CHAPTER – II

REVIEW OF LITERATURE

Poverty being a concrete reality affecting the Indian society for the past several decades, individual researchers and institutions have attempted from time to time to measure its extent, dimensions and these sections of people affected by it. This section provides general picture of Indian-poverty, studied against its nature, extent and dimensions and activity diversification. There is a voluminous literature on poverty and activity diversification adopted by rural households to deal with the problem of poverty.

Poverty

Myrdal (1970) observed that the challenge of world poverty is one of the most important contemporary readings on poverty. Apart from interpreting rural poverty as an outcome of social and economic inequality, it epitomizes the policy prescription.

In India, poverty is not a recent phenomenon. Ample evidence of its incidence among the masses is found in the literary and descriptive accounts of the pre-colonial and colonial

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times (Ganguli, 1976). According to Desai (1986) the word poverty in the absolute sense, referred to a condition of acute physical want, starvation, malnutrition, disease, want of clothing, shelter, education and almost total lack of medical care.

Yadav (1980) considered a person as poor, if he was living in conditions of insufficiency of basic needs, namely food, shelter and clothing. Appu (1977) regarded poverty, as a person’s lack of command over adequate goods and services to satisfy his basic needs relating to food, clothing, housing, medicine and education.

According to Thimmaiah, (1985) poverty is the inadequacy of income to meet the basic necessities of life. Dasgupta (1981) concluded that poverty in an area was generally characterized by low level of income or low level of consumption of either the whole population or a part of the population.

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According to Pant, (1980)\(^8\) the concept of poverty was somewhat wider and included not only those who were unemployed, but also those who were fully or partly employed but earned very little because of low productivity and low wages.

Varadarajan and Aiyasamy (1983)\(^9\) viewed poverty as an attributed of the families experiencing deprivation not only in nutrition, but also in health, education sanitation, clothing and purchasing power.

Ahluwalia, (1978)\(^10\) defined absolute poverty as the below subsistence level reflected mainly in inadequacy of food intake and the consequent under-nourishment on a mass scale. In developing countries, the definition of subsistence might also include other essential minimum needs like clothing, housing, education and health.

Subramaniam (1986)\(^11\) in his study on Poverty and Inequality in Tamilnadu by using NSS data for 11 years ending 1983, observes that the absolute levels of average real per capita

consumer expenditure has been low in both rural and urban areas and these levels have shown no trend of increase over time. The study reveals that the proportion of the population in poverty has been consistently high in both the rural and the urban areas, and also showed that the trends in the number of people in poverty and also, by and large, been extremely discouraging. The number of people in absolute poverty had been comfortably keeping pace with the general rate of growth of population in the urban areas of the state.

For the present study, poverty was defined as a condition where a person was deprived of any one or a combination of economic factors like income, employment, productive assets and social factors like education, health care and sanitation, necessary for a minimum standard of living. In India, the major objectives of the Government’s Poverty Alleviation Programmes are the uplifting of the selected poor families in each block above the poverty line.

The term poverty line was used by Bandopadhyaya (1988)12 for the first time. The qualification of poverty in terms of calories of consumption originally devised by him. Others subsequently adopted it like World Bank, Indian Planners and Government Commissions. The earliest and a very

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A comprehensive study was made by Dandekar and Rath\textsuperscript{13} (1971) where Poverty line was estimated in terms of nutritional adequacy which was put at 2,250 calories per capita per day. The income equivalent of this calorie norm was Rs. 170/- per capita per annum for rural households and Rs. 271/- per capita per annum for urban households at 1960-71 prices.

Bardhan (1973)\textsuperscript{14} estimated poverty line at Rs. 15/- per capita per month for the rural households and Rs. 18/- per capita per month for the urban households at 1960-62 prices.

Minhas (1986)\textsuperscript{15} estimated the poverty line at Rs. 200/- per capita per annum for the rural areas and Rs. 240/- per capita per annum for the urban areas at 1960-61 prices. As against this, Ojha,\textsuperscript{16} (1970) estimated in 1967-68, 289 million persons lived below the poverty line in 1967-68. As compared to 52 per cent in 1960-61, 70 per cent of rural population was below the poverty line in 1967-68. Panikar\textsuperscript{17} (1972) considered per capita consumption expenditure of Rs. 37.80 as essential for food consumption at 1970-71 prices.

\textsuperscript{13} Dandekar and Rath, Nilakantha (1971), Poverty in India, Poona: Indian School of Political Economy.
\textsuperscript{14} Bardhan (1973) on the Incidence of Poverty in Rural India in the Sixties Economic and Political Weekly, Vol. 8, Annual No. Feb.
\textsuperscript{15} Minhas (1986), ―Planning and the Poor," New Delhi, Sultan Chand and Company.
\textsuperscript{17} Panikar, P.G.K. (1972), ―Economics of Nutrition," Indian Journal of Agricultural Economics, 32:4 (October-December), pp. 35-36.
Mundel (1983)\textsuperscript{18} estimated poverty line for the State of Tamilnadu as Rs. 57/- per capita in 1973-74 prices based on a nutritional intake norm of 2435 calories per head per day. Thakur\textsuperscript{19} worked out the per month minimum food and non-food requirements in monetary terms of Rs. 77.61 and Rs. 52.93 respectively at 1980-81 prices.

Kurien, (1978)\textsuperscript{20} estimated that for Tamilnadu in 1970-71, 56 per cent of cultivators consisting of those operating a hectare of wet land or three hectares of dry land, 87 per cent of agricultural labourers and 85 per cent of non-agricultural labourers were under the poverty line.

Elango (1985)\textsuperscript{21} using Kurien’s definition of Rs. 15.30 at 1960-61 prices fixed the cost of nutritionally adequate diet of 2400 calories of rural Tamilnadu. He used the food expenditure norm to measure the poverty of the households at Rs. 919/- per capita per year as the cut-off point for the poverty line, by using the rural price index of Tamilnadu as the deflator of price. According to his estimation, about 46.90 per cent of the households was below the poverty line.

Pandey (1996) argues witnessing marginal decrease in the area under foodgrains, along with a substantial increase in the area under non-foodgrains (1980-81 to 1994-95). These observations indicate scope for area diversification towards non-foodgrains crops, like potato, sugarcane and oilseeds. Da Costa (1971) measured the extent of poverty in India for the year 1963064. He divided the poverty stricken people into the poor, the destitute, and the seriously destitute. His line of poverty was Rs. 15 and Rs. 24 per month in rural and urban areas respectively. He found that 34.6 per cent of the total population below this poverty line. Rao and Chandrasekhar have examined the inter-state and inter-temporal dimensions of the incidence of poverty in urban area for the period (1963-64 to 1973-74).

A study by Sastry (1981) examined the incidence of poverty and its inter-relationship with economic development, inequality and poverty in the three sub-regions of Andhra Pradesh (Coastal Andhra, Rayalaseema and Telengana) and its districts separately for rural and urban areas. For quantifying poverty, both positive and normative approaches were followed.

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Under the positive approach, fulfillment of varying calorie requirements of per capita per day (1,800, 2,000, 2,250) was fixed.

**Inequality**

Bhatty’s (1993)\(^{26}\) estimate was on the basis of the National Council of Applied Economic Research Survey for the period 1968-69. He used Sen’s index of poverty and considered five poverty levels in terms of per capita annual income in 1968-69 (Rs. 180, Rs. 240, Rs. 300, Rs. 360 and Rs. 420). The study revealed that the inequality in the distribution of per capita consumption expenditure was uniformly less than the inequality in the distribution of income. Considerable variation in inequality in consumption expenditure was found in States between one occupation and another. Of the three occupational classes viz., agricultural labourers, cultivators, and non-agricultural workers, agricultural labourers were found to be the most deprived among the occupation classes.

Vaidyanathan (1984)\(^{27}\) examined the pattern of inequalities in per capita consumption levels by principal occupation, land holding categories and household size. He also attempted to find the inter-state variation in the degree of inequality in consumption. The necessary data were collected from the N.S.S.

