginger cultivation is that it can be harvested at any time and sold. However prematurely harvested ginger fetches a lower price. There were instances in the village of such distress sales for meeting household expenditure.

Table 11: Land transactions among households during the past 25 years

Period (years)	Land purchases (in cents)			Land disposals (in cents)			Net transactions(area)
	No of buyers	Total area	Average area	No of sellers	Total area	Average area	
1971-1975	45	5279	116	10	1624	160	3655
1976-1980	29	9181	320	27	3672	135	5509
1981-1985	63	4795	76	30	2864	96	1931
1986-1990	77	5279	68	38	2494	65	2785
1991-1995	58	2231	39	23	1820	81	411
1996-2000	47	2365	50	38	3018	79	-653
After 2000	7	185	26	19	844	44	-659

iv). Borrowings, renewal of existing loans and gold mortgage

The increase in the incidence of borrowings, especially gold loans, is shown in Table 12.

Table 12: Distribution of households with loan outstanding according to year of loan obtained and source

Source of agency	Year of loan obtained		
	Before 1995	1995 to 2000	After 2000
Scheduled banks	41	69	99
Cooperative banks	14	65	44
Govt. financial institutions	--	13	18
From friends & relatives	--	42	41
Chitties/Kurries	--	--	9
Gold loan	15	21	154
Other agencies	5	--	80
Total	75	210	445

After 2000, the number of indebted households has more than doubled. One major reason for the increase has been the strategy of renewing bad debts through book adjustment in banks. Banks and farmers have taken a mutually cooperative strategy of banks renewing loans on payment of due interest by clients. Then the old loans were converted to fresh loans.

The risk reduction strategy underlying recent borrowings is clear from the purposes for which the loans were obtained (Table 13). On an average, more than 60% of the loans were for consumption purposes. In the case of gold loans taken since 2000, the proportion taken for consumption purposes was even higher, about 70%.

v) Koodippani

Besides the household-level strategies, a few group-level initiatives had also emerged in the study area. One such was mutual farming practice

(koodippani). Among Chetty households, a traditional practice existed of helping each other in rice cultivation. Now-a-days such sharing of agricultural labour has emerged, though on a modest scale, even in other land-based agricultural work like tilling. A new farmers' organisation called INFAM that came up in the state in 2001 has a branch at Cherumad. Under its initiative five self-help groups of men have come up in the village. They too have begun this practice of koodippani in order to reduce hired labour input.

Table 13: Purposes for which Loans were Taken

Purpose	Percentage of number of loans				
	Scheduled bank	Cooperative bank	Govt institutions	Gold loan	Mean
Production	48.7	37.0	5.4	27.1	29.6
Production assets	4.5	4.6	5.4	2.6	4.3
Purchase land	2.3	8.7	0	0	2.8
Non-production	6.4	20.5	0	14.5	10.4
House construction/repair	24.5	16.4	61.2	17.6	29.9
Education	0	0	0	3	0.8
Medical treatment	2.3	4.6	0	15.3	5.6
Marriage	5.4	3.9	5.6	3.2	4.5
Repay existing loan	3.2	4.3	0	6.1	3.4
Others	2.7	0	22.4	10.6	8.9
Total	100.0	100.0	100.0	100.0	100.0

Adaptive Strategies

Apart from strategies to reduce risk and vulnerability, certain measures were also observed to be taken by the farming households, organisations and by the state to enhance their asset portfolios.

i. Diversification of Employment

A commonly employed strategy of farming households to tide over shocks and vulnerabilities is to construct a diverse portfolio of activities and capabilities to survive or to improve the standard of living (see also Bhaduri, 1989; Morrison, 1980).

In Cherumad, farming households now give more attention to dairying. Procurement of milk has registered sustained increase in all the four milk collection centres. For example, at the Thavani collection centre, four cans of milk are procured in the place of two cans earlier. At the Cherumad school collection centre, an increase in collection of fifty litres per day is registered. One important point to be noted is that the increase in milk procurement is due mostly to the increase in productivity contributed more by better feeding than by increase in the cattle population.

ii. Crop Diversification

A general strategy of farmers to accommodate risks and uncertainties in the prices and yields of individual - single - crop is diversification of crops. In Cherumad, diversification of crops is not a new phenomenon. The long tradition of cash crop cultivation combined with the experience of price fluctuations in them has made diversification a normal rule in the place. Coffee-pepper inter-cropping on land and rice-banana-areca nut-ginger inter-cropping in paddy fields is a common practice. However, with the recent price crash, farmers have taken a few new moves in diversification:

- Expansion of ginger inter-cropping in garden lands
- Extension of cultivation of food crops such as tapioca and yam
- Introduction of new crops like Vanilla

Successful diversification, nonetheless, depends on several factors. Availability of land, financial assets, knowledge about new crops and

markets etc. are crucial. The following two case studies would illustrate the process of crop diversification.

