

**Working Paper
439**

**DIVERSIFICATION IN RURAL LIVELIHOOD
STRATEGIES: A MACRO-LEVEL EVIDENCE
FROM JAMMU AND KASHMIR**

Rajeev Sharma

December 2010

Working Papers can be downloaded from the
Centre's website (www.cds.edu)

**DIVERSIFICATION IN RURAL LIVELIHOOD
STRATEGIES: A MACRO-LEVEL EVIDENCE FROM
JAMMU AND KASHMIR**

Rajeev Sharma

December 2010

This paper forms part of an ongoing research on “*Rural Development and Livelihood Diversification: An Empirical Investigation of the conditions in Jammu and Kashmir*” and was presented in the seminar at Centre for Development Studies, Trivandrum (Kerala). I obtained immense benefit from discussions with Dr. K.N. Nair (Prof. and Director, Centre for Development Studies) on the earlier draft of the paper. I am thankful to the discussant, Dr. Arindam Banerjee (Lect., Centre for Development Studies), for his valuable suggestions. I am also grateful to external referee, Prof. H.R. Sharma, (Division of Food Resources and Environmental Economics, College of Natural Sciences, Konkuk University, Korea). Discussions with Indervir Singh (PhD Scholar, Centre for Development Studies) proved constructive for me at various stages of the preparation of the paper. Thanks are also due to the painstaking efforts by anonymous referee. Usual disclaimers apply.

ABSTRACT

Agricultural sector is predominant in the economy of Jammu and Kashmir and provides livelihood to the majority of the population. The overall economic growth of the state depends largely on the progress of agricultural sector, since only a very nominal progress has been achieved in the secondary as well as in the tertiary sectors. It is well recognized that the livelihood of those dependent on agricultural sector is unsustainable which necessitates the creation of supplementary sources to raise it to a sustainable level. Household livelihood diversification is a strategy to minimize risk and uncertainty. In the case of fragile region like Jammu and Kashmir, this strategy is especially important. This paper attempts to understand broadly the dynamics of rural livelihood diversification in the state of Jammu and Kashmir. The paper makes use of secondary sources of information to realize the objectives of the study. The findings are that agriculture remains as a dominant livelihood strategy among workers in the state despite the shift to manufacturing and tertiary activities over the period, that is, 1983 to 2004-05. So, it becomes necessary to organize state agriculture in such a manner that the limited land resource is made to yield maximum returns through the application of modern technology. This would increase the well-being of those dependent on agricultural sector for their livelihood. This paper also throws up some issues, which one can delineate further at micro-level.

Key Words: Livelihood Diversification, Coping Strategies, Capital Assets, Occupational Structure, Jammu and Kashmir.

Jel Classification: Q, Q 00

I. Introduction

Jammu and Kashmir state is situated on the northern extremity of the country covering a total geographical area of 2,416 thousand hectares. It lies between 32°-17' and 36°-58' North and 73°-26' and 80°-30' East. It is divided into three divisions, viz., Jammu, Kashmir and Ladakh comprising a total of 22 districts¹. Major portion of the state is hilly, and the height from sea level varies from 1000 feet to 28,500 feet. The temperature also varies across the year. This, coupled with the highly undulating topography, has conditioned the agricultural and other livelihood practices of the people. Nevertheless, the findings of my earlier work² indicated that agriculture had been able to respond positively with impressive growth rate to meet the requirements of the people. The tourism sector had been a major driver of growth of the Jammu and Kashmir economy till the late 1980s. The dependence on agriculture became absolute due to the subsequent decline witnessed in it. The available evidence indicates that the state of Jammu and Kashmir is also lagging behind in terms of infrastructure. For instance, it has low road density in relation to its geographical area (10.54 kms per 100 sq kms) when compared to other states; and it is much below even the all-

1 It is to be noted that, very recently eight new districts were created, four each in Jammu and in Kashmir divisions.

2 Sharma, R. (2007), 'Agricultural Development and Crop Diversification in Jammu and Kashmir: A District Level Study, Pattern, Processes and Determinants', *Review of Development and Change*, 12(2): 217-251.

India average (74.73 kms per 100 sq kms) for the year 2002 (Sirohi, 2008).³ In addition, the insurgency in the state has also introduced a high degree of risk and uncertainty to the economic activities. Industrial growth has been affected; and in the absence of alternatives, people have turned to agriculture for survival.

In general, the agricultural activities are subject to variety of risks arising from rainfall aberrations, temperature fluctuations, hailstorms, cyclones and climate change. These risks are exacerbated by price fluctuation, weak rural infrastructure, imperfect markets and lack of effective financial services. These factors not only endanger the household's livelihood and income but also undermine the viability of the agricultural sector. A number of studies have confirmed the inability of agriculture to fully support livelihood security [For instance, see among others, Unni, 1996; Shylendra, 2002; Samal, 2006; Shukla and Shukla, 2007]. Therefore, supplementary sources of livelihood and household diversification strategies have assumed importance in this situation. In the case of a fragile region⁴ like Jammu and Kashmir, where more than 80 per cent of the population is dependent on agriculture for their livelihood (Census, 2001), this has gained added importance.

3 Moreover, taking education as an indicator for social infrastructure, one finds that in 1998-99 it was below (there were 10515 primary schools, 3507 middle schools and 1466 high and higher secondary schools) the corresponding numbers in the rest of India. In terms of literacy, Jammu and Kashmir ranks third from bottom at 54.46 per cent. The only states with a lower literacy rate than Jammu and Kashmir were Bihar (47.53 per cent) and Jharkhand (54.15 per cent). Crude birth rate per 1000 and death rate per 1000 population during 1999-2000 was 13.27 per cent and 3.03 per cent respectively, which made it the second highest from the bottom among Indian states (See Govt. of Jammu and Kashmir, Digest of Statistics, 2000-01).

4 A number of studies made in Indian Himalayas and abroad have shown that agriculture in the mountains face serious problems of dwindling crop yields and resource degradation, which may get aggravated if remedial measures are not undertaken immediately [Jodha, 1992; Dev, 1994]. In economic terms, this is manifested in terms of endemic poverty and impoverishment.

Literature from corner to corner of the country indicated that the rural income portfolios generally converge on the one startling figure that, on an average, roughly 50 per cent of rural household incomes in low income countries are generated from non-farm activities and from transfers from urban areas or abroad. Remittances and pension payments are the chief categories of such transfers. This has been validated by recent study from Africa and Asia (Reardon, 1997). A study indicates that in their attempt to increase family incomes, rural households follow two strategies: first, they diversify by increasing the number of income sources and second, they accept salaried employment in different sectors of the rural economy (Lerman *et al.*, 2008). Another study (Berhanu *et al.*, 2007) examined the growing adoption of non-pastoral livelihood strategies among the Borana pastoralists in southern Ethiopia. The study highlighted the importance of human capital investment and related support services for improving pastoralist capacity to manage risk through welfare-enhancing diversified income portfolio adoption. In this regard, Chimhowu and Hulme (2006) compared the livelihood dynamics of planned and spontaneously resettled households in Hurungwe district, Zimbabwe, during 1980-2000. They argued that vulnerable households developed strategies for coping with low agricultural incomes by becoming involved in a variety of activities on and off the family farm while non-poor households diversified within agriculture into high-value crops and livestock activities.

It is also observed that rural people are looking forward to diverse opportunities to increase and stabilize their income as determined by their portfolio of assets - social, human, financial, natural and physical capital (Ellis, 1998; Sudan, 2007). The availability of key-assets (such as savings, land, labour, education and/or access to market or employment opportunities, access to Common Property Resources [CPRs] and other public goods) is an evident requisite for making rural households and individuals capable of diversification (Dercon and Krishnan, 1996; Sudan, 2007). Additionally, the decreased availability of arable land,

increased producer/consumer ratio in agriculture, credit delinquency and environmental deterioration can indeed be important drivers towards diversification. However, the ownership of assets, such as land and livestock, helps reduce vulnerability of households and allows them to exploit income-generating opportunities. Indeed, a diverse body of literature provides evidence that poor people in developing countries use social networks and connections as insurance to manage risk (Fafchamps and Lund 2003; Fafchamps and Gubert 2006).

The results emanating from Indian micro-level studies [*see* Papola, 2005; Nair and Menon, 2007; Nair and Ramakumar, 2007; Sujithkumar, 2007] are discussed here. Firstly, most of the households attempt to cope with distress situation by reducing household expenditure, diversifying their household incomes, their cropping pattern and searching for jobs in other places. Further, the strategies vary across households depending on the extent of their asset ownership. Secondly, the villages in which household income were more diversified and social networks were much stronger, the distress conditions did not result in suicides. Thirdly, in fragile environments, the diversification from subsistence-oriented food production into high value products in the farm and non-farm sectors improves the livelihood of the farmers. It is also worth mentioning that by diversification of their livelihood, people become more productive on account of more application of inputs which may be due to increase in their purchasing power.

Establishment of WTO provides opportunities for trade with other countries and need for careful monitoring of imports. Globalization impacts rural areas in all the sectors viz., agriculture, industry and services. Of course, for rural areas, the impact on agriculture is much more important as livelihoods of the majority depend on this sector. The argument that globalization affects the poor adversely is based on the notion that the poor are not equipped to take advantage of whatever opportunities may be created by growing trade and capital flows as a consequence of it.

One of the main criticisms of globalization and economic reforms has been that they have not achieved inclusive growth despite the impressive development of Indian economy. The number of people below poverty line in the Jammu and Kashmir was only 3.48 per cent in 1999-00 (Planning Commission estimate)⁵; this does not reflect the dismal progress in terms of social indicators due to which Jammu and Kashmir state is considered as one of the most backward amongst Indian states⁶. As rural households derive their livelihoods from different sources, globalization is expected to affect them in a variety of ways in which it affects those different sources. Very little literature that captures the dynamics of livelihood diversification is available and I have not come across any study for the state of Jammu and Kashmir about this topic.

Given the impressive performance of agriculture in Jammu and Kashmir during the last one and half decades, it is pertinent to address the following questions. How far has the dependency on agriculture for livelihood been undergoing change? What has happened to the access of agriculturists to important livelihood assets such as land, livestock, financial assets, human assets, etc.? It is in this context that the main focus of the paper is on understanding the rather dynamic rural livelihood strategies which are not static over time. This might be attributed to various factors; such as economic, social, political, and natural factors. The specific objectives are as follows: first, to understand the processes

5 The latest poverty figure worked out by planning commission for the state of Jammu and Kashmir based on uniform recall period is 5.40 per cent (2004-05) and 4.20 per cent based on mixed recall period for the same year.

6 In this regard, Rai et al. (2008) developed a composite integrated livelihood index for different agro-climatic zones of India. It depicts that most of the tribal regions in Bihar, Madhya Pradesh, Orissa, North-Eastern States and J&K fall under the category of low livelihood status. Further, 103 out of total 127 low agricultural productivity districts also fall under the low livelihood status region. Among districts of different states, three districts of J&K; namely, Doda, Kupwara and Jammu, fall under low livelihood status regions.

and patterns of livelihood diversification over a period of time in the state; and, second, to assess the sources of household income, distribution of land, livestock and other assets among different categories of rural households.