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and the study covers the period 1960-61 to 1967-68. The poverty line considered was Rs. 20 per capita consumption expenditure per month (at 1960-61 prices) estimated that the proportion of rural poor have gone up progressively from 59.5 per cent in 1960-61 to 60.4 per cent in 1964-65, and further to 67.8 per cent in 1967-68. The results indicate large variations in the incidence of poverty among the states.

The study by Saith (1991) investigated the relationship between rural poverty, prices and agricultural production in India for the period 1956-57 to 1973-74 on the basis of secondary data. His study revealed that price rises accentuate poverty more powerfully than production improvements. The study also unfolded some of the determinants of rural poverty in India as percentage deviation of price index from trend level, percentage deviation of production index from trend level, and time trend.

**Inter Regional Variation**

Sanyal made the trends in poverty in fifteen major states and India as a whole during the period 1954-55 to 1971-72. This study revealed a substantial decline in the Sen measure of poverty from 0.6 in 1954-55 to 0.55 in 1961-62 and subsequently it has increased to 0.58 in 1971-72. At the state level, an increasing trend in the incidence of poverty was

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observed in Bihar, Orissa, Punjab, Uttar Pradesh, and West Bengal.

Rajaraman (1975)²⁹ studied the changes in rural poverty and inequality in Punjab on the basis of the N.S.S. consumption expenditure data 16ᵗʰ - 1960-61, 17ᵗʰ – 1961-62 and 25ᵗʰ – 1970-71 rounds. The results revealed a rise in the percentage of population below the poverty line, which had increased, from 18.4 per cent in 1960-61 to 23.28 per cent in 1970-71. The larger increase in poverty was among the agricultural labourers. In 1960-61 and 1970-71 agricultural labourers formed 17.5 and 23.2 per cent of all rural occupational groups. In 1960-61 they comprised only 22.6 per cent of the households living in poverty, but in 1970-71, their share increased to 40.5 per cent.

Nayyar (1980)³⁰ made an attempt to measure poverty and inequality in rural Bihar by examining the distribution of consumption along with distribution of land among the agricultural labourers for the period 1960-71. The findings of the study showed that 41 per cent (17.5 million people) of the population was below the poverty line in 1960-61. In 1963, this percentage was 54 and in 1964-65 it declined to 52.5 and again it rose to 59 per cent in 1970-71.


The character of poverty among the rural poor in the West Godavari district of Andhra Pradesh was examined by Parthasarathy et al.,\textsuperscript{31} (1995) drawing data from a sample study of Employment and Unemployment of Rural Labour conducted in West Godavari district for the period 1971-72. They considered two poverty line (i) at the level of Rs. 450 per capita and (ii) at the level of Rs. 300 per capita. The study observed an increase in the per capita income by 0.65 as a result of an increase in employment per worker per day. An increase in the wage rate by a rupee is associated with an increase in per capita income by Rs. 121.15. Thus, the authors underlined the need for employment oriented technology for ameliorating rural poverty.

**Magnitude of Poverty**

Gagur (1980)\textsuperscript{32} estimated the extent of poverty and identified the causes of poverty by using both primary and secondary data. The study found that 21.17 and 11.13 per cent households were below the poverty line on the basis of the minimum needs approach and calorie requirement approach respectively. Out of these 21.17 per cent poor households, 22.19 per cent were rural households and 16 per cent urban poor.

\textsuperscript{31} Parthasarathy (1995), Public Intervention and Rural Poverty Case of Non-Sustainable Reduction in Andhra Pradesh, Economic and Political Weekly: (October), pp. 14-21.

\textsuperscript{32} Gagur, Keshav, Dev (180), Extent and Measurement of Poverty in India Mittal Publications, Delhi.
households. The percentage of rural households was 12.53 and the percentage of urban households was only 4 per cent.

The extent of rural poverty among the households belonging to marginal holdings, small and medium size in Himachal Pradesh in the year 1980-81 has been estimated by Thakur on the basis of primary data. On the basis of nutritional norm approach, the percentage of poor on the marginal size of holdings was found to be 71.06, on the small size of holdings 50.65 and on the medium size of holdings 26.34 per cent. The overall percentage of the poor among all households was 47.14. On the basis of nutrition plus approach, the percentage of poor among all the households worked out to 57.31. Here too, the percentage of poor was the highest among marginal farmers.

Sharma’s (1992)\(^{33}\) examined the generational and temporal dimension of poverty among agricultural labour house holds in the Krishna district of Andhra Pradesh during 1981-82 on the basis of primary data. The study revealed that 41 per cent of the households were below the income poverty line, whereas it was 26 per cent in the case of landed and 47 in the case of landless households. On the basis of asset poverty, 73 per cent were found to be below the poverty line. The relatively low incidence of poverty on the basis of income poverty is attributed

\[^{33}\text{Sharma, K.L. (1992), Dynamics of Social Transformation in Rural Rajasthan Since Independence Sheokumarlal, Umed Rajanhar. Rural Social Transformation, New Delhi.}\]
to the high level of development attained by the district and also due to the rise in the real wages and money wages of agricultural labourers. No significant association was observed among caste and poverty. However, poverty was identified with specific occupational groups. Higher family size and dependency ratio were found to be independent factors explaining poverty. In addition, significant association between poverty and absence of female workers was also observed. However, there was no association between poverty and the level of employment. A generational decline in occupational status and access to land were observed and this was found to have aggravated the problem of poverty. Further, inter-generational occupational change was seen more in the case of other castes than scheduled castes. The decline in the access to land among the sample households was due to the adverse effect of tenancy reforms.

The centre of Regional Studies, Utkal University, measured the extent of rural poverty in the two villages (Basantapur Sasam and Kaushalyapur) of the district of Puri in Orissa in 1982. On the basis of calorie-intake, the study found about 52 and 44 per cent households below the poverty line in Kaushalyapur and Basantapur villages respectively.
The impact of liquor consumption on poverty in Ahmedabad slums was studied by Radhakrishnan et al., (1982)\textsuperscript{34} for the period 1973 on the basis of primary data.

**Diversification**

An appraisal of the empirical findings of various authors on activity diversification of rural sector the literature is one of wide canvas reaching seminal conclusions. The conclusion represent host of hypotheses which deserve testing at different regional and national settings with a view to confirming or reassessing them to enable policy making. In view of the enormity of literature in the area, a Birds eye view on the major directions of these studies is presented. Largely, the important studies undertaken in 1980’s and 1990s are mentioned. It is the World Bank, which made a significant examination of the key role of rural non-farm sector in the generation of employment and in the diversification of the rural economy at the country level (World Bank 1978).

These studies triggered off a number of studies in the direction with precise trend estimates regarding the role of various determinants of non-farm employment in the 1990s. The time series studies have probed into the role of development process and the specific issues such as rural – urban

\textsuperscript{34} Radhakrishnana et al. (1982), Levels of Living, Poverty and Liquor Consumption: A Study of Ahmedabad Slums, Anvesak Vol. XII, No. 1, pp. 29-41.
employment linkages. In delineating the diversification process under specific causes a few studies are worth mentioning.

Vaidyanathan (1986)\textsuperscript{35} hypothesized that more prosperous the region, the greater is the inequality of distribution of land and the greater the degree of exposure to urban life, the higher will be the demand for fine consumer goods and service obtained from the non-agricultural sector and consequently greater will be the level of non-agricultural activities. He used two explanatory variables, crop output per head of agricultural population and Gini index of concentration of operational holdings and Gini index of concentration of operational holdings. He found a significant and positive relationship between the incidence of non-agricultural employment and crop output per head of agricultural population but a negative relationship between non-agricultural employment and inequality of operational holdings.

Mahendra Dev (1990)\textsuperscript{36} found that land productivity is significantly and positively associated with rural non-farm employment. Gini concentration co-efficient for rural households was negatively and significantly associated with level of rural farm employment. However, he did not find a significant association between crop outputs per head of agricultural


\textsuperscript{36} Mahendra Dev (1990), Non-Agricultural Employment in Rural India: Evidence at a Disaggregated Level. Economic and Political Weekly, 29(21), pp. 1285-96.
production and the level of non-agricultural rural employment. The results indicate that the agricultural development had a positive impact on promotion of rural non-agricultural employment.