K.C. Pathrose is a large farmer having 5 acres of garden land and 2 acres of wet land. When the price of coffee fell in the 1980s, he cut down all coffee plants that were raised as an inter-crop along with pepper, and allowed pepper to continue as a mono-crop. Understanding the bright prospects of rubber, he planted rubber in 1984. At present, he inter-cultivates almost all major crops. In his paddy field, apart from rice, he cultivates banana, ginger and yam. In his garden land, he cultivates coconut, rubber, areca nut, pepper, and coffee. Vanilla cultivation has also been started. Cattle-rearing too is undertaken. With such a diversified cropping pattern, he is well-equipped to tide over the present shock without any major strain.

In the other case, Mohanan, a large farmer, has intensified mixed cropping. In the wake of the present crisis, he is planning to diversify further to rubber; and that too to be cultivated as mixed crop to be planted along the boundary of his crop garden. Though he knows that the Rubber Board may not give subsidies for such mixed cropping, he feels confident that once the trees grow, he would be able to influence the Board to take a decision favourable to him.

iii) Land Leasing

Land leasing existed in the area during the 1980s. But it became popular only recently. Leasing-in land is done mostly for ginger cultivation, followed by rice and banana cultivation. The leasing-in strategy is employed by small, medium, and large farmers in addition to the large farmers. The poorest households, however, have not been able to resort to this strategy in any significant measure. (Table 14).

Table 14: Number and Percent of Households which Leased in Land by MPCE Groups

MPCE groups	No. of households	Percent to respective MPCE group
0-500	5	5
501-1000	35	31
1001-1500	33	40
1501-2000	12	16
2001-2500	17	44
2501&above	19	54
Total	122	27

Whereas only 5% of the poorest households could lease-in land, more than 50 % of the financially better of households employed this strategy. These better off households leased-in land specifically for commercial cultivation of ginger in relatively large holdings. The distribution of leased-in holdings shows that some of the plots were more than 3 acres in size (Table 15).

The terms of lease indicate that the strategy of leasing-in was mainly a mechanism to share the risk. Nearly half the leasing-in cases were of share-cropping. Only a few commercial ventures were on the basis of fixed rent. Instances of free supply of land to relatives, friends or attached workers for seasonal cultivation were not uncommon.

Table 15: Distribution of leased in land according to no. of holdings and average area

Size of holding (cents)	No of holdings	Average area (in cents)
0 to 10	15	9
11 - 50	36	37
51 - 100	44	88
101 - 200	13	167
201 - 300	5	300
301 & above	10	400
Total	123	105

iv) Increased interest in SHG activities

Women, especially of middle income group, have shown increased interest in joining SHGs and to take part in income generation activities. There are 20 SHGs in this village (of which 5 are exclusively for ST women) whose total membership is 261. Of this, 141 are agricultural labourers and 103 are self-employed workers in agriculture. Most of these SHGs (except the five SHGs belonging exclusively for the ST population which remain rather inactive) undertake different types of asset and income-generation activities at the individual level as well as at the group level. Through micro credit schemes, bank loans and grants, some of these women purchased cattle, sewing machines, etc. for self-employment. Group activities such as medicinal oil preparation, pickle-making, note-book-making, umbrella-making, soap-making, and ginger cultivation have been found to supplement household incomes of these women.

All these SHGs receive grants and credit facilities through Kudumbasree, the governmental organisation that coordinates the panchayat level SHGs in the state. In addition, Sreyas, a voluntary organisation based at Batheri also supports three of these SHGs.

VII.2. Coping and Adaptive Strategies of Agricultural Labour Households

Unlike the farming households, options of coping and mitigation (adaptive) strategies of Paniyars were quite limited. Apart from reduction in consumption expenditure another coping strategy pursued by them was the regular collection of free rice supplied by the state through the Tribal Development Office (prior to this crisis, there were not many takers for the free rice supplied).

Adaptive measures, though sparse, have been taken by the relatively fortunate lot among them who have access to some sort of semi-permanent work in a few farmer households. A few such Paniyars are

allowed by their "masters" to cultivate freely crops like yam and tapioca on small plots of land. Still a few have leased-in land from their "masters" to do ginger or rice cultivation (the case of Chatayan is illustrative).