The rest of the paper is organized as follows. The concept of livelihoods is introduced in Section II. It is followed by an analytical framework, which is explained in the Section III. Results are discussed in the Section IV; and, finally, Section V sums up the discussion.

II. Concept of Livelihoods

Livelihoods are the ways in which people satisfy their needs, or gain a living (Chambers and Conway, 1992). How rural people make a living and whether their livelihood is secure or vulnerable over time are issues covered in livelihood literature. Livelihoods turn up from a variety of sources and activities, which vary over time. They comprise several different activities for each given household - more often than not even for each working member, which may change even within a year. Flexibility of households' livelihoods determines the type of strategies that rural households adopt to make it secure and how they respond to changes. Although some households adopt strategies relying mainly on few activities, most of them adopt strategies that are complex, diverse and versatile (Chambers, 1989). The livelihood strategies are the sum of all different activities that people do in the context of their livelihood, and are based on the access to and combination of five forms of capital assets, namely, human capital, natural capital, financial capital, social capital, and physical capital (Sconner, 1998; Bebbington 1999).

III. Analytical Framework

Why should the households attempt to diversify their livelihood strategies? The purpose of diversification is two-fold: first, to increase household incomes; and second, to minimize risks of livelihood failure. Diversification reduces the risk of livelihood failure by spreading it

across more than one income source. It also helps to overcome the uneven use of assets caused by seasonality. Diversification assists to reduce vulnerability, to generate financial resources in the absence of credit markets, and confers a host of other advantages in the presence of widespread market failures and uncertainties. Broadly, the rationale for diversification emanates from the opportunities for more employment and generation of higher incomes through more efficient use of resources and through exploitation of comparative advantage (World Bank, 1990). Diversification is a core strategy of contemporary rural livelihood systems in developing countries (Ellis, 2000). In reality, rural household's resource allocation decisions are fundamentally constrained by conditions of livelihood asset endowments and related socio-political and institutional factors. Households may choose to adopt various strategies to secure their livelihood. They may be classified as: the ex ante risk coping mechanisms adopted by the households like crop diversification, varietal diversification, income diversification, livelihood diversification, etc; and, the ex post mechanisms such as reduction in consumption expenditure, selling of animals, implements and other assets, increase in use of family labour and distress sale of assets to cope with losses. Thus, it is worth mentioning that the adoption of coping mechanism leads to the improvement in the standard of living of the households.

The present paper did not look into different strategies of livelihood. It focuses on livelihood diversification⁷ which is recognized

7 It is defined as the process by which rural families construct more diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standard of living (Ellis, 1998). This argument is based on the premise that livelihood is not just income, but encompasses social institutions, gender relations, and property rights required to support and sustain a given standard of living. Livelihood includes access to, and benefits derived from the social and public services provided by the state such as education, health services, roads, water supplies, sanitation, electricity, etc. Thus, livelihood diversification is not synonymous with income diversification.

by many as a strategy to overcome risk and uncertainties or to minimize cost or to accumulate wealth. Diversification of economic activities at the household level can occur through two processes. Firstly, the household may diversify its activities by increasing the number of workers engaged in different economic activities in the household. Secondly, it may diversify by letting each member to participate in more than one economic activity. In the micro-context, diversification of economic activity by an individual worker/household can be analyzed as: first, an occupational shift from one sector to the other over a period of time; and second, participation in more than one economic activity in either sector at a point in time (Unni, 1996). In the macro-context, the process of livelihood diversification of the employment structure or growth of non-agricultural employment can be analyzed as consisting of two components: first, new entrants to the labour force entering the non-agricultural sector; and second, a shift of workers from agriculture to non-agriculture (Unni, 1996). This paper studied the second component to understand the livelihood diversification at macro-level in the state. The analysis, in this paper, is restricted to provide macro-evidence only.

It is in this background that this paper is making a modest attempt to understand broadly the dynamics of rural livelihood diversification of the state of Jammu and Kashmir. The issue is approached by looking into the occupational structure of the workers for rural areas in the state since 1961 to 2001. Further, this paper sheds some light on the sources of income, which helps the researchers to understand the new opportunities that have come up in the era of globalization for state as a whole. Broadly, the trends in the changes in the value of different assets, and the changes in the incidence of borrowing as well as indebtedness have also been observed at different points of time.

This paper has utilized secondary information which is gathered from different sources. The main secondary sources include: NSSO,

Employment and Unemployment Situation in India (various rounds), used for collection of data for different points of time to study the changes in the occupation of workers across the sectors; different volumes of Sarvekshna for data from past three decades regarding land holdings, ownership holdings, operational holdings, sources of irrigation, livestock and implements, which are assembled in the paper; various rounds of All-India Debt and Investment Survey, to understand the changes in assets and cash borrowings of the households, which was provided by the Reserve Bank of India prior to 1990's; thereafter, the same information is given by NSSO and earlier volumes of Sarvekshna. The results are discussed in the next section.

IV. Results and Discussion

IV.1: Trends in the Occupation of Workers

This section tries to answer the first question - how far has the dependency on agriculture for livelihood changed? - by looking into the occupational structure of workers across different sectors. In agriculture, labourers are the principal factor of production. The occupational structure of workers for the state of Jammu and Kashmir is presented in the Table 1. The figures are arrived at by adding data of both principal status and subsidiary status (ps+ss). It is seen that the total workers engaged in agriculture were around 79.52 per cent of all total workers in 1983, came down to 76.00 per cent in 1993-94, remained around 76.00 per cent up to 1999-00, and thereafter fell substantially to 64.00 per cent in 2004-05. Coming to male workers, 71.64 per cent of the workers were engaged in agriculture in 1983; the figure declined to 61.30 per cent in 1993-94; rose to 66.90 per cent in 1999-00 and then again fell to 53.80 per cent during 2004-05. However, female workers declined significantly to 86.60 (2004-05) per cent from 96.06 per cent (1983). This decline in agriculture sector is accompanied by marginal increase in employment of workers in rest of the sectors, especially in the manufacturing and services sectors. The services sector includes

trade, hotel and restaurants, transport, public administration and defense, education, health and social work, other community, social & personal service activities, private households with employed persons and extra-territorial organization and bodies. The construction sector was exceptional since the percentage of workers remained nearly constant, around 7 per cent from 1983 to 2004-05.

When looked from the gender perspective, the fall in male agricultural workers was double (18 per cent points) that of female workers, that is, 9 per cent points in 2004-05 over 1983 (refer Table 1). Both male and female workers have shifted to manufacturing and services sectors between 1983 to 2004-05; however, the shift was more pronounced in case of male workers than in case of female workers.

In short, Table 1 brings to the fore the fact that the structure of work force has undergone pronounced change. The shift is away from agriculture mainly to manufacturing and tertiary activities. This is true for total rural workers as well as for male and female workers when disaggregated separately. As is clearly evident from the Table 1, the state has experienced a much more steep fall in the agricultural workers during the post-reform period (12 per cent points) than in the pre-reform period (3.52 per cent points). Sharper fall is observed for female agricultural workers during the post-reform period (9 per cent points) than during the pre-reform period (0.46 per cent points). But in the case of male workers, the reverse is true, that is, 7.5 per cent points and 10.3 per cent points, respectively. The figures indicate that the excessive dependence on agriculture as a source of livelihood has been steadily melting down and that the worker's employment base has clearly witnessed a modest degree of diversification.

IV.2: Distribution of Households by Income Sources

After looking into the occupational structure of the workers, it is appropriate to see the distribution of households by income sources.

Table 1: Percent Distribution of Usual Activity (ps+ss) of Working Persons by Broad Industry Division in Jammu and Kashmir: 1983 to 2004-05.

Sex	Male			Female			Persons					
	1983	1993-94	1999-00	2004-05	1983	1993-94	1999-00	2004-05	1983	1993-94	1999-00	2004-05
Occupational Categories												
I	71.64	61.30	66.90	53.80	96.06	95.60	93.40	86.60	79.52	76.00	76.40	64.00
II	0.28	0.10	0.00	0.40	0.05	0.10	0.00	0.00	0.20	0.10	0.00	0.30
III	5.51	5.70	4.40	9.90	2.07	0.90	3.90	9.70	4.40	3.60	4.20	9.80
IV	0.92	2.00	0.70	1.60	0.00	0.00	0.00	0.00	0.63	1.10	0.40	1.10
V	10.53	9.90	10.20	10.20	0.39	0.70	0.20	0.10	7.26	6.00	6.60	7.10
VI	2.64	4.30	5.40	7.10	0.37	0.20	0.40	0.30	1.91	2.50	3.60	5.00
VII	2.00	4.60	2.50	5.80	0.00	0.00	0.20	0.00	1.38	2.70	1.70	4.00
VIII	0.13	0.90	0.20	0.40	0.00	0.00	0.10	0.00	0.09	0.50	0.20	0.20
IX	6.35	11.20	9.70	10.80	1.06	2.50	1.80	3.30	4.61	7.50	6.90	8.50
Total Workers	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Note: I= Agriculture, etc.; II= Mining & Quarrying; III= Manufacturing; IV= Electricity, Water, etc; V= Construction; VI= Trade, Hotel and Restaurant; VII= Transport; VIII= Fin. Inter, business act, IX= Pub., Admn., Educn, Comm., Serv., etc.

Source: NSS 61st Round, Report No. 515(61/10/1), Employment and Unemployment Situation in India, 2004-05, Part-I; NSS 55th Round, Report No. 455(55/10/1), Employment and Unemployment Situation in India, 1999-2000; NSS 50 th Round, Report No. 409, Employment and Unemployment Situation in India, 1993-94; NSS 38th Round (1983), Employment and Unemployment for 8 Major States, Sarvekshana, Vol.14 (2), Oct-Dec. 1990.

Table 2 shows the percentage of income from different sources received by the households. It is evident that more than 60 per cent of the households received income from different sources in self-employed category of households in agriculture. The exceptions are those who are in wage/salaried employment, or who run non-agricultural enterprises or who derive their income from agriculture as rent.

The distribution of households according to size-class of land possessed shows that a large majority of the households whose main source of income is 'other than cultivation' belong to the categories possessing less than one hectare of land (see Table 3). Since, these households do not possess sufficient land, cultivation does not provide adequate income for them; they are obliged to depend on wage/ salaried employment, non-agricultural enterprises and other sources of income for their livelihood.

The diversified portfolio of household's income is not clear from both Table 2 and Table 3. It can be better understood by looking into the different combination of sources of income⁸. This is reported for rural areas in Table 4. The table indicates that a higher proportion of households whose main source of income is other than agriculture is found in higher monthly per capita income classes compared to those whose main source of income are only agriculture. This finding lends credence to the hypothesis that livelihood in agriculture does not yield sufficient income to households to move them forward to reach higher classes of monthly per capita income.

8 It is to be noted that the information with respect to the combination of different sources of income was not available as per size class of land possessed. Therefore, we have looked the distribution as per MPCE classes.

Table 2: Number per 1000 of Rural Households Reporting Receipt of Income from Different Sources for 1999-00 in J&K.

