POVERTY IN INDIA AND KARNATAKA: ESTIMATION, DETERMINANTS, VULNERABILITY AND COPING STRATEGIES

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LIST OF ABBREVIATIONS

SN	Abbreviation	Long Form
1	AAY	Antyodaya Anna Yojana
2	ARDRS	Agriculture and Rural Debt Relief Scheme
3	ARIMA	Auto Regressive Integrated Moving Average Method
4	ARWSP	Accelerated Rural Water Supply Programme
5	BPL	Below Poverty Line
6	CADP	Command Area Development Programme
7	CAGR	Compound Annual Growth Rate
8	CAPART	Council of Advancement of People's Action & Rural Technology
9	CDP	Community Development Programme
10	DDP	Desert Development Programme
11	DPAP	Drought Prone Area Programme
12	DRDA	District Rural Development Agency
13	DRI	Different Rate Interest Scheme
14	DWCRA	Development of Women & Children in Rural Areas
15	EAS	Employment Assurance Scheme
16	FASCs	Farmers Agriculture Service Centers
17	FGT	Foster-Greer-Thorbecko
18	GDDP	Gross District Domestic Product
19	GEN	General Category
20	GHK	Gramudyog Hastakala Kendra
21	GOI	Government of India
22	GSDP	Gross State Domestic Product
23	ha	Heactare(s)
24	HCR	Head count Ratio
25	HIES	Household Income and Expenditure Survey
26	HME	Household Members Engaged
27	HYVP	High Yielding Variety Programme
28	IAAP	Intensive Agriculture Area Programme
29	IADP	Intensive Agriculture Development Programme
30	ICMR	India council of Medical Research
31	IMR	Infant Mortality Rate
32	IRDP	Integrated Rural Development Programme
33	JNNURM	Jawahar Lal Nehru national Urban Renewal Mission
34	JRY	Jawahar Rozgar Yojna
35	KHAS	Karnataka Household Asset Survey
36	LG	Large Farmer
37	LL	Landless Labourer
38	MD	Medium Farmer
39	MFALA	Marginal Farmer and Agriculture Labor Agency
40	MG	Marginal Farmer
41	MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
42	MPCE	Monthly Per Capita Consumption Expenditure
43	MPLADS	Members of parliament Local Area Development Scheme
44	MRP	Mixed Reference Period
45	MRP	Mixed Reference Period
46	MSY	Mahila Samridhi Yojna
47	NDDP	Net District Domestic Product
48	NFFWP	National Food for Work Programme
49	NFRD	National Fund for Rural Development
50	NI	Net Income
51	NNP	Net National Product
52	NPC	National Planning Commission
53	NPK	Nitrogen phosphorus potassium
54	NREGS	National Rural Employment Guarantee Scheme

SN	Abbreviation	Long Form
55	NREP	National Rural Employment Programme
56	NRY	Nehru Rozgar Yojna
57	NSAP	National Social Assistance Programme
58	NSSO	National Survey Sample Organization
59	OBC	Other Backwards Class
60	OI	Overall Income
61	PCA	Principal Component Analysis
62	PCNSDP	Per Capita Net State Domestic Product
63	PDS	Public Distribution System
64	PGI	Poverty Gap Index
65	PMGSY	Pradhan Mantri Gram Sadak Yojana
66	PMGY	Pradhan Mantri Gramodaya Yojna
67	PSM	propensity score matching
68	R	Rural
69	RAY	Rajiv Awas Yojna
70	REC	Rural Electrification Corporation
71	RLEGP	Rural Landless Employment Guarantee Programme
72	RNFE	Rural Non-Farm Sector Economy
73	SC	Scheduled Caste
74	SDP	State Domestic product
75	SEPUP	Self Employment Programme for the Poor
76	SFDS	Small Farmer Development Scheme
77	SGSY	Swarnajayanti Gram Swarojgar Yojana
78	SHASU	Scheme of Housing and Shelter Upgradation
79	SHGs	Self Help Groups
80	SM	Small Farmer
81	ST	Scheduled Tribe
82	SUME	Scheme for Urban Micro Enterprises
83	SUWE	Scheme of Urban wage Employment
84	TPP	Twenty Point Programme
85	TRYSEM	Training Rural Youth for Self Employment
86	U	Urban
87	UNDP	United Nations Development Programme
88	URP	Uni Reference Period
89	VAMBAY	Valmiki Ambedkar Awas Yojna
90	VMS	Vande Mataram Scheme
91	WBM	Water Bound Macadam

INTRODUCTION

Poverty is one of the main problems which have attracted enough attention of sociologists and economists. It indicates a condition in which a person fails to maintain a living standard adequate for his physical and mental efficiency. It is a situation people want to escape. It gives rise to a feeling of a discrepancy between what one has and what one should have. The term poverty is a relative concept. It is very difficult to draw a demarcation line between affluence and poverty.

Poverty is one of the most critical issues being faced by any economy. It has been defined variously by the scholars. “Poverty is conventionally measured by the income or expenditure level that can sustain a bare minimum standard of living” (Bardhan, 1973). But measuring standard of living is a tricky issue. Income/consumption levels though are taken officially to depict poverty but such a measure of poverty needs to be supplemented by other factors that would reflect access to minimum level of social amenities. Longevity, infant mortality rate, health, nutrition, literacy, and access to primary schools, and drinking water, etc. are the other factors that provide supplementary information on poverty (Vani, 2004).

Poverty is defined as the inability to obtain the minimum requirements of life, health and efficiency due to very low income or insufficient assets. World Bank defines poor person as “a person who earns less than 1.25 dollar per day”. It has to be defined in relation to average living standards in a society and the social norms and the customs acceptable to it at a point of time. Poverty is a state where a person finds it unable to maintain a minimum socially accepted level of standard of living. It is pointed as the root cause for low levels of health and educational outcomes, poor access to clean drinking water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity for mobility.

Poverty has been described as a situation of “pronounced deprivation in well being” and being poor as “to be hungry, to lack shelter and clothing, to be sick and not cared for, to be illiterate and not schooled. Poor people are particularly vulnerable to adverse events outside their control. They are often treated badly by institutions of the state and society and excluded from voice and power in those institutions.”

According to ICMR, the minimum calories intake of a person has been put at 2400 kilo calories per capita per day in rural areas and 2100 kilo calories per capita per day in urban areas. The minimum calorie intake for rural areas has been kept higher than that in the urban areas, as rural people have to put in more physical effort than those living and working in urban areas. Those who fail to secure the prescribed calorie intake levels fall below poverty line and are defined as poor.

Since poverty is a complex phenomenon, it cannot be reduced to a single definition applicable to all societies for all times. It has to be defined in relation to average living standards in a society and the social norms and the customs acceptable to it at a point of time. No other country is as rich as India in poverty studies. The World Bank is of the view that India is a pioneer in the measurement of poverty (Anon, 2011).

According to United Nations Development Programme (UNDP), 37.2 per cent of the Indians live below the country's national poverty line. In 2011, World Bank stated, 32.7 per cent of the total Indian people falls below the international poverty line of US$ 1.25 per day (Anon, 2011). According to the New Poverty Development Goals Report, as many as 320 million people in India and China are expected to come out of extreme poverty in the next four years, while India's poverty rate is projected to drop to 22 per cent in 2015.

Poverty is generally of two types. Absolute poverty is synonymous with destitution and occurs when people cannot obtain adequate resources (measured in terms of calories or nutrition) to support a minimum level of physical health. And it is refers to the deprivation of basic human needs, which commonly includes food, water, sanitation, clothing, shelter, health care and education. Relative poverty is defined contextually with respect to economic inequality in the location or society in which people live. Relative poverty occurs when people do not enjoy a certain minimum level of living standards as determined by a government (and enjoyed by the bulk of the population) that vary from country to country, sometimes within the same country. Relative poverty occurs everywhere, is said to be increasing, and may never be eradicated.

Poverty in India and Karnataka

Poverty line is drawn on the basis of expenditure that is necessary to secure the minimum acceptable living standard for work and efficiency. In India, the minimum necessary calorie intake of a person has been put at 2400 calories per capita per day in rural areas and 2100 calories per capita per day in urban areas. The minimum calorie intake for rural areas has been kept higher than that in the urban areas, as rural people have to put in more physical effort than those living and working in urban areas. Those who fail to secure the prescribed calorie intake levels fall below poverty line and are defined as poor. The Planning Commission has worked this cost at Rs.229 per capita per month in rural areas and Rs.264 for urban areas at 1993-1994 prices. The income requirement is estimated to be higher for urban area than for rural area, because of the relatively higher expenditure in urban area on food, health, clothing, housing, etc. During 2011-12, the poverty line in our country as a whole was fixed at Rs.816 for rural areas and Rs.1000 for urban areas, whereas it was Rs.902 for rural areas and Rs.1089 for urban areas in Karnataka State (Table-1.1).

Nature of Poverty in India

During the last two to three decades, poverty ratio was showing a declining trend because of the economic development brought about by significant developments in various sectors of the economy. The percentage of persons below the Poverty Line in 2011-12 has been estimated at 25.7 per cent in rural areas, 13.7 per cent in urban areas and 21.9 per cent for the country as a whole. The respective ratios for the rural and urban areas were 41.8 per cent and 25.7 per cent and 37.2 per cent for the country as a whole in 2004-05. It was 50.1 per cent in rural areas, 31.8 per cent in urban areas and 45.3 per cent for the country as a whole in 1993-94. In 2011-12, India had 270 million persons below the Tendulkar Poverty Line as compared to 407 million in 2004-05, that is a reduction of 137 million persons over the seven year period (Table-1.2).

During the 11-year period 1993-94 to 2004-05, the average decline in the poverty ratio was 0.74 percentage points per year. It accelerated to 2.18 percentage points per year during the 7-year period 2004-05 to 2011-12. Therefore, it can be concluded that the rate of decline in the poverty ratio during the most recent 7-year period 2004-05 to 2011-12 was about three times of that experienced in the 11-year period 1993-94 to 2004-05.

Poverty Alleviation Programmes in India

The Indian government has taken up various measures to overcome the problem of poverty. Poverty alleviation programmes comprising of wage employment programmes, rural housing schemes and a public distribution system have been initiated from time to time. Only a few programmes, which made an immense impact in alleviating poverty directly, include National Rural Employment Programme (NREP) 1980-89; Twenty Point Programme (TPP) 1975; Desert Development Programme (DDP) 1977; Rural Landless Employment Guarantee Programme (RLEGP) 1983-89; Employment Assurance Scheme (EAS) 1993; Prime Minister Integrated Urban Poverty Eradication programme (PMIUPEP) 1995; Jawahar Gram Samridhi Yojana (JGSY) 1999; Jan Shree Bima Yojna 2000; Antyodaya Anna Yojana (AAY) 2000; Sampoorna Grameen Rozgar Yojana (SGRY) 2001; National Food for Work Programme (NFFWP) 2004; Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2009; and National Food Security Act 2013, among others. Few programmes have succeeded in the way of tackling poverty indirectly. Those are Community Development Programme (CDP) 1952; Drought Prone Area Programme (DPAP) 1971; Marginal Farmer and Agricultural Labour Agency (MFALA) 1971; Small Farmer Development Scheme (SFDS) 1971; Command Area Development Programme (CADP) 1975; Development of Women and Children in Rural Areas (DWCRA) 1982; Council of Advancement of People's Action and Rural Technology (CAPART) 1986; National Rural Health Mission (NRHM) 2005, are implemented in our country to uplift rural and urban poor people.

Even after more than 50 years of Independence, India still has the world's largest number of poor people in a single country. Of its nearly 1 billion inhabitants, an estimated 260.3 million are below the poverty line, of which 193.2 million are in the rural areas and 67.1 million are in urban areas. More than 75 per cent of poor people reside in villages. Poverty level is not uniform across India. The poverty level is below 10 per cent in states like Delhi, Goa and Punjab, whereas it is below 50 per cent in Bihar (43) and Orissa (47). It is between 30-40 per cent in Assam, Tripura, Meghalaya, Tamil Nadu and Uttar Pradesh.

Table 1.1: State Specific Poverty Lines for 2011-12

SN	States	Monthly per capita income (Rs.)	
		Rural	Urban
1	Andhra Pradesh	860	1,009
2	Arunachal Pradesh	930	1,060
3	Assam	828	1,008
4	Bihar	778	923
5	Chhattisgarh	738	849
6	Delhi	1,145	1,134
7	Goa	1,090	1,134
8	Gujarat	932	1,152
9	Haryana	1,015	1,169
10	Himachal Pradesh	913	1,064
11	Jammu & Kashmir	891	988
12	Jharkhand	748	974
13	Karnataka	902	1,089
14	Kerala	1,018	987
15	Madhya Pradesh	771	897
16	Maharashtra	967	1,126
17	Manipur	1,118	1,170
18	Meghalaya	888	1,154
19	Mizoram	1,066	1,155
20	Nagaland	1,270	1,302
21	Odisha	695	861
22	Punjab	1,054	1,155
23	Rajasthan	905	1,002
24	Sikkim	930	1,226
25	Tamil Nadu	880	937
26	Tripura	798	920
27	Uttarakhand	880	1,082
28	Uttar Pradesh	768	941
29	West Bengal	783	981
30	Puducherry	1,301	1,309
	All India	**816**	**1,000**

Source : Anon, (2013a)

Table 1.2 Poor Estimated by Tendulkar Method using Mixed Reference Period (MRP)

Year	Poverty Ratio (%)			Number of Poor (million)		
	Rural	Urban	Total	Rural	Urban	Total
1993-94	50.1	31.8	45.3	328.6	74.5	403.7
2004-05	41.8	25.7	37.2	326.3	80.8	407.1
2011-12	25.7	13.7	21.9	216.5	52.8	269.3
Annual Average Decline: 1993-94 to 2004-05 (Percentage points per annum)	0.75	0.55	0.74	-	-	-
Annual Average Decline: 2004-05 to 2011-12 (Percentage points per annum)	2.32	1.69	2.18	-	-	-

Source : Anon, (2013a)

Deprivation and Inequality

Deprivation is the reduction or prevention of culturally normal interaction between an individual and the rest of society. Deprivation is included in a broad network of correlated factors that contribute to social exclusion of mental illness, poverty, poor education, and low socioeconomic status.

Deprivation is distinguishable into relative and absolute deprivation. Physical abuse, starvation, poverty are seen as form of absolute deprivation, whereas relative deprivation can be defined as the discrepancy between what one expects in life and what one gets. Both absolute and relative deprivations are causes of the deprived one's receptivity to particular religious.

Human inequality is described as the gap between rich and poor, income inequality, wealth disparity and income differences or wealth gap among the country, state, groups and individuals. It can also be defined as the state of affairs in which assets, wealth, education and income are distributed unequally among individuals in a group, among groups in a population, or among countries. The issue of economic inequality can imply notions of equity, equality of outcome, equality of opportunity, and even life expectancy. Although the phrase uses the term income, the discussion often includes inequality in wealth or assets, which are different concepts.

Poverty and inequality are related, but they are not the same thing. Poverty describes a lack of money and the goods associated with money (such as food and clean water). Inequality, on the other hand, is the fact that some people are substantially better off than others. Poverty can be an absolute term, while inequality is a relative one.

Determinants of Poverty at Macro and Micro levels

Poverty is regarded as a vicious circle. It is the product of different causes. Poverty is a multi dimensional problem and multiple factors are responsible for it. There are several factors which causes poverty at micro and macro levels. Determinants of poverty are broadly classified into 6 major categories which include (1) Personal factors: (a) Sickness, (b) Mental disease, (c) Accident, (d) Idleness and extravagance and (e) Demoralization. (2) Biological factors: Rapid growth of population is one of the most important macro determinants of poverty. (3) Geographical factors: (unfavorable climate weather, absence of natural resources and Natural calamities also created poverty at micro and macro levels). (4) Economical factors: i.e Backwardness of agriculture and unequal distribution of wealth. (5) Social factors which include religion, caste, family size and type, education levels, occupation, source of income and land holding. 6) Political factors: Political elites are giving various popular slogans like 'anti poverty programme, 'removal of unemployment' or 'Bekari Hatao', 'Garibi Hatao' etc but these slogans have not been translated into action.

Vulnerability and Poverty Coping Strategies

Vulnerability refers to the inability of people, organizations, and societies to withstand adverse impacts from multiple stressors to which they are exposed. Vulnerability is difficult to measure and identify. The probability of falling into poverty tomorrow is impossible to measure, but one can analyze income, consumption dynamics and variability as proxies for measuring vulnerability. There are major six types of Vulnerability, which are (1) Economic Vulnerability: casual employment, low paid work, lack of access to formal safety net mechanisms, low ownership of productive assets, poor net worth, and legal constraints to self employment. (2) Social Vulnerability: Low education, lack of skills, low social capital status, inadequate access to food security programmes, and lack of access to health services. (3) Health related Vulnerability: Proneness to ill-health, occupation related health hazards, morbidity and malnutrition. (4) Disaster related Vulnerability: Exposure to disasters like fire, floods, and road accidents. (5) Housing Vulnerability i.e., Poor quality shelter, lack of water facilities, toilets, unhealthy and poor sanitary measure. (6) Personal and Psychological Vulnerability: Proneness to violence or intimidation of women, children and elderly, disabled and destitute, lack of information, lack of access to justice.

Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events. Two general coping strategies have been distinguished problem-solving strategies are efforts to do something active to alleviate stressful circumstances, whereas emotion-focused coping strategies involve efforts to regulate the emotional consequences of stressful or potentially stressful events.

Keeping all these aspects in view, the present study entitled "Poverty in India and Karnataka: Estimation, Determinants, Vulnerability and Coping Strategies" with the following specific objectives.

Objectives

1. To document the poverty alleviation programmes implemented in India and to understand different methodological approaches for measuring poverty in the country;
2. To estimate deprivation and inequality in human well being;
3. To identify the determinants of poverty at macro and micro levels; and
4. To identify the vulnerable groups, assess their vulnerability levels and elucidate the strategies adopted by these households to cope with poverty.

Hypotheses

1. Poverty has reduced over time due to several poverty alleviation programmes implemented by Government in India.
2. Per capita expenditure on food articles mainly depend on income and education of people in India.
3. The macro level determinants of poverty are development of irrigation facility, expansion of road, government expenditure on education and agricultural wage rate, among others.
4. Poverty, at micro level, depends on income and asset position of farmers, education, family size, land holding, etc.
5. Socially backward households, women and children and marginal farmers and landless labourers are vulnerable to poverty.
6. The main strategies to cope with poverty are rural-urban migration, shift from agriculture to non-agricultural livelihoods, sale of livestock, sale of immovable property, among others.

Scope of the Study

The present study enables us to know the different types of poverty alleviation programmes in India and to understand different methodological approaches for measuring poverty in India. Poverty is a multidimensional problem and its innumerable determinants are consumption, income, health, education, opportunities, etc. But, non-income dimensions of poverty are yet to be highlighted. This can be done through assembling social indicators such as education, health, family size, sanitation measure, and access to services, etc. Research work is needed to find out appropriate poverty level at micro and macro levels. The study also documents the food and nutritional security of the farmers and vulnerability amongst the social groups. The results of this analysis would provide micro-evidences to the policy makers to form specific poverty alleviation programmes at micro and macro levels.

Limitations of the Study

The present investigation did not suffer due to unusual limitations other than common ones like fund, time and physical facilities. In spite of these limitations, efforts were made by the researcher to keep the study as objective as possible by deliberately following all norms of scientific research, well structured schedule and objective measurement. As it is true of any scientific investigation, being an academic study conducted by a single investigator, this study had the limitation of time, resources and other facilities. Despite all the constraints, every care was taken to make the study, as objective as possible.

Presentation of the study

In the initial introductory chapter, the researched problem is introduced highlighting the status of poverty in India and Karnataka. The specific objectives of the study have been clearly indicated at the end of the Chapter. Chapter II deals with the review of relevant research works which had bearing on the objectives of the present study. Chapter III describes the main features of the study area, the sampling design, the sources of data, the method of collection of data and the use of statistical tools with the aid of which the data collected have been analyzed and interpreted. The next chapter is devoted to the analysis of the data through a variety of tables into which relevant data have been compressed. Here, a very brief indication of major findings has been given. Chapter V concentrates on the discussion about the results of the study vis-à-vis the findings of others. The main findings of the study have been summarized and presented along with the policy implications in chapter VI. The last chapter gives the references cited in the text.

REVIEW OF LITERATURE

Review of literature helps the researcher not only in understanding the issues involved but also in planning and execution of the experiences of others. Further, the knowledge of possible gap of empirical research provides cue to plug those gaps to the extent possible which in turn helps in making empirical research socially more meaningful. The present chapter reviews the empirical findings, some of the studies related to measure of poverty in India, poverty alleviation programmes, inequality of human well being, determinants of poverty and finally an identification of vulnerability and strategies adopted by them. However, it is of course, not possible to refer and comment in detail on all the studies conducted, but a brief review of the selected studies is given below.

Consistent with the objectives of the study, the literature reviewed is presented under the following headings:

2.1 Poverty Alleviation Programmes Implemented in India

2.2 Methodological Approaches for Measuring Poverty

2.3 Deprivation and Inequality in Human Well Being

2.4 Determinants of Poverty at Macro and Micro Levels

2.5 Vulnerability to Poverty and Strategies to Cope with Poverty

2.1 Poverty Alleviation Programmes Implemented in India

Mahajan and Kumar (2007) evaluated the performance of Swarnajayanti Gram Swarojgar Yojana (SGSY) programme in Himachal Pradesh. They concluded that the programme was not performing well. In four years of implementation, only 12.26 per cent of Below Poverty Line (BPL) families were covered under the programme as against the overall objective of 30 per cent of BPL families in five years in the state. The available funds were not fully utilized in any year in the state. The main emphasis of the programme was on coverage of BPL families by organizing them into self-help groups (SHGs). It is noticed that only 50 per cent of the SHGs were functioning as per the guidelines. The Swarozgaries were facing difficulties in getting financial assistance under SGSY programme in the state. They suggested that the government should make some efforts so that the benefits of anti-poverty programmes reach the poor at grass root level.

Muthalagu (2007) opined that it is incorrect to say that all the poverty eradication programmes have failed. He observed that lot of achievements have taken place in rural and urban India over the period due to various anti-poverty programmes like Swarnajayanti Gram Swarojgar Yojana (SGSY), Indira Awaas Yojana (IAY), Sampoorna Grameen Rozgar Yojana (SGRY), National Food for Work Programme (NFFWP), Swarna Jayanti Shahari Rozgar Yojana (SJSRY), Valmiki Ambedkar Awas Yojana (VAMBAY), Pradhan Mantri Gramodaya Yojana, Pradhan Mantri Gram Sadak Yojana, Antyodaya Anna Yojana. Finally the author concluded that poverty eradication is expected to make better progress in the coming years than in the past due to the increasing emphasis on the importance of education, reservation of seats in government jobs and the increasing empowerment of women. These measures have contributed much to the eradication of poverty in India.

Thakur and Singh (2007) made an attempt to study the implementation and impact of anti-poverty programmes such as Rural Development programme, Indira Awas Yojana, Swaranajayanti Gram Swarozgar Yojana on the household assets, employment and income among general caste, scheduled caste and scheduled tribe households in the rural areas of Himachal Pradesh. They took a sample of 250 households following multi-stage random sampling. Then they made holding-wise analysis, i.e., marginal farmers, small farmers and medium farmers. The percentage increase in the value of assets among general caste households worked out to 9.78, 6.83 and 2.52 per cent on the marginal, small and medium size of holdings respectively. The percentage increase in income worked out to 17.61, 20.45 and 12.24 per cent for these households respectively. Further, increase in employment in terms of standard man days worked out to 16.80, 19.88 and 13.10 per cent among general caste marginal, small and medium size holdings households. The same pattern was observed among scheduled caste and scheduled tribe households. The higher percentage increase in household income and employment among the small holdings was because many households included in beneficiary category had more productive assets.

Yesudian (2007) reported that our country's economic growth has increased rapidly from 1999-2000 to 2004-2005 but it has not impacted on the unemployment problem of the country. During

this period, the unemployment rate remained almost same for rural males and decreased by just one percentage for urban male. Poverty is not uniformly spread in the country. States like Orissa, Bihar and Madhya Pradesh have high level of poverty and the levels have not come down significantly in the post-economic reform era. The study also reported that poverty alleviation programmes have been broadly classified into self-employment programmes, wage employment programmes, food safety programme and social security programmes. The parameter used for evaluation of poverty alleviation includes utilization of allocated funds, change in poverty level, employment generation and number or proportion of beneficiaries. He concluded that there was a need for decentralization of the programmes by strengthening the panchayat raj institutions to look after poverty alleviation programmes.

Basha and Usha (2012) conducted a study on Rural Poverty Alleviation Programmes in Andhra Pradesh. A field study has been conducted at 54 villages of 54 mandals in 9 districts representing the rural areas of Chittoor, Anantapur and Kurnool districts of Rayalaseema region, Mahabubnagar, Nalgonda and Karimnagar districts of Telangana region and Guntur, East and West Godavari districts of Costal Andhra region of Andhra Pradesh state. They were mainly interested to know about the ongoing rural poverty alleviation programmes in Andhra Pradesh, i.e., Indira Kranthi Patham Programme. The study is based on primary data and focuses on the social and economic dimensions of rural poverty especially education and health which are main contributors for Human Development. The sample was selected on the basis of rural population size, literacy rate, percentage of agricultural labourers, marginal and small farmers. The study revealed that Indira Kranthi Patham programme is the single largest poverty reduction programme in South Asia. It works with 10,59,056 Self Help Groups, 38,821 Village Organizations and 1098 Mandal Samakhyas. The programme mandate was to build strong institutions of the poor and enhance their livelihood opportunities so that the vulnerabilities of the poor could be reduced.

Bishnoi *et al.,* (2012) conducted a study on poverty alleviation programme in Khota Mahawa village of Babhani Block of Sonbhadra District of Uttar Pradesh, with the objective of analyzing performance of MNREGA. For this, hundred MNREGA beneficiaries both male and female were selected and information was collected with the help of structured Interview schedule and data was analyzed with the appropriate statistical tools, i.e., frequency, percentage and mean. They found that respondents were well aware of the procedure of the MNREGA such as registration, having job cards, 100 days employment in a year, process of opening bank accounts, accessing bank, receiving payment from bank and about the process of wage payment in MNREGA. The main problem faced by the beneficiaries was delay in wage payment, and accessing bank account.They concluded that MNREGA could be an important step towards poverty alleviation by giving employment to rural people.

Datir (2012) conducted a study on problem of poverty and implementation of poverty alleviation programmes in India. The author has used the analytical method for the study of poverty and poverty alleviation programmes in India. The study is based on secondary data which was collected from various journals, reports and many reference books. He reported that poverty is a social phenomenon in which a section of the society is unable to fulfill its basic necessities of life. He made a review of poverty alleviation programmes implemented in India, which include Different Rate Interest Scheme (DRI), Drought prone areas programmed (DPAP), Desert Development Programme(DDP), Integrated Wastelands Development Programme (IWDP), Rural Employment Generation Programme (REGP), Swarnajayanti Shahari Rozgar Yojana (SJSRY), Swarnajayanti Gram Swarozgar Yojana (SGSY), Rural Housing -Indira Awass Yojana (IAY), Pradhan Mantri Gram Sadak Yojana (PMGSY), Antyodaya Anna Yojana (AAY), Valmiki Ambedkar Awas Yojana (VAMBAY), Pradhan Mantri Gramoday Yojana (PMGY), Sampoorna Gramin Rozgar Yojana (SGRY), National Food For Work Programme (NFWP), National Rural Employment Guarantee Scheme (NREGS) and Jawaharlal Neharu National Urban Renewal Mission (JNNRUM). The poverty alleviation programmes suffer from many drawbacks, i.e., the income generation orientation of poverty alleviation programmes does not recognize the importance of increased flow of social inputs through family welfare, nutrition, social security and minimum needs programmes in alleviating conditions of poverty on long term basis. So there is need for some reorientation of poverty alleviation programmes for their effectiveness by the Government of India.

Prasad (2012) assessed the performance of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). The study revealed that under MGNREGA, 3.77 crore households were provided employment and 120.88 crore person-days of employment were generated in financial year 2011-12. The average wage earned has risen from □65 per person day in 2006 to □100 by 2011.

The number of households has increased significantly from 3.39 crores in 2007-08 to 5.49 crores in 2010-11. Total job cards issued were doubled, i.e., 6.48 crores in 2007-08 to 12.07 crores in 2011-12. The enhanced wage earnings have led to the strengthening of the livelihood resource base of the rural poor in India. Self targeting in nature, the programme has high work participation for marginalized groups like SCs/STs (40%) and Women (49%) in 2011-12. Total works undertaken were 62.72 lakh in the same period, of which 53 per cent relates to water conservation, 12 per cent for the provision of irrigation facility to lands owned by SC/ST/BPL/S&M Farmers and IAY beneficiaries, 22 per cent for rural connectivity, 9 per cent for Land Development, 4 per cent for any other activity approved by MoRD and 0.37 per cent for Bharat Nirman Rajiv Gandhi Seva Kendra. The study concluded that India's MGNREGA was the only Act which gave its rural people such a right and that too in the era of Liberalization, Privatization and Globalization (LPG). The Act has confined the rural poor to their areas and stopped migration to the cities. It is not only giving rural livelihoods but also involving them in other non-agricultural work.

Kumari (2013) analysed the national policies, plans and programs for poverty eradication in India. The author reported that poverty is defined in terms of income, expenditure and nutritional value (calorie intake). The study reveals that government should make aware the rural population about the importance of small family and mortality rate. There were certain diseases of poverty such as malaria, tuberculosis, diarrhea and malnutrition. Having fallen ill due to poverty, the poor do not have the resources to seek quality health care, for which he/she has to borrow money for treatment. Indebtedness due to hospitalization leading to poverty has been well documented. Poverty, therefore, is a complex phenomenon of many dimensions not merely the economic dimension. So government should provide better medical facilities, drinking water facilities and education so that people living below poverty line can improve their lives. The author concluded that poverty alleviation programmes should aim not merely at increasing the income level of individual, household or group but mainstreaming marginalized in the development process of the country and also address the issue of poverty from broader social and economic perspectives.

Shukla and Mishra (2013) observed that poverty reduction has been an important goal of development policy since the inception of planning in India. Various antipoverty, employment generation and basic service programmes have been in operation for decades in India. They made an attempt to review some of the anti-poverty, employment generation and basic services programmes, which include (a) Pradhan Mantri Gram Sadak Yojana (PMGSY): PMGSY aims to provide all-weather connectivity to all the eligible unconnected rural habitations and the systematic upgradation of the existing rural road network in India .Upto December 2005, with an expenditure of □12,049 crore, a total length of 82,718 km of road works had been completed; (b) Indira Awaas Yojana (IAY): IAY aims to provide dwelling units with free of cost to the Scheduled Castes, Scheduled Tribes and the non-SC/ST BPL families in rural areas. It is funded on a cost-sharing basis in the rates of 75:25 between the Centre and the States. Upto January 30, 2006, about 138 lakh houses had been constructed with an expenditure of □25,208 crores. (c) Swarnjayanti Gram Swarozgar Yojana (SGSY): The objective is to bring the self-employed above the poverty line by providing them income-generating assets through bank credit and Government subsidy. Upto November 2005, the Centre and States, sharing the costs on 75:25 basis, had allocated □8,067 crores, of which □6,980 crores had been utilized to assist 62.75 lakh self-employed. (d) Sampoorna Grameen Rozgar Yojana (SGRY): SGRY, launched on September 25, 2001 to provide additional wage employment in the rural areas has a cash and food grains component. Central government contributions in terms of the cash and foodgrains components up to January, 2006 were □4651 crore and 35 lakh tonnes respectively. (e) National Food for Work Programme (NFFWP): main focus of the programme is on works relating to water conservation, drought proofing, land development, flood control and rural connectivity in terms of all-weather roads. In 2004-05, allocation of □2020 crore and 20 lakh tonnes of foodgrains and 7.85 crore person days of employment were generated. In 2005-06, allocation of □4500 crore and 15 lakh tonnes of food grains, about 17.03 lakh person days were employment generated.

2.2 Methodological Approaches for Measuring Poverty

Dandekar and Rath (1971) made an attempt to link calorie norm to poverty line and pointed out that daily intake of 2250 calories per person could be considered as adequate under the Indian conditions both in rural and urban areas. They estimated from the National Sample Survey data on consumer expenditure that monthly per capita expenditure of □14.20 in rural areas and □22.60 in urban areas, both at 1960-61 prices is sufficient to meet the per capita daily calorie requirement of 2250. Thus they observed that their estimates of rural poverty line was substantially lower than the Working Group poverty line, their rural poverty line (□14.20) being 71 per cent of the working group

poverty line. They eventually decided to scale it up to □15.20 per capita per month. Their estimated urban poverty line (□22.60) was, however, close to the working group poverty line and hence they decided to round it off to □22.50 per capita per month.

Ahluwalia (1978) examined trends in the incidence of rural poverty for fourteen different years spanning the period 1956-57 to 1973-74 for India as a whole as well as for the individual States. He adopted the per capita consumer expenditure of □15 per month (for 30 days) at 1960-61 rural prices. Ahluwalia adopted both Sen's poverty index and the traditional head count method in his analysis. The time series showed fluctuations in the incidence of poverty in response to variations in real agricultural output per head though no significant time trend was discernible. He found a statistically significant inverse relationship between rural poverty and agricultural performance for India as a whole. This relationship was also observed in several States, but there was also evidence of other factors at work which tended to increase the incidence of poverty independently of variations in agricultural output per head.