Chatayan is a 'regular' wage labourer in Thavani colony, attached to a nearby Chetty household, to undertake regular and seasonal agricultural work. Besides his regular work in the household he has leased-in a few cents of wetland for doing ginger cultivation on a share cropping basis. The landowner supplied the seeds and fertilizers. Labour input is supplied solely by the family labour of Chatayan with his wife. He finds time for own cultivation in the early mornings or evenings after the regular work for the Chetty households,

There is a personalised relationship between Chatayan and his "master", the Chetty landowner who considers Chatayan an honest person and has helped him financially on different occasions. He is allowed to cultivate Yam in the garden land of the Chetty household, free of cost. Now Chatayan is planning to ask for a paddy field for lease cultivation. Other farmers also prefer to employ Chatayan, as he is known as sincere and hardworking. He has been able to get a credit account in the nearby store which he has maintained for the last 15 years.

He came to stay in Thavani colony 15 years ago after his marriage. In his childhood days he had worked under the Valli system of labour. He used to assist his parents in the Chetty household of that area. He is among the first generation of labourers who liberated themselves from valli bondage and started working as an independent wage labour.

Though Chatayan is virtually a landless agricultural labourer and an illiterate person, he is not in a financially difficult position unlike his co-workers in the settlement. He is the only person in the Thavani colony who gets regular employment. He is able to maintain a minimum life standard of an agricultural worker with relative ease and comfort. His is a case that shows how social capital of trust and good relationships helps to foster livelihood.

However, the number of Paniyars who have leased-in land for cultivation and the extent of area leased-in are comparatively small (about 5 percent). Only those Paniyars who are locally known for their credibility and sincerity in work are found to be able to take land on lease.

Another adaptive strategy taken up by some of Paniyars is the involvement in the so called Muthanga struggle, namely the struggle under Ms C.S. Janu demanding land for the tribals from the state. The current state of livelihood risk has made almost all of them long for pieces of land to cultivate. The large turnout of Paniyars in the Muthanga agitation for securing Adivasi land is a pointer to this changing perspective. Many of the Paniyar youths were seen eagerly looking forward to the allotment of lands to them to cultivate by the state. To quote Gulikan, an under-employed Paniyar labourer in Kazhambu colony:

".....we don't have job. I got only four days work during the past two months...if they (farmers) are doing all their work themselves, how can we get work? I am not going in search of jobs anywhere...If they call I will go...otherwise I will sit quietly at home...how can we go in search of jobs?...everywhere people like us are thereWe don't have any land. All others cultivate ginger for making money...If we had some land we could also have cultivated ginger and earned money. Nobody is ready to give us land. Even if some of them decide to give us land how can we

purchase seed ginger? One-sack of seeds ginger costs much more than what we can afford... If I had that much money I would have brought rice and condiments to consume... it will be enough to purchase rice and other items for a longer period... if government decides to give us land we are ready to go anywhere to get it...we will not sell off lands any more."

Gulikan's is not a lone voice. Many other young Paniyar youths also express similar views. Many of them cherish dreams of their Promised Land.

VI.3 State Level Interventions

We have already observed that certain policies of the central government in the post economic reform phase have affected the distressed farmers adversely. Initiatives of State in reducing the risk of farming households were few. The Special Package Scheme introduced in response to the pressure exerted by the Coffee Small Growers' Association by the Chief Minister of Kerala in 2002 for rescuing the ailing farmers in the state deserves mention. As per this scheme, the coffee growers in the state having less than a hectare of land under coffee were given relief at the rate of Rs 500 per hectare. The scheme, nonetheless, has not enthused farmers because of the meagre amount of relief and the difficult procedures involved in availing the amount. The loan renewal programme carried out by a few banks could be seen a risk reduction strategy. The Coffee Board too came forward in 2002 and 2003 with a relief measure of subsidising the interest outstanding on farmers' loans issued by the Board.

During the period of our survey came another interesting policy innovation, namely, the removal of the prohibition on cutting down of trees in private lands. A few years ago, as per a High Court directive, the state government had issued a prohibitory order on tree- felling in

Wayanad district. Over the years several agitations by political parties and religious organisations had been waged for the withdrawal of the order, but to no avail. However, in the present context of increased risk to livelihood, the agitation grew stronger and more defiant. Finally the government revoked the order with the result that a process of tree-felling and sale of timber began.

Extension of the free supply of rice for the tribals during the two lean months a year to four months was another measure by the state. Even this initiative was taken by the state in 2002 as a result of public outcry following media reports about widespread starvation deaths in a nearby place called Ambukuthi. According to many Paniyars, this is the only mechanism that has prevented starvation deaths in almost all the settlements. The tribal department has appointed promoters from tribal communities as intermediaries to publicize details of the different programmes including the supply of free ration to the population.

It deserves to mention that of recent, the Central Government programme of rural employment guarantee scheme was introduced in Wayanad district, including our study area. Through this programme many Paniyars and other agricultural labourers have got nearly one hundred days of employment in the current fiscal year in various infrastructure development activities.