Sources of Income	Household Type					All Types
	Self -Employed in Non-Agriculture	Agricultural Labour	Other Labour	Self-Employed in Agriculture	Others	
I	105	45	62	640	148	1000
II	140	64	66	665	65	1000
III	18	93	99	309	481	1000
IV	440	29	88	284	159	1000
V	81	20	9	599	292	1000
VI	295	0	0	327	379	1000
VII	18	9	0	803	170	1000
VIII	94	27	21	581	277	1000
IX	74	108	46	722	50	1000

Source: Report No. 463(55/1.0/5), Sources of Household Income in India, 1999-2000, NSS 55th Round, Ministry of Statistics & Programme Implementation, Government of India.

Note: I= Cultivation, II= Fishing/ Other Agricultural Enterprises, III= Wages/ Salaried Employment, IV= Non-Agricultural Enterprises, V= Pension, VI= Rent, VII= Remittances, VIII= Interest & Dividends, IX= Others.

Table 3: Distribution of per 1000 Number of Households with Specified Sources of Income by Size Class of Land (Hectare) Possessed.

Class Size	I	II	III	IV	All
< 0.01	0	26	0	0	4
0.01 -0.20	76	892	751	589	168
0.21 -0.40	172	69	150	346	173
0.41 -1.00	478	13	99	49	394
1.01 -2.00	123	0	0	16	173
2.01 -3.00	17	0	0	0	34
3.01 -4.00	69	0	0	0	20
4.01 -6.00	63	0	0	0	32
6.01 -8.00	0	0	0	0	0
8.00+	0	0	0	0	1
All classes	1000	1000	1000	1000	1000
Average land Possessed (Ha)	1.16	0.07	0.16	0.2	0.94

Source: Report No. 463(55/1.0/5), Sources of Household Income in India, 1999-2000, NSS 55th Round, Ministry of Statistics & Programme Implementation, Government of India.

Note: I= Cultivation, II= Waged/ Salaried Employment, III= Non-Agricultural Enterprises, IV= Others.

Table 4: Distribution of Rural Households Receiving Income from Different Combination of Sources by Monthly Per Capita Expenditure (MPCE) Class for 1999-00 in J&K.

MPCE Class (Rs.)	I	II	III	IV
225-300	2 (0.2)	16 (1.6)	7 (0.7)	7 (0.7)
300-420	32 (3.2)	166 (16.6)	61 (6.1)	67 (6.7)
420-615	474 (47.4)	334 (33.4)	356 (35.6)	272 (27.2)
615-950	341 (34.1)	336 (33.6)	440 (44.0)	640 (64.0)
950 & above	151 (15.1)	149 (14.9)	138 (13.8)	15 (1.5)
All classes	1000	1000	1000	1000

Source: Same as Table 5.

Note: (i) I= Only Agriculture, II= Both Agriculture and Waged/ Salaried Employment, III= Agriculture; and IV= Both Wage/ Salary and Non-Agricultural Enterprise.

(ii) Figures in brackets are percentages.

Thus far, we have seen the shift of workers away from agriculture to other sectors mainly in the manufacturing and the tertiary activities. It is also seen that the households having low MPCE have generated more income from multiple sources than one source of income. It indicates that more vulnerable households probably require supplement sources of income to cope up with risk and uncertainties in their livelihood. Apart from looking into the sources of income, it is imperative to look into the distribution of various assets across different categories of households. Moreover, it would be of interest to see the trends in the households of those who possessed no land, who neither own nor operate any land and those who own but not operate any land from the perspective of livelihood. In this respect, we have made a modest attempt in the next section.

IV.3: Changes in Access to important Livelihood Assets

Rural livelihood strategies are shaped by various causes. Apart from natural causes, others that affect rural household's decision are: access and control of physical, human, financial and social capital (Sconner, 1998; Bebbington, 1999); markets, institutions, and the political environment (Ellis, 1993). These capital enable the households to negotiate for their betterment through diversifying their portfolios in the context of vulnerability. They can be transformed into livelihood strategies and finally into livelihood outcomes.

The NSSO provides information with respect to the ownership of different assets; such as land, buildings, livestock, durable assets, etc. Possession of such assets could help reduce vulnerability of households and allow them to exploit income-generating opportunities. It would be of interest to study the relative importance of different items of assets during 1981 to 2002. The percentage shares of different items in the total assets have been presented in the Table 5.

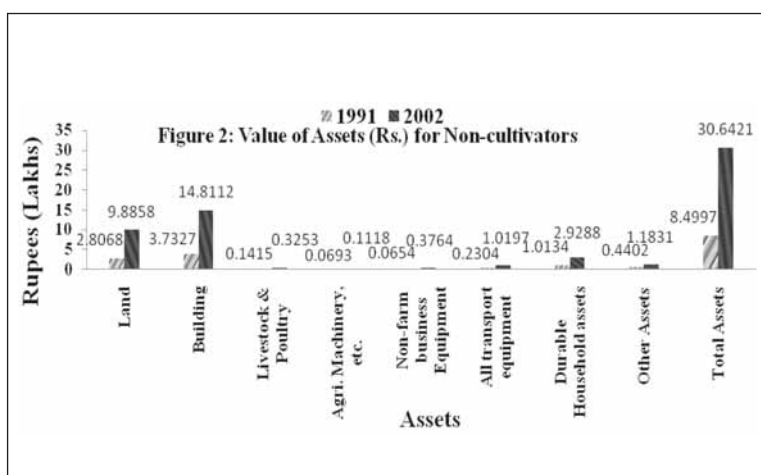
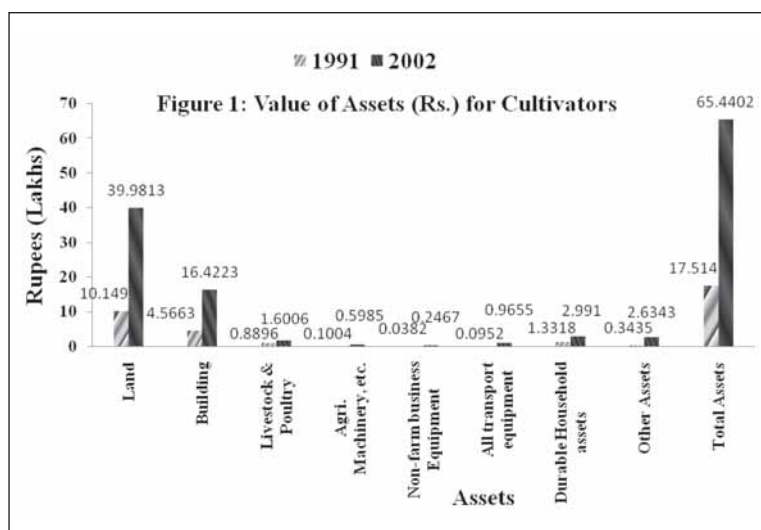
Land and building have remained the most important components of assets owned by households. The percentage of the value of land and building to the value of total assets varied between 83 and 86 during 1981 to 2002. These two components were quite significant and dominant in both cultivator and non-cultivator categories. However, reduction in the value of land was observed in the case of non-cultivators which came down to 32.3 per cent (2002) from 44.0 per cent (1981) as compared to buildings that showed increase in value over the same period of time. In brief, it shows that since cultivation requires land, it is natural that the cultivators have a higher proportion of land and buildings in their total assets compared to those who are non-cultivators.

The average value of the important categories of assets per household is depicted separately for each occupational category in the rural areas for the state of Jammu and Kashmir (See Figure 1 and Figure 2)

Table 5: Percentage Share of Different Items of Assets in Total Household Assets by Occupational Category of Households in Rural Areas of Jammu and Kashmir.

Household Type	Cultivators			Non-Cultivators			All Households		
	1981	1991	2002	1981	1991	2002	1981	1991	2002
Assets	59.0	57.9	61.1	44.0	33.0	32.3	58.3	56.2	59.5
Land	25.4	26.1	25.1	35.1	43.9	48.3	26.4	27.4	26.4
Building	6.4	5.1	2.4	3.6	1.7	1.1	6.2	4.8	2.4
Livestock & Poultry	0.7	0.6	0.9	0.3	0.8	0.4	0.6	0.6	0.9
Agri. Machinery, etc.	0.3	0.2	0.4	1.6	0.8	1.2	0.4	0.3	0.4
Non-farm business Equipment	0.2	0.5	1.5	0.3	2.7	3.3	0.4	0.7	1.6
All transport equipment	8.7	7.6	4.6	10.9	11.9	9.6	6.5	7.9	4.9
Durable Household assets	0.0	2.0	4.0	6.0	6.0	5.0	2.0	2.0	4.0
Other Assets	100	100	100	100	100	100	100	100	100
Total Assets									

Source: All India Debt and Investment Survey 1981-82, Reserve Bank of India; Report No. 419, Debt and Investment Survey (NSS 48th Round); Report No. 500 (59/18.2/1), Households Assets and Liabilities in India (NSS 59th Round).



The available information regarding various assets provided by NSSO is not sufficient to capture the changes in all the so-called 'capital assets or livelihood assets' across size-class even at macro-level. This paper has made an attempt to assess the changes in the distribution of some of the assets.

(A) Natural Capital:

Natural capital is most influential in determining the household livelihood strategies. Here we have examined household access to two natural capital assets, namely, land and the sources of irrigation. According to the data provided by the NSS surveys on landholdings, the incidence of rural landless households is very low in the state in 2002-03 (3.29 per cent), and has fallen from 6.84 per cent in 1981-82 (refer Table 6). This might be, among other reasons, due to the successful implementation of land reforms initiated during 1971-72 in the state. The agrarian structure of the state has been shifting towards marginal holdings in the distribution of size of ownership holdings during the past three decades. This is evident from the trends in land holdings given in Table 6. From 1971-72 to 2003, the percentage of households cultivating marginal holdings increased from 58.23 per cent to 74.23 per cent and the total area owned by them from 27.43 per cent to 36.30 per cent. But, the percentage of households owning small-scale holdings decreased from 29.20 per cent to 14.99 per cent and the total area owned by them also decreased from 39.34 per cent to 25.50 per cent during the same period. Similarly, semi-medium land holdings also showed a decline in both percentage of households owning them and the area owned by them. However, medium size land holdings showed an increasing trend till 1992 after which date they also showed a decline in terms of both percentage of households and area owned.

In the case of large holdings there has been an increase in both percentage of households and area owned by them over the period. The

Table 6: Percentage Distribution of Households and Area Owned Over Broad Classes in Jammu and Kashmir for 2002-03, 1992-93 1981-82 and 1971-72.