Murgal *et al.,* (2003) conducted study on measuring poverty in Karnataka as a regional dimensional. Under this study they reported that Indian Planning Commission (IPC) estimated poverty at national level by using detailed household consumption and expenditure data from the NSSO, but IPC was unable to measure poverty at regional levels due to inadequate sample size. In order to measure poverty at regional level they made attempt that pooling of central and state sample data to overcome the problems of limitation of sample size. They used secondary information like HCR and PGI of state and central data to measure poverty. They compared cumulative distribution and Lorenz curve of MPCE separately for the rural and urban area of Karnataka. Their study concluded that Gulbarga and Belagaum division had highest poverty ratio compare to any other district of Karnataka. Rath (2003) noted that poverty line by Dandekar and Rath (1971) was calculated on the basis of household consumer expenditure survey of 1961-62 by NSSO. But from 1972 onwards, though NSSO carried out a large sample consumer expenditure survey but the tabulated calorie data was not published. Rather, in poverty determination, focus has shifted from calorie based approach to income based approach. He examined a method of estimating poverty on the basis of price indices. His study based on the NSSO data has created a detailed price index structure for each state of India. It used maximum individual commodities and subsequently he found deep disconnection between income poverty and food consumption. Complexity of monetary poverty and nutritional status has been observed. Increasing income and declining calories intake among poor in many states has shown declining poverty incidence of monetary poverty. The results of the studies based on price indices and those of the expert group are noticeably different.

Sharma (2004) using the planning commission poverty line, computed poverty and inequality indices from the large sample surveys of NSS consumer expenditure data. Rural and urban poverty estimates were presented in the study for the period 1973/74-1999/2000. The author observed that the inter-temporal changes in the poverty ratio were more influenced by the changes in per capita consumption rather than class distribution. Inter-personal inequality in the consumption distribution, measured by the Lorenz ratio, remained fairly stable for a long period but showed signs of decline recently. The study dwells on the quality of data on private consumption obtained from the National Sample Surveys' consumer expenditure vis-à-vis the private consumption expenditure in National Accounts Statistics, particularly the recent changes in the method of data collection in the former. The study also concluded that importance of non-income indicators such as infant mortality rate and school enrolment in the assessment of living standards and also reduction of poverty.

Ray and Lancaster (2005) estimated poverty under alternative definitions of poverty line i.e., nutrient based poverty estimates. The authors used P1, P2, P3, and P4 Headcount ratios for alternative poverty lines: PL1-Official Poverty Line (calculated using consumer expenditure data of NSSO); PL2-Calorie Norm Poverty Line (based on age and gender specific calorie requirement); PL3–Nutrient Price Based Food Expenditure Poverty Line (calculated as per the recommendation of Indian Council of Medical Research); and PL4- Nutrient Price Based Total Expenditure Norm Poverty Line (obtained by adding an allowance for non-food expenditure to PL3). They calculated Headcount ratios for female headed households and SC households separately. Headcount ratios (P1 to P4) are 20.5, 47.5, 48.1, 36.6, respectively, for female headed households and 33.8, 64.4, 59.6, 44.7, respectively for SC households in rural areas. It is 19.7, 34.3, 30.6, 15.7 for female headed households and 32.6, 46.1, 47.4, 27.5 for SC households, respectively in urban areas. Their results show higher headcount ratios (P1-P4) among SC households than among female headed households. Further P2 based on Calorie Norm Poverty (PL2) was observed maximum for all studies in rural as well as in urban areas. Their study also underlined the importance of the public distribution

system. The significance of this study lies in considering non-food expenditure along with food expenditure for constructing poverty line. Further, their projected poverty line includes disparity in food preferences due to regional, class, caste and other non-demographical factors that official poverty line did not consider.

Guruswamy and Abraham (2006) established that Planning Commission has been defining poverty on the basis of a nutritional norm of 2400 and 2100 kilo calories respectively in rural and urban India. They argued that poverty line that takes into account only food consumption and ignores other basic needs of non-food requirements is in fact a "Starvation Line". They stressed that the new poverty line should include proper nutrition, drinking water availability, shelter, hygiene, clothing and education. According to them, the present poverty line has three major problems, viz., poor class does not even meet the calorie norm; only calories standard is not enough; no norm is specified for non-food basic needs. Poverty considerations should include the cost of nutrition, healthcare, clothing, etc. In addition to this, there are some needs that cannot be quantified in money terms such as access to water, education, sanitation, etc. To take decision on the basis of only food in-take is aiming too low. By including minimum cost for nutrition, health, clothing, energy and miscellaneous (□573, □30, □17, □55, and □164, respectively) the poverty line calculated is approximately □840 per capita per month. On the basis of above calculated poverty line of □840 per month, a household of five people should earn □4200 per month or □50,000 per year and should have access to pucca house with the facilities of electricity and toilet connected to a sewage system. Children of the household should have access to education and they should have access to water within 1 to 15 meters of the dwelling unit. They defined a person as poor if MPCE is less than □840 or does not have access to basic amenities. At this expenditure level, 84.6 per cent of rural, 42.4 per cent of urban and 68.8 per cent of India's population is below poverty line. Their calculated poverty ratio is over two-and-a- half times of official poverty ratio.

Himanshu (2008) observed that the international poverty line of $ 1 per day per person was taken for international comparison programme for the first time in 1991. This poverty line was updated at $ 1.08 and $ 1.25 cut off in 2001 and 2005 respectively. The new World Bank estimates put the total number of poor in the world at 1.4 billion (25 per cent of world population) which is 400 million more than previous World Bank estimates of global poverty. The World Bank estimates for poverty in India based on $ 1.25 cut off line in 2005 is 41.6 per cent. Asian Development Bank using $ 1.35 per day per capita cut off estimates poverty in India at 63.9 per cent. The Planning Commission, estimated poverty in India at 27 per cent for 2004-05. It clearly indicates that Indian poverty line underestimates poverty in India. The reports (2005) of the World Bank and the Asian Development Bank estimate that India is a country with largest number of poor in the World. It accounts for 1/3rd of the total poor in the developing countries of the world.

Dreze and Khera (2010) made an attempt to explore simple method of identification of BPL households on the basis of exclusion and inclusion criteria. The BPL census conducted in 2002 based on a "Scoring method" to identify BPL households had serious conceptual defects. Their study showed that, hardly half of all household in the poorest monthly per capita consumption expenditure quintile had a BPL card, while 18 per cent of households in the richest quintile had BPL cards. Even the wealth index found high rate of exclusion from BPL list among the underprivileged social groups. They criticized scoring method on account of its lacks transparency as well as verifications. The study suggested the exclusion and inclusion criteria for identification of 'Social Assistance Base'. Person possessing simple list of durable assets: car, refrigerator, landline telephone, scooters and coloured television and amenities like electricity, tap water and flush toilet and multi-storied pucca house is also considered as base line exclusion criteria. They formulated four sets of exclusion criteria. They suggested inclusion criteria as a complement to exclusion criteria. The priority groups suggested for inclusion criteria are: SCs/STs households, landless households, households with no adult member educated beyond class 5, single women households and agriculture labour households.

Himanshu (2010) constructed new poverty line by using NSS data for food, fuel, clothing, footwear which accounted for 75.8 per cent of consumption of poor. For estimating education expenditure, employment unemployment survey (EUS) of NSS 61st round was used. For health expenditure, the author has used 60th round survey of NSSO. All this cover 90 per cent of consumption basket of the poor. The study concluded that actual food expenditure of poor is sufficient to afford nutritionally balanced diet as suggested by the National Institution of Nutrition (NIN) and suggested that the new poverty line should be based on Mixed Reference Period consumption.

Anonymous (2012) appointed an expert committee under the chairmanship of late Prof. Suresh Tendulkar. The Tendulkar committee developed a methodology using implicit price for

estimating state-wise poverty line and distribution of Monthly Per Capita Consumption Expenditure (MPCE) based on Mixed Reference Period (MRP). Under Tendulkar committee, HCR was obtained by using urban and rural poverty lines which were applied on MPCE distribution of the states. Some of key results of the Tendulkar committee included: the all-India HCR has declined by 7.3 percentages from 37.2 per cent in 2004-05 to 29.8 per cent in 2009-10, with rural poverty declining by 8.0 percentages from 41.8 per cent to 33.8 per cent and urban poverty declining by 4.8 percentage points from 25.7 per cent to 20.9 per cent. Nearly 50 per cent of agricultural labourers and 40 per cent of other labourers were below the poverty line in rural areas, whereas in urban areas, the poverty ratio for casual labourers is 47.1 per cent. Finally the committee concluded that northern states of India had been much affected by poverty than southern states of India, i.e., Bihar, Orissa, Sikkim, Himachal Pradesh, Uttar Pradesh and Manipur.

Anonymous (2013) reported that Planning Commission has periodically estimated poverty lines and poverty ratios for each of the years for which Large Sample Surveys on Household Consumer Expenditure had been conducted by the National Sample Survey Office (NSSO) of the Ministry of Statistics and Programme Implementation. These surveys are normally conducted on quinquennial basis. The percentage of persons below the Poverty Line in 2011-12 has been estimated at 25.7 in rural areas, 13.7 in urban areas and 21.9 for the country as a whole. The respective figures for the rural and urban areas were 41.8, 25.7 and 37.2 for the country as a whole in 2004-05. It was 50.1 per cent in rural areas, 31.8 per cent in urban areas and 45.3 per cent for the country as a whole in 1993-94. In 2011-12, India had 270 million persons below the Tendulkar Poverty Line as compared to 407 million in 2004-05, that is a reduction of 137 million persons over the seven year period. During the 11-year period 1993-94 to 2004-05, the average decline in the poverty ratio was 0.74 percentage points per year. It accelerated to 2.18 percentage points per year during the 7-year period 2004-05 to 2011-12. Therefore, it was concluded that the rate of decline in the poverty ratio during the 7-year period 2004-05 to 2011-12 was about three times of that experienced in the 11-year period 1993-94 to 2004-05.

Vijaya *et al.,* (2013) conducted a multidimensional poverty analysis, using data collected from the Karnataka Household Asset Survey (KHAS) to assess gender, intra-household disparities in asset ownership and to construct an individual level of multidimensional poverty measure for Karnataka. To measure multidimensional poverty, they included four dimensions – education, living standards, ownership of productive assets and empowerment. The study concluded that, in Karnataka 25 per cent of the households were classified as multi-dimensionally poor. The poverty rate among women was (71%) more than double the poverty rate among men (30%).

2.3 Deprivation and Inequality in Human Well Being

Deaton and Dreze (2002) re-examined poverty and inequality in India. The study estimated integrated poverty and inequality for India and Indian states for 1987-88, 1993-94 and 1999-2000. They reported that poverty estimates were broadly consistent with independent evidence on per capita expenditure, state domestic product and real agricultural wages. They showed that poverty decline in the 1990s preceded more or less in line with earlier trends. Regional inequalities increased in the 1990s, with the southern and western regions doing much better than the northern and eastern regions. Economic inequality also increased within states, especially within urban areas, and between urban and rural areas. They also examined other development indicators, relating for instance to health and education. Most indicators have continued to improve in the nineties, but social progress had followed very diverse patterns, ranging from accelerated progress in some fields to slow down and even regression in others.

Pal and Ghosh (2007) surveyed the recent trends of inequality in India. They made a comparable estimates of the 50^{th} (1993-1994) and 55^{th} (1999-2000) rounds of National Sample Survey data reveal that inequality increased both in rural and urban India. They reported that, both at the national and the state levels, income disparities between the rural and urban sectors increased during 1990-2000. State-level data also showed that not only had the income gap between the poorest and the richest states increased during the 1990s, but urban inequality increased for all the 15 major states in India. Inequality also alarmingly increased in the North-Eastern part of the country, where all the states experienced increased rural and urban poverty during the same period. One of the reasons behind the increased income inequality observed in India in the post-reform period has been the stagnation of employment generation in both rural and urban areas across the states. Open unemployment increased in most parts of the country, and the rate of growth of rural employment hit an all time low. Declining employment elasticity in several sectors, including agriculture, was one of

the main reasons behind this decline. They also showed that health and education related indicators showed positive progress in India by these major 15 states. They concluded reduction of the fiscal deficit also increased inequality in India during the reform period. Due to pressures from powerful lobbies, direct and indirect tax rates declined in India and attempts to reduce government expenditure on food subsidies and social welfare schemes have also had serious negative effects on inequality in the country.

Choudhary (2008) analysed regional disparities in terms of educational development in India over the decade of 1981, 1991 and 2001 and selected seven parameters for the measurement of educational development. The study was based on a composite index and ranking method for measuring regional disparities. Educational development index (composite primary and upper primary) and human development index values were calculated for measuring the level of regional disparities in educational development. Results of the study revealed that only Kerala had a high level of educational development. Karnataka and Maharashtra appeared as moderately developed states while Bihar, Orissa and Uttar Pradesh remained backward. Choudhary considered education as an important component of social sector and suggested measures to develop the educational sector in a balanced manner by measures such as increasing public expenditure on education, promoting a favourable school environment, giving importance to girls' education.

Dev (2008) examined the changes in inter-state and intra state disparities in growth rate of gross state domestic product (GSDP), per capita gross state domestic product, income poverty, underweight children, infant mortality rate (IMR) and net enrolment rate in the pre-reform and post-reform period and also compared India with Bangladesh, Indonesia and Philippines in terms of most of these indicators. The study revealed increased regional disparities in the post-reform period. Under policy issues, the study showed a positive relationship between higher level of infrastructure, per capita income and capital flows (particularly per capita total investment). Study concluded with approaches of Tenth and Eleventh Five Year Plans regarding balanced regional development and multi-pronged strategies which are suggested for the reduction of regional disparities such as for higher growth and reduction in poverty investment should be increased in less developed states.

Malhotra and Shweta (2008) in their study analysed inte-rstate differences in spending and highlighted that interstate differences in per capita health expenditure caused interstate differences in health attainment. They also analysed the relation between major health indicators and determinants such as literacy rate, per capita health expenditure, per capita NSDP (net state domestic product). The study was based on simple regression analysis which showed direct relation between per capita health public expenditure and level of development as measured by per capita net state domestic product (PCNSDP) and interlinks between the two.

Pal and Mitra (2008) in their study examined the trends in inter-state disparities in gross state domestic product (GSDP), per capita gross domestic product (PCGSDP) and in the shares of different sectors in GDP by using coefficient of variation. Results of the examination revealed more divergence in GSDP and per capita GSDP during the reform periods and finally they suggested that development policies (rigorous development policies of government of India as well as the policies of the state governments) should be formulated for the reduction of regional disparities.

Singh and Kalpana (2008) examined the disparities in the standard of living of different income groups as measured through monthly per capita consumption expenditure in rural and urban areas of states. This study was limited to 18 non-special category states and based on NSSO data and Gini-coefficients. The results of the study revealed disparities in the standard of living across states in different income groups. The study attempted to show a positive correlation between monthly per capita consumption expenditure of different income groups and levels of development.

Gaur (2010) conducted a study on estimating deprivation and inequality in human well being in Indian States. The main objective of the study was to measure human poverty (inter-state) in India for the period 1981-2002. To estimate human poverty, deprivation index developed by UNDP was utilized and for this purpose and deprivation indices was calculated for Per Capita State Domestic product (SDP), Per Capita expenditure of States on Education, Medical and Public health of twenty major states of India for period 1980-81 -2001-02. Major outcomes of the study are (a) Except education, average deprivation in terms of per capita SDP and expenditure on medical and public health, for twenty states had risen significantly during the period 1980-2005. (b) Inter-state deprivation indices for per capita SDP and medical and public health stood at 0.6177 and 0.8294, respectively, in 1980-81 while these indices increased further to 0.6202 and 0.8756 in 2001-2002. However, in case of education, inter-state deprivation indices have shown declining trend during the period 1980-2002.

(c) Deprivation indices in terms of per capita SDP, per capita expenditure on medical and public health and education for BIMARU states like UP, MP, Orissa, Rajasthan and Bihar were found significantly higher than the average deprivation indices during the period 1980-2002.

Roy and Haldar (2010) conducted a study on measuring poverty and socio-economic deprivation inequality in India at sub-national level. The study examined the inequality of income, poverty and socio-economic variables manifesting human deprivation across the sixteen major states in India from 1981 to 2001. They concluded that inequality in income has been increasing over time and it was further aggravated after 1991 when the structural adjustment programme was initiated by the Government of India. The study also revealed that the social inequality had also been widening across the states in India and showed a common positive trend of inequality implying increasing regional imbalance over the decades due to variation of relevant flow of social sector expenditure.