Eapen (1995)\(^{37}\) found that land-man ratio and percentage of marginal total land holding were positively related to non-farm employment in 1981. She concluded that in 1981, while both demand related and distress factors were important for growth of non-agricultural employment in 1991 only distress related factors and urbanization were important rural industry has also been categorized.

Vijay Sankar Vyas (1992)\(^{38}\) affirms that an aspect of rural social transformation of a society is basically reflected in its changing occupational patterns. On this basis, he identified two major characteristics of Indian rural society, social transformation has been restricted to small parts of the country and even such as change has rather been slow. Occupational change has taken place mainly in area where cash income from agricultural output has grown substantially. The basic reason for the slow transformation of rural economy is found to be non-availability of both economic and social infrastructure.


Jeyaraj (1994) found that the degree of urbanization, commercialization of agriculture and the rate of literacy among male workers significantly and positively affect the level of non-farm employment among rural male workers. Singh et al., (1993) indicated that, non-farm income level has a strong positive influence on the adoption of activities such as dairy farming which is less land dependent, but provide higher income than the income from crop cultivation. This study indicates that diversification towards non-farm occupation, enhances income through inducement to diversity, within the farm sector.

According to Chadha et al., (1992) diversification resulted in increased opportunities for self-employment among the rural poor, as well as to substantial increase in per capita worker as well as per family incomes. Azad et al., (1985) noted the increase in employment opportunities as a consequence of agricultural diversification as well as increase in entrepreneurial skill of marginal farmers, while Singh et al., (1991) found that rural development schemes such as SFDA, MFAL etc also had a

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positive impact on employment and income through diversification of farm and non-farm activities.

Haque (1985)\textsuperscript{43} analyzed the relationship between rural diversification and poverty in 19 Indian states, using the results of the 32\textsuperscript{nd} Round (1977-78) of the NSS. He contended that going by the NSS data, no generalization could be made about the effect of diversification on rural poverty; while diversification reduced the incidence of poverty in some states like Punjab, Haryana, there does not appear to be a major impact on poverty in states like Andhra Pradesh and Tamilnadu.

**Non-Agricultural Employment and Poverty in Rural India**

This section reviews the recent Indian literature on (i) the growth of the non-agricultural employment and possible reasons for it and (ii) the causes and consequences of such a development and their impact on poverty.

It has been pointed out in an international survey of literature that Asia is the only continent where the output share of manufacturing has gone up over the last 25-30 years. However, employment elasticities in the sector fell significantly between the 1970s and 1980s.

The share of the primary sector in GDP mostly agriculture declined steadily between 1977-78 and 1990-91, and its share in employment also fell during the period, though still accounting for most of the employment in the economy. A slow transfer of labour away from agriculture and towards the non-agricultural sector is noted.

The results of the recently brought out Fiftieth Round National Sample Survey (NSS), 1993-94 indicates that the trend of a shift in the structure of the workforce away from the primary sector continues atleast for the male workforce. The tide, however, appears to have changed for the female workers in rural areas (Unni 1996b).

Papola (1987) argues that given the dualistic nature of the labour market in India, most of the new employment in the restructured economy may occur in the unorganized sectors, which are characterized by poor conditions of work, low earnings and lack of any social security.

However, a sharp increase in rural poverty was observed in 1991 and 1992, but only a moderate fall in urban poverty

Tendulkar and Jain (1995) attribute this to a fall in agricultural output, pronounced increase in prices and a decline in foodgrain availability in rural areas.

The increase in rural poverty in 1991 and 1992 and fall in non-agricultural employment are also explained by Sen and Gosh terms of reduction in government expenditure in rural areas. This occurred through a cut in government, budget spending on rural development and fertilizer subsidy, reduced transfer to state governments, diminished real expenditure in rural employment and anti-poverty schemes, reduced spread and rising prices of the PDS for food and cuts in social sector expenditure (Ghosh, 1995).

Visaria and Basant (1994) noted three broad trends in rural non-agricultural employment in India: (i) During the last three decades 1961-1988, the share of the non-agricultural sector in the total rural labour force has increased. The trend is more clearly evident among male workers than among female workers (ii) within the rural non-agricultural sector, the increase

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in the share of tertiary sector exceeds that in the secondary sector (iii) the bulk of the increase in the rural non-agricultural sector is explained by the increase in the proportion of casual workers.

**Alternative Hypothesis**

The consumption linkages operated through an increase in income of the rural farmers. This would result in an increase in demand for goods and services produced in the nearby villages and towns. Agricultural wages were also expected to rise with increase in agricultural productivity, so that the labourers would also have an increased demand for food and other non-food items. Production linkages, both backward and forward, would also emanate from the agricultural sector. Backward linkage from agricultural to non-agricultural sector was the demand from farmers for inputs produced in the non-farm sector, such as ploughs, engines and other tools. Forward linkage reflected the need to process agricultural goods so that agro-processing industries, e.g. rice-milling and tobacco processing, would stimulate the growth of agricultural productivity, via investment of surplus back into agriculture. Thus a virtuous spiral of demanded growth would be set in motion, both in the agricultural and non-agricultural sector.
**Empirical Validation**

The first set of studies has utilized regional level data, i.e., disaggregated by state or district, to analyze the problem. These studies analyze the relationship between various macro indicators and the proportion of non-agricultural employment. Some of the indicators used to proxy for the linkages theory. Prime movers outside agriculture and the distress-induced hypotheses are agricultural development, and or labour productivity in agriculture, urbanization, poverty and unemployment.

The second kind of empirical studies are based on household or individual level data collected through village studies. While the majority of such village studies are descriptive, a few try to translate the macro level arguments for the growth of the non-agricultural sector into micro-level rationale of the household of individual worker for participation in this sector.

These studies are also of two-types. The first one was cross-sectional econometric estimates of the relationship between the level of non-farm employment and either level and growth of the independent variables. The second type tries to estimate the employment and changes in various macro indicators. Such aggregate level estimates, using cross-sectional or pooled data, suffer from the fact that both sets of growth rates
may differ across regions for many reasons, introducing bias which might swamp any relationship which exists (Lanjouw and Lanjow, 1995).\(^{50}\)

Harris\(^{51}\) (1991) tried to assess the agricultural income demand led growth of rural non-agricultural activities in the market town of Arni and its surrounding villages in Taminadu. The analysis portrays an economy in which there is concentration of wealth (rich farmers in villages and small businessmen in towns) amidst general poverty and in which antediluvian forms of capital (money lenders and pawn brokers) remain powerful. This has led to the weakening of linkages effects of the recent agricultural growth.

He concludes that while agricultural growth may be a necessary condition for rural diversification of a non-revolutionary kind it is certainly not sufficient.

Shukla (1992)\(^{52}\) noted that trading activity and non-thousand manufacturing benefited from the rural infrastructure, particularly roads, whereas household industry was relatively disadvantaged. While supporting the agriculture growth-led


\(^{51}\) Harris (1991), Rural Transformation in India, In Breman Mundle (ed.), New Delhi, Oxford University Press, pp. 429-449.

\(^{52}\) Shukla, K.S. (1992), Rural Social Tensions in the context of Social Transformation in the Countryside, Sheokumaral, Umed Rajanhar (ed) Rural Social Transformation, New Delhi, Rawat Publication, New Delhi.
model, she noted that agricultural growth was necessary, but not a sufficient condition and highlighted the need for good rural infrastructure.

**Specifics studies**

Massimiliano Calì and Carlo Menon (2009)\(^5\) reported that although the high rate of urbanization and the high incidence of rural poverty are two distinct features of many developing countries, we still do not know the effects of the former on the latter. The authors address this issue by exploring the mechanisms through which urbanization may alleviate rural poverty, disentangling "first round" effects, due to migration of rural poor to cities, and "second round" effects, due to positive externalities of city growth on surrounding rural areas.

Gaurav Datt and Martin Ravallion (1997)\(^5\) reported that Rural poverty rankings of Indian states in 1990 were very different from 1960. This unevenness in progress allows us to study the causes of poverty in a developing rural economy. They model the evolution of various poverty measures, using pooled state-level data for the period 1957-91. Differences in trend rates

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\(^5\) Gaurav Datt and Martin Ravallion 1997, *International Food Policy Research Institute (IFPRI)* Why have some Indian states performed better than others at reducing rural poverty? *New Economics Papers*
of poverty reduction are attributed to differing growth rates of farm yield per acre, and differing initial conditions; states starting with better infrastructure and human resources saw significantly higher long-term rates of poverty reduction. Deviations from the trend are attributed to inflation (which hurt the poor in the short term) and shocks to farm and nonfarm output.