Size of holdings (Ha)	Percentage of Households				Percentage of Area Owned			
	1971-72	1981-82	1992-93	2002-03	1971-72	1981-82	1991-92	2002-03
Landless (<0.002)	0.96	6.84	2.75	3.29	0.0	0.0	0.0	0.0
Marginal (0.002-1.00)	58.23	60.30	60.65	74.23	27.43	28.1	25.5	36.3
Small (1.01- 2.00)	29.20	20.51	23.87	14.99	39.34	30.3	33.4	25.5
Semi-Medium (2.01-4.00)	10.00	10.28	9.85	5.65	25.19	28.7	25.8	19.5
Medium (4.01-10.00)	1.61	2.07	2.88	1.66	8.03	12.6	15.2	11.1
Large (10.01 & Above)	0.00	0.0	0.0	0.20	0.00	0.3	0.0	7.6
All Classes	100 (5650)	100 (8168)	100 (5027)	100 (10418)	100 (6113)	100 (7569)	100 (4977)	100 (8272)

Source: Compiled from NSS 26th Round, Survey Results on Land Holdings, Sarvekshna Vol 5(1&2), January-April, 1982; NSS NSS 37th Round, A Note on Some Aspects of Ownership Holding, Sarvekshna Vol 11(2), October 1987; NSS 48th Round, Some Aspects of Households Ownership Holding Sarvekshna Vol 11 (2), October-December 1995 and NSS 59th Round Report No. 491(59/18.1/4), Household Ownership Holdings in India, 2003, Ministry of Statistics & Programme Implementation, Government of India.

Table 7: Percentage Distribution of Households and Area Operated Over Broad Classes in Jammu and Kashmir for 2002-03, 1992-93, 1981-82 and 1971-72.

Size of Operational Holdings (Ha)	Percentage of Households				Percentage of Area Operated			
	1971-72	1981-82	1992-93	2002-03	1971-72	1981-82	1991-92	2002-03
Not Operate (<0.002)	6.64	11.77	6.39	7.39	0.00	0.00	0.00	0.00
Marginal (0.002-1.00)	51.08	55.93	54.67	70.33	25.03	28.60	24.56	31.07
Small (1.01- 2.00)	28.71	20.59	24.96	14.76	37.38	31.30	34.07	21.64
Semi-Medium (2.01-4.00)	11.50	9.69	11.52	5.72	28.02	27.50	29.12	16.86
Medium (4.01-10.00)	2.07	2.01	2.30	1.62	9.58	12.30	12.25	9.22
Large (10.01 & Above)	0.00	0.03	0.00	0.20	0.00	0.33	0.00	21.21
All Classes	100 (5650)	100 (8168)	100 (5027)	100 (10418)	100 (6357)	100 (7754)	100 (5187)	100 (9648)

Source: Compiled from NSS 26th Round, Survey Results on Land Holdings, Sarvekshna Vol 5(3&4), January-April, 1982; NSS 37th Round, Estimates of Livestock and Agricultural Implements Classified by Household Operational Holding, Sarvekshna Vol 13(3), January-March, 1990; NSS 48th Round, Report No. 408, Livestock and Agricultural Implements in Households Operational Holdings, January-December, 1992 and NSS 59th Round Report No. 492, Some Aspects of Operational Land Holdings in India, 2002-03, Ministry of Statistics & Programme Implementation, Government of India.

decreasing trends in the case of small and semi-medium holdings may be attributed to the increase in population and the consequent decrease in their holding size as the land of the households getting divided into several shares. But the percentage of medium size holdings remains nearly constant or increasing. The area owned by them and large farmers registers continuous increase. It may be because of their higher levels of income which enable them to acquire more land and counterbalance any adverse effect caused by division of land among heirs. Also, households belonging to this category are better educated and have smaller number of children per household.

The marginal holdings have shown an increasing trend in the past three decades compared to small, semi-medium, medium and large operational holdings (see Table 7). For instance, it rose significantly to 70.33 per cent in 2002-03 from 51.08 per cent in 1971-72 and the total area operated by them from 25.30 per cent to 31.07 per cent over the same period. Moreover, the percentage of households who do not operate land increased to 11.77 (1981-82) from 6.64 in 1971-72 and then declined to 7.39 in 2002-03.

The estimates of the proportion of irrigated operated area and its distribution by sources are given in Table 8. Judging by their shares in the total irrigated area, canals were reported as the main source of irrigation. Besides the canals, 'others' too were an equally important source of irrigation in the state for a major part of the irrigated area across all the categories. Though there is no substantial change seen in the sources of irrigation, yet a positive relationship, though not strong, is observed in case of canal irrigation with land holding size between 1981-82 and 1991-92 and a negative relationship between 1991-92 and 2002-03. Whereas, no clear relationship is found for others between size of holding and the other sources of irrigation as is evident in Table 8.

Table 8: Percentage Distribution of Net Irrigated Area by Major Source of Irrigation by Size Class of Operational Holding for Jammu and Kashmir: 1981-82 to 2002-03.

Categories	Year	Canal	Tank	Tube-well	Well	Others	N.R.Cases	Total
Marginal (0.002-1.00)	1981-82	41	0	5	0	55	0	100
	1991-92	59	1	4	0	22	14	100
	2002-03	39	0	2	0	60	0	100
Small (1.01- 2.00)	1981-82	49	0	4	0	48	0	100
	1991-92	72	0	13	0	11	3	100
	2002-03	61	3	10	1	25	0	100
Semi-Medium (2.01-4.00)	1981-82	55	1	4	0	41	0	100
	1991-92	70	0	4	0	20	5	100
	2002-03	41	0	7	0	53	0	100
Medium (4.01-10.00)	1981-82	55	0	0	3	42	0	100
	1991-92	74	0	7	0	16	4	100
	2002-03	37	0	4	0	60	0	100
Large (10.01 & Above)	1981-82	0	0	0	0	0	0	0
	1991-92	0	0	0	0	0	0	0
	2002-03	0	0	0	0	0	0	0
All Classes	1981-82	48	0	4	0	48	0	100
	1991-92	71	0	8	0	17	4	100
	2002-03	54	1	5	0	40	0	100

Source: Compiled from NSS 37th Round, Sarvekshna Vol 12(1), July, 1988; NSS 48th Round, Report No. 408, Land and Livestock Holding Survey; NSS 59 th Round, Report No. 494, Seasonal Variation in the Operational Land Holdings in India, 2002-03.

It is interesting to know about the changes in the nature of work of those who do not own any land; it is natural that these households will be engaged in ancillary and other non-agricultural activities. This is clearly evident from the Table 9. The point needs to be noted that the landless agricultural labour in terms of percentages increased considerably from just 0.21 per cent (1981-82) to 9.69 per cent (2002-03) as compared to rest of the household categories across holding size during the similar point of time.

The trends of households which neither own nor operate any land and those which own land but do not operate are reported in the Table 10. It is evident that the percentage of households in both the categories increased significantly during the past three decades. Those who own land but do not operate have increased in terms of percentage which indicates that cultivation is not remunerative for them; so they require some other sources of income to supplement earnings for their livelihood. As we have seen earlier, the increasing trend in the case of landless agricultural labour may be due to the increase in the households of those who neither own land nor operate which is discernible from the Table 10.

(B) Physical Capital:

Like natural capital, physical capital too is very influential in determining the household livelihood strategies. Physical capital includes - type of house owned, agricultural implements, livestock, etc. In recent years, more attention is given to promotion of diversified agricultural growth for income augmentation and employment generation. Animal husbandry and poultry farming are expected to play an important role in supplementing the limited income and employment opportunities in crop-production sub-sector of agriculture, particularly for the small and marginal holdings. It is in this context that we note that the state has a precious wealth of livestock in form of cattle-buffalo, sheep, goats, poultry, etc. The cattle and poultry, amongst all the

Table 9: Percentage Distribution of Households of Different Types for each Size-class of Holding for Jammu and Kashmir: 1981-82 to 2002-03.

Household Type	Size-Class (Ha)	Landless (<0.002)	Marginal (0.002-1.00)	Small (1.01- 2.00)	Semi-Medium (2.01-4.00)	Large (10.01 & Above)	All Classes
Year							
Self Employed in Agriculture	1981-82	9.27	65.27	86.29	97.87	100.00	69.56
	1992-93	11.13	46.64	83.20	83.79	0.00	61.09
	2002-03	5.61	45.05	74.00	63.92	0.00	49.40
Agricultural Labour	1981-82	0.21	4.16	1.20	0.00	0.00	2.46
	1992-93	1.06	4.84	0.00	0.00	0.00	2.78
	2002-03	9.69	5.30	0.00	0.00	0.00	4.30
Others	1981-82	90.53	30.58	12.51	2.13	0.00	27.98
	1992-93	87.83	48.53	16.37	16.21	0.00	36.03
	2002-03	84.70	49.59	26.00	36.08	100.00	46.30
Total	1981-82	100	100	100	100	100	100
	1992-93	100	100	100	100	0	100
	2002-03	100	100	100	100	100	100

Source: Compiled from NSS 26th Round, Survey Results on Land Holdings, Sarvekshna Vol 5(1&2), January-April, 1982; NSS NSS 37th Round, A Note on Some Aspects of Ownership Holding, Sarvekshna Vol 11(2), October 1987; NSS 48th Round, Some Aspects of Households Ownership Holding Sarvekshna Vol 11 (2), October-December 1995 and NSS 59th Round Report No. 491(59/18.1/4), Household Ownership Holdings in India, 2003, Ministry of Statistics & Programme Implementation, Government of India.

Table 10: Changes in the Percentage of Households which neither Own nor Operate any Land and Households which Own Land but do not Operate for Jammu and Kashmir: 1981 to 2003 (Per cent).

Household Categories	1971-72	1981-82	1992-93	2002-03
Neither Own nor Operate any Land	0.39	NA	45.14	38.23
Own Land but <i>do</i> not Operate	6.07	NA	54.81	61.77

Source: Compiled from NSS 26th Round, Survey Results on Land Holdings, Sarvekshna Vol 5(3&4), January-April, 1982; NSS 48th Round, Report No. 408, Livestock and Agricultural Implements in Households Operational Holdings, January-December, 1992 and NSS 59th Round Report No. 492, Some Aspects of Operational Land Holdings in India, 2002-03, Ministry of Statistics & Programme Implementation, Government of India.

Note: NA= Not available

livestock, are considered the most important asset for the development of the rural economy. The details in this regard are explained below.

In the class size of household operational holdings, there is variation in the percentage distribution of land operated for farming of animals. It is evident that majority marginal holdings employ their operated area under farming of animals in relation to their counterparts (See Table 11). This might be attributed to the fact that cultivation is not viable for marginal and small holders who have very limited capital for investment. As they require some supplementary sources of income to sustain their livelihood, they have taken up animal rearing. Dairy farming has spread across all the classes of households compared to other categories of farming.

Table 11: Percentage Distribution of Land Operated for Farming of Animals for Each Size Class of Household Operational Holding (in Hectares) for Jammu and Kashmir: 2002-03.