Chowdhury *et al.,* (2011) conducted an exploratory analysis of deprivation and ill health led poverty in urban India. The study explored the links between urban poverty and ill-health through a case study based on evidence from 150 households with a history of ailment, located in two slum clusters of Delhi. They examined that multi-dimensional nature of urban poverty with special emphasis on ill-health led deprivation. There are two reasons for poverty. First, there is an increasing proliferation of slums in urban areas and many of them are un-notified. Second, the condition in which slum dwellers live in urban areas reflects deprivation of access to the most basic services that makes them prone to ill-health. They reported that, a driver of poverty, ill-health reduces the income earning potential and increases expenditure on medication, thereby causing asset depletion, increasing debt and worsening poverty. They further estimated that economic burden of ill-health as measured by illness induced impoverishment, and also brought out its variation across select socio-economic and disease characteristics within the sample households.

Majumder (2012) examined the role of infrastructure in removing poverty and inequality in India. The study sought to explore multi-dimensional association between different types of infrastructural facilities and poverty across India in a regional framework. The author reported that availability of infrastructural facilities in India had been analyzed in a multidimensional framework. There are various facets of infrastructure, and while a region may lack in one or more of the infrastructural services available, it may possess adequate supply of others. Moreover, poverty and wellbeing would be affected not only by physical infrastructure but aldo by lack of financial and social infrastructure like banks, credit institutions, schools, hospitals, etc. The author further classified infrastructure into three sub-components: Physical infrastructure, financial infrastructure and social infrastructure. Physical infrastructure impacts on both average living standards as well as the income distribution in terms of lowering the proportion of people living below the poverty line. Availability of education and health facilities, however, leads to both lowering of poverty and convergence through reduced interpersonal inequality. The study also reported that infrastructure was seen to be a major facilitator of growth. Researchers have been trying to link it with poverty reduction recently.

Gupta and Mishra (2013) assessed the poverty and calorie deprivation across socio-economic groups in rural India. The basic objective of the study was to estimate the linkage between calorie deprivation and poverty in rural India at a disaggregated level using the secondary data obtained from the Consumer Expenditure Schedules of the 50^{th} (1993-94), 61^{st} (2004-05) and 66^{th} (2009-10) rounds of the National Sample Surveys (NSS). The authors concluded that the probability of getting recommended calories was quite low among all weaker socio-economic groups. Education level played an important role to determine calorie intake. Finally they concluded that both poverty and calorie deprivation across social groups and those having bigger families, less education, lower MPCE and those belonging to ST, SC, agricultural labour and other labour class, Muslims were found to have higher levels of poverty as well as calorie deprivation.

2.4 Determinants of Poverty at Macro and Micro Levels

Nadalgi (1968) concluded that the poverty of the masses in India had reflected in the extent of their under-nourishment. Much of that poverty was concentrated in rural India, particularly in areas where there was high concentration of landless labourers, where the per capita area under cultivation was small and where productivity was low. The under-nutrition was partly due to lack of purchasing power and partly due to shortage of foodgrains.

Narayanamoorthy (1999), in his state-wise analysis of irrigation and rural poverty nexus, opines that the importance of irrigation and the development process of agriculture had been clearly brought out by both micro and macro level studies in India. Development of irrigation not only

increased output but also increased the employment opportunity. For analyzing the variation in the level of the poverty, the study considered variables like per capita consumption expenditure, per capita availability of food grains, consumer price index of agriculture labourers, state domestic product (SDP) of agriculture per head of rural population, productivity of agriculture labourers, land holding size of different class of farms, etc. He had covered fourteen major states in India for the purpose of this study. In order to analyse the impact of irrigation on rural poverty, he estimated a regression model using ordinary least squares method. He concluded that there was a clear significant inverse relation between the incidence of rural poverty and irrigated area per 1000 rural population at all the selected four points of the time.

Bhattacharya (2002) examined the incidence and cause of rural poverty in India during the period of 1970-90 and also assessed the level of rural inequality and its trends. It was observed that rural poverty in India had multiple dimensions arising out of economic as well as social causes. Therefore, the importance of rural socio-economic growth in reducing poverty was obvious.

Rajan (2002) studied the impact of international trade on 100 developed and developing countries during 1960-90. The author provided the empirical evidence that the countries that managed to reduce poverty were those that had adopted trade liberalization policies. Trade led to rapid growth and it reduced poverty at the same time. But only growth could not be taken as a sufficient condition for poverty reduction, so the author further suggested the need for social safety nets to protect the poor from the bad impacts of liberalization. He emphasized that trade liberalization should be backed by sound macro policies, strong institutions and good investment environment.

Mishra and Rao (2003) made an attempt to show that trade liberalization accelerates growth and thereby reduces poverty. The study was based on cross-country regression analysis from 1978-79 to 1999-2000 period. They examined relationship through auto regressive integrated moving average method (ARIMA), in which the dependent variables were explained by their own past, i.e. lagged trends. The study showed that the lower tariff during the process of economic reforms in 1991 reduced the relative prices of manufacturing. It influenced the terms of trade in favour of agriculture and lifted private investment in agriculture. These had facilitated in increasing the aggregate crop output over the period. The increased agricultural output had reduced rural poverty.

Rinku *et al.,* (2003) pooled central and state samples for Karnataka from the NSSO 55th round to examine regional variations in poverty. Using official poverty line, they estimated district-wise headcount ratios and poverty gap. The broad picture that emerged from poverty estimates was that urban poverty in Karnataka was the same as at that of all India level, but it was higher than its rural poverty. The study also found concentration of poor in northern districts and significant variation in poverty levels within divisions.

Krishna *et al*. (2004) selected 36 villages from three districts of Andhra Pradesh. Almost all the selected villages had majority of SC, ST and OBC groups. Their study reveals that 65.5 per cent of households in these villages were poor from 25 years back and 63.5 per cent were poor currently; the net change was negligible. It was merely 1.9 percentage points. The extent of poverty varied considerably from village to village. Percentage of households in poverty decreased in 22 out of 36 villages, but it increased in the remaining 14 villages. A combination of factors, i.e., ill health, health related expenses, social and customary expenses, high-interest rate on private debt, large size of family, laziness and drunkenness, etc. were major causes of poverty. Jobs in private and government sectors, irrigation, government assistance and new agricultural technologies helped in escaping poverty.

Kohli (2005) conducted a study for whole of the state of Rajasthan as well as for its different regions during 1987-88 and 1993-94. For the analysis of poverty, the state was divided into four regions. The author computed region-wise different measures of poverty, i.e., Head count Ratio (HCR), Poverty Gap Index and Foster-Greer-Thorbecko (FGT). The study found that rural poverty declined in all the regions. Highest poverty was observed in southern Rajasthan. Urban poverty increased in the East and the South-East of Rajasthan. Increase in urban poverty was due to migration of rural poor to urban areas.

Sailabala (2005) made an attempt to study the pattern of poverty in rural Orissa and role of education in reducing poverty. Using the secondary data for the year 1992-93, the study calculated percentage of families below poverty line by social groups, by income categories and by occupation status. The study revealed that incidence of poverty was high among the lower income categories, scheduled tribes and marginal farmers. It also found a strong inverse relationship between education

and poverty. The study suggested that the government should educate people to promote their participation in poverty eradication programme.

Singh (2007) conducted a study on district-wise poverty in Manipur. The study reveals that more than 50 per cent of the people below poverty line were illiterate; they were landless and marginal farmers. The author also reported that in Manipur, poverty was inversely related with the size of land holding. The study concluded that the land reform measures should be implemented properly for poverty alleviation.

Kumari and Singh (2009) explored causes of poverty in North Bihar. The study was designed to examine various components of the human development of poor households in north Bihar. The study mainly concentrated on non-economic aspects of poverty like nutrition, education, health and hygiene, safe drinking water and participation in rural institutions, etc. For the study 15 districts of North Bihar having poverty level higher than the state average were selected. A poverty determinant function was estimated using poverty as the qualitative dependent variable [with value one (1) for poor, and zero (0) for non-poor households] and a set of socio-economic and human development factors of households as explanatory variables. Since the dependent variable was discrete (0, 1), the probit model was estimated to identify the factors affecting the probability of households being poor. The study concluded that the chronic energy deficiency was more prevalent in the poor households, particularly among the female members. A majority of their children had been found inflicted with malnutrition. Besides inadequate quantity and poor quality of food intake, the reasons identified for malnutrition were unhygienic dwelling houses, poor access to basic needs and high illiteracy. These factors not only contributed to the poor health care of family members of poor households, but also adversely affected their regular employment, resulting in low level of their income and persistent poverty. The poor households depended on non-professionals for medical treatment due to their weak economic status on one hand and the collapsed primary health structure in Bihar on the other hand. The study has suggested that poverty could be reduced through higher investments on educational infrastructure and improvement in the nutritional status of these households.

Kiresur *et al*. (2010) analysed the linkages amongst agricultural productivity, rural poverty and nutritional security in Bagalkot district of Karnataka state using primary data for the agricultural year 2005-06 obtained from 120 farm households. The data were processed using ratios, frequencies, percentages, regression analysis and probit model. Agricultural productivity has had negatively and significantly influenced rural poverty at the farm level. Low agricultural productivity is the root cause of poverty. Household size and number of dependents therein had positively influenced rural poverty. Optimization of household size or increase in number of earning members of the household would reduce poverty. Nutritional security was greatly influenced by the level of rural poverty. To upgrade the nutritional status of households, the study suggested that effective poverty alleviation programmers aimed at enhancing agricultural productivity through transfer of productive assets instead of consumer goods to the poor should be launched and effectively monitored.

Rao and Gedela (2012) tried to identify the determinants of poverty in tribal households in Andhra Pradesh of Visakhapatnam District. Multi-stage stratified random sampling method was used for the selection of mandal, villages and households of Visakhapatnam district. They concluded that the per capita monthly income variable was the major determinant of the per capita monthly expenditure of the selected tribe households, which in turn determined the poverty level. Literacy variable emerged as the important determinant in case of Konda Dora tribe households. On the other hand, the per capita asset value variable failed to explain any variation in the poverty level. And the study also identified that important reason for the poverty of Kondh households was their cultural heterogeneity, low level of awareness and indifferent attitude. Finally to reduce poverty, literacy rate of the tribal people especially of female literacy among the Kondh households should be increased.

Kumari (2013) observed that poverty was a socio-economic phenomenon that was intimately associated with inequality. In India, even now in spite of all the developments during the past five and a half decades, 34.3 per cent of the population was getting less than $ 1 (PPP) a day. Major determinants of poverty were lack of income and purchasing power attributable to lack of productive employment and considerable underemployment, inadequacy of infrastructure affecting the quality of life, employability, etc. The study suggested that, government should educate the rural population about the importance of small family and mortality rate and also government should provide better medical facilities, drinking water facilities and education so that people living below poverty line could improve their lives.

2.5 Vulnerability to Poverty and Strategies to Cope with Poverty

Aysan (1993) opined that vulnerability was the exposure to contingencies, stress, and difficulty in coping with them. Several factors contribute to vulnerability. They include rapid population growth, poverty and hunger, poor health, poor education, gender inequality, fragile and hazardous location, and lack of access to resources and services, including knowledge and technological means, disintegration of social patterns. Other causes include lack of access to information and knowledge, lack of public awareness, limited access to political power.

Gaiha and Imai (2006) estimated vulnerability and poverty in rural South India. They attempted to assess the vulnerability of rural households in the semi-arid tract of South India, based upon the ICRISAT panel survey. They employed both ex-ante and ex-post measures of vulnerability. The latter was decomposed into aggregate risk and idiosyncratic risk and poverty components. Decomposed results showed that idiosyncratic risks accounted for the largest share (37%), followed by poverty (35%) and aggregate risks (22%). It was somewhat surprising that idiosyncratic risks (e.g., illness or unemployment) contributed more than poverty. Despite some degree of risk-sharing at the village level, the landless or small farmers were vulnerable to idiosyncratic risks. Finally they concluded that subsets comprising the landless without education or members of lower castes were most vulnerable.

Akter *et al.,* (2008) studied vulnerability and poverty dynamics in relation to livelihood pathways and also identified the role of livestock. The study reveals that poverty fell considerably in the study area from 45 per cent in 2001-02 to 29 per cent in 2006-07 with about 64 per cent of the poor escaping absolute poverty and 23 per cent of the non-poor falling into it. More than 41 per cent of the households moved in or out of poverty in a 6-year period beginning 2001-02. Poverty incidence differed among different caste categories, among landless, marginal and small farmers, and livestock holders and between locations. Poverty was proportionately higher among the scheduled tribes and backward castes. Poverty and vulnerability was diagnosed more among the landless and marginal farmers. They estimated that 62 per cent of the households remained either extremely poor or vulnerable in the two periods (2001-02 and 2006-07). They concluded that diversification of farm, non-farm and livestock activities could be the route to reduce poverty and vulnerability in the study area.

Azam and Imai (2009) analysed vulnerability and poverty in Bangladesh. They estimated ex-ante poverty and vulnerability of households in Bangladesh using Household Income and Expenditure Survey (HIES) data of 2005. Their result showed that poverty was not same as vulnerability as a substantial share of those currently above the poverty line was highly vulnerable to poverty in the future. The study finds that, those without education or agricultural households were likely to be the most vulnerable. The geographical diversity of vulnerability was considerable, for example, vulnerability in coastal division, i.e., Chittagoan Division was almost double to that of Dhaka and almost four times higher than Khulna Division. Total vulnerability was found to be 47.81 per cent as opposed to the current poverty of around 39 per cent. Vulnerability in rural areas was even higher which was estimated to be 52.79 per cent. They suggested ex-ante measures to prevent households from becoming poor as well as ex-post measures to alleviate those already in poverty should be combined in evaluating poverty. They also concluded that investment in human capital along with other means of social protection and promotion could be instrumental for poverty reduction in Bangladesh.

Jha *et al.,* (2009) conducted research on poverty, under-nutrition and vulnerability in rural India. The study mainly concentrated on effects of accessing Rural Public Works (RPW) and the Public Distribution System (PDS), a public food subsidy programme, on consumption poverty, vulnerability and under-nutrition in India by drawing large household datasets constructed with National Sample Survey Organisation (NSSO), viz., 50^{th} round in 1993-1994 and 61^{st} round in 2004-2005. They also utilized the treatment effects model and propensity score matching (PSM) model for evaluating the effects of RPW or PDS on poverty. Their study found significant and negative effects of household participation in RPW and food for work programmes on poverty, under-nutrition and vulnerability in 1993 and 2004.

Mehta *et al.,* (2011) conducted a study on role of Self Help Groups in socio-economic change of vulnerable poor of Jammu region. They made descriptive study of the SHGs promoted by Gramudyog Hastakala Kendra (GHK), an NGO working for promotion of SHGs in Kathua District of Jammu region. The SHGs were selected by using convenience sampling technique. A sample of 10 SHGs consisting of 162 members was taken to study various aspects of SHGs, viz., educational profile, economic status and occupational pattern, etc. It was found that most of the members of

SHGs were economically weak. The study concluded that SHG Bank Linkage Programme had significantly improved the access to financial services for the rural poor and had considerable positive impact on the socio-economic conditions, thereby reduction of poverty and vulnerability of SHG members and their households.

Azam and Imai (2012) examined the level and sources of vulnerability in rural Bangladesh using a household survey. They used a simple two-level random intercept model to estimate expected mean and variance in consumption as well as to decompose the variance into idiosyncratic and covariate components. Their results indicated that both idiosyncratic and covariate shocks have had considerable impact on household's vulnerability and idiosyncratic shocks; and they seem to have greater impact on household's consumption vulnerability than the covariate shocks. Their results also revealed that rural vulnerability in Bangladesh was mainly poverty induced rather than risk induced. Around 78 per cent of all who were vulnerable were accounted for by low expected mean consumption and only 22 per cent of them were due to high consumption volatility. Finally they concluded that education was a key element in reducing poverty and vulnerability in Bangladesh.

Imai (2012) examined whether employment in the rural non-farm sector economy (RNFE) has had any poverty-reducing or vulnerability-reducing effect in Vietnam and India by using treatment effects model. Their study revealed that log per capita consumption or log mean per capita expenditure (MPCE) significantly increased as a result of access to RNFE in Vietnam and India, which was consistent with poverty reducing role of accessing RNFE with the aggregate effect larger in Vietnam than in India. Access to RNFE significantly reduced vulnerability too in both countries, implying that diversification of household activities into non-farm sector would reduce such risks. They also found that poverty and vulnerability reducing effects were much larger for sales professionals and clerks than for unskilled or manual employment in the non-farm sector in both countries. However, even unskilled or manual non-farm employment significantly reduced poverty and vulnerability in India.

Jha *et al.,* (2012) conducted a study on vulnerability and responses to risk in rural India by using Vulnerability as Expected Utility (VEU) analysis and rural India household vulnerability is most explained by poverty and idiosyncratic components. The study revealed that risk coping strategies for households relied heavily on informal instruments such as their own saving, transfers or capital depletion. However, they also tried to cope with covariate risks by participating in government programmes. Further, household consumption was highly covariate with income. This implies that existing informal insurance instruments were not sufficient to protect household consumption against income shocks. Hence, they concluded that existing informal strategy was not very effective as a consumption insurance mechanism, although the government coping programme was found to reduce vulnerability access to such programmes was constrained. Expansion of government sponsored coping programmes was likely to protect households effectively from negative shocks and vulnerability.