Interventions of Local Panchayat

Nenmeni Panchayat has been successful in implementing local level planning. It has undertaken several developmental programmes. However, it could not come up with any specific measures to reduce the recent risks faced by the farming community. The decentralised planning at panchayat level that began in 1996 is effectively being implemented since 1997-98. It has been providing relief and support to the village households. Under decentralised planning, several projects have been undertaken towards infrastructure development and household level

development of physical assets. The Table below lists the various projects implemented in the village during 1996-2001.

These developmental programmes have augmented the amount of physical assets of several households and led to the development of land and infrastructure. Without such asset enhancement, the present crisis might have worsened the impact on the poor households. Asset accumulation might have prevented such worsening of the crisis.

Table 16: Panchayat-level Developmental Programmes Implemented and Amounts Spent in Cherumad ward during 1995-2000

Schemes	Number	Amount spent (in '000 Rs)
House construction (general)	14	338.8
House roof construction	5	40.0
House construction (SC)	4	127.0
House construction (ST)	51	1691.0
Land development schemes	6	8.7
Cattle subsidy	8	39.0
Marriage assistance for widow's daughters	2	10.0
Insurance for landless agricultural labourers	7	21.5
Construction of drinking water wells	13	44.5
Toilet construction	15	32.0
Road development	13	2395.0
Check dam		24.5
Maintenance of ST houses,		
Anganvadies and school		58.0
Drinking water scheme		833.0
Extension of electric line		87.0
Total		5970.5

Source: Nenmeni Panchayat

Moreover, the development of human and social assets of the people rendered possible through grama sabha meetings and collective endeavours is also significant. Through these institutional innovations, people began observing and assessing local resources, understanding problems and threats, criticising corruption and demanding transparency in administration. More prominent is the woman empowerment made possible under the SHG programme associated with decentralisation.

VII. Conclusions

Risks as well as risk coping strategies are not uncommon in cash-crop dominated agrarian economies and the case of Cherumad is no exception. However, we have seen that the livelihood risks in Cherumad since the last quarter of the 1990s has been unique and unprecedented in their nature and intensity. It became an income risk to the farming community with the double effect of price risk and productivity risk of cash crops. For the agricultural labour households too it was an income risk with the double effect of wage risk and employment risk. These risks have resulted in a general fall in the living standards of the people in Cherumad. Our study, however, shows that another factor, namely, the pace of price movement in the product and labour markets was also an important factor to this livelihood vulnerability. Sudden boom in price of almost all crops and in wage and the consequent spurt in consumerism being followed by a drastic fall in these prices precipitated the crisis situation. The agrarian community of Cherumad tried to cope with this crisis and has also evolved certain innovative adaptive strategies like land leasing, koodippani etc.

The analysis of the livelihood dynamics in Cherumad provides certain valuable insights. It shows how institutions, market and assets interact in this dynamics. With improvement in livelihood assets livelihood outcome improves and vice versa. Institutions (for example, informal institutions like land leasing arrangements or formal institutions like banks, co-operatives and the panchayat) affect access to assets and

livelihood outcomes. Across socio-economic groups the analysis clearly reveals that the livelihood outcomes are determined by the portfolio of livelihood assets especially land. The scheduled tribes (mostly the Paniya's) who are the poorest in the study area have very little access to land and their access to other livelihood assets are also very low. Therefore any attempt to improve their livelihood should give top priority for improving their access to land through a programme of redistribution of land . This will have to be accompanied by other institutional interventions to change their welfare, especially to improve their human asset. Most of the interventions by the state in the past did not produce the deserved results.

We have seen from the analysis that the agrarian households in the study area has developed a number of coping and strategies in response to the distress. These strategies are meant to smooth consumption and income under conditions of distress, and rebuilding household livelihood on a sustainable basis would require active state intervention. The overall emphasis of such intervention should be in strengthening their livelihood assets. More specifically, the elements of such a strategy may consist of the following: (1) Measures to reduce instability in the prices of major cash crops by the Central Government; (2) Programmes to restore the ecology and environment by investment in integrated management of land and water; (3) Creation of farm and non-farm employment opportunities; (4) Debt relief measures; and (5) widening and improving the quality of support provided through welfare institutions. One could see, the components of these strategies in the revival package being implemented in the district by the Central and State Governments with the support of the Local Self Government . It is beyond the scope of this paper to comment on these programmes: but would like to emphasize that the scale of the Programme and the pure of implementation is not adequate to provide relief to the population.