Size Class	Area Operated*	Percentage Share of Area Operated for			
		Dairy	Poultry	Other Animals	All
≤ 0.002	50.00	100.00	0.00	0.00	100
0.002 - 0.005	38.91	100.00	0.00	0.00	100
0.005 - 0.040	47.50	85.49	10.54	3.97	100
0.040 - 0.5	1.66	80.31	5.42	14.28	100
0.5 - 1.0	0.82	96.29	2.59	1.12	100
1.0 - 2.0	0.68	91.18	1.52	7.30	100
2.0 - 3.0	0.63	94.37	5.63	0.00	100
3.0 - 4.0	0.20	100.00	0.00	0.00	100
4.0 - 5.0	11.48	100.00	0.00	0.00	100
5.0 - 7.5	0.22	100.00	0.00	0.00	100
7.5 - 10.0	0.08	100.00	0.00	0.00	100
10.0 - 20.0	-	-	-	-	-
> 20.0	0.02	100.00	0.00	0.00	100
All sizes	1.04	93.12	2.38	4.50	100

Source: Report No. 493(59/18.1/1) Livestock Ownership Across Operational Land Holding Classes in India, 2002-03, NSS 59th Round, Ministry of Statistics & Programme Implementation, Government of India.

Note: * Indicates the Percentage of Area Operated for Farming of Animals.

Table 12 shows that the total number of cattle owned per 1000 households came down substantially between 1981-82 and 1991-92. The trend between 1991-92 and 2002-03 is not clear. The category of marginal households show somewhat stable trend. Both adult male and female animals show significant declining trend over the same point of time but young stock show increasing trend. Even the landless

households are not exception to this trend. The number of total cattle owned by landless households was 975 in 1981-82 and plummeted to 18 in 1991-92. It increased to 210 in 2002-03.

Table 12: Number of Cattle owned per 1000 Households and its Composition for Different Household Categories for Jammu and Kashmir: 1981-82 to 2003-04.

Categories	Year	Adult Males	Adult Females	Young Stock	Total Cattle
Landless (<0.002)	1981-82	412	321	242	975
	1991-92	0	0	18	18
	2002-03	0	210	0	210
Marginal (0.002-1.00)	1981-82	716	919	544	2179
	1991-92	683	867	768	2319
	2002-03	444	753	685	1882
Small (1.01- 2.00)	1981-82	1430	1440	840	3710
	1991-92	1410	1150	870	3430
	2002-03	891	1054	822	2767
Semi-Medium (2.01-4.00)	1981-82	1871	1912	1263	5046
	1991-92	1400	1060	890	3350
	2002-03	1219	1134	1129	3482
Medium (4.01-10.00)	1981-82	2027	2254	1529	5811
	1991-92	1160	990	650	2800
	2002-03	1625	903	1603	4130
Large (10.01 & Above)	1981-82	2000	3010	2000	7010
	1991-92	0	0	0	0
	2002-03	0	1000	1000	2000
All Classes	1981-82	970	1080	660	2710
	1991-92	900	880	730	2510
	2002-03	554	765	703	2022

Source: Compiled from NSS 37th Round, Sarvekshna Vol 13(3), January-March, 1990; NSS 48th Round, Report No. 408, Land and Livestock Holding Survey; NSS 59 th Round, Report No. 493, Livestock Ownership Across Operational Land Holding Classes in India, 2002-03.

However, a mixed trend is found for buffaloes owned per 1000 households. It increased till 1991-92 and subsequently plunged in 2003 for most of the categories across different size class (Refer Table 13).

Table 13: Number of Buffaloes owned per 1000 Households and its Composition for different Household Categories for Jammu and Kashmir: 1981-82 to 2003-04.

Categories	Year	Adult Males	Adult Females	Young Stock	Total Buffalo
Landless (<0.002)	1981-82	10	155	41	205
	1991-92	0	222	206	427
	2002-03	0	0	210	210
Marginal (0.002-1.00)	1981-82	43	226	85	355
	1991-92	67	534	244	845
	2002-03	40	301	131	472
Small (1.01- 2.00)	1981-82	90	470	230	790
	1991-92	220	810	470	1500
	2002-03	37	758	238	1033
Semi-Medium (2.01-4.00)	1981-82	173	976	441	1590
	1991-92	130	1330	740	2200
	2002-03	136	990	370	1496
Medium (4.01-10.00)	1981-82	354	1857	581	2792
	1991-92	40	1530	450	2020
	2002-03	23	1499	563	2085
Large (10.01 & Above)	1981-82	0	11010	5000	16010
	1991-92	0	0	0	0
	2002-03	0	0	0	0
All Classes	1981-82	70	380	160	610
	1991-92	110	700	360	1160
	2002-03	42	402	152	596

Source: Same as Table 11.

The decline in the number of cattle as well as in buffaloes pulled down the number of ploughs as well for semi-medium and medium holders in relation to their counterparts since 1981-82 and is clearly seen in the Table 14. However, increase has been observed in the case of

small and marginal holders after 1991-92, which is more discernible for marginal holders.

Among all the classes there is increase in productive assets, even when ploughs are excluded. The trend gets sharper since 1991-92 which indicates mechanization of agriculture in the state despite its undulating topography.

Table 14: Average Number of Productive Assets Possessed per 1000 Farmer Households by Size Class of Land Possessed for Jammu and Kashmir: 1981-82 to 2002-03.

Categories	Year	Plough	Tractor	Thresher	Cane Crusher	Pump
Landless (<0.002)	1981-82	0	0	0	0	4
	1991-92	0	0	0	0	0
	2002-03	0	0	0	0	0
Marginal (0.002-1.00)	1981-82	868	0	0	0	0
	1991-92	687	0	4	0	0
	2002-03	1041	15	401	67	78
Small (1.01- 2.00)	1981-82	1518	0	1	0	0
	1991-92	1285	2	26	5	3
	2002-03	1337	68	177	19	163
Semi-Medium (2.01-4.00)	1981-82	1687	17	0	0	1
	1991-92	1705	7	24	5	25
	2002-03	1432	41	67	0	144
Medium (4.01-10.00)	1981-82	2257	0	19	41	19
	1991-92	1825	60	79	0	57
	2002-03	610	208	149	0	371
Large	1981-82	3001	0	0	40	18
	1991-92	0	0	0	0	0
	2002-03	0	0	0	0	0
All Classes	1981-82	1045	2	1	1	1
	1991-92	937	3	13	2	5
	2002-03	1033	28	346	43	91

Source: Compiled from NSS 37th Round, Sarvekshna Vol 13(3), January-March, 1990; NSS 48th Round, Report No. 408, Land and Livestock Holding Survey; NSS 59 th Round, Report No. 497, Income, Expenditure and Productive Assets of Farmer Household, 2002-03.

(C) Financial Capital

After examining the ownership of natural and physical capitals, it is imperative to assess the ownership of financial capital which consists of savings, credit and investments (assets and liabilities). The information with respect to households reporting cash borrowings is reported in the Table 15. The table displays the incidence of borrowing, that is, percentage of households reporting cash loans, by occupational categories from 1981 to 2003 for the state of Jammu and Kashmir. Very little change in the levels of incidence of borrowings for all the households is noticed between 1981-82 and 1991-92, which remained around 8 per cent over the period and then declined to 2.60 per cent in 2002-03. Similar trend has been observed in case of cultivators and non-cultivators. However, throughout the 80s and 90s, incidence of borrowings for cultivator households was distinctly higher than that of non-cultivator households.

The dynamics of credit agencies for imparting cash loans to the households in the last two decades is interesting. 3.15 per cent of households borrowed cash from traders in 1981-82 and the figure came down to 0.50 per cent in 1991-92. Whereas the highest proportion of all households borrowed cash from relatives and friends during 1991-92 (5 per cent), thereafter the figure substantially declined to 1.40 per cent. Still it remained the dominant agency in 2002-03 amongst all the credit agencies. This characterization is true for cultivators also. Relatives and friends remained the dominant lending agency amongst all the credit agencies in case of non-cultivators also in the last two decades (see Table 15).

It is seen from Table 16 that throughout 80s and 90s, the maximum amount of institutional borrowings of rural households was from commercial banks, whereas in 2002-03 it was from government departments. Among non-institutional credit agencies, the households borrowed highest amount from traders in 1981-82. Relatives and friends

Table 15: Percentage of Households Reporting Cash Borrowings during 1981-82, 1991-92 and 2002-03 Over Credit Agency by Major Household Type for Jammu and Kashmir.

Credit Agency	Cultivators			Non-cultivators			All		
	1981-82	1991-92	2002-03	1981-82	1991-92	2002-03	1981-82	1991-92	2002-03
Government	0.51	0.00	0.50	0.37	0.90	0.00	0.49	0.10	0.40
Co-op. societies	1.83	0.30	0.20	1.34	0.20	0.00	1.75	0.30	0.20
Commercial banks	1.63	0.80	0.60	0.29	0.00	0.50	1.40	0.70	0.60
Insurance	0.02	0.20	0.00	0.00	0.00	0.00	0.02	0.20	0.00
Provident fund	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Landlord	0.05	0.50	0.00	0.00	0.00	0.00	0.04	0.40	0.00
Agri. Money lender	0.20	0.40	0.20	0.00	0.00	0.00	0.16	0.30	0.20
Prof. money lender	0.01	0.70	0.00	0.06	0.00	0.10	0.02	0.60	0.00
Trader	3.39	0.50	0.00	1.95	0.00	0.00	3.15	0.50	0.00
Relatives & Friends	1.82	5.20	1.50	2.04	3.70	1.00	1.86	5.00	1.40
Other Sources	0.58	0.40	0.20	0.62	0.00	0.00	0.58	0.30	0.20
Total	9.36	8.60	2.70	6.55	4.80	1.60	8.89	8.10	2.60

Source: NSS Round 59th, Report No. 502 (59/18.2/3), Households Borrowing and Repayments in India, January-December, 2003; NSS Round 48th, Report No. 431 (Part-1), Households Borrowing and Repayments, January-December, 1992 and NSS 37th Round (January-December 1982), Sarvekshna, results on some Aspect of Debtedness of Rural and Urban Households, Vol. 11 (1), July 1987.

Table 16: Changes in the Percentage Share of Amount of Cash Borrowings during 1981-82, 1991-92 and 2002-03 Over Credit Agency by Major Household Type for Jammu and Kashmir.

Credit Agency	Cultivators			Non-cultivators			All		
	1981-82	1991-92	2002-03	1981-82	1991-92	2002-03	1981-82	1991-92	2002-03
Government	5.21	0.00	48.40	0.43	4.40	0.00	4.89	0.10	43.00
Co-op. societies	7.66	4.20	2.30	4.55	3.10	0.00	7.45	4.20	2.00
Commercial banks	32.87	36.70	31.60	6.80	0.00	76.60	31.12	35.80	36.70
Insurance	0.00	2.70	0.00	0.00	0.00	0.00	0.00	2.70	0.00
Provident fund	0.08	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
Landlord	0.13	4.30	0.00	0.00	0.00	0.00	0.12	4.20	0.00
Agri. Money lender	1.26	0.50	0.70	0.00	0.00	0.00	1.17	0.50	0.60
Prof. money lender	0.56	3.50	0.00	0.61	0.00	12.60	0.56	3.40	1.40
Trader	24.07	2.30	0.10	73.91	0.00	0.00	27.41	2.30	0.10
Relatives & Friends	12.94	44.90	12.50	11.71	92.50	7.00	12.86	46.00	11.90
Other sources	15.23	0.90	4.40	1.98	0.00	3.80	14.34	0.80	4.30
Total	100	100	100	100	100	100	100	100	100

Source: NSS Round 59th, Report No. 502 (59/18.2/3), Households Borrowing and Repayments in India, January-December, 2003; NSS Round 48th, Report No. 431 (Part-1), Households Borrowing and Repayments, January-December, 1992 and NSS 37th Round (January-December 1982), Sarvekshna, results on some Aspect of Debtedness of Rural and Urban Households, Vol. 11 (1), July 1987.

became the leading non-institutional credit agency for all households from 1991-92 to 2002-03. It is to be highlighted that both cultivators and non-cultivators borrowed mainly from institutional credit agencies barring the year 1991-92. It is on account of less availability of credit from institutional agencies. The decline is observed more in the case of non-cultivators (see Table 16). This might be the because of disturbances in the state due to insurgency which started in the late 1990s.