Eozenou *et al.,* (2013) conducted a study on poverty, malnutrition and vulnerability issues in Mali, using household survey data. They mainly concentrated on: first, profile of households that were poor, "food poor," or have malnourished children. Second, the impact of recent weather and price shocks on household welfare and identified those affected most by the shocks. Third, they estimated vulnerability to poverty by modeling both households' expected consumption and their consumption volatility. The basic results of the analysis match conventional knowledge about poverty, food poverty, and malnutrition. The prevalence of chronic malnutrition is high in Mali, with 44 per cent of Malian households and 66 per cent of food poor Malian households having at least one stunted child. A 25 per cent increase in cereal prices and a 25 per cent decrease in cereal production were estimated to increase the number of food poor by 610,000 people. They concluded that vulnerability incidence was generally two to three times higher among the poor than the non-poor.

METHODOLOGY

This chapter presents a brief description of the methodology used for the present study in terms of the following.

3.1 Description of the Study Area

3.2 Sampling Procedure

3.3 Nature and Sources of Data

3.4 Analytical Tools Employed

3.5 Terms and Concepts Used in the Study

3.1 Description of the Study Area

The present study was undertaken in both Bijapur and Tumkur districts of Karnataka state. Karnataka is the eighth largest state in India with a geographical area of 190 lakh ha. It is situated between 11°5' and 18°45' North Latitude and between 74°12' and 78°40' East Longitude in the Southern Plateau. The state receives an average rainfall of about 1139 mm both from South-West and North-East monsoons. The temperature ranges from 14°C to 40°C. The important crops grown in the state are sorghum, paddy, ragi, maize and wheat among cereals and pigeonpea, chickpea and greengram among pulses, while, groundnut, sunflower and safflower are the major ones among oilseeds crops. The crops, namely, cotton, chilli, sugarcane and tobacco are important ones among commercial crops. Mango, sapota and banana among fruit crops and coconut, arecanut and coffee among plantations are prominent ones.

3.1.1 Location of the Study Area

Bijapur district derives its name from its headquarters town, Bijapur. It is also called as Vijapur in Kannada which means “City of Victory” and also considered as Punjab of Karnataka since five rivers flow in this district. Bijapur district is the ninth largest district in Karnataka encompassing a geographical area of 10,53,471 ha and is lies between 15 0 50' and 170 28' north latitude and 740 54’ and 760 28' east longitude. Bijapur district is situated in the Northern part of Karnataka. It is bound on the North by Sholapur district (Maharashtra) and on North West by Sangli district (Maharashtra). The other sides are bounded by Gulbarga, Bagalkot and Belgaum district of Karnataka state (Bijapur District at Glance, 2012-13).

Tumkur district is the seventh largest district in Karnataka encompassing a geographical area of 10,64,755 ha and is situated between 120 45' and 140 20' north latitude and 760 20’ and 770 31' east longitude. It is bounded by Chitradurga and Ananthpur (Andhra Pradesh) district in the North, Mandya district in the South, Bangalore and Kolar district in the East and Hassan district in the West. The district is divided administratively into 10 taluks (Tumkur District at Glance, 2012-13).

3.1.2 Geographic and Demographic Features

Geographic and demographic features of the both Bijapur and Tumkur district are presented in Table 3.1. The total geographical area of the Bijapur district is 10,540.92 sq km accounting for 5.49 per cent of the total geographical area of the state. Muddebihal and Sindagi taluks have an area of 1,501.76 and 2,176.4 sq.km. The district consists of 692 villages, while, Muddebihal and Sindagi taluks consist of 153 and 150 villages, respectively. The total population of Bijapur district as per 2011 census was 21,77,331 and those of Muddebihal and Sindagi taluks were 2,90,691 and 3,95,675, respectively. The density of population in Bijapur district was 207 per sq km and that in Muddebihal and Sindagi taluks was 194 and 182 per sq km.

The total geographical area of the Tumkur district is 10597 sq km accounting for 6.22 per cent of the total geographical area of the state. Koratagere and Turuvekere taluks have an area of 652 and 778 sq km. The district consists of 2708 villages, while, Koratagere and Turuvekere taluks consist of 251 and 243 villages, respectively. The total population of Tumkur district as per 2011 census was 26,78,980 and those of Koratagere and Turuvekere taluks were 1,67,591and 1,68,994, respectively. The density of population in Tumkur district was 253 per sq km and that in Koratagere and Turuvekere taluks was 257 and 217 per sq.km. Both the Bijapur and Tumkur districts as well as the taluks under study are having a good network of roads, communication facilities, markets, etc. which is indicative of good infrastructural facilities.

Table 3.1 General features of the Study Area

SN	Particulars	Bijapur District			Tumkur District		
		Mudde-Bihal Taluka	Sindagi Taluka	District Total	Kora-Tagere Taluka	Turu-Vekere Taluka	District Total
1	Population (Nos.) (2011 census)						
	a) Rural: Persons	224781	358449	1675353	152326	152177	2079902
	b) Rural: Male	113331	183855	857562	76749	75553	1048710
	c) Rural: Female	111450	174594	817791	75577	76624	1031192
	d) Urban: Persons	65910	37226	501978	15265	16817	599078
	e) Urban: Male	33128	18880	253460	7600	8397	301884
	f) Urban: Female	32782	18346	248518	7665	8420	297194
	g) Total: Persons	290691	395675	2177331	167591	168994	2678980
	h) Total: Male	146459	202735	1111022	84349	83950	1328386
	i) Total: Female	144232	192940	1066309	83242	85044	1350594
2.	Decennial Population growth rate	14.6	21.13	20.5	4.35	-3.04	3.65
3.	Area (sq.km)	1501.7	2176.4	10540.9	652.0	778.0	10597.0
4.	Density of population (persons/sq.km)	194	182	207	257	217	253
5.	Sex ratio (no.of females/1000 males)	984	952	960	987	1013	984
6.	Literacy rate (%)						
	Total	68.05	63.3	67.15	71.9	77.34	75.14
	Male	80.59	74.69	77.21	80.09	85.77	82.81
	Female	56.30	51.40	56.72	63.63	69.10	67.38
7	Total population						
	a) Main workers: Persons	100987	149466	760083	71599	65915	1078431
	b) Main workers: Male	66341	95049	508406	45137	49607	738124
	c) Main workers: Female	34646	54417	251677	26462	16308	340307
	d) Marginal workers: Persons	26624	29554	167639	23525	17456	276215
	e) Marginal workers: Male	11537	10562	71705	8282	4342	99388
	f) Marginal workers: Female	15087	18992	95934	15243	13114	176827
	g) Non-workers: Persons	163080	216655	1249609	72467	85623	1324334
	h) Non-workers: Male	68581	97124	530911	30930	30001	513082
	i) Non-workers: Female	94499	119531	718698	41537	55622	811252
8.	Total workers	127611	179020	927722	95124	83371	1354646
	Cultivators	29237	60294	262217	40240	44031	505910
	Agricultural labour	47923	81102	351600	31691	16587	352286
	Household industry	5181	3315	25379	2081	1267	54523
	Other workers	45270	34309	288526	21112	21486	441927
9.	Percentage of scheduled Castes	19.55	19.53	20.33	23	14	19
10.	Percentage of scheduled Tribes	3.30	0.95	1.80	11.24	2.78	7.82
11.	Number of villages	153	150	692	251	243	2708
12.	Number of towns	2	1	6	1	1	10

Source : Bijapur District at a Glance 2012-13, District Statistical Office, Bijapur

Tumkur District at a Glance 2012-13, District Statistical Office, Tumkur

3.1.3 Climate, Rainfall and Soil type

The south-west monsoon is the most crucial for Bijapur district. The district gets an annual average rainfall of 434 mm, as against 404 mm and 494 mm respectively for Muddebihal and Sindagi taluks, which fall under North Dry Zone. The soils of the district are mostly black, deep black and red sandy loam. Similar types of soil are found in Muddebihal and Sindagi taluks, which comprise of red and medium black soils. The major part of soil comprised of deep black cotton soil which is moderately rich in nutrients.

The Tumkur district has four distinct rainy seasons: (1) South-west monsoon spread over from June to September, (2) North-east monsoon from October to November, (3) Winter season between December and February and (4) Summer season spread over from March to May. The district gets an annual average rainfall of 480 mm, as against 569 mm and 475 mm respectively for Koratagere and Turuvekere taluks, which fall under Central Dry Zone and Southern dry zone. The soils of the district are mostly sandy, sandy loam, and red sandy loam. The soils of the district are generally poor, except in the taluks of Madhugiri, Chikkanayakanahalli, North-eastern part of Sira and Koratagere. The soils are medium to deep in depth, with low water retention capacity. The cultivable land in the district is mostly dry and undulating, coupled with low and uneven rainfall.

3.1.4 Land utilization pattern

Land utilization pattern of the districts and the selected taluks for the year 2011-12 is presented in Table 3.2.

The net area sown in Bijapur district was 8,36,431 ha and that of Muddebihal and Sindagi taluks was 1,22,529 and 1,91,267 ha, respectively. The area under forest was 1977 ha in Bijapur district, while it was almost nil in Muddebihal and Sindagi taluks. The fallow land accounted for 1,33,478 ha in the district out of which correspondingly 16,573and 14,006 ha was in Muddebihal and Sindagi taluks, respectively. The land not available for cultivation was 65,192 ha in Bijapur district with 8,551and 10,038 ha in sample taluks in that order.

The net area sown in Tumkur district was 5,09,542 ha and that of Koratagere and Turuvekere taluks was 33,605and 55,692 ha, respectively. The area under forest was 45,177 ha in Tumkur district, while it was 3,476 and 561 ha correspondingly in Koratagere and Turuvekere taluks. The fallow land accounted for 1,97,413 ha in the district out of which correspondingly 11,523 and 2,821 ha was in Koratagere and Turuvekere taluks, respectively. The land not available for cultivation was 1,52,495 ha in Tumkur district with 9,358 and 6,413 ha in sample taluks in that order.

3.2 Sampling Procedure

The selection of study area and the sampling procedure adopted is described below.

3.2.1 Selection of District and Taluks

The present study pertains to two districts of Karnataka, one district from North Karnataka and another district from South Karnataka, which were purposively selected based on top five districts from North Karnataka and top five districts from South Karnataka in terms of BPL card holders in the district (Table 3.3). Owing to manpower, cost and time constraints, all the districts of the state could not be included in the domain of data collection. Hence, two districts from Karnataka state were purposively selected to represent the State. Further, two taluks from each district, namely, Muddebihal and Sindagi from Bijapur District (Fig.1), Koratagere and Turuvekere from Tumkur District (Fig.2) were selected based on Highest and Lowest concentration of BPL card hoders in the taluka (Table 3.4).

3.2.2 Selection of Villages and Respondents

The list of villages in each taluk of two districts was obtained from the concerned Taluk Panchayat offices. From each taluk, three villages were randomly selected by using random number table. Thus, in all, twelve villages spread across four talukas in two districts were finally selected (Table 3.5). From each village, ten respondents at the rate of two each from five categories, namely, landless labourer, marginal farmer, small farmer, medium farmer and large farmer, were selected.

Table 3.2: Land use pattern of Bijapur and Tumkur district (2011-12)

(Area in ha)

SN	Particulars	Bijapur District			Tumkur District		
		Mudde-bihal Taluka	Sindagi Taluka	District Total	Kora-tagere Taluka	Turu-vekere Taluka	District Total
1	Geographical area	149744	217601	1053471	70919	75964	1064755
2	Forest area	-	-	1977	3476	561	45177
3	Land not available for cultivation	8551	10038	65192	9358	6413	152495
4	Other uncultivable land	2091	2290	16393	12957	10477	160128
5	Fallow land	16573	14006	133478	11523	2821	197413
6	Net cultivable land	122529	191267	836431	33605	55692	509542
7	Gross cultivable area	140707	219617	933380	35583	60534	575961
8	Net irrigated area	25240	92962	293690	8113	16285	159802
9	Gross Irrigated area	28492	105087	338668	9012	18936	183141

Source : Bijapur District at a Glance 2012-13, District Statistical Office, Bijapur
Tumkur District at a Glance 2012-13, District Statistical Office, Tumkur

Table 3.3 BPL Ration Card Holders in Selected Top Five Districts of Karnataka (As on 30-09-2012)

SN	Districts	Population (2011 Census) (No.)	Total BPL Cards (No.)	Per Capita Income (Rs)
Northern Karnataka				
1	Belagum	4778439	669347	42152
2	Gulbarga	2564892	425141	37394
3	Bellary	2532383	352111	74442
4	Bijapur	2175102	319501	39809
5	Bagalkote	1890826	293751	39630
Southern Karnataka				
1	Mysore	2994744	583799	58171
2	Tumkur	2681449	491791	42216
3	Mandya	1808680	395201	34216
4	Davangere	1946905	383748	42701
5	Bangalore	9588910	342275	152795

Source : Economics Survey of Karnataka 2012-13.

able 3.4 Taluk Wise BPL Card Holders in Sample Districts (As on 31-03-2013)

SN	Taluks	Population (2011 Census) (No.)	Total (No.)	BPL Cards per thousand population	Rank
A]	**Bijapur District**				
1	B.Bagewadi	348721	54492	156	
2	Bijapur	721075	117001	162	
3	Indi	421169	63713	151	
4	Muddebihal	290691	49754	171	Highest
5	Sindagi	395675	58435	148	Lowest
	District Total	2177331	343395	158	
B]	**Tumkur District**				
1	Chikkanayakanahalli	212130	41681	196	
2	Gubbi	262518	51159	195	
3	Koratagere	167591	35884	214	Highest
4	Kunigal	225783	41203	182	
5	Madhugiri	267866	55383	207	
6	Pavagada	245194	50201	205	
7	Sira	313758	64341	205	
8	Tiptur	222749	40825	183	
9	Tumkur	592397	116202	196	
10	Turuvekere	168994	30632	181	Lowest
	District Total	2678980	527511	197	

Source : Bijapur District at a Glance 2012-13, District Statistical Office, Bijapur.
Tumkur District at a Glance 2012-13, District Statistical Office, Bijapur.

Table 3.5: Village wise distribution of the respondents

District	Taluka	Village	Farmer Category					
			LL*	MG	SM	MD	LG	Total
1.Bijapur	1.Muddebihal	1.Abbihal	2	2	2	2	2	10
		2.Geddalmari	2	2	2	2	2	10
		3.Kuntoji	2	2	2	2	2	10
	2.Sindagi	1.Aheri	2	2	2	2	2	10
		2.Yargal B.K	2	2	2	2	2	10
		3.Yargal K.D	2	2	2	2	2	10
2.Tumkur	1.Koratagere	1.Hulikunte	2	2	2	2	2	10
		2.Kamrajanahalli	2	2	2	2	2	10
		3.Tumbadi	2	2	2	2	2	10
	2.Turuvekere	1.Marthamnahalli	2	2	2	2	2	10
		2.Sampige	2	2	2	2	2	10
		3.Samipge Hosahalli	2	2	2	2	2	10
Total			24	24	24	24	24	120

*Note : LL=Landless Labourer; MG=Marginal Farmer; SM=Small Farmer; MD=Medium Farmer; LG=Large Farmer