Gaurav Datt and Martin Ravallion (1998)\textsuperscript{55} estimated a model of the joint determination of consumption-poverty measures, agricultural wages, and food prices. We find that higher farm productivity brought both absolute and relative gains to poor rural households. A large share of the gains were via wages and prices, though these effects took time. The benefits to the poor were not confined to those near the poverty line.

J.V. Meenakshi and Ranjan Ray (1999)\textsuperscript{56} used micro data on consumption, family composition and land ownership of nearly 70,000 rural Indian households to analyse poverty. The study combines household level information with State level welfare indicators to examine the impact of household size and

\textsuperscript{55} Gaurav Datt and Martin Ravallion (1993) International Food Policy Research Institute (IFPRI) Farm productivity and rural poverty in India \textit{New Economics Papers}

\textsuperscript{56} J.V. Meenakshi and Ranjan Ray 1999, Centre for Development Economics, Delhi School of Economics Impact of Household Size, Family Composition and Socio Economic Characteristics on Poverty in Rural India, \textit{New Economics Papers}
composition, caste, sex of head, land ownership and other socio economic characteristics on a household's poverty status.

Katsushi S. Imai and Raghav Gaiha (2002)\textsuperscript{57} focused on vulnerability of rural households to poverty when a negative crop shock occurs. Of particular concern is the possibility of some sections experiencing long spells of poverty as a consequence of such shocks. The analysis is based on the ICRISAT panel survey of households in a semi-arid region in south India during 1975-84. Using alternative specifications that take into account direct effects of crop shocks as well as their indirect effects through asset adjustment, an assessment of vulnerability of different groups of households

K. Sundaram(2007)\textsuperscript{58} focused on the changes in the size and structure of work force and the changes in labour productivity, wages and poverty in India in the first quinquennuim of the 21st century. The period between 2000 and 2005 saw a sharp acceleration in work force growth, and, on the obverse side, a slow-down in the rate of growth of labour productivity across most sectors and in the economy as a whole, and, a slow-down in real wage growth in rural (urban) India. On

\textsuperscript{57} Katsushi S. Imai and Raghav Gaiha 2002, University of Oxford, Department of Economics Vulnerability, Shocks and Persistence of Poverty - Estimates for Semi-Arid Rural South India

\textsuperscript{58} K. Sundaram2007, Centre for Development Economics, Delhi School of Economics employment and poverty in India, New Economics Papers
a comparable basis, the reduction in poverty over this period is shown to be substantially smaller than indicated by other recent analyses. Consistent with the trends in labour productivity and real wages, relative to the 1994-2000 period, the pace of poverty reduction between 2000 and 2005 shows, at best, a marginal acceleration. This period also saw a small rise in the number of working poor and a substantial rise in the number of self-employed and regular wage/salary workers in ‘above poverty line’ or APL-households.

Nanak Kakwani and Kalinidhi Subbarao (1990) examined trends in the growth of consumption and its distribution and assesses its relative impact on the poor and the ultra poor, over time and across states of India. Using the National Sample Survey data for sixteen major states of India, the paper addresses three issues: (a) how the distribution of per capita consumption changed over time across the states, and to what extent it nullified the beneficial impact of growth on poverty; (b) how the poor and ultra poor fared in the wake of changes in computation and its distribution; and (c) what the regional patterns are and to what degree they can be explained. India's poverty alleviation strategies, the potential indirect role of agriculture and manufacturing, as well as the contribution of direct poverty alleviation interventions are analyzed. In particular, the paper examines the extent to which the regional

allocation of funds for direct poverty alleviation programs is sensitive to the regional distribution of the poor and the ultra poor, and whether the recent evidence on the impact of these programs is consistent with the observed patterns in poverty and inequality.

G. Ranis (1997) examined the apparent conflict between the classical assumption of a bargaining agricultural sector wage and the neo-classical assumption of a competitive wage in the context of a labour surplus developing economy. It concludes that the relatively inelastic supply of labour hours offered by low income small or landless farmers in the static micro-economic leisure/work context is perfectly consistent with the persistence for some time of an institutional real wage offered to the non-agricultural sector of the dual economy. Empirical evidence is brought to bear in support of that position.

Angus Deaton (2008) collected data on the unit values of a large number of foods which can be used to compute price index numbers that can be compared with the official national price indexes, the Consumer Price Index for Agricultural Labourers (CPIAL) for rural India, and the Consumer Price Index

60 G. Ranis 1997 Yale - Economic Growth Center The Micro-Economics of “Surplus Labour” New Economics Papers

for Industrial Workers (CPIIW) for urban India. Over the five years from 1999–2000 to 2004–05, the food component of the CPIAL understated the rate of food price inflation. This overstatement is likely attributable to the use of long outdated weights (from 1983), and the resultant overweighting of cereals, particularly coarse cereals, whose prices fell relative to other foods. The overall weight of food in the CPIAL is also too large, so that the growth in the general CPIAL was understated during this period when food prices fell relative to nonfood prices. Under conservative assumptions, I calculate that the 5 year growth in the reported CPIAL of 10.6 percent should have been 14.3 percent. Indian poverty lines are held constant in real terms and are updated using the food and non-food components of the official indices weighted by the food shares of households near the poverty line. Because these weights come from a 1973–4 survey, food is heavily over weighted for the contemporary poor, and the nominal poverty lines are understated, both because the CPIAL food index is understated, and because too much weight is assigned to food in a period when food prices have been falling relative to nonfood prices.

Robin Gowers and Timothy James Hatton (1994) examined the effects on wages and employment of the minimum wage in agriculture in the United Kingdom during the interwar period. We find that the impact of regulation was to raise the

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wage for agricultural labourers by 13% when it was (re)introduced in 1924, by 15% in the late 1920s, and by more than 20% in the 1930s. The effect on farm employment was to reduce it by about 54,000 (6.5%) in 1929 up to a peak of 97,000 (13.3%) in 1937. The minimum wage lifted many families of farm labourers who remained employed out of poverty, but it significantly lowered the incomes of farmers, particularly during the 1930s.

J.V. Meenakshi and Ranjan Ray (2000)\textsuperscript{63} used micro data on consumption, family composition and land ownership of nearly 70,000 rural Indian households to analyse poverty in rural India. The study, conducted at the disaggregated level of individual States, examines the impact of household size and composition, caste, gender of household head, and size of land ownership on a household’s poverty status. The introduction of consumption economies of household size and of adult/child consumption relativities affect the poverty estimates but not the State poverty rankings. Scheduled castes/tribes are more vulnerable to poverty than others. In contrast, female headed households display, in many States, higher poverty only in the presence of size economies and adult/child relativities. However, the latter result is not always true. On this and in several other

\textsuperscript{63} J.V. Meenakshi and Ranjan Ray 2000, Australian National University, Australia South Asia Research Centre Impact of Household Size and Family Composition on Poverty in Rural India, New Economics Papers
respects, the study finds sharp differences between the constituent States of the Indian Union.

Raghbendra Jha and Raghav Gaiha (2004) discussed characteristics of the spatial distribution of poverty and calorie and protein deficiency in India. Two units of analysis are considered - states and NSS-defined agro-climatic zones. The data used are the NSS Expenditure Surveys of the 43rd, 50th and 55th rounds. Results on stochastic dominance as per these criteria are also reported.