The incidence of indebtedness⁹ is also explored for different occupational categories during 1991 and 2002, which is depicted in Figure 3. The percentage of indebted households came down drastically in the case of Jammu and Kashmir in relation to corresponding all India figures for both cultivator and non-cultivator categories.

The incidence of indebtedness explains only the proportion of households indebted during the time of survey, but it does not explain the extent (average amount of debt per household) of indebtedness of the households. Therefore one needs to study the extent of indebtedness to understand the density of indebtedness across different categories. The density of indebtedness i.e., the average debt per household, around Rs. 1100 in the Jammu and Kashmir state, is much below the corresponding figure for all India (See Figure 4). The graphs indicate low indebtedness across different occupational categories among households in the state.

The amount of outstanding debt is found to be low in Jammu and Kashmir. One important question is the relationship of outstanding debt for households to their assets on any given date. The changes in 'debt-asset' ratio of the households might provide the answer to this query. It is so because this ratio reflects the burden of debt on any particular group of households on a given date and is shown in Table 17.

9 It is to be noted that the information with regard to the incidence of indebtedness is limited to different occupational categories and is not available by class-size of land possessed.

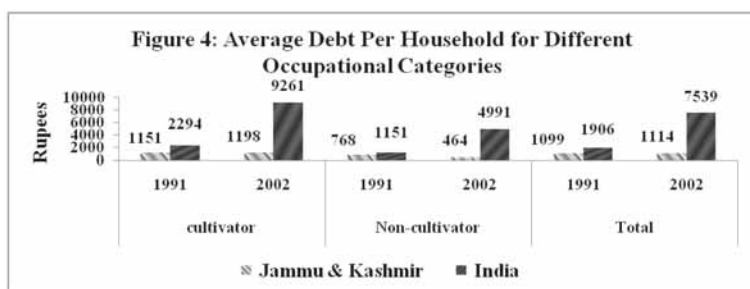
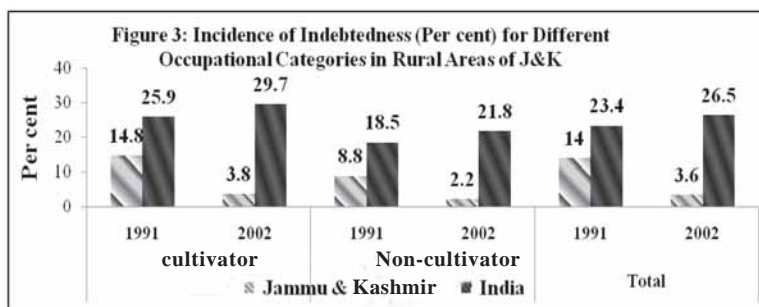


Table 17: Debt-Asset Ratio of Rural Households by Occupational Category in 1971, 1981, 1991 and 2002 for Jammu and Kashmir and All India.

Occupational Categories	Cultivator		Non-Cultivator		All	
	Jammu & Kashmir	India	Jammu & Kashmir	India	Jammu & Kashmir	India
1971	2.33	4.16	3.18	8.42	2.35	4.43
1981	0.44	1.80	0.28	2.28	0.43	1.83
1991	0.66	1.61	0.90	3.01	0.68	1.78
2002	0.18	2.49	0.15	4.65	0.18	2.84

Source: Report No. 419, Debt and Investment Survey (NSS 48th Round); Report No. 500 (59/18.2/1), Households Assets and Liabilities in India (NSS 59th Round).

It is seen that the 'debt-asset' ratio of the rural households was low in 2002 compared to 1971 in both the categories for the state. However, in the case of all India the ratio fell continuously till 1991, but has

increased since then. The burden of debt was lower for households belonging to cultivator against non-cultivator households both in the state as well as in All India situation. This finding is consistent with what we found earlier in the case of value of assets, that they accrued more to the cultivators than to non-cultivators. This may partly be the reason for the low debt among cultivator households in the state. The important issue here is: why the extent of indebtedness in the state of Jammu and Kashmir is lower than in All India? One possible explanation may be the non-availability of adequate credit in the state. It is seen from the study by Narayanamoorthy and Kalamkar (2005) that the agricultural credit availability per hectare of net sown area is very low in the state, that is, Rs. 438 as compared to the national average of Rs. 5340. Moreover, the study found positive and significant relationship between the availability of credit per hectare of net sown area and the extent of indebtedness.

The information provided, by NSS 59th round, in the Table 18 suggests that small and marginal farmers are heavily dependent on the institutional credit as compared to medium farmer households who took loan from relatives and friends. The point to be underlined here is that those who do not have access to land are not getting loan from any of the specified institutional sources. Therefore, it would be more useful to examine how these households sustain their livelihood while coping up with the lack of access to credit.

A shift has been observed away from agricultural activities in the state. Yet, on the whole, the dependency of workers on this sector for their livelihood is still dominant in the past two decades. Here, it is necessary to find an answer to the following question- why the dependency of workers is more on agricultural sector? To find an answer to this question, we tried to look into the educational level of the workers, across different industrial categories. Literacy levels available within the households fall under the category of human capital which is also one of the important livelihood assets. The data regarding literacy level given here is limited to occupational categories.

Table 18: Per 1000 Distribution of Outstanding Loan (in Rs.) for Each Size-Class of Land Possessed by Source of Loan per Farmer Household for 2003.

Credit Agency	<0:01	0.01 – 0.40	0.40 – 1.00	1.01 – 2.00	2.01 – 4.00	4.01 – 10.00	10.00+	all sizes
Government	0	55	314	26	1	0	0	131
Co-operative society	0	0	2	1	8	0	0	2
Bank	0	554	300	712	880	1	0	543
Agricultural/ Professional Money Lender	0	0	29	0	5	0	0	11
Trader	0	183	195	87	105	111	0	155
Relatives & Friends	0	208	154	175	1	888	0	155
Doctor, Lawyer and Other Professionals	0	0	0	0	0	0	0	0
Others	0	0	6	0	0	0	0	2
All	0	1000	1000	1000	1000	1000	0	1000

Source: Report No. 498(59/33/1), Situation Assessment Survey of Farmers Indebtedness of Farmers Households, 2003, NSS 59th Round, Ministry of Statistics & Programme Implementation, Government of India.

Table 19: Sex-Wise Distribution of Workers as Per Education Status in 2001 for Jammu and Kashmir (Per cent).

Categories	Sex	Educational Status		
		Total	Illiterate	Literate
I	Persons	49.26	61.66	36.59
	Male	48.97	64.24	36.13
	Female	50.75	53.52	42.09
II	Persons	4.95	6.34	3.54
	Male	5.33	7.37	3.62
	Female	2.98	3.09	2.64
III	Persons	5.45	8.65	2.18
	Male	3.40	5.31	1.80
	Female	16.13	19.18	6.59
IV	Persons	5.49	7.79	3.13
	Male	4.57	6.60	2.86
	Female	10.27	11.52	6.37
V	Persons	2.95	2.64	3.26
	Male	3.20	3.00	3.37
	Female	1.63	1.52	1.98
VI	Persons	3.05	2.74	3.37
	Male	3.52	3.43	3.60
	Female	0.61	0.58	0.72
VII	Persons	4.04	2.26	5.85
	Male	4.61	2.68	6.24
	Female	1.04	0.94	1.33
VIII	Persons	1.81	0.73	2.91
	Male	2.12	0.92	3.12
	Female	0.20	0.12	0.45
IX	Persons	23.01	7.19	39.16
	Male	24.28	6.44	39.27
	Female	16.38	9.53	37.82
Total Workers	Persons	100 (1881111)	100 (950328)	100 (930783)
	Male	100 (1578629)	100 (721024)	100 (857605)
	Female	100 (302482)	100 (229304)	100 (73178)

Source: Census of India, 2001 (Electronic Data).

Note: (i) I= As Cultivator; II= As Agricultural Labourer; III= In Mining, Quarrying, Livestock, Forestry, Fishing, Hunting & Plantations, Orchards & Allied Activities; IV= At Household Industry; V= In Manufacturing Other Than Household Industry; VI= In Construction; VII= In Trade & Commerce; VIII= In Transport, Storage and Communications and IX= In Other Services.

(ii) Absolute Figures are in brackets.

(D) Human Capital:

The sex-wise percentages of different categories of workers to total main workers, as per education status, are presented in Table 19. Majority of total illiterate workers are engaged in cultivation (category I) as is evident in Table 19. It is interesting to note that the females engaged in cultivation are less illiterate than males, that is, 53.53 per cent and 64.24 per cent, respectively. Correspondingly the percentage of literate males (36.13) is less than females (42.09) dependent on cultivation amongst total literate workers. Further, more literate workers are engaged in other services (category IX) irrespective of sex. It is also noticed that in categories such as; mining, quarrying, livestock, forestry, fishing, hunting & plantations, orchards & allied activities; household industry and other services females are found to be more illiterate in relation to other categories and their counterparts (See Table 19).

After category I – cultivators, the percentage of literate male workers were more in category IX - other services sector. Total male literate workers remained under 7 per cent in other sectors. These findings indicate the importance of education, which enables the workers, regardless of sex, to avail the opportunities arising in the non-agricultural sector. As a result, the workers with low education level were forced to remain in the agricultural sector. This, among others, is reinforced by militancy, limited scope in secondary & tourism sectors and lack of other avenues for employment.

V. Summing Up

The foregoing discussion brings out some interesting patterns, which are summarized in this section. The main points are as follows:

Firstly, in the occupational structure of the workers, there is a shift away from agricultural sector to other sectors. Interestingly, those households which have low MPCE (monthly per capita expenditure) have diversified their sources of income to multiple avenues than one

source of income. This is not an unexpected result; because the marginalized households are bound to spread the risk and uncertainty for their survival by availing every opportunity without waiting for specific well paid tasks.

Secondly, cultivation still remains the dominant livelihood strategy among workers in the state notwithstanding the shift especially to manufacturing and tertiary activities over the period. This may partly be attributed to high percentages of rural illiterate workers among those engaged in the cultivation and partly to fewer opportunities in other sectors due to insurgency in the state. This issue needs to be looked into in more detail across households to see what role literacy has played among workers to attain various kind of skills to avail the opportunities in other non-agricultural sectors.