Study Area Maps

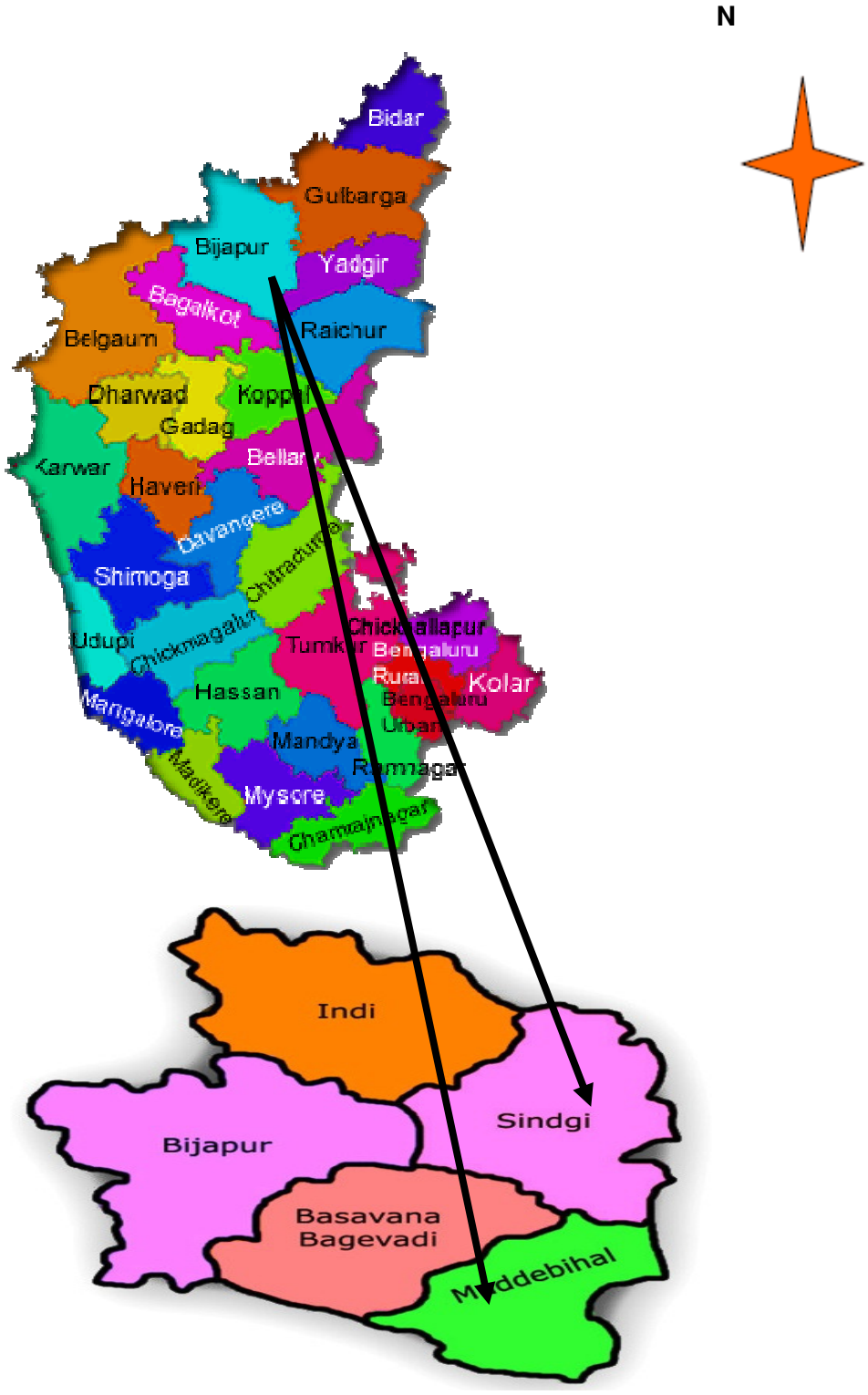

Fig 1: Map of Bijapur District and its Taluks

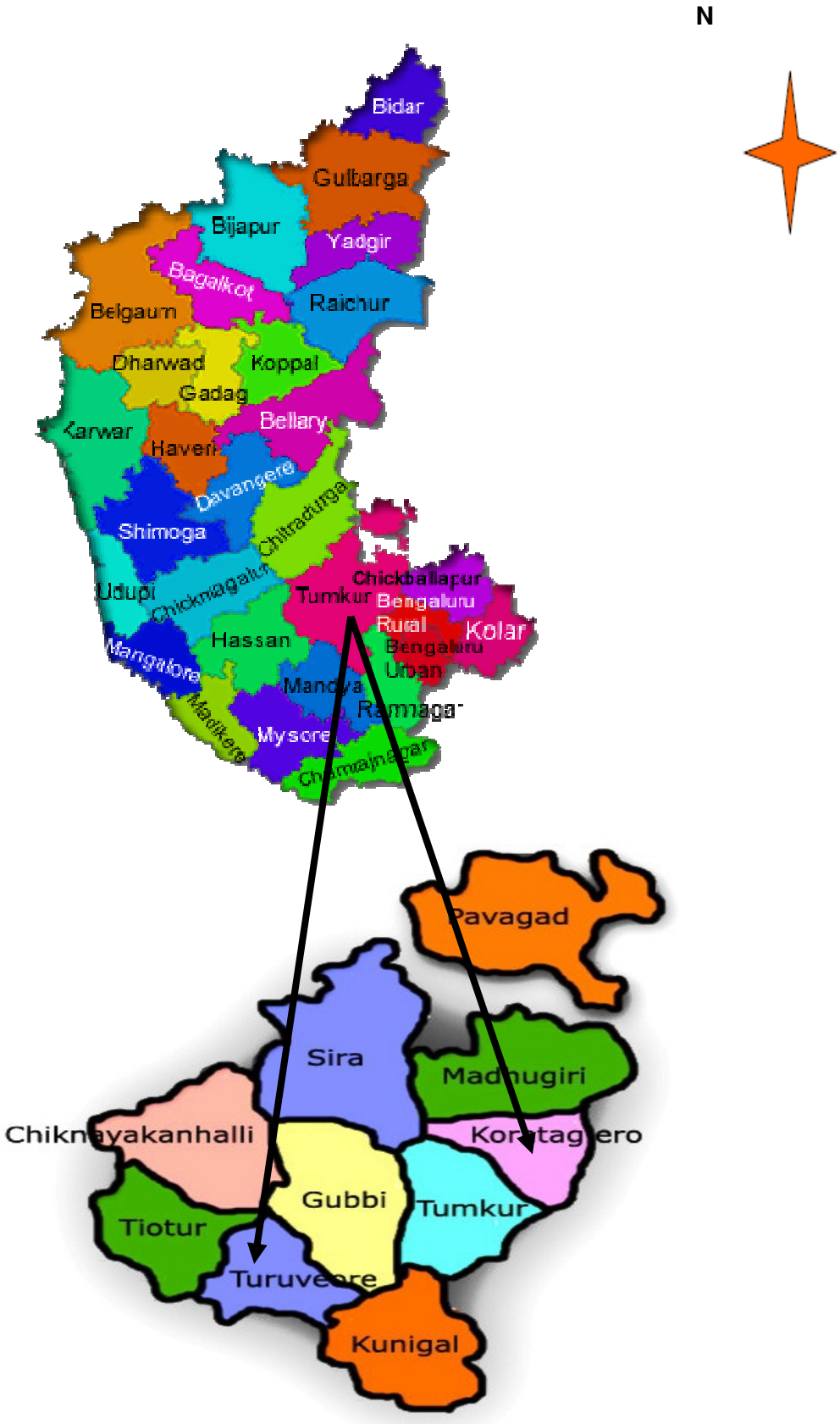

Fig 2: Map of Tumkur District and its Taluks

3.3 Nature and Sources of Data

For achieving the objectives of the study, both primary and secondary data were collected. Secondary data were collected mainly from various published sources of Government of Karnataka, Government of India and National Sample Survey office (NSSO).

The secondary data were collected pertaining to different poverty alleviation programmes since India's independence, State-wise Per Capita Net State Domestic Product in India (1981-1982 to 2011-2012), Public Expenditure on education in India (1981-1982 to 2011-2012), Expenditure (Total and Per Capita) incurred on Education, Health and Social Security and Welfare Services in India (1981-1982 to 2011-2012), Gross/Net District Domestic Product and Per Capita Net District Income of Karnataka (2010-11), District wise area under irrigation in Karnataka (2000-01 to 2010-11), District-wise Literates in Karnataka (2010-2011), District wise total number of household having drinking facility (2010-11), District wise total number of households in Karnataka(2010-11) District-wise electrification in Karnataka (2004-05 to 2011-12), District-wise area and production of principal crops in Karnataka (2000-01 to 2010-11), District-wise Rural Road Length in Karnataka (2002-03 to 2011-12), District-Wise Distribution of Fertilizers (NPK) in Karnataka (2000-01 to 2011-12).

The primary data pertaining to the year 2012-13 were collected by using well structured and pre-tested schedule (Appendix-1) through a survey of sample respondents. The data relating to general information about the respondents, family size, age, education, occupation, sources of income, land holding, asset position, food security status, nutritional security status, health status, sanitary measure, type of shocks exposed by households, coping strategies and such other details were obtained from them. The method of personal interview was used to elicit the data from the respondents while it was ensured that the data made available by the respondents were relevant, comprehensive and reasonably correct and precise.

3.4 Analytical Tools Employed

For the purpose of evaluating the objectives of the study, based on the nature and extent of data, the following analytical tools were employed for processing the data to draw meaningful results and conclusions.

3.4.1 Descriptive analysis

3.4.2 Compound annual growth rate analysis

3.4.3 Deprivation Index

3.4.4 Multiple Regression analysis

3.4.1 Descriptive analysis

The descriptive analysis was done to study the general characteristics of sample respondents, to document the food and nutritional security status, to know average number of household participating in different activities, to document health status of the respondent and to know percentage of respondents adopting coping strategies, among others. These were documented using sums, averages and percentages.

3.4.2 Compound Annual Growth Rate Analysis

For evaluating the compound annual growth rates of the selected variables cited under Section 3.2.2, exponential function of the following form was used.

$$Y_t = A B^t V_t \quad \ldots (1)$$

Where,

Y_t = Expenditure / area / production / other variable under consideration in the year t

A = Intercept indicating Y in the base period (t = 0)

B = 1 + g

t = time period

V_t = Random disturbance term

Equation (1) was converted into the logarithmic form as follows to make it in a linear form:

$\ln Yt = \ln A + t * \ln B + \ln V_t$

This is of the following form

$Qt = a + bt + U_t$ ... (2)

Where,

$Qt = \ln Y$

$a = \ln A$

$b = \ln B$

$Ut = \ln V_t$

The values of 'a' and 'b' were estimated by using Ordinary Least Squares estimation technique. Later, the original 'A' and 'B' parameters in equation (1) were obtained by taking antilogarithms of 'a' and 'b' values as;

A = Antilog (a)

B = Antilog (b)

Average annual compound growth rate (%) was calculated as follows:

g = (B – 1) * 100

3.4.3 Deprivation Index

UNDP's methodology of Deprivation Index (DI) as developed by Sudhir Anand and Amartya K. Sen (1994) has been adopted in the present research in order to measure poverty in the Karnataka districts in terms of parameters like per capita net district domestic product (NNDP), per capita availability of / accessibility to food, housing, drinking water, literacy level, electricity, and road length. The deprivation index for any district/region j with respect to parameter Xi is defined as

$$Dij = \frac{\{Max_k (X_{ij}) - X_{ij})\}}{\{Max_k(X_{ij}) - Min_k(X_{ij})\}}$$

Where,

i = 1,2…,7 (parameters under study, namely, per capita net district domestic product (NNDP), per capita availability of / accessibility to food, housing, drinking water, literacy level, electricity, and road length); and

j = 1,2,…….27 (districts)

The deprivation index for district j lies in between 0 and 1. An average deprivation index D_{ij} for district j across the seven parameters is defined as a simple unweighted average of the $D_{ij,}$ i.e.,

$$Dij = \frac{1}{7} \sum_{i=1}^{7} Dij$$

The shortfall in the human development index for District j is defined to be just this average deprivation. Thus, if Hj is the human development index for district j, we have, by definition:

$H_i = 1 - D_{ij}$

3.4.4 Multiple Regression Models

Multiple regression models were employed to study the macro and micro level determinants of poverty in Karnataka. The estimated regression models were specified as follows.

Macro Level Model:

$$PBPL_i = b_{i0} + b_{i1} NDDP_{i1} + b_{i2} FOOD_{i2} + b_{i3} HOUS_{i3} + b_{i4} WATER_{i4} + b_{i5} LIT_{i5} + b_{i6} ELEC_{i6} + b_{i7} ROAD_{i7} + u_i$$

Where,

PBPL	=	People below poverty line (% of total population)
NDDP	=	Per capita net district domestic product (Rs/annum)
FOOD	=	Per capita availability of foodgrains (t/annum)
HOUS	=	Per capita availability of residential houses (number)
WATER	=	Per capita availability/accessibility to safe drinking water (% of population covered)
LIT	=	Literacy level (No. of literates as % of population)
ELEC	=	Connectivity to electricity (% population covered)
ROAD	=	Per capita availability/accessibility to road (road length in km)
ui	=	Random/disturbance term
i	=	1, 2, … 27 (districts)

Micro (Household) Level Model:

$$BPL_i = b_{i0} + b_{i1} EDU_{i1} + b_{i2} CASTE_{i2} + b_{i3} FAMT_{i3} + b_{i4} REL_{i4} + b_{i5} FAMS_{i5} + b_{i6} LAND_{i6} + b_{i7} ASSET_{i7} + u_i$$

Where,

BPL	=	Poverty status of the household (If BPL=1, Otherwise=0)
EDU	=	Educational status of the household (0=Illiterate; 1=Primary; 2=Secondary; 3=SSLC/Matriculation; 4=12th/PUC; 5=Diploma; 6=Degree/PG)
CASTE	=	Caste group of the household (SC=1; ST=2; OBC=3; General=4)
FAMT	=	Family Type of the household (Nuclear=1, Joint=2)
REL	=	Religion of the household (1=Hindu, 0=Otherwise)
FAMS	=	Family size (No. of family members)
LAND	=	Size of land holding (ha)
ASSET	=	Total present asset value of the household (Rs.)
ui	=	Random/disturbance term
i	=	1, 2, … 120 (no. of respondents)

3.5 Terms and Concepts Used in the Study

Poverty: Poverty is defined as the inability to obtain the minimum requirements of life, health and efficiency due to very low income or insufficient assets.

Poor: All persons who do not attain the prescribed minimum level of calorie are defined as poor.

Very Poor: The very poor are those who are below 75 per cent of the poverty lines.

Food security: It is defined as when all people at all times have access to sufficient, safe and nutritious food to maintain a healthy and active life (FAO, 2006).

Sanitary measure: It refers more especially to conditions affecting health or measures for guarding against infection or disease.

Health status: Health is a multi-dimensional concept that is usually measured in terms of absence of physical pain, physical disability, or a condition that is likely to cause death.

Coping strategy: It is defined as expending conscious effort to solve personal and interpersonal problems, and seeking to master, minimize or tolerate stress or conflict.

Asset position: It is a general reference to an investment holding. A position can be long or short, and it can be in any asset class, such as stocks, bonds, futures, or options.

Landless labour: The household which has no land or possessing less than or equal to 0.01 acre of land holding.

Marginal farmer: The household having a land holding of more than 0.004 ha (or 0.01 acre) and up to 1.0 ha (or 2.5 acre).

Small farmer: The household having a land holding of more than 1.0 ha (or 2.5 acres) acre and up to 2.0 ha (or 5.0 acre).

Medium farmer: The household having a land holding of more than 2.0 ha (or 5 acre) and up to 4.0 ha (or 10 acre).

Large farmer: The household having a land holding of more than 4.0 ha (or 10 acre).

RESULTS

In this chapter, the data collected from different sources were analysed and are interpreted. The findings of the study are presented as per the set objectives, under the following headings.

4.1 Poverty Alleviation Programmes Implemented in India and Methodological Approaches for Measuring Poverty

4.2 Deprivation and Inequality in Human Well Being

4.3 Determinants of Poverty at Macro and Micro Levels

4.4 Vulnerability to Poverty and Strategies to Cope with Poverty

4.1 Poverty Alleviation Programmes Implemented in India and Methodological Approaches for Measuring Poverty

4.1.1 Poverty Alleviation and Employment Generation Programmes in India

Documentation of different poverty alleviation and employment generation programmes since independence are presented in the Table 4.1. The Indian government has taken up several measures to overcome the problem of poverty. Poverty alleviation programmes comprising of wage employment programmes, rural housing schemes and public distribution system have been initiated from time to time. Only few programmes had made an immense impact in alleviating poverty directly or indirectly. Some of them are Community Development Programme (CDP) in 1952, Drought Prone Area Programme (DPAP) in 1973, Marginal Farmer and Agriculture Labour Agency (MFALA) in 1971, Command Area Development Programme (CADP) in 1974, Twenty Point Programme (TPP) in 1975, Food for Work Programme in 1977, Integrated Rural Development Programme (IRDP) in 1980, Mid-day Meal Scheme in 1995, Annapurna Yojna in 1999, Antyodaya Anna Yojna (AAY) in 2000, National Food for Work Programme in 2004, National Rural Employment Guarantee Scheme (NREGS) in 2005, Rajiv Awas Yojna (RAY) in 2009 and so on.

4.1.2 Impact of Poverty Alleviation Programmes in India

Table 4.2 presents the impact of selected poverty alleviation programmes in India which comprises of Command Area Development Programme (CADP), Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), Mid-Day Meal Scheme, Swarnajayanti Gram Swarojgar Yojana (SGSY), Bharat Nirman, Rajiv Awas Yojana (RAY), Development of Women and Children in Rural Areas (DWCRA) Programme, Antyodaya Anna Yojna (AAY), National Food Security Act, Employment Assurance Scheme (EAS), Kisan credit Card Scheme, Indira Awas Yojana and Twenty Point Programme. Among these programmes MGNREGA provided employment opportunity to 3.77 crore households with 120.88 crore man-days of employment in the country, Bharat Nirman provided new road connectivity and upgraded the road infrastructure to 68.5 per cent and 90.7 per cent respectively and provided irrigation facilities to 10 m ha and constructed 65.87 lakh houses. Indira Awas Yojana was one of the major flagship programmes of the Rural Development Ministry which is intended to construct houses for BPL population in the villages. Under this scheme, financial assistance worth Rs.70,000 for plain areas and Rs.75,000 for difficult areas (high land area) was provided for construction of houses. Antyodaya Anna Yojna (AAY) has provided 35 kg of rice, wheat and coarse grains per household per month at Rs.3, Rs.2, and Rs.1 per kg, respectively, which has benefited around 2.43 crore Antyodaya Anna Yojana households.