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Appendix 1
Sampling method

Distribution of households according to occupation and of the Samples Surveyed

	Main occupation of household	No. of households	Sample
1	Farming	176	36
2	Trade, transport, commerce	17	10
3	Regular salaried & wage paid employment	39	9
4	Agricultural labour	187	39
5	Non-agricultural labour	26	5
	Total	445	99

Stratification of farming households

Size of holding(in cents)	Total households	Sample Selected
0 - 10	0	0
11 - 50	10	4
51 - 100	28	5
101 - 200	53	10
201 - 300	42	8
301 & above	43	9
Total	176	36

Stratification of agricultural labour households

Size of holding(in cents)	Total households	Sample Selected
0 - 10	125	27
11 - 50	40	7
51 & above	22	5
Total	187	39

Estimation procedure

$$\bar{X} = \sum_i \sum_j \frac{N_i}{n_i} X_{ij}$$

Where \bar{X} - estimate of the population total of the characteristic

N_i - population size in the i^{th} stratum

n_i - sample size in the i^{th} stratum

X_{ij} - observed value of the characteristic of the j^{th} unit in the i^{th} stratum

Appendix 2

Livelihood Risks and Coping Strategies - an Overview

Risks and coping strategies are not often discontinuous entities. Instead, they constitute a dynamic process. Of course, the nature and intensity of risks could vary from time to time and thereby, the coping strategies too. However, the long term strategies employed in the past and the asset bundles or/and institutional arrangements inherited from the past could constrain or facilitate the present strategies and outcomes. Therefore, an historical overview of the livelihood dynamics at Cherumad assumes importance.

The recent history of livelihood strategies in the village, gathered through interviews, life histories, and also from secondary sources, has shown that the mid 1940s, the mid 1960s, and the 1990s were pivotal periods. Taking a cue from these time intervals, the overview is divided into sub periods.

The Period Prior to Mid-1940s

During this period Cherumad witnessed more or less a subsistence economy centred around rice cultivation and a bonded labour system. The bulk of the transactions were in kind than in cash. Tribal communities of Paniyars, Kurumars, Pathiyars and the farming community of Chettys are considered the early inhabitants of this village. Rice cultivation and cattle-rearing were the two chief livelihood activities of the early period. Chettys mostly controlled both these activities. Paniyars eked out their living solely from agricultural labour, while Kurumars and Pathiyars engaged both in own cultivation and agricultural labour.

Wetland rice was cultivated in a single season during the year. The existence of deep marshy wetlands called *kollis* and continuous drizzle were factors which favoured rice cultivation. Their simple but efficient tools such as *njavari*, an instrument they used for ploughing the muddy fields and *kommakuda*, a special umbrella made of palm leaves to cover

the whole body while at work on rainy days, are still acclaimed as innovative and efficient. *Punam* cultivation was the most prominent dry land agricultural practice in the area. It was practically the same as the slash and burn - shifting cultivation.

Cattle-rearing complemented the agricultural income. Each *tharavad* (joint family) in the area used to own herds of cattle comprising mainly of bulls and cows. During nights the animals were fenced in structures made of bamboos (*pedali*) in paddy fields. Paniyar children were employed for grazing them. Milk and milk products were major items in the food basket of Chettys. Cow-dung served as the main source of manure.

Each Chetty family paid special attention to procure adequate number of attached Paniyar labourers, both male and female, for doing their agricultural work. Paniyar labourers became available for work through the traditional arrangement of *valli kettu* and *Kambalam natti*¹.

In this subsistence economy, Paniyar livelihood strategies centred mainly on their provision of labour to Chetty households mediated through the bonded labour system. Wage was given in kind and not in cash. A male labourer used to get two *sers* (a local measurement) of rice as wage while a female labourer received just one ser. At the end of the cultivating season each worker (both male and female) was presented one *pothi* (around 30 kg) of rice as gift. The workers also had free access to common property resources such as the vast tracts of forests, streams, and marshy fields in the surrounding areas where they were permitted to hunt small animals, collect nourishing vegetation and catch fish.

The livelihood risks during this period were not much of market but of natural hazards. Possible attacks of wild animals were the main risk. Living in groups and pursuing cultivation as a collective endeavour, they tried to cope with such risks. For the workers, though the bonded

labour system gave a sort of protection and stability of labour, they were unable to enjoy labour mobility. Payment of wages in kind in the form of un-husked rice caused hardships to female workers. After their day-long drudgery in the paddy fields or garden lands, they had to exert relentlessly to de-husk rice in order to prepare supper.