Thirdly, the relative position of land, building or any other item of assets in the total value of assets did not change considerably between 1981 and 2002. Amongst various assets, the land and building have remained the most important components of assets owned by the (both cultivators and non-cultivators) households. Moreover, all categories of households by and large possessed varying number of cattle and buffalo to supplement their income to withstand risk and uncertainty. In other words, the accumulation of assets is helpful to reduce the vulnerability of households and allow them to exploit income-generating activities. It makes them capable of diversification from cultivation to other activities.

Fourthly, the different reports of NSSO pointed out that the agrarian structure of the state has been shifting towards marginal farms with respect to both ownership and operational holdings during the past three decades. The incidence of landless households is very low in the state as against the all-India situation. In addition, households which do not operate as well as those which neither own nor operate any land

have fallen substantially over the same period of time. These data direct to the tentative conclusion that these are vulnerable households and that their livelihood is more at risk than that of better-off categories of households. Since they are indebted, they are less capable to cope up with risk by diversifying their livelihood activities. This is corroborated by the increase in landless agricultural labour. Further, it also came out during the discussions that those who own land but do not operate are increasing in terms of percentage. This indicates that cultivation is not remunerative for them; they require some other sources of income to supplement their earning for their livelihood. Therefore, an attempt has been made to examine the livelihood portfolios and level of incomes of these types of households in comparison with well-off households using survey data.

The state also has maintained the value of assets for both cultivators and non-cultivators, the two occupational categories. The value of assets is found more in case of cultivators as against non-cultivators. Further, the number of households belonging to the categories of landless labourers, marginal or smallholdings has only low levels of indebtedness. This is attributed to the lack of availability of credit for most households in the state. Against this background, it would be more useful to see how these households sustain their livelihood despite coping up with the lack of access to credit.

Finally, the percentage distribution of land operated for farming of animals, as per class size of household operational holding, suggests that dairy farming retained its importance across all the classes. However, the distribution is skewed towards marginal and small holdings. The total number of cattle owned per 1000 households substantially came down since 1981-82 to 1991-92 but increased slightly by 2002-03. Reverse is true in the case of number of buffaloes per 1000 for all the size classes during the same period.

In short, these trends indicate that a rapid process of marginal farming in agriculture is taking place. Consequently, those marginal holdings may not be viable to sustain the livelihoods of those depending on them for their livelihood. In this context, one can expect more shift of the population towards the ancillary activities. Therefore, an effort is made to understand the livelihood strategies adapted by them to sustain their livelihood.

A shift in occupational pattern from the primary sector to the secondary & tertiary sectors or a shift in the origination of income from agriculture to industry & the tertiary sector is considered to be a natural process of economic development. Thus, diversification is undertaken to move to a better state than the existing one. In fact, each household has its own strategy of decision-making on the allocation of resources among different income-generation activities. Sometimes, a member also finds multiple sources of income during a particular time or at different times of the year.

In addition, a large number of studies, mentioned in the introductory part, argued that livelihood strategies differ across the households. The rationale behind this is that the poor households do not have other options, other than diversification - by taking up whatever opportunities available for their survival as compared to their counterparts, which diversify as per expected pay-offs in other activities. In other words, poor households diversify for their survival and rich households diversify for accumulation of wealth (Marschke and Berkes, 2006). Information is not available to clarify this aspect at the micro level, which limits us to understand diversification process at macro-level. There is immense scope to fill this gap and to establish a link between macro and micro policies on the subject. This subject has gained importance recently. One moot point came out from the discussion is that low education level of the workers coupled with insurgency has imposed constraints over their entry into other sectors. Therefore, that

forced the workers to remain in the agricultural sector which is a serious cause of concern. This has happened despite the state having immense potential to diversify due to its richness in variety, conducive environment for cultivation of multiplicity of crops, etc.

Moreover, lack of information across households by size-categories did not allow us to see the correlation among various assets and livelihood outcomes, as varying possession of assets among households are responsible for differences in the livelihood outcomes (say for example, monthly per capita income/expenditure, literacy rate, etc.). The available micro-level evidence suggests that there is significant correlation between all types of assets; that it is the highest between land and investment, and land and education. It is obvious that those with larger landholdings have better access to finance and education. Naturally their consumption expenditure, which is considered one of the main livelihood outcomes, is also on the higher side (Nair *et al.*, 2007). Also, it is important to explore the characteristics of households engaged in different types of diversification because we are unable to determine whether the assets identified are necessary for a particular diversification strategy. This would require much more quantitative data as well as more in-depth qualitative analysis. Different combinations of assets may be the reason why some households diversify and others do not; again, it is something that is difficult to conclude definitively from the present analysis. Not knowing whether households chose a particular diversification strategy because of distress, growth or distress mitigation further limits the interpretation.

However, by looking at the data and complementary secondary sources, we are able to get a good idea of the possible reasons for diversification and are able to form some tentative hypotheses. In the state of Jammu and Kashmir, a majority of people depend on agriculture for their survival. Given the inability of this sector to impart secure livelihoods, it would be of interest to study the livelihoods of the

households and to understand their survival strategies at ground level. In this vein, some of the possible research questions are raised below. A few of them one could be taken up for investigation at micro-level.

- What are household's current livelihood activities? From where do they derive income/food? What strategies are employed in meeting basic household needs? What are the coping mechanisms used by different households in response to different shocks? How diversification impacts on livelihood security? Under what circumstances does diversification lead to a decrease in inequality and poverty?
- What critical external factors (markets, policies, institutions) shape livelihoods? Which internal factors play a vital role in shaping the outcome of people's livelihoods? What are the characteristics of households that diversify? Have small, resource-poor households diversified more or less than their larger, resource-rich counterparts?
- In what ways is diversification a response to the sources of uncertainty that people face? Has diversification allowed small and marginal farmers to cope better with the shocks/vulnerability or has it exaggerated problems?
- Is diversification a strategic approach to an expanded opportunity (i.e. 'thriving') set, or a constrained response to a diminished set of opportunities (i.e. coping)? Has diversification offered the freedom and choice to move out of entrenched and dependent caste, class or gender based activities?

***Rajeev Sharma** is a Doctoral Scholar at the Centre for Development Studies, Thiruvananthapuram, Kerala. His area of interest is in the field of Agriculture and Rural Development. Presently, he is working on the topic entitled "Livelihood Diversification and Rural Development : An Empirical Investigation of the conditions in Jammu and Kashmir."*

Email: rajeev@cds.ac.in; sharma.rajeev80@gmail.com

References

- Berhanu, W; Coleman, D., and Fayissa B. (2007), 'Diversification and Livelihood sustainability in a Semi-Arid Environment: A Case Study from Southern Ethiopia', *Journal of Development Studies*, 43(5): 871-889.
- Bebbington, A. (1999), 'Capitals and Capabilities: A Framework for analyzing Peasant Viability, Rural Livelihoods and Poverty', *World Development*, 27(12): 2021-2044.
- Chambers, R., and Gordon, R.C. (1992), 'Sustainable Rural Livelihoods: Practical Concepts for the 21st Century, *Institute of Development Studies*, Discussion Papers, 296, Cambridge.
- Chambers, R. (1989), 'Editorial Introduction: Vulnerability, Coping and Policy', *IDS Bulletin*, 20 (2): 1-7.
- Chimhowu, A., and Hulme, D. (2006), 'Livelihood Dynamics in Planned and spontaneous Resettlement in Zimbabwe: Converging and Vulnerable', *World Development*, 34 (4):728-750.
- Dev, M.S. (1994), 'Indicators of Unsustainability in the Indian Himalayas: A Survey', *MFS series No.37*, ICIMOD, Kathmandu, Nepal.
- Dercon, S., and Krishnan, P. (1996), 'Income portfolios in rural Ethiopia and Tanzania: Choices and constraints', *Journal of Development Studies*, 32 (6): 850-75.
- Ellis, F. (1998), 'Household Strategies and Rural Livelihood Diversification', *Journal of Development Studies*, 35(1): 1-38.
- Ellis, F. (2000), 'Rural Livelihoods and Diversity in Developing Countries', Oxford University Press.
- Fafchamps, M., and Gubert, F. (2006), 'The Formation of Risk Sharing Networks,' *Journal of Development Economics*, 83(2): 326-50.

- Fafchamps, M., and Lund, S. (2003), 'Risk-Sharing Networks in Rural Philippines,' *Journal of Development Economics*, 71: 261–87.
- Jodha, N.S. (1992), 'Agricultural Growth and Sustainability: Perspectives and Experiences from the Himalayas', *MFS Series No.25*, ICIMOD, Kathmandu, Nepal.
- Lerman, Z; Serova E., and Zvyagintsev, D. (2008), 'Diversification of Rural Incomes and Non-Farm Rural Employment: Survey Evidence from Russia', *The Journal of Peasant Studies*, 35(1): 60-79.
- Marschke, M. J., and Berkes, F. (2006), 'Exploring strategies that build livelihood resilience: a case from Cambodia', *Ecology and Society*, 11(1): 42.[Online] URL: <http://www.ecologyandsociety.org/vol11/iss1/art42/>.
- Nair, K.N., and Menon V. (2007), 'Distress Debt and Suicides among Agrarian Households: Findings from Three Village Studies in Kerala', *CDS Working Paper No. 397*. Centre for Development Studies, Thiruvananthapuram.
- Nair, K.N., and Ramakumar, R. (2007), 'Agrarian Distress and Livelihood Strategies: A Study in Upputhara Panchayat, Idukki District, Kerala. *CDS Working Paper No. 392*. Centre for Development Studies, Thiruvananthapuram.
- Nair, K.N.; Vinod, C.P and Menon, V. (2007), 'Agrarian Distress and Livelihood Strategies: A Study in Pulpalli Panchayat, Wayanad District, Kerala. *CDS Working Paper No. 396*. Centre for Development Studies, Thiruvananthapuram.
- Narayanamoorthy, A. and Kalamkar, S.S. (2005), 'Indebtedness of Farmer Households Across States: Recent Trends, Status and Determinants'. *Indian Journal of Agricultural Economics*, 60(3): 289-301.

- Papola, T.S. (2005), 'Development and Livelihood in Sikkim: Towards a Comparative Advantage Based Strategy. *UNDP, Human Resource Development Centre*; Discussion Paper Series-14.
- Rai, A.; Sharma, S.D.; Shahoo, P.M., and Malhotra, P.K. (2008), 'Development of Livelihood Index for Different Agro-Climatic Zones of India', *Agricultural Economics Research Review*, 21(2): 173-182.
- Reardon, T. (1997), 'Using Evidence of Household Income Diversification to Inform Study of the Rural Non-Farm Labour Market in Africa', *World Development*, 25(5): 735-47.
- Scooner, I. (1998), 'Sustainable Rural Livelihoods: A Framework for Analysis', *IDS Working Paper No. 72*.
- Shylendra, H. S. (2002), 'Environmental Rehabilitation and Livelihood Impact: Emerging Trends from Ethiopia and Gujarat', *Economic and Political Weekly*, 37(31): 3286-3292.
- Samal, C.K. (2006), 'Remittances and Sustainable Livelihoods in Semi-arid Areas', *Asia-Pacific Development Journal*, 13(2):73-92.
- Shukla, N.D., and Shukla, K.C. (2007), 'Scope and Limitations of Crop Diversification in Indian Agriculture', *Agricultural Situation in India*, LXIV (8): 357-365.
- Sujithkumar, P.S. (2007), 'Livelihood Diversification: A Case Study in Rural Tamil Nadu. *Indian Journal of Labour Economics*', 50 (4): 715-722.
- Sudan, F. K. (2007), 'Livelihood Diversification and Women Empowerment through Self-Help Micro Credit Programme: Evidence from Jammu and Kashmir', *Indus Journal of Management & Social Sciences*, Vol. 1, No. 2:90-106.
- Sirohi, S. (2008), 'Agricultural Infrastructure in India: Current Situation, Challenges and Potential for Expansion', (eds.) Mittal, S and

A. Mukherjee, in *Food for Policy: Reforming Agriculture*, Cambridge University Press, India.

Unni, J. (1996), 'Diversification of Economic Activities and Non-Agricultural Employment in Rural Gujarat', *Economic and Political Weekly*, 31(33): 2243- 2251.