Raghbendra Jha Raghav Gaiha and Anurag Sharma (2005) formally tested whether the effect of calorie deprivation on wages is more significant/higher for the lower quantiles of workers. In the extant literature this is established through non-linear terms in the wage equation. A more satisfactory method of doing this is through quantile regressions. Second, the quantile regression approach helps us identify the exact group for which the poverty-nutrition trap holds. The extant literature is unable to establish whether there are systematic differences across different quintiles in the response of productivity/wages to nutrition. The present paper addresses this lacuna. Third, we

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64 Raghbendra Jha and Raghav Gaiha 2004, Australian National University, Australia South Asia Research Centre Undernutrition, Poverty and Growth in Rural India - A Regional Analysis, New Economics Papers

65 Raghbendra Jha Raghav Gaiha and Anurag Sharma 2005, Australian National University, Economics RSPAS Poverty Nutrition Trap in Rural India, New Economics Papers
are able to establish a critical wage level for which the PNT trap hypothesis holds. For wages higher than this the hypothesis does not hold. We then argue that this value of the wage rate should set a floor for any minimum wage for agricultural labourers.

Raghbendra Jha, Raghav Gaiha and Anurag Sharma (2006) tested for the existence of a Poverty Nutrition Trap (PNT) in the case of the nutrient most likely to have productivity impacts, i.e., calories, for three categories of wages – sowing, harvesting, and other – and for male and female workers separately. We use household level national data for rural India for the period January to June 1994. We use robust sample selection procedures due to Tobit methods and due to Heckman to arrive at consistent estimates. It is discovered that the PNT exists for women workers engaged in harvesting and sowing in the case of the Heckman methodology. In the case of the Tobit analysis a PNT exists in the case of female harvest, male other, and female other categories of wages.

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66 Raghbendra Jha, Raghav Gaiha and Anurag Sharma 2006, Australian National University, Australia South Asia Research Centre Calorie Deprivation and Poverty Nutrition Trap in Rural India, New Economics Papers
Raghbendra Jha, Raghav Gaiha and Anurag Sharma (2006) tested for the existence of a Poverty Nutrition Trap (PNT) in the case of calories and four important micronutrients — carotene, iron, riboflavin, and thiamine - for three categories of wages: sowing, harvesting, and other for male and female workers separately. We use household level national data for rural India for the period January to June 1994 and robust sample selection procedures due to Heckman to arrive at consistent and efficient estimates. It is discovered that the PNT exists in ten cases. It exists for calories for female harvesting and sowing wages. In the case of carotene male workers engaged in harvesting are subject to the PNT, whereas both male and female workers engaged in harvesting are subject to PNT in the case of iron. In the case of riboflavin female workers engaged in harvesting and sowing and male workers engaged in harvesting are subject to PNT, and, in the case of thiamine, female workers engaged in harvesting and sowing are subject to PNT. Thus micronutrient deficiency is pervasive and has a significant impact on labour productivity of agricultural workers in rural India. In particular, female workers are more prone to PNT than male workers.

67 Raghbendra Jha, Raghav Gaiha and Anurag Sharma 2006, Australian National University, Australia South Asia Research Centre Micronutrient Deprivation and Poverty Nutrition Trap in Rural India, New Economics Papers
Raghbendra Jha, Raghav Gaiha and Anurag Sharma (2006) reported on mean consumption, poverty (all three FGT measures) and inequality during January to June 2004 for rural India using National sample Survey (NSS) data for the 60th Round. Mean consumption at the national level is much higher than the poverty line. However, the Gini coefficient is higher than in recent earlier rounds. The headcount ratio using the thirty day recall is 22.9 per cent and with the seven day recall this stands at 17.9 per cent and, with the combined data, this figure is 20.6 per cent. Mean consumption, all three measures of poverty and the Gini coefficient are computed at the level of 20 states and 63 NSS regions in these 20 states. It is surmised that despite impressive growth rates deprivation is pervasive, pockets of severe poverty persist, and inequality is rampant.

Raghbendra Jha, Sambit Bhattacharyya, Raghav Gaiha and Shylashri Shankar (2008) used pooled household level data for the Indian states of Rajasthan and Andhra Pradesh we find that the size of landholdings is a negative predictor of

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68 Raghbendra Jha, Raghav Gaiha and Anurag Sharma 2006, Australian National University, Australia South Asia Research Centre Mean Consumption, Poverty and Inequality in Rural India in the Sixtieth Round of the National Sample Survey, New Economics Papers

69 Raghbendra Jha, Sambit Bhattacharyya, Raghav Gaiha and Shylashri Shankar 2008, Australian National University, Australia South Asia Research Centre Capture of Anti-Poverty Programs: An Analysis of the National Rural Employment Guarantee Program in India, New Economics Papers
participation in the National Rural Employment Guarantee Program (NREGP). In state level analysis this pattern survives in Rajasthan but reverses in Andhra Pradesh where we notice a positive relationship. This paper examines whether this sign reversal in Andhra Pradesh is indicative of program capture in Andhra Pradesh and better targeting in Rajasthan. We compare land inequality, political interference, and geographical remoteness across the two states and conclude that program capture may be an issue in Andhra Pradesh, largely because of these reasons. We also find evidence of complementarily between NREGP and the Public Distribution System (PDS).

Raghav Gaiha, Vani S. Kulkarni, Manoj K. Pandey and Katsushi S. Imai (2009) analyzed the performance of the National Rural Employment Guarantee Scheme (NREGS) in India - a nation-wide poverty alleviation programme which was introduced in 2005. The focus is on excess demand at the district level. Some related issues addressed are (i) whether excess demand responds to poverty, and (ii) whether recent hikes in NREGS wages are inflationary. Our analysis confirms responsiveness of excess demand to poverty. Also, apprehensions expressed about the inflationary potential of recent hikes in NREGS wages have been confirmed. More

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70 Raghav Gaiha, Vani S. Kulkarni, Manoj K. Pandey and Katsushi S. Imai 2009, Australian National University, Australia South Asia Research Centre National Rural Employment Guarantee Scheme, Poverty and Prices in Rural India, New Economics Papers
importantly, higher NREGS wages are likely to undermine self-selection of the poor in it. So, in order to realise the poverty reducing potential of this scheme, a policy imperative is to ensure a speedier matching of demand and supply in districts that are highly poverty prone, as also to avoid the trade-offs between poverty reduction and inflation.

Vijayendra Rao (2001)\textsuperscript{71} examined the paradox of very poor households, spending large sums on celebrations. Using qualitative, and quantitative data from South India, the author demonstrates that spending on weddings, and festivals can be explained by integrating an anthropological understanding of how identity is shaped in Indian society, with an economic analysis of decision-making under conditions of extreme poverty, and risk. The author argues that publicly observable celebrations have two functions: they provide a space for maintaining social reputations, and webs of obligation, and, they serve as arenas for status-making competitions. The first role is central to maintaining the networks essential for social relationships, and coping with poverty. The second is a correlate of mobility that may become more prevalent as incomes rise. Development policies that favor individual over collective action, reduce the incentives for the networking function, and increase the incentives for status-enhancing functions - thus reducing social cohesion, and increasing conspicuous consumption.

Market-driven improvements in urban employment, for example, could reduce a family’s dependence on its traditional networks, could reduce incentives to maintain these networks, and could reduce social cohesion within a village, and thus its capacity for collective action. In contrast, micro-finance programs, and social funds try to retain, and even build a community’s capacity for collective action.

Amit Kundu (2007)\textsuperscript{72} reported that in this interlinked contract land market is tied with labour market. The landlord leases-out small size of land to the landless agricultural labour households under fixed rent system prior to agricultural peak season on the basis of their commitment to work under his field through out that season. A household can bind itself in such a contract if and only if it has certain number of family labour force. But which households can ultimately tie them in such a contract is totally decided by the market force in that village economy where the family labour force is the determining factor. The paper also shows that this interlinked contract may generate involuntary unemployment in the agricultural labour market and under certain conditions the tied households can not only cross the reservation level of income but also can cross the poverty line.

\textsuperscript{72} Amit Kundu 2007, University Library of Munich, Germany Family Labourforce as a Determinant of Tenancy-Labour Interlinked Contract, New Economics Papers
Manoj K. Pandey (2009)\textsuperscript{73} analyzed the trend and determinants of health and poverty among the elderly in rural India. Two rounds of National Sample Survey (NSS) data for the year 1995-96 and 2004 are employed. The analysis has been done with independent and pooled datasets. Our analysis shows that levels of consumption poverty have declined marginally between 1995-96 and 2004 while increased proportion of elderly with poor health status is continued. Results suggest that poverty is one of the key determinants of health among elderly in rural India.