Period between mid 1940s and mid 1960s

Three important developments characterised this period that brought drastic changes in the livelihood profile of Cherumad. They were extension of colonial administration, ex-service men colony scheme, and the so called Malabar migration. By the second half of the 19th century, colonial administration was extended even to remote regions. The Malabar region under the Madras Presidency was divided into *Amsams* (villages) and *desams* (sub-divisions) with *Adhikari* as the village headman, assisted by an accountant (*menon*) and two helpers (*kolkar*) (Logan; 1995). Adikari was authorized to intervene in all civil and criminal disputes in the village under his jurisdiction and to carry out revenue administration. This institutional development resulted in a systematic and often coercive intervention of external authority into local life. Compulsory taxation of agricultural lands restricted open access to common property resources and led to the development of private property. The title deed of ownership (*patta*) was given to the lands cultivated consecutively for three years; and land tax exacted from then on. In the past, Chettys reportedly shifted cultivation from place to place in order to escape tax. However, this new institutional development led to decline in the area of land under the control of Chettys.

The British government resolved to rehabilitate soldiers from the erstwhile Malabar province who had taken part in the Second World War by settling them in four regions in Wayanad. Nenmeni panchayat was one among the four regions. Each ex-serviceman household was allotted 5 acres of wet land plus two acres of dry land or 10 acres of dry land if they did not want wet lands. Towards this, all *non-patta* land

under Chettys was appropriated by the government. And the *patta* lands of Chettys which was in excess of the five wet plus two dry or ten dry acres norm was also expropriated after paying the *patta* holders a nominal compensation.

The influx of migrants from south Kerala (mostly farmers) that started in the 1930s became intense during this period. The early migrants got land under the government settlement scheme. However, there were also instances of encroachments of forest lands and tactful purchase of land that belonged to the indigenous people at throw-a-way prices by the in-migrants. Settlers under the colonization scheme also brought many people, often their relatives or friends, to do agricultural work. Both kinship and friendship played remarkable roles in the in-migration process to Cherumad. Among the in-migrant families in the area who were related either through consanguinity or regionalism, kinship networks became a source of strength in shaping up their livelihood strategies.

The Ex-servicemen scheme and the migration of farmers played a crucial role in building up a cash crop economy in Cherumad. A new bureaucratic structure started functioning to make smooth the implementation of the colonization scheme. A Revenue Inspector based at Ambalavayal, where a special office existed exclusively for the implementation of the resettlement scheme, was given the full responsibility for implementation of the scheme. Each settler family was given an amount of Rs2000 for starting cultivation. Each of them was instructed to cultivate at least one perennial crop, preferably coffee, in the garden land besides their usual types of cultivation. It was the duty of the Revenue Inspector to visit the fields to give instructions and to take appropriate actions. Official matters like registration of land and land taxation were handled at the head office at Ambalavayal. A centre for agricultural research and services was started in Ambalavayal as part of the scheme for training and assisting farmers in 'scientific and

systematic modern agriculture'; it did a good job of supplying seedlings and imparting technical know-how. This new expertise thus imparted helped the spread of coffee cultivation into household gardens, a practice which had been confined to estates until then. The subsistence economy gave way to market economy. The process, nonetheless, unleashed certain new risks.

The break up of the Chetty joint-family system and marginalisation of their land holdings resulted in their downward mobility to the category of labour. Still they retained for their subsistence cultivation of food crops like rice and ragi in their farm lands. As a mechanism to deal with the changes, groups of three or four families having kinship ties and resources started collective farming known as koodippani.

The paternalistic protection which Paniyars were receiving from Chettys started waning. Though new labour opportunities arose in in-migrant households, their rapport with the in-migrants was not strong enough to induce them to avail the new opportunities to the full. However, the strategy of working for the in-migrant farmers without dissociating fully from their old Chetty households steadily expanded.

In-migrants and colonists had to face an extremely unfriendly climate and other natural hazards in their endeavour to stabilize their livelihoods. Malaria attack was quite appalling and proved fatal for many an in-migrant. Many of them stayed together at common places in the night as a way to protect themselves from wild animals. They lacked either the skill needed to work in such a perilous environment or a work force adapted to the locality. Many of them were compelled to bring additional work force, mainly consisting of relatives or friends, from their native places. All the members of a family participated in livelihood activities, and labour was shared among in-migrant families of a locality. Those migrants with less cultivation capabilities were compelled to bring wage labourers from agricultural as well as non-agricultural sectors from places far away from their own residence. Rich

in-migrants were in a position to withstand the hardships as they possessed huge areas of land and sufficient financial backing. Initially, they concentrated mainly on the cultivation of subsistence crops like rice, tapioca and yam. Later, they moved on to cash crops.

Some of the in-migrants who arrived at later periods and who did not get patta land started cultivating government lands but faced threats of eviction. Therefore they did not go in for the cultivation of perennial crops. Officials from the colonization scheme and the village office even manhandled them. The Communist party and the Catholic Church were two strong institutions which intervened in the conflicts of these later in-migrants. Later in-migrants took a collective strategy to organize under the Church or the Communist party to fight against eviction. They floated organisations and raised protest. This politicised mobilization was the reason which pressurized the government to distribute title deeds for lands encroached upon by later in-migrants.