4.1.3 Methodological Approaches for Measuring Poverty

Chronological review of poverty estimation in India by different committees and by different approaches over a period from 1901 to 2012 shown in Table 4.3 indicated that the poverty estimation was initially done by Dadabhai Naoroji in the year 1901 based on cost of subsistence diet and estimated a poverty line for India which was Rs.16 to Rs.35 per capita per year. Later in 1938, the National Planning Commission (NPC) estimated a poverty line ranging from Rs.15 to Rs.20 per capita per month based on capability of minimum standard of living and nutritional requirement. In 1961, the Planning Commission constituted a working group to estimate poverty line at national level and it had formulated separate poverty lines for rural and urban areas of Rs.20 and Rs.25 per capita per year respectively. In the year 1971, V.M. Dandekar and N.Rath had made an attempt to estimate poverty in India based on per capita calorie requirement. They gave a range of 2,250 calories with a poverty line of Rs.14.20 in rural areas and Rs.22.60 in urban areas. During 2004-05, Planning Commission

Table 4.1: Poverty Alleviation and Employment Generation Programmes in India

SN	Year	Programmes	Objective	Coverage	Social groups
1	1952	Community Development Programme (CDP)	Overall development of rural areas and people's participation	Overall (Development Village/Blocks)	All types of Social Groups
2	1973	Drought Prone Area Programme (DPAP)	Protection from drought by achieving environment balance and by developing ground water	Overall (Village,Taluk,District)	All types of Social Groups
3	1971	Marginal Farmer and Agriculture Labor Agency (MFALA)	Technical & financial assistance to marginal farmers	Village level	All types of Social Groups
4	1971	Small Farmer Development Scheme (SFDS)	Technical & financial assistance to small farmers	Development blocks	All type farmers
5	1975	Command Area Development Programme (CADP)	Better utilization of irrigational capacities	Village level	All type farmers
6	1975	Twenty Point Programme (TPP)	Poverty eradication and an overall develeoment of rural people	Overall (Village,Taluk,District)	All types of farmers
7	1977	Food for Work Programme	Providing food grains to labor	Development blocks	All types of Social Groups
8	1979	Training Rural Youth for Self Employment TRYSEM	Educational and Vocational training	Development blocks	Rural youth
9	1980	Integrated Rural Development Programme (IRDP)	Overall development of rural poor	Development blocks	All types of Social Groups
10	1980	National Rural Employment Programme (NREP)	Employment for rural man force	Development blocks	All types of Social Groups
11	1983	Rural Landless Employment Guarantee Programme (RLEGP)	Employment to landless farmers and laborers	Village level	All types of Social Groups
12	1989	Jawahar Rozgar Yojna (JRY)	Employment to rural unemployed	Village level	All types of Social Groups
13	1989	Nehru Rozgar Yojna (NRY)	Employment to Urban unemployed	Urban/District level	Urban poor
14	1995	Prime Minister Integrated Urban Poverty Eradication programme (PMIUPEP)	To eradicate urban poverty	Urban/District level	Urban poor
15	1995	Mid day Meal Scheme	Nutrition to students in primary schools to improve enrolment, retention and attendance	Overall(Village,Taluk,District)	Govt school childerns
16	1999	Annapurna Yojna	Providing 10 Kgs of food grains to elderly people	Overall(Village,Taluk,District)	Senior citizens
17	2000	Jan Shree Bima Yojna	Insurance for BPL people	Overall(Village,Taluk,District)	All BPl families
18	2000	Pradhan Mantri Gramodaya Yojna (PMGY)	Basic needs of rural people	States and union territory level	Rural people

SN	Year	Programmes	Objective	Coverage	Social groups
19	2000	Antyodaya Anna Yojna (AAY)	To provide food security to poor	Overall(Village,Taluk,District)	Urban and rural poor
20	2000	Pradhan Mantri Gram Sadak Yojna	Connect all villages with nearest pukka road	States and union territory level	Rural people
21	2001	Sampoorna Grameen Rozgar Yojna	Employment and food security to rural people	Overall(Village,Taluk,District)	Rural poor
22	2004	National Food for Work programme	Supplementary wage as foodgrains for work	Backword district of country	Rural poor
23	2005	Janani Suraksha Yojna	Providing care to pregnant women	States and union territory level	Pregnant womens
24	2005	Bharat Nirman	Development of India through Irrigation, Water supply, Housing, Road, Telephone and Electricity	Overall(Village,Taluk,District)	All types of Social Groups
25	2005	National Rural Health Mission	Accessible, affordable, accountable, quality health survices to the poorest of the poor on remotest areas of the country.	States and union territory level	All people of rural areas
26	2006	National Rural Employment Guarantee Scheme (NREGS)	100 days wage employment for development works in rural areas	Rural district	Rural poor
27	2007	Rastriya Swasthya Bima Yojna	Health insurance to all workers in unorganized area Below Poverty Line	States and Union territory level	BPL families of all states
28	2007	Aam Aadmi Bima Yojna	Insurance covers to the head of the family of rural landless households in the country.	States and union territory level	Rural people
29	2009	Rajiv Awas Yojna (RAY)	To make India slum free in 5 years	States and union territory level	Slum dwellers and Urban poor

Source : www.rural.nic.in

Table 4.2: Impact of Selected Poverty Alleviation Programmes in India

SN	Programmes	Impact of Programmes
1	Command Area Development Programme (CADP)	Covered 16 mha area of potential agricultural land by providing irrigation facilities across the India.
2	Mahatma Gandhi National Rural Employment Guarantee Act (MGNERGA)	3.77 crore households were provided employment and 120.88 crore persons-days of employment generated.(December, 2011)
3	Mid day meal scheme	120 million children were benefited across country
4	Swarnajayanti Gram Swarojgar Yojana (SGSY)	Overall 2.25 million Self-Help Groups have been established with an investment of Rs. 14,403 crores, profiting over 6.697 million people.
5	Bharat Nirman	Provided new connectivity and upgraded road infrastructure to 68.5% and 90.7% respectively, and also provided irrigation facilities to 10mha and constructed 65.87 lakh houses.
6	Rajiv Awas Yojana (RAY)	One million beneficiaries have been covered under RAY by providing improved housing facilities along with basic civic infrastructure and other social amenities in arbitrated slums.
7	Development of Women and Children in Rural Areas((DWCRA)	60% of Rural women and children got benefitted.
8	Janani Suraksha Yojna	20 Lakh women have been benefited cross the country.
9	Antyodaya Anna Yojna (AAY)	AAY provided 35 kgs of food grains per month to 2.43 crore Antyodaya households at the of Rs 3, Rs 2, and Rs of rice, wheat, coarse grains respectively
10	National Food Security act	Two-third of the1.2 billion population has been benefitted by providing food grains.
11	Balika Samriddhi Yojana	8000 beneficiaries have been found
12	Employment Assurance Scheme (EAS)	1778 blocks of 261 districts across the country provided gainful employment during lean agricultural season
13	Kisan credit card scheme	202.67 lakh people benefitted by this scheme.
14	Indira awas yojana	One of the major flagship programs of the Rural Development Ministry to construct houses for BPL population in the villages. Under the scheme, financial assistance worth Rs.70,000/- in plain areas and Rs.75,000/ in difficult areas (high land area) is provided for construction of houses..
15	Twenty point programme	40% of rural people have benefitted by overcoming income inequality.

Source : www.rural.nic.in

Table 4.3: Different Methodological Approaches for Measuring Poverty in India

SN	Approaches/committee	Year	Developed / Proposed	Criteria	Poverty line in (Rs)or Percentage of Population BPL
1	Traditional approach (Uni-Reference Period) [URP]	1901	Dadabhai Naoroji	Cost of a subsistence diet consisting of 'rice or flour, dhal, mutton, vegetables, ghee, vegetable oil and salt'.	Rs.16 to Rs.35 per capita per year, based on 1867-68 prices
2	National planning committee (Uni reference period)	1938	National Planning Committee (NPC)	Capability Minimum Standard of living and nutritional requirements	Rs.15 to Rs.20 per capita per month.
3	Planning commission (Uni-Reference Period)	1961	Working group	Minimum Standard of living	Rural Rs. 20 and Urban Rs.25 per capita per year
4	VM Dandekar and N Rath (Uni-Rreference Period)	1971	VM Dandekar and N Rath	Per capita daily calorie requirement of 2250.	14.20 in rural areas and Rs. 22.60 in urban areas (per month)
5	Planning Commission (Mixed Reference Period) [MRP]	1979	YK Alagh	Minimum calorie rural 2400 and 2100 for urban	Minimum consumption expenditure (Rs. 49.1 for Rs 56.7 per capita per month)
6	Lakdawala Committee (Mixed Reference Period)	1993	DT Lakdawala	Consumer Price Index of Industrial Workers (CPI-IW) in urban Areas and Consumer Price Index of Agricultural Labour (CPI-AL) in rural areas	Percentage of population below poverty line was 28.3, 25.7, and 27.5 of rural, urban and All India respectively
7	Planning Commission (Mixed Reference Period)	2004	Suresh Tendulkar	Poverty baskets of all essential goods and services (Mixed reference period)	Percentage of population below poverty line was 41.8, 27.5, and 37.2 of rural, urban and All India respectively
8	Planning Commission (Mixed Reference Period)	2011	Late Suresh Tendulkar	Poverty baskets of all essential goods and services (Mixed Reference Period)	Percentage of population below poverty line was 25.7, 13.7, and 21.9 of rural, urban and All India respectively
9	Planning Commission (Mixed Reference Period)	2012	C. Rangarajan	Daily food consumption expenditure	Daily food consumption expenditure Rs.28.60 in cities and Rs.22.40 in villages

Source : Anon, (2012a) Note : BPL-Below Poverty Line.

constituted one more committee under the chairmanship of Suresh Tendulkar to review the earlier poverty estimates and formed new poverty line based on multi-reference period (Percentage of population below poverty line was 41.8, 27.5, and 37.2 for rural, urban and all India, respectively). Again during 2011-12, official poverty estimates were provided by planning commission under the chairmanship of C. Rangarajan based on the daily food consumption expenditure (poverty line was Rs.28.60 in cities and Rs.22.40 in villages).

4.2 Deprivation and Inequality in Human Well Being

4.2.1 State-wise Per Capita Net State Domestic Product

State wise Per Capita Net State Domestic Product at factor cost in India for a period of 20 yeas ranging from 1981-1982 to 2011-2012 is presented in the Table 4.4. It showed that, there was significant growth in Per Capita Net State Domestic Product at factor cost over the years in all the 32 states of India. Among the states, Goa showed the highest significant compound annual growth rate (CAGR) of 14.96%, followed by Uttarakhand (14.83%), Kerala (14.32%), Tamil Nadu (14%), Pondicherry (13.87%) and so on. On the other hand, the states with lowest significant CAGR were Manipur (10.74%), Uttar Pradesh (10.59%), Assam (10.49%), Jharkhand (10.01%) and the least CAGR was observed in Bihar (9.92%).

4.2.2 Plan and Non-Plan Budgetary Expenditure on Education

Total plan and non-plan budgetary expenditure on education by Education Department in India from 1980-1981 to 2010-2011 (in Lakh Rupees), both at Central and State/Union territories level is represented in the Table 4.5. The plan, non-plan and total budgetary expenditure of Central sector on education by education department showed a CAGR of about 22.03 per cent, 13.4 per cent and 19 per cent, respectively. The plan, non-plan and total budgetary expenditure of State/Union territories on education by education department has registered a CAGR of about 14.98 per cent, 13.21 per cent and 13.41 per cent, respectively. Central and State/Union territories sector together accounted for CAGR of 18.11 per cent, 13.23 per cent and 14.12 per cent for the plan, non-plan and total budgetary expenditure on education by education department respectively which were significant at one per cent significance level.

4.2.3 Public Expenditure on Education in India

Table 4.6 presents figures on the Public Expenditure on Education in India during 1981-1982 to 2011-2012 (in Ten Million rupees). It indicated that, GDP at current prices (at factor cost) registered a CAGR of 14.11 per cent, which was significant at 1 per cent probability level. The total expenditure on all sectors and total expenditure on education and training had witnessed annual growth rate of 13.85 per cent and 14.63 per cent, respectively, at 1 per cent significance level. The per cent of education expenditure to all the sectors' expenditure showed a significant CAGR of 0.52 per cent and per cent of education expenditure to GDP showed 0.45 per cent growth at 5 per cent probability level.

4.2.4 Expenditure on Education, Health, Social Security and Welfare Services in India

Expenditure (total and per capita) incurred on education, health, social security and welfare services in India during 1980-1981 to 2011-2012 (in crore rupees) are presented in the Table 4.7. It showed that, all the three sectors registered a significant growth rate at 1 per cent probability level over the years. The total and per capita expenditure on education showed a significant growth rate of 14.18 per cent and 12.23 per cent, respectively. The total and per capita expenditure on health sector had registered a CAGR of 15.27 per cent and 11.67 per cent, respectively. Whereas, the total and per capita expenditure on social security and welfare services showed a significant CAGR of 17.51 per cent and 12.89 per cent, respectively from 1980 to 2012 at 1 per cent probability level.

4.2.5 Deprivation Index and Human Development Index – by districts in Karnataka (Per capita availability/accessibility)

Table 4.8 presents the results on Deprivation Index and Human Development Index of 27 districts of Karnataka. It could be seen that Kodagu district topped the list with least mean Deprivation Index (0.2670), followed by Bengaluru urban (0.2965), Chikmagalur (0.3744) and Hassan (0.3918). On the contrary, the highest mean Deprivation Index was recorded in Gulbarga (0.8492), followed by Bidar (0.8214), Raichur (0.7813) and Bijapur (0.7625). As said earlier, devoid of deprivation was measured as human development. Thus, conversely, the Human Development Index was highest in

Table 4.4: State-wise Per Capita Net State Domestic Product at Factor Cost (At Constant Prices) in India (1981-1982 to 2011-2012)

(In Rupees)

SN	Year	1981-82	1991-92	2001-02	2011-12	CGAR
1	Andhra Pradesh	1661	5393	18573	71540	13.60***
2	Arunachal Pradesh	2040	6526	17664	62213	11.57***
3	Assam	1625	4683	13059	33633	10.49***
4	Bihar	1044	2868	6200	24681	9.92***
5	Jharkhand @	-	-	11034	31982	10.01***
6	Goa	3369	10693	44110	192652	14.96***
7	Gujarat	2376	6243	19823	85291	12.69***
8	Haryana	2668	8775	28022	109227	13.09***
9	Himachal pradesh	1953	5691	24608	73608	13.70***
10	Jammu and kashmir	1970	4157	15019	41833	11.16***
11	Karnataka	1707	5889	18547	69493	13.26***
12	Kerala	1576	5140	21257	80924	14.32***
13	Mahdya pradesh	1437	4157	12697	37994	11.26***
14	Chattisgarh @	-	-	12170	46743	11.73***
15	Maharashtra	2673	8242	24035	101314	12.74***
16	Manipur	1677	4660	12970	32865	10.74***
17	Meghalaya	1516	4891	17241	53542	13.01***
18	Mizoram	1383	5941	19430	54689	12.65***
19	Nagaland	1655	5590	18077	56461	12.81***
20	Odisha	1443	3907	11059	41896	12.04***
21	Punjab	3119	9872	28943	74606	11.25***
22	Rajashatan	1392	4501	14098	5373	10.94***
23	Sikkim	1701	5728	17324	121440	13.64***
24	Tamil Nadu	1776	5798	20942	84496	14.00***
25	Tripura	1499	3688	18368	50175	13.36***
26	Uttar Pradesh	1338	4069	9995	30051	10.59***
27	Uttarakhand @	-	-	16232	79940	14.83***
28	West Bengal	1930	5298	17862	54830	11.71***
29	Andaman and Nicobar Islands	2847	5937	26910	93075	13.18***
30	Chandigarh @	-	-	54836	140073	11.40***
31	Delhi	4462	14045	42375	175812	12.99***
32	Pondicherry	3039	7129	38704	98055	13.87***
	All India Per Capita NNP	**-**	**-**	**17782**	**-**	**-**

Source : www.mospi.inc.in/Mospi_New/site/home.aspx

Note : *** Significant at 1 per cent probability level

@- CAGR calculated from 1993-94 to 2011-12

Table 4.5: Plan and Non-Plan Budgetary Expenditure on Education by Education Department in India (1980-81 to 2010-11)

(Rs in Lakh)