Albert Christopher Dhas (2009)\textsuperscript{74} reported that agriculture in India is undergoing a structural change leading to a crisis situation. The rate of growth of agricultural output is gradually declining in the recent years. The relative contribution of agriculture to the GDP has been declining over time steadily. The performance of agriculture by crop categories also clearly indicates the slowing down process of agriculture in India. The onset of deceleration in agriculture began from early nineties and it became sharp from the late nineties. The trends in the area, input use, capital stock and technology also reflect the agricultural downfall and the farmer’s response accordingly. It is

\textsuperscript{73} Manoj K. Pandey 2009, University Library of Munich, Germany On ageing, health and poverty in rural India, New Economics Papers

\textsuperscript{74} Albert Christopher Dhas 2009, University Library of Munich, Germany Agricultural Crisis in India: The Root Cause and Consequences, New Economics Papers
alarming that India is moving towards a point of no return, from being a self-reliant nation of food surplus to a net importer of food. All these trends indicate that the agricultural sector in India is facing a crisis today. It is argued that the root cause of the crisis was that agriculture is no more a profitable economic activity when compared to other enterprises. It means that the income derived from these activities is not sufficient enough to meet the expenditure of the cultivators. And therefore, unless agriculture is made a profitable enterprise, the present crisis cannot be solved. The related factors responsible for the crisis include: dependence on rainfall and climate, liberal import of agricultural products, reduction in agricultural subsidies, lack of easy credit to agriculture and dependence on money lenders, decline in government investment in the agricultural sector and conversion of agricultural land for alternative uses. It is argued that the consequence of agricultural crisis in India is very vast and likely to hit all the other sectors and the national economy in several ways. In specific, it has adverse effects on food supply, prices of foodgrains, cost of living, health and nutrition, poverty, employment, labour market, land loss from agriculture and foreign exchange earnings. In sum, it revealed that the agricultural crisis would be affecting a majority of the people in India and the economy as a whole in the long run. And therefore, it can be argued that the crisis in agriculture is a crisis of the country as a whole. The only remedy to the crisis is to do all that is possible to make agriculture a profitable enterprise and attract the farmers to continue the crop
production activities. As an effort towards this direction, the
government should augment its investment and expenditure in
the farm sector. Investment in agriculture and its allied sectors,
including irrigation, transport, communication, rural market,
rural infrastructure and farm research, should be drastically
increased, and the government should aim at integrated
development of the rural areas. The solution of the problem is
not in a few “packages” but in drastic changes in the present
economic policies related to agriculture. No other sector’s growth
and development must be at the cost of agriculture. All farmers,
agricultural labourers, societies, Government and People’s
Organisations should work collectively to revive agriculture and
“Save India from Agriculture Crisis”.

Sanjukta Chaudhuri (2009) examined child work and
education in rural India, the author find that Parental education
and hours of non household child work demonstrate a U shaped
relationship. The author contend this is due to weak labor
markets for skilled workers in rural India that creates a “high
education trap.” This results in poverty and perpetuation of child
work in households with highly educated parents. School
attendance is feasible even for child workers, but is conditional
on continuity of enrollment. At 30 hours of non household work

75 Sanjukta Chaudhuri 2009, University Library of Munich, Germany The School
Going Child Worker: An Analysis of Poverty, Asset Inequality and Child Education in
Rural India, New Economics Papers
per week, school enrollment in the previous year ensures that the probability of attendance in the current year is 93 percent.

Sivakumar Marimuthu and Sarvalingam A (2010) reported that when ever the Planning Commission of India releases the poverty data, that data is being criticised by experts and economists. The main criticism is underestimation of poverty especially in rural India by the Planning Commission. This paper focuses on that criticism and compares the Indian Planning Commission’s 2004-05 rural poverty data with the India’s 2400 kcal poverty norms, World Bank’s US $1.08 poverty concept and Asian Development Bank’s US $1.35 poverty concept.

Vasant P. Gandhi and Robin Marsh (2003) examined the impact of local institutions on development and poverty in the rural areas of India. Recent research on the role of institutions on the path of economic development indicates the importance of both "macro" and "micro" institutions including local institutions. The study finds a large number of both formal and informal local institutions in the surveyed villages, and a substantial degree of interaction of the households with the

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76 Sivakumar Marimuthu and Sarvalingam A 2010, University Library of Munich, Germany Poverty Underestimation in Rural India- A Critique, New Economics Papers

77 Vasant P. Gandhi and Robin Marsh 2003 South Africa from International Association of Agricultural Economists DEVELOPMENT AND POVERTY REDUCTION: DO INSTITUTIONS MATTER? A STUDY ON THE IMPACT OF LOCAL INSTITUTIONS IN RURAL INDIA New Economics Papers
institutions. These include both formal institutions such as service cooperatives and dairy cooperatives, as well as informal institutions such as savings groups, community associations and labour groups. The study finds that apart from the standard factors included such as land, capital and labour, the presence and membership in local institutions plays a significant role in explaining the variation in household incomes and gain in capital assets over time. Savings/ micro-credit groups, and dairy cooperatives are found to be particularly important. Further, membership in these institutions is not found to be related to high asset levels or high caste - it is often inversely so. This indicates a stronger developmental role. Recorded opinions of the households supports the findings on the impact and beneficial role of local institutions. The study confirms that institutions do matter, and that local institutions can and do make a significant contribution in helping development in the rural areas, especially so for the lower income groups.

V.R. Kiresur and V.P. Melinamani (2008) reported that nearly 72 per cent of India’s population and 75 per cent of the country’s poor are in rural areas. A large chunk of the Indian population still depends on agriculture for its livelihood. The level of agricultural research investment has serious implications on agricultural productivity in India which, in turn,
has a bearing on rural poverty. The present study attempts to analyse the inter-linkages amongst agricultural research investment, agricultural productivity and poverty at the national level. The results revealed that rural poverty was significantly and negatively influenced by the agricultural productivity at macro level. Agricultural research investment per ha and gross cropped area influenced the productivity of agricultural sector in the country positively and significantly. Therefore, the agricultural research investment in India, which accounts for less than one per cent of the GDP in agriculture, should be increased at least to one per cent if not to two per cent, as demanded by the R&D organisations in the country from time to time. Owing to positive relationship between gross cropped area and GDP in agriculture per ha, efforts should be directed towards increasing the cropping intensity mainly through crop diversification and creating irrigation infrastructure. Low agricultural productivity is the root cause of rural poverty. Hence, an effective poverty alleviation programme should aim at increasing agricultural productivity in the long run through transfer of productive assets instead of consumer goods to the farmers.

Sudhanshu Kumar Mishra and Prasen Daimari (2005)\textsuperscript{79} based on primary data collected from randomly chosen 182

\textsuperscript{79} Sudhanshu Kumar Mishra and Prasen Daimari 2005 Poverty and Inequality in Rural Assam An Indicative Study of Seven Villages in Udalguri Subdivision, Assam (India) New Economics Papers
households inhabiting seven sample villages in the Udalguri subdivision, Assam made is study (India). It indicates that at least 35.85 percent of the population (and 33.52 percent of households) in the sample villages is below poverty line (at Rs. 400 per capita per month). On the other hand, no more than 39.5 percent of the people (and 37.36 percent households) is likely to stand under the poverty line (at Rs. 425 per capita per month). The observed values of Gini index in the sample villages are considerably high. In the first five villages the Gini index is 41.84 while in the last two villages it is 48.69. Overall the value of Gini index in the sample villages is 44.31. The prime reasons of poverty are excessive dependence on primary sector, disguised unemployment, poor development of marketing facilities, connectivity and power supply, poor agricultural productivity, absence of any significant manufacturing activities, etc resulting into an hourglass shaped occupational distribution.