Period between mid 1960s and late 1980s

Cash crop-dominated household agriculture was the main feature of this period. By mid-1960s coffee attained the pride of place among the cash crops cultivated in the garden lands. In the 1970s, pepper cultivation too gained importance. Pulppally pachayat was the centre of pepper cultivation in Wayanad district. By the mid-1970s, as the price of pepper started rising, pepper cultivation became quite intensive in Pulppally. It is said that the 'Pulppally effect' was an inspiration for farmers in Cherumad to go in for pepper cultivation. Concomitantly, cultivation of food grains like muthari, and chama declined, though rice still maintained its place of significance. By the end of the 1970s ginger became an important subsidiary crop in the area with a burgeoning domestic market for it. Migrants from the south possessed previous experience in ginger cultivation and also of its sale as dry ginger. With the introduction of 'Riodi' ginger that was developed in the agricultural research station at Ooty under the British, ginger productivity increased.

In the 1980s, rich farmers started large-scale ginger cultivation even by leasing in land. Some of the farmers moved even to the border regions of the Karnataka state for ginger cultivation. Farmers also started commercial cultivation of banana.

During this period cultivation practices got modernised with the introduction of inputs such as fertilizers and pesticides. Crops such as coffee, pepper, ginger, banana and tapioca appeared as inter-crop in farms. Modernization of agricultural practices was a local reflection of the national level Green Revolution strategies pursued since the mid 1960s. Due to the banking policies of the government of India, the availability of institutional credit increased during this period. A cooperative credit organisation initiated by the migrant farmers under the name *Aikya Nanaya Sangham*, was registered as a cooperative bank in the 'sixties. It gave fillip to agricultural credit and promoted the use of modern inputs like fertilizer. Though the marketing channels for all agricultural commodities widened, coffee still remained under the monopoly procurement by the Coffee Board².

During this period too, price risk was not seriously felt, thanks to the booming price of pepper and monopoly procurement of coffee by the Coffee Board. Livelihoods of agricultural labourers also underwent changes. The paddy-based and *valli*-bound labour system gave way to free labour, with and payment of wages in cash. Communist trade unions and the migrants played an important role in the abolition of the *valli* system.

There was however no institutional mechanism to fix wages even thereafter. To a large extent, market forces of supply and demand for labour determined wage rates. The demand, in turn, depended on product prices in the commodity market. The vacuum created by the abolition of *valli* system could not adequately be replaced by any other viable institutional arrangement. Agricultural workers, especially, the Paniyars started feeling the problem of unemployment and underemployment.

The 1990s

The 1990s, particularly the first three quarters of the decade, was a period of price boom in the product and the labour markets and of general improvement in livelihoods in the study area. As we explain in detail in the next section, prices of coffee and pepper began to advance in the 1990s. Prices of other commodities such as ginger, areca nut, and banana also went up. As prices rose, farmers were motivated to increase production. They resorted to the increased use of fertilisers and pesticides to maximise production in the short-run. Large-scale paddy field conversion took place in the village during this period³. to cultivate crops like banana, areca nut, and ginger Aggressive extension of ginger cultivation that started in the eighties spread not only to the village around here, but also to the Kudag district of Karnataka, where farmers migrated from here to cultivate the crop.

Agricultural workers reaped the positive benefits of the price boom. With increased demand for labour for cultivation in the locality and for ginger cultivation in Kudag, farmers competed among themselves to procure labour. Consequently, wage levels shot up within a short span of time. The money wage (excluding the cost of food, which was served free by the employer) that had remained at Rs 50 in the 1980s for males and 30 for females rose to Rs 100 for male workers and to Rs 60 for females. The rates further rose to Rs 125 and Rs 80 respectively by 1997-98. For the first time, Paniyar youth started to bargain for higher wages, though no mechanism existed earlier for collective bargaining and wage negotiation.

With increased incomes, household living and consumption standards improved; several of the tiled and concrete houses now seen in Cherumad were constructed during this period. For the first time, a bus service also started plying in Cherumad. Cospicuously, a consumerist culture started to develop. The consumption of protein-rich items like meat and fish increased. Rich varieties of fish replaced the usual dry

fish or sardines. Many of the agricultural households gave up consumption of tapioca and other 'inferior' types of food.

Education of children received paramount importance in the parents' agendas. Girls in the locality were sent in increasing numbers for higher education, a practice uncommon before. The quality of education also became a major concern for parents. Sending children to private English-medium schools became a status symbol.