World Bank. (1990), 'Agricultural Diversification Policies and Issues from East Asian Experience', *Policy and Research Series 11, Agriculture and Rural Development*, World Bank, Washington, D.C., U.S.A.

PUBLICATIONS

For information on all publications, please visit the CDS Website: www.cds.edu. The Working Paper Series was initiated in 1971. Working Papers from 279 can be downloaded from the site.

The Working Papers published after April 2007 are listed below:

- W.P. 438 APARNA NAIR**, *The Indifferent many and the Hostile few: An Assessment of Smallpox Vaccination in the 'Model Native State' of Travancore 1804-1941*. November 2010.
- W.P. 437 VINOJ ABRAHAM**, *The Effect of Information Technology on Wage Inequality: Evidence from Indian Manufacturing Sector*. September 2010.
- W.P. 436 S. IRUDAYA RAJAN, D. NARAYANA**, *The Financial Crisis in the Gulf and its Impact on South Asian Migrant Workers*. August 2010.
- W.P. 435 ANUP KUMAR BHANDARI**, *Total Factor Productivity Growth and its Decomposition: An Assessment of the Indian Banking Sector in the True Liberalised Era*. August 2010
- W.P. 434 BEENA SARASWATHY**, *Cross-Border Mergers and Acquisitions in India: Extent, Nature and Structure*. July 2010
- W.P. 433 VIJAY KORRA**, *Nature and Characteristics of Seasonal Labour Migration: A Case Study in Mahabubnagar District of Andhra Pradesh*. July 2010
- W.P. 432 K.C. ZACHARIAH S. IRUDAYA RAJAN**, *Impact of the Global Recession on Migration and Remittances in Kerala: New Evidences from the Return Migration Survey (RMS) 2009*. June 2010.
- W.P. 431 GARGI SANATI**, *Integration of India's Financial Markets on the Domestic and International Fronts: An Empirical Analysis of the Post-Liberalisation Period*, June 2010.

- W.P. 430 SUNIL MANI**, *Has China and India Become more Innovative Since the onset of Reforms in the Two Countries?* May 2010.
- W.P. 429 T. R. DILIP**, *School Educational Attainment in Kerala: Trends And Differentials.* April 2010.
- W.P. 428 SUNIL MANI**, *The Flight from Defence to Civilian Space: Evolution of the Sectoral System of Innovation of India's Aerospace Industry.* April 2010.
- W.P. 427 J. DEVIKA, V. J. VARGHESE**, *To Survive or to Flourish? Minority Rights and Syrian Christian Community Assertions in 20th Century Travancore/Kerala.* April 2010.
- W.P. 426 ANUP KUMAR BHANDARI**, *Global Crisis, Environmental Volatility and Expansion of the Indian Leather Industry.* March 2010.
- W.P. 425 P L. BEENA, HRUSHIKESH MALLICK**, *Exchange Rate and Export Behaviour of Indian Textiles & Clothing Sector: An Enquiry for Major Destination Countries.* March 2010.
- W.P. 424 K. C. ZACHARIAH, S. IRUDAYA RAJAN**, *Migration Monitoring Study, 2008 Emigration and Remittances in the Context of Surge in Oil Prices.* March 2010.
- W.P. 423 VIJAYAMOHANAN PILLAI N**, *Loss of Load Probability of a Power System: Kerala.* February 2010.
- W.P. 422 JAYASEKHAR S, C. NALIN KUMAR**, *Compliance, Competitiveness and Market Access: A Study on Indian Seafood Industry.* February 2010.
- W.P. 421 S. IRUDAYA RAJAN, V.J. VARGHESE, M.S. JAYAKUMAR** *Overseas Recruitment in India: Structures, Practices and Remedies.* December 2009.
- W.P. 420 V.J. VARGHESE**, *Land, Labour and Migrations: Understanding Kerala's Economic Modernity,* December 2009.
- W.P. 419 R. MOHAN, D. SHYJAN** *Tax Devolution and Grant Distribution to States in India Analysis and Roadmap for Alternatives,* December 2009.

- W.P. 418 WILLIAM JOE & U. S. MISHRA** *Household Out-of-Pocket Healthcare Expenditure in India Levels, Patterns and Policy Concerns*, October 2009.
- W.P. 417 NEETHI P** *Globalisation Lived Locally: New Forms of Control, Conflict and Response Among Labour in Kerala, Examined Through a Labour Geography Lens*. October 2009.
- W.P. 416 SUNIL MANI** *High skilled migration from India, An analysis of its economic implications*, September 2009.
- W.P. 415 SUNIL MANI** *Has India Become more Innovative Since 1991? Analysis of the Evidence and Some Disquieting Features*, September 2009.
- W.P. 414 WILLIAM JOE, PRIYAJIT SAMAIYAR, U. S. MISHRA** *Migration and Urban Poverty in India Some Preliminary Observations*, September 2009.
- W.P. 413 K. N. NAIR, T.P. SREEDHARAN, M. ANOOPKUMAR, A** *Study of National Rural Employment Guarantee Programme in Three Grama Panchayats of Kasaragod District*, August 2009
- W.P. 412 B.S. SURAN, D. NARAYANA**, *The Deluge of Debt: Understanding the Financial Needs of Poor Households*. July 2009
- W.P. 411 K. NAVANEETHAM, M. KABIR, C.S. KRISHNAKUMAR**
Morbidity Patterns in Kerala: Levels and Determinants. April 2009.
- W.P. 410 ARINDAM BANERJEE**, *Peasant Classes, Farm Incomes and Rural Indebtedness: An Analysis of Household Production Data from two States*. March 2009.
- W.P. 409 SUNIL MANI**, *The Growth of Knowledge-intensive Entrepreneurship in India, 1991-2007 Analysis of its Evidence and the Facilitating Factors*. February, 2009
- W.P. 408 M. S. HARILAL**, *Home to Market: Responses, Resurgence and Transformation of Ayurveda from 1830s to 1920*. November 2008

- W.P. 407 HRUSHIKESH MALLICK**, *Do Remittances Impact the Economy ? Some Empirical Evidences from a Developing Economy*. October 2008.
- W.P. 406 K.C.ZACHARIAH, S.IRUDAYA RAJAN**, *Costs of Basic Services in Kerala, 2007, Education, Health, Childbirth and Finance (Loans)* September 2008.
- W.P. 405 SUNIL MANI** *Financing of industrial innovations in India How effective are tax incentives for R&D?* August 2008.
- W.P. 404 VINOJ ABRAHAM** *Employment Growth in Rural India: Distress Driven?* August 2008.
- W.P. 403 HRUSHIKESH MALLICK**, *Government Spending, Trade Openness and Economic Growth in India: A Time Series Analysis*. July 2008.
- W.P. 402 K. PUSHANGADAN, G. MURUGAN**, *Dynamics of Rural Water Supply in Coastal Kerala: A Sustainable Development View*, June 2008
- W.P. 401 K. K. SUBRAHMANIAN, SYAMPRASAD**, *Rising Inequality With High Growth Isn't this Trend Worrisome? Analysis of Kerala Experience*, June 2008
- W.P. 400 T.R. DILIP**, *Role of Private Hospitals in Kerala: An Exploration*, June 2008
- W.P. 399 V. DHANYA**, *Liberalisation of Tropical Commodity Market and Adding-up Problem: A Bound Test Approach*, March 2008
- W.P. 398 P. MOHANAN PILLAI, N. SHANTA**, *ICT and Employment Promotion Among Poor Women: How can we Make it Happen? Some Reflections on Kerala's Experience*. February 2008.
- W.P. 397 K.N.NAIR, VINEETHA MENON**, *Distress Debt and Suicides among Agrarian Households: Findings from three Village Studies in Kerala*. December 2007

- W.P. 396 K.N.NAIR, C.P. VINOD, VINEETHA MENON,** *Agrarian Distress and Livelihood Strategies: A Study in Pulpalli Panchayat, Wayanad District, Kerala* December 2007
- W.P. 395 K.C. ZACHARIAH, S.IRUDAYA RAJAN,** *Migration, Remittances And Employment Short-term Trends and Long-term Implications.* December 2007
- W.P. 394 K.N.NAIR, ANTONYTO PAUL, VINEETHA MENON,** *Livelihood Risks and Coping strategies: A Case Study in the Agrarian Village of Cherumad, Kerala.* November 2007
- W.P. 393 S. IRUDAYA RAJAN, U.S.MISHRA,** *Managing Migration in the Philippines: Lessons for India.* November 2007.
- W.P. 392 K.N.NAIR, R.RAMAKUMAR** *Agrarian Distress and Rural Livelihoods, a Study in Upputhara Panchayat Idukki District, Kerala.* November 2007.
- W.P. 391 PULAPRE BALAKRISHNAN,** *Visible hand: Public policy and economic growth in the Nehru era.* November 2007.
- W.P. 390 SUNIL MANI,** *The Growth Performance of India's Telecommunications Services Industry, 1991-2006 Can it Lead to the Emergence of a Domestic Manufacturing Hub?* September 2007.
- W.P. 389 K. J. JOSEPH, VINOJABRAHAM,** *Information Technology and Productivity: Evidence from India's Manufacturing Sector.* September 2007.
- W.P. 388 HRUSHIKESH MALLICK,** *Does Energy Consumption Fuel Economic Growth In India?* September 2007.
- W.P. 387 D. SHYJAN,** *Public Investment and Agricultural Productivity: A State-wise Analysis of Foodgrains in India.* July 2007.
- W.P. 386 J. DEVIKA,** *'A People United in Development': Developmentalism in Modern Malayalee Identity.* June 2007.
- W.P. 385 M.PARAMESWARAN,** *International Trade, R&D Spillovers and Productivity: Evidence from Indian Manufacturing Industry.* June 2007.

- W.P. 384 K. C. ZACHARIAH, S. IRUDAYA RAJAN** *Economic and Social Dynamics of Migration in Kerala, 1999-2004 Analysis of Panel Data.* May 2007.
- W.P. 383 SAIKAT SINHA ROY** *Demand and Supply Factors in the Determination of India's Disaggregated Manufactured Exports : A Simultaneous Error-Correction Approach.* May 2007.