Takahiro Sato and Katsushi S. Imai (2010) investigated the effect of the devolution of power to the village level government on the household-level allocation of poverty alleviation programs drawing upon National Sample Survey data and the Election Commission’s election data. First, greater inequality in land-holdings and less competition between the two major political parties generally lead to less provision of the

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80 Takahiro Sato and Katsushi S. Imai 2010 Research Institute for Economics & Business Administration, Kobe University Decentralization, Democracy and Allocation of Poverty Alleviation Programs in Rural India, New Economics Papers
poverty alleviation programs. Second, the disadvantaged groups were not necessarily likely to be the primary beneficiaries of the poverty alleviation programs. Third, our results based on the natural experiment approach suggest that decentralisation did not lead to wider household access to poverty alleviation programmes during the 1990s. Our results imply the possibility that the power and resources were captured by the local elite after decentralisation, that is, decentralization did not necessarily contribute to the improvement of the welfare of the socially disadvantaged groups.

Krishnamurthy Sundaram (2007)\textsuperscript{81} examined on the changes in the size and structure of work force and the changes in labour productivity, wages and poverty in India in the first quinquennuim of the 21st century. The period between 2000 and 2005 saw a sharp acceleration in work force growth, and, on the obverse side, a slow-down in the rate of growth of labour productivity across most sectors and in the economy as a whole, and, a slow-down (a decline) in real wage growth in rural (urban) India. On a comparable basis, the reduction in poverty over this period is shown to be substantially smaller than indicated by other recent analyses. Consistent with the trends in labour productivity and real wages, relative to the 1994-2000 period, the pace of poverty reduction between 2000 and 2005 shows, at best, a marginal acceleration (or a marginal deceleration,

\textsuperscript{81} Krishnamurthy Sundaram 2007 Employment and Poverty in India: New Economics Papers
depending on the choice of poverty lines) in rural India and a clear slow-down in urban India. This period also saw a small rise in the number of working poor and a substantial rise in the number of self-employed and regular wage/salary workers in above poverty line or APL-households. [CDE WP 155]

Raghbendra Jha, Katsushi S. Imai and Raghav Gaiha (2009)\textsuperscript{82} analysed the effects of access to Rural Public Works (RPW) and the Public Distribution System (PDS), a public food subsidy programme, on consumption poverty, vulnerability and undernutrition in India drawing, on the large household datasets constructed with National Sample Survey (NSS) data, 50th round in 1993-1994 and 61st round in 2004-2005. The treatment effects model and propensity score matching (PSM) model are used to take account of the sample selection bias in evaluating the effects of RPW or PDS on poverty.

Judith Heyer (1996)\textsuperscript{83} looks at agricultural labourers in villages in Coimbatore district in 1981/2 and in 1996. It focuses on Chakkiliyans, the lowest status and most numerous Scheduled Caste group. It shows that while their position had barely changed over the decades prior to 1981/2, between

\textsuperscript{82} Raghbendra Jha, Katsushi S. Imai and Raghav Gaiha 2009 Poverty, Undernutrition and Vulnerability in Rural India: Public Works versus Food Subsidy New Economics Papers

1981/2 and 1996 it changed dramatically, albeit less dramatically than one might have expected given all that was going on. 1981/2 to 1996 was a period in which (1) industrial and urban opportunities became available to virtually all labourers in the villages for the first time; (2) state policy became more favourable to labourers; and (3) village agriculture declined. The position of Chakkiliyans' agricultural employers weakened considerably between 1981/2 and 1996, but Chakkiliyans nevertheless found it difficult to stand up to them. This was partly because they were still getting a relatively attractive agricultural employment package in 1996, partly because they were in such a weak position in relation to alternative opportunities. Chakkiliyans found 'flexible' urban and industrial labour markets problematic because risky and available only on terms that were harsh. Moreover, housing and increased indebtedness in the villages resulted in Chakkiliyans being tied in some ways more strongly to agricultural employment in 1996 than in 1981/2. Other low caste labourers were getting urban and industrial opportunities that were likely to give them better prospects in the longer term. Chakkiliyans were not. The paper also considers the position of the two other groups of agricultural labourers in the villages in 1981/2, and their descendants in 1996. These were (1) a higher status Scheduled Caste group, Pannadis, and (2) a group of Caste Hindus. The contrast between the three 1981/2 labourer groups is illuminating, illustrating the important role played by caste and the way it operates in this context.
Raghav Gaiha and Katsushi S. Imai (2008)\textsuperscript{84} measured the vulnerability of households in rural India, based upon the ICRISAT panel survey. We employ both ex ante and ex post measures of vulnerability. The latter are decomposed into aggregate and idiosyncratic risks and poverty components. Our decomposition shows that idiosyncratic risks account for the largest share, followed by poverty and aggregate risks. Despite some degree of risk-sharing, the landless or small farmers are vulnerable to idiosyncratic risks, forcing them to reduce consumption. Income augmenting policies therefore must be combined with those that not only reduce aggregate and idiosyncratic risks but also build resilience against them.

Srijit Mishra (2009)\textsuperscript{85} reported that the relatively lower reduction of poverty in Orissa, 0.2 percentage points per annum from 48.6 in 1993-94 to 46.4 in 2004-05, has been a matter of concern. The current exercise attempts to analyse whether part of the explanation lies in the state of affairs in agriculture. An analysis for 2004-05 shows that incidence of poverty is 47 for rural and 44 for urban Orissa. The vulnerable sub-groups are southern (73 rural, 55 urban) and northern (59 rural, 43 urban) across National Sample Survey (NSS) regions, the scheduled tribes (76 rural, 65 urban) and scheduled castes (50 rural, 47 urban).
75 urban) across social groups, the agricultural labourers (65) and other labourers (52) in rural areas and casual labourers (56) in urban areas across household type, and marginal and small farmers (51) across size-class of land possessed in rural areas. What is even worrying is a much greater incidence of calorie poor (79 rural and 49 urban). This reflects a gap in the poverty line and the calorie that it is supposed to represent and a seeming nutritional crisis even among the groups that resorts to hard labour that includes among others marginal and small farmers and landless households - the hands that grow food. The agrarian scenario is in dire straits. Per capita per day returns from cultivation, based on the situation assessment survey of 2002-03, is less than four rupees, a pittance. What is more, in 1990s, agricultural value addition and growth in production has been negative across all crop groups and paddy production, the main crop, shows a decline in all districts. It is this poor showing in agriculture that does partly explain the slow reductions of poverty in the 1990s in Orissa. The call of the hour is people-centric planning that revives the livelihood bases of the farmers and agricultural labourers.

A K Ghose (1989)\(^{86}\) begins with the observation that there has been a trend decline, albeit small, in rural poverty during 1956-83, but this is obscured by the substantial short-run fluctuations around the trend. It argues that while the trend is

attributable to redistributive policies, the short-run fluctuations are adequately explained by the fluctuations in agricultural output and in relative prices of agricultural products vis-a-vis manufactures. In view of the finding that rising relative agricultural prices increase rural poverty, the paper goes on to analyze the process of determination of relative prices. This analysis highlights the characteristics of the inflationary process and the role of agricultural price policy in the Indian economy. Copyright 1989 by Oxford University Press.

Rajshri Jayaraman and Peter Frederik Lanjouw (1999) examined the evolution of poverty and inequality in rural India by reviewing longitudinal village studies. It explores the main forces of economic change -- agricultural intensification, changing land relations, and occupational diversification -- from a wide range of disciplinary perspectives, and it considers the roles of various institutions as conduits of change. Although most village studies support the survey-based judgment that rural poverty declined in India during the 1970s and 1980s, they find that progress has been slow and irregular and that inequalities within villages have persisted. These continued inequalities may constrain both the scope for further poverty reduction from economic growth and the impact of policy interventions. Copyright 1999 by Oxford University Press.

S. Mahendra Dev (1988)\textsuperscript{88} analysed inter-state variations in agricultural labour productivity, sources of labour productivity growth. It also examines the incidence of rural poverty and the interrelations between labour productivity and rural poverty over four selected time points. Our analysis reveals that yield was the major source of growth in labour productivity. The major conclusion that emerges from the analysis on the relationship between labour productivity and rural poverty is that the poverty reducing impact of labour productivity has increased in the post-new technology periods as compared to the pre-new technology period.