The traditional dress pattern gave way to modern fashions. The usual dress of women in the farming households, namely *dhoti* and blouse, changed for maxi. The number of trips to Batheri town increased manifold. People avoided local purchases and preferred to go to town for shopping. Interestingly, when the state government banned the distribution of arrack in 1996, which had till then been available in the local shops, Paniyar labourers began visiting foreign liquor shops at Batheri on a regular basis. Such a large scale movement of people from the village to town was the first of its kind in the history of Cherumad.

During this period marriages became a highly expensive affair. The practice of serving non-vegetarian *biryani* in marriage feasts was initiated - a clear shift from the traditional pattern. The average amount of dowry has risen several folds in the past few years. Penetration of television and telephone connections also indicated the intensification of the changes in the village. Frequency of visits to cinema theatres increased. Two or three neighbouring households joining together and hiring vehicles for going to films at night became common.

Clearly during this period risks and vulnerabilities to livelihoods of all classes were neither manifest nor anticipated. However, as we shall explain subsequently, the living standards attained during this period were not at all sustainable.

Notes

- 1 It is a labour-tying mechanism to ensure adequate number of labourers to undertake agricultural operations each year. On the day of Vishu, that marks the beginning of the agricultural year, the *karanavar* (the elder uncle) of the Chetty joint family (*tharavad*) accepts Paniyar workers by giving them rice, two-piece of cloth and condiments including oil. Once the Paniyars accept these customary payments, the Chetty became their master, whom they were not permitted to leave during the ensuing agricultural year, starting from *vishu* in April to *uchhal*, the harvest day in February.

Though this system is usually compared to slavery (Menon, 1962) certain elements of a patron-client relationship that existed between them makes this system different. During the contractual period, Chettys look after the affairs of the dependent Paniyar families; shelter is provided; two meals a day are given. On special occasions like Onam and Vishu they are given *sadya* (banquet), two pieces of cloth, oil and, interestingly, even liquor.

Besides agricultural work, both male and female workers have to do their masters' domestic chores like fetching of water and firewood and wood cutting, though not cooking. Children also help them in doing household chores. Boys are entrusted with the work of grazing cattle. Girls assist their mothers in domestic chores. This system of bonded labour is more paternalistic than coercive. Elders among Chettys intervened to settle conflicts among Paniyars. They were also responsible for the security and welfare of Paniyar labourers under their control. The *valli* system remained intact until the 1960s and disappeared completely only by the 1980s.

Kambalam natti was a festive mode of rice planting. For completing the planting of rice seedlings at one and the same time, all the workers in a locality would be called to the fields. Hundreds of male and female workers would do the ploughing and the planting work in unison with the accompaniment of music and group dance. Chetty landlords entrust with *Paniyar* headmen (*muthalis*) the task of fetching labourers. The *Muthali* would visit every *Paniyar* household in the locality and give some rice in advance to assure their participation. Until recently this practice also persisted in different parts of Wayanad.

- 2 The Coffee Board was established in 1942 for the development of coffee production and export. Along with research and extension services, an important function of the Board was monopoly procurement of coffee. Till recently coffee was a produce taxable under Central Excise. Most of the interviewees expressed dissatisfaction with the procurement. They stated several reasons:
- i) The minimum release price provided by the Board at the time of procurement was very low compared to production cost in Kerala. [One reason for the low level of the release price was that the cost data considered for estimation were those of the cooperative coffee growers of Karnataka which stood much lower than the production cost in Kerala (Joy, 2000)]
 - ii) The administrative cost of the Board was reportedly very high and ate away a large portion of farmers' income.

- iii) Delay in the payment of balance amounts due to farmers after the release price in instalments took months and years. [Still many farmers opined that the payment of the balance amount (which they considered as bonus) in instalments was a relief].
- iv) Strict restriction on disposal of coffee through rates other than that of the Board prevented storing and denied marketing opportunities to farmers.
- v) Stringent regulations on the mode of transport were a real headache to farmers. Central excise rules made it mandatory that farmers have to present transport permit form (TP 3 form) duly filled in, with several details regarding the volume of production, the volume of sale, the mode of transport, the registration number of the vehicle used, the place of starting, the place of destination etc. Any mistake in the entries was penalized. As a farmer rightly remarked, “we were looked upon by the excise officials as criminals”.

However, owing to strong protest from farmers, the Board gradually withdrew from the procurement business. In 1992 partial pooling was implemented and by 1993-94 the Board withdrew totally from procurement.

- 3 In many other parts of the state, the Kerala State Land Utilisation Act that prohibits unscrupulous paddy conversion is enforced to a certain extent. However, owing to strong demand from agricultural workers’ unions, such a step has not taken place here. There is absence of strong demand from below.

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