Raghav Gaiha and Katsushi (2004)\textsuperscript{89} examined on the vulnerability of rural households to poverty when a negative crop shock occurs. The analysis is based on the ICRISAT panel survey of households in a semi-arid region in south India during 1975-84. Using a dynamic panel data model that takes into account effects of crop shocks, an assessment of vulnerability of different groups of households is carried out. What is somewhat surprising is that even sections of relatively affluent households are highly vulnerable to long spells of poverty when severe crop


shocks occur. As such crop shocks are frequent in a harsh production environment, there must be a shift of emphasis in anti-poverty measures from meeting income shortfalls among the poor to enabling the vulnerable to protect themselves better against these shocks.

Shahnaz Kazi and Bilquees Raza(1995)\textsuperscript{90} reported that the labour force participation rates for rural women in 1990-91 varied ranged between 57 percent (Agricultural Census) and 43 percent (Pakistan Integrated Household Survey). While rural women’s contribution to agricultural and livestock production is well-documented, they have little or no access to productive inputs to enhance their economic participation in these sectors. Evidence based on national level data indicates that women’s participation in agricultural activities is constrained by the lack of land and other assets [Sathar and Desai (1994)]. Contrary to the general view, women belonging to households that own land or other assets have a higher labour force participation rate than landless women. While landless women are more likely to work as agricultural labourers, however, the demand for wage employment is seasonal, limited to a few activities and certain regions, and their lack of assets to work with excludes any possibility of self-employment. Findings of village level research indicate a wide gap between the technology used by rural women

and the more efficient practices in livestock production, which is attributed to their lack of contact with extension services and to their lack of resources to adopt more efficient methods of livestock care.

Mark Rosenzweig (2000)\(^9\) described ongoing research using survey data on the Green Revolution experience in India that focuses on this issue. The research is based on a general-equilibrium model of labour markets for adults and children that differentiates households by whether they own land and incorporates a public sector that chooses the amount of school building. The empirical results suggest, consistent with the model, that expectations of improvements in agricultural productivity increase the schooling of children in landed households and reduce schooling in landless households, in part because of the operation of the child labour market, as landless child labour is used to replace landed child labour lost due to increased child school attendance in landed households. The results also show, however, that school construction in India was undertaken at higher levels in areas in which there were expectations of greater future productivity increases, and that the closer proximity of schools differentially benefited landless households. Thus school building policy in India tended to offset

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the adverse distributional consequences of agricultural technological change in the early stages of the Green Revolution. The allocation of schools, however, did not fully offset the incentives for landless households to reduce schooling investments. The perverse correlation between human development and income growth observed among the poor landless households in India at the initial stages of the Green Revolution, thus, was not due to lack of responsiveness of public resources but to the lack of a return to schooling in the non-farm sector.

Palmer-Jones, Richard and Kunal Sen (2003) explored the role of agro-ecological factors associated with agricultural growth and poverty outcomes in India. Using a new operationalisation of agro-ecological factors and incorporating within-State variations in poverty and other variables we show that agricultural growth and poverty reduction appear to depend on underlying agro-ecological conditions which are favourable to the spread of irrigation and hence agricultural development, which in turn in associated with poverty reduction. Promotion of agriculture in less favoured areas in unlikely to have similar effects on agriculture in less favoured areas is unlikely to have similar effects on agricultural growth even if the effects of agricultural growth on poverty remain similar, unless conditions

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for irrigation are favourable or rainfall is sufficiently abundant and reliable. This suggests that considerable caution may be needed in drawing policy conclusions from empirical analysis by state alone, and without regard to their underlying factor endowments.

Peter Lanjouw and Rinku Murgai (2009) analyzed five rounds of National Sample Survey data covering 1983, 1987/1988, 1993/1994, 1999/2000, and 2004/2005 to explore the relationship between rural diversification and poverty. Poverty in rural India has declined at a modest rate during this time period. The authors provide region-level estimates that illustrate considerable geographic heterogeneity in this progress. Poverty estimates correlate well with region-level NSS data on changes in agricultural wage rates. Agricultural labor remains the preserve of the uneducated and also to a large extent of the scheduled castes and scheduled tribes. The authors show that while agricultural labor grew as a share of total economic activity over the first four rounds, it had fallen back to the levels observed at the beginning of our survey period by 2004. This all-India trajectory also masks widely varying trends across states. During this period, the rural nonfarm sector has grown modestly, mainly between the last two survey rounds. Regular nonfarm employment remains largely associated with education

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levels and social status that are rare among the poor. However, casual labor and self-employment in the nonfarm sector reveals greater involvement by disadvantaged groups in 2004 than in the preceding rounds. The implication of this for poverty is not immediately clear-the poor may be "pushed" into low-return casual nonfarm activities due to lack of opportunities in the agricultural sector rather than being "pulled" by high returns offered by the nonfarm sector. Econometric estimates reveal that expansion of the nonfarm sector is associated with falling poverty via two routes: a direct impact on poverty that is likely due to a pro-poor marginal incidence of nonfarm employment expansion; and an indirect impact attributable to the positive effect of nonfarm employment growth on agricultural wages. The analysis also confirms the important contribution to rural poverty reduction from agricultural productivity, availability of land, and consumption levels in proximate urban areas. Copyright (c) 2009 International Association of Agricultural Economists

Vijayendra Rao (2000)\textsuperscript{94} made a study based upon a case-study of three Indian villages, studies whether households within the same market pay different prices for identical goods. It is found that not only are unit prices for food heterogeneous, but that the poor pay more for the same goods than the rich.

\textsuperscript{94}Vijayendra Rao 2000 Price Heterogeneity and "Real" Inequality: A Case Study of Prices and Poverty in Rural South India Review of Income and Wealth, 2000, vol. 46, issue 2, pages 201-11
This is because liquidity constraints force poorer households to purchase goods in small quantities and consequently subject them to quantity premiums. Household specific index numbers are used to adjust nominal incomes to real values and it is found that Gini coefficients of real incomes are between 12 percent to 23 percent greater than the Gini for nominal incomes. An econometric analysis of the determinants of prices shows that incomes are negatively correlated with prices, as is family size, but that the amount of land owned shows a positive relationship. Copyright 2000 by The International Association for Research in Income and Wealth.

Ira Gang, Kunal Sen and Myeong-Su Yun (2008) analyzed the determinants of rural poverty in India, contrasting the situation of scheduled caste (SC) and scheduled tribe (ST) households with the non-scheduled population. The incidence of poverty in SC and ST households is much higher than among non-scheduled households. By combining regression estimates for the ratio of per capita expenditure to the poverty line and an Oaxaca-type decomposition analysis, we study how these differences in the incidence of poverty arise. We find that for SC households, differences in characteristics explain the gaps in poverty incidence more than differences in transformed regression coefficients.

Urvashi Narain, Shreekant Gupta and van 't Veld, Klaas (2008) made a study of households in Jhabua, India, finds a more complex relationship. Using the share of resource income in total long-run or "permanent" income as our dependence measure—which we argue is more appropriate than the short-run income-based measure commonly used in the literature—we find that for households that collect any resources at all, dependence exhibits a U-shaped relationship with income. That is, the poorest and richest households depend more on resources than households with intermediate incomes. The poorest and richest households are also found to be least likely to collect, however, indicating that resource use at the income extremes is bimodal—either zero or above average. Moreover, the observed trends for resources as a whole are not mirrored in those for individual resources. Dependence on fuelwood and dung declines with income, for example, while dependence on fodder and construction wood increases. These findings suggest that common-pool resources are a productive source of income not just for the poor but also for the rich, and that improvements in the stocks of these resources can potentially form the basis of poverty reduction efforts in these economies.

Conclusion

There are also available a number of micro level studies which are based on village surveys. They collect quantitative data at the level of households and individuals, and qualitative information. Such studies are also of two types. A large number of village level studies, which do not necessarily focus on non-agricultural employment, but provide some insights into these types of activities from the first kind of studies. These studies are mainly descriptive and do not attempt any statistical analysis. The second kind of studies analyzes micro level data at the household or individual level, statistically or econometrically, to understand the rationale and processes of participation in non-agricultural employment. There are relatively few such studies available.

The foregoing review on poverty and activity diversification, provide a number of empirical insights as to the question, whether poverty can find its solution in diversification of activities in terms of non-farm employment, in preference to seeking solution with in agriculture, say through crop diversification. The present study in this direction and the succeeding chapters analyze the question through empirical evidences.