SN.	Year	Central Sector			States/UTs Sector			Total (States/UTs+ Central)		
		Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
1	1981-82	8580	15494	24074	26244	328697	354941	34824	344191	379015
2	1991-92	95260	76146	171406	141318	1563033	1704351	236578	1639179	1875757
3	2001-02	555222	248476	803698	513141	5167932	5681073	1068363	5416408	6484771
4	2011-12	5196200	669800	5866000	3109557	16244260	19353817	8305757	16914060	25219817
5	**CAGR**	**22.03*** **	**13.48*** **	**19.00*** **	**14.98*** **	**13.21*** **	**13.41*** **	**18.11*** **	**13.23*** **	**14.12*** **

Source : www.mhrd.gov.in

Note : *** Significant at 1 per cent probability level

CAGR = Compound Annual Growth Rate

Table 4.6: Public Expenditure on Education in India (1981-1982 to 2011-2012)

(In Ten Million)

SN	Year	GDP at Current Prices (at factor cost)	Total Expenditure on All Sectors	Total Expenditure on Education & Training	Percentage of Education expenditure to All Sectors	Percentage of education expenditure to GDP
1	1981-82	152056	41715.71	4298.29	10.30	2.83
2	1991-92	589086	170370.38	22393.69	13.14	3.80
3	2001-02	2097726	619713.14	79865.70	12.89	3.81
4	2011-12	8353495	-	348380.09	-	4.17
	CGAR	**14.11*** **	**@ 13.85*** **	**14.63*** **	**@ 0.52** **	**0.45** **

Source : www.mospi.inc.in/Mospi_New/site/home.aspx

Note : *** Significant at 1 per cent probability level

** Significant at 5 per cent probability level

@ CAGR calculated from 1981-82 to 2007-08

CAGR = Compound Annual Growth Rate

Table 4.7 Expenditure (Total and Per Capita) incurred on Education, Health and Social Security and Welfare Services in India (1980-1981 to 2011-2012)

SN	Year	Education		Health		Social Security and Welfare Services	
		Total (Rs. in Crore)	Per Capita (In Rs)	Total (Rs. in Crore)	Per Capita (In Rs)	Total (Rs. in Crore)	Per Capita (In Rs)
1	1981-82	4530	65	1157	17	955	14
2	1991-92	21914	256	4888	57	5459	64
3	2001-02	81271	783	17004	164	18656	180
4	2011-12	276866	-	115426	-	208224	-
	CAGR	**14.18*** **	**12.23*** **	**15.27*** **	**11.67*** **	**17.51*** **	**12.89*** **

Source : www.mospi.inc.in/Mospi_New/site/home.aspx

Note : ** *Significant at 1 per cent probability level

@ CAGR calculated from 1981-82 to 2007-08

CAGR = Compound Annual Growth Rate

the case of Kodagu district (0.7330) followed by Bengaluru (0.7035), Chikamagalur (0.7035), and Hassan (0.6256). On the other hand, least Human Development Index was recorded in Gulbarga (0.1508), followed by Bidar (0.1786) and Raichur (0.2187).

4.2.6 Food Security Status of at Household Level

In Bijapur district only 23.33 per cent of people were having just normal food security status and 51.6 per cent of them were comfortable with food, but 25 per cent of them were unsecured. In Tumkur district, 31.67 per cent of them were just food secured, around 50 per cent of them had above and high food security. But 18.34 per cent of people were unsecured in terms of food security status. On the whole, 21.67 per cent of them were unsecured in food security terms as shown in Table 4.9.

4.2.7 Nutritional Security Status at Household Level

In Bijapur, 71.67 per cent of the respondents were nutritionally secure, but remaining 28.33 per cent of them were nutritionally unsecured. On the other hand, in Tumkur district, around 70 cent of the respondents was nutritionally secure and remaining was unsecure in terms of nutritional security. In both the districts, majority of them were nutritionally secured than nutritionally unsecured as shown in Table 4.10.

4.2.8 Health Status of Households

Table 4.11 indicates the health status of household respondents in both Bijapur and Tumkur districts. There were five major temporary diseases, i.e., cough cold, general fever, chicken gunya, typhoid and joint pain or back pain. The three relatively and predominantly found diseases in both districts for both male and female were diabetes, high blood pressure and heart related problems. Among these diseases, both in Bijapur and Tumkur districts, male and female respondents suffered by temporary diseases were relatively more when compared to occurrence of permanent disease like diabetes, blood pressure and heart problem, but expenditure made by both male and female respondents to overcome permanent disease was found to be relatively more than expenditure made on temporary disease like cough, cold, general fever, chicken guinea, typhoid and joint pain or back pain.

4.2.9 Sanitary Measures Adopted by Sample Households

Majority (99.17%) of the respondents had facility for washing clothes in both the districts followed by bathroom facility (95.83%), cleaning location (57.50%) (Table 4.12). Nearly 46 per cent of them used toilet soaps, 44.17 per cent of the households had proper ventilation, 40.83 per cent had toilet facility, 13.33 per cent had hygiene food and only 4.17 per cent of respondents used sanitary napkins. Regular usage of sanitary measures ranged from 4.17 per cent (sanitary napkins) to 97.50 per cent (washing clothes) in both the districts.

4.3 Determinants of Poverty at Micro and Macro Levels

4.3.1 District-wise Gross/Net Domestic Product and Per Capita Income

Table 4.13 presents Gross/Net district domestic product (GDDP/NDDP) and per capita net district income of Karnataka (in crore rupees) for the year 2010-2011. At current prices, Bengaluru stood first with GDDP of Rs.1,28,197 crores, followed by Belgaum (Rs.22,297 crores), Dakshina Kannada (Rs.19,673 crores) and so on. The Districts with the low GDDP at current prices were Chikkaballapur (Rs.4,652 crores), followed by Chamarajanagar (Rs.3,757 crores), Yadgiri (Rs.3, 393 crores). At current prices, once again Bengaluru stood first with NDDP of Rs.1,11,828 crores, followed by Belgaum (Rs.19,876 crores), and Dakshina Kannada (Rs.17,853 crores). The districts with low NDDP at current prices were Chikkaballapur (Rs.4,192 crores) followed by Chamarajnagar (Rs.3415 crores), and Yadagiri (Rs.3,074 crores). This table also shows the per capita income (NDDP) at current prices wherein Bengaluru has highest per capita income of Rs.1,52,795 followed by Bengaluru Rural (93,438) and Kodagu in the third position with a per capita income of 85,249.

4.3.2 District-wise Area under Irrigation in Karnataka

District wise area under irrigation in Karnataka from the year 2000-2001 to 2010-2011 is presented in the Table 4.14. Among the 27 Districts of Karnataka, Bijapur district showed a significant CAGR of 10.19 per cent at 1 per cent significance level with an increase in the area under irrigation from 1,43,748 ha in 2000-01 to 3,14,855 ha in 2010-11. Mysore was recorded to be in second position which had witnessed a significant CAGR of 5.84 per cent with an increase in the area from

Table 4.8 Deprivation Index and Human Development Index – by districts in Karnataka (Per capita availability /accessibility)

SN	District	NDDP	Food	House	Water	Literacy	Electricity	Road	Mean Deprivation Index (DI)	Human Development Index (HDI)	Rank of DI	Rank of DI based HDI
1	Kodagu	0.5573	0.7158	0.0000	0.0000	0.1909	0.4053	0.0000	0.2670	0.7330	27	1
2	Bengaluru (U)	0.0000	1.0000	0.0050	0.0146	0.0560	0.0000	1.0000	0.2965	0.7035	26	2
3	Chikmagalur	0.8268	0.6141	0.1335	0.1047	0.2768	0.3595	0.3052	0.3744	0.6256	25	3
4	Hassan	0.8806	0.4656	0.0973	0.0791	0.3781	0.1878	0.6542	0.3918	0.6082	24	4
5	Shimoga	0.8551	0.4354	0.2882	0.2102	0.2761	0.3851	0.5203	0.4243	0.5757	23	5
6	Bengaluru (R)	0.4897	0.7181	0.2053	0.1582	0.4851	0.2595	0.6973	0.4305	0.5695	22	6
7	Mandya	0.9784	0.5892	0.1888	0.1398	0.5645	0.2889	0.4409	0.4558	0.5442	21	7
8	Udupi	0.7057	0.8219	0.5673	0.4176	0.0455	0.5614	0.1264	0.4637	0.5363	20	8
9	Tumkur	0.9124	0.7228	0.1581	0.1244	0.4247	0.3569	0.5670	0.4666	0.5334	19	9
10	Mysore	0.7807	0.6634	0.2674	0.2018	0.4971	0.3125	0.8156	0.5055	0.4945	18	10
11	Davangere	0.9084	0.0000	0.5786	0.4297	0.4390	0.5554	0.7951	0.5295	0.4705	17	11
12	Dakshina Kannada	0.5674	0.9139	0.6284	0.4695	0.0000	0.6201	0.5473	0.5352	0.4648	16	12
13	Chitradurga	0.8974	0.5668	0.5004	0.3741	0.4982	0.6239	0.4728	0.5619	0.4381	15	13
14	Uttara Kannada	0.8654	0.8276	0.4027	1.0000	0.1608	0.4375	0.2840	0.5683	0.4317	14	14
15	Kolar	0.8920	0.7782	0.4143	0.3101	0.5361	0.4561	0.7100	0.5852	0.4148	13	15
16	Chamarajanagar	1.0000	0.9775	0.1397	0.1051	0.8464	0.3792	0.6708	0.5884	0.4116	12	16
17	Haveri	0.9912	0.3732	0.6933	0.4748	0.4152	0.6230	0.5555	0.5895	0.4105	11	17
18	Dharwad	0.6815	0.7599	0.7361	0.4973	0.3267	0.5879	0.7724	0.6231	0.3769	10	18
19	Gadag	0.9405	0.6180	0.6599	0.4873	0.4900	0.6144	0.6054	0.6308	0.3692	9	19
20	Bellary	0.6465	0.4649	0.8297	0.6139	0.8199	0.7439	0.7949	0.7019	0.2981	8	20
21	Belgaum	0.9131	0.6874	0.7266	0.4945	0.5539	0.7937	0.8067	0.7108	0.2892	7	21
22	Koppal	0.9392	0.2933	0.8822	0.6531	0.7506	0.8890	0.7736	0.7401	0.2599	6	22
23	Bagalkot	0.9337	0.5206	0.8620	0.6374	0.7254	0.8998	0.6659	0.7493	0.2507	5	23
24	Bijapur	0.9322	0.4905	0.8880	0.6553	0.7769	0.9993	0.5953	0.7625	0.2375	4	24
25	Raichur	0.9727	0.3602	0.8832	0.6505	1.0000	0.8565	0.7461	0.7813	0.2187	3	25
26	Bidar	0.9952	0.8016	0.9078	0.6741	0.6412	0.8969	0.8328	0.8214	0.1786	2	26
27	Gulbarga	0.9522	0.5992	1.0000	0.7399	0.9681	1.0000	0.6851	0.8492	0.1508	1	27

Table 4.9 Food Security Status of Respondents During 2012-13

(In percentage)

SN	Food Security Status	Bijapur	Tumkur	Overall
1	High	15.00	23.33	19.17
2	Above Normal	36.67	26.67	31.67
3	Nutritionally Just secure	23.33	31.67	27.50
4	Below Normal	21.67	16.67	19.17
5	Low	3.33	1.67	2.50
	Total	**100.00**	**100.00**	**100.00**

Table 4.10: Nutritional Security Status Respondents During 2012-13

(In percentage)

SN	Nutritional Security Status	Bijapur	Tumkur	Overall
1	High	16.67	20.00	18.33
2	Above Normal	35.00	31.67	33.33
3	Nutritionally Just secure	20.00	18.33	19.17
4	Below Normal	20.00	23.33	21.67
5	Low	8.33	6.67	7.50
	Total	**100.00**	**100.00**	**100.00**

Table 4.11: Health Status of Household Respondents During 2012-13

SN	Illness	Bijapur			Tumkur			Overall		
		Male %	Female %	Expenditure (In Rupees)	Male %	Female %	Expenditure (In Rupees)	Male %	Female %	Expenditure (In Rupees)
A	**Temporary Disease**									
1	Cough	1.62	4.76	75.30	3.08	6.36	129.17	2.22	5.45	97.90
2	Cold	1.62	1.36	30.12	3.85	1.82	39.58	2.54	1.56	34.09
3	General fever	2.24	8.84	206.33	6.15	9.09	229.17	4.44	8.95	215.91
4	Chicken guinea	2.70	4.08	75.30	3.85	5.45	138.33	3.17	4.67	101.75
5	Typhoid	3.24	2.72	120.48	8.46	4.55	175.00	5.40	3.50	143.36
6	Back Pain and Joint Pain	1.62	6.12	150.60	2.31	8.18	341.67	1.90	7.00	230.77
B	**Permanent Disease**									
1	Sugar	4.24	1.36	280.12	7.69	1.82	297.92	5.08	1.56	287.59
2	BP	4.86	1.36	176.20	3.85	0.91	214.58	4.40	1.17	192.31
3	Heart Problem	0.54	0.00	451.81	0.77	0.00	520.83	0.63	0.00	480.77
C	**Total**	**23.70**	**30.61**	**1566.27**	**40.00**	**38.18**	**2086.25**	**29.84**	**33.85**	**1784.44**

Table 4.12: Sanitary Measure Adopted by Respondents During 2012-13

(In percentage)

SN	Sanitary Measure	Bijapur				Tumkar				Overall			
		Availability	Usage			Availability	Usage			Availability	Usage		
		A	N	O	R	A	N	O	R	A	N	O	R
1	Toilet facility	45.00	3.33	30.00	11.67	36.67	13.33	13.33	10.00	40.83	8.33	21.67	10.83
2	Bathroom facility	96.67	0.00	1.67	95.00	95.00	0.00	1.67	93.33	95.83	0.00	1.67	94.17
3	Use of toilet soap	41.67	11.67	13.33	16.67	50.00	15.00	23.33	11.67	45.83	13.33	18.33	14.17
4	Sanitary napkins	3.33	0.00	0.00	3.33	5.00	0.00	0.00	5.00	4.17	0.00	0.00	4.17
5	Clean surrounding including drainage	55.00	0.00	28.33	26.67	60.00	0.00	43.33	16.67	57.50	0.00	35.83	21.67
6	Washing clothes	98.33	0.00	1.67	96.67	100.00	0.00	1.67	98.33	99.17	0.00	1.67	97.50
7	Proper ventilation	43.33	0.00	1.67	41.67	45.00	0.00	0.00	45.00	44.17	0.00	0.83	43.33
8	Hygienic food	20.00	0.00	6.67	13.33	6.67	0.00	1.67	5.00	13.33	0.00	4.17	9.17
	Total	**50.42**	**1.88**	**10.42**	**38.13**	**49.79**	**3.54**	**10.63**	**35.63**	**50.10**	**2.71**	**10.52**	**36.88**

Note : N = No usage; O = Often usage; R = Regular usage. A = Availability

Table 4.13 Gross / Net District Domestic Product and Per Capita Net District Income for the Year 2010-11

(Rs. Crore)

SN	Districts	At Current Prices (2010-11)		At Constant Prices (2004-05)		Per Capita Income (NDDP) at Current Prices) (in Rs.)
		GDDP	NDDP	GDDP	NDDP	
1	Bengaluru (U)	128197	111828	87206	74961	152795
2	Bengaluru(R)	10278	8903	6906	5864	93438
3	Ramanagara	7824	6938	5101	4493	60138
4	Chitradurga	8365	7482	4946	4399	44030
5	Davanagere	9467	8562	6421	5757	42701
6	Kolar	7870	6940	5412	4713	44686
7	Chikkaballapura	4652	4192	3075	2739	32586
8	Shimoga	10023	9039	6896	6168	49155
9	Tumkur	13684	12216	9353	8260	42216
10	Chikmagalur	7351	6717	4726	4290	52589
11	Dakshina Kannada	19673	17853	14036	12686	84030
12	Udupi	9340	8375	6533	5813	67259
13	Hassan	9811	8879	6522	5849	46064
14	Kodagu	5701	5236	3435	3132	85249
15	Mandya	7497	6756	5173	4615	34216
16	Mysore	19122	17200	13257	11798	58171
17	Chamarajanagar	3757	3415	2599	2336	31595
18	Belgaum	22297	19876	15476	13643	42125
19	Bijapur	8828	8053	5620	5073	39809
20	Bagalkot	8146	7329	5433	4837	39630
21	Dharawad	13916	12609	9417	8467	70202
22	Gadag	4705	4222	3066	2725	38803
23	Haveri	5840	5262	3986	3555	32656
24	Uttara Kannada	7983	7260	5371	4849	47907
25	Bellary	19498	16895	10602	9073	74442
26	Bidar	6006	5412	3855	3427	32173
27	Gulbarga	10113	9104	6416	5697	37394
28	Yadgiri	3393	3074	2119	1899	28717
29	Raichur	7268	6526	4535	4026	34906
30	Koppal	5863	5217	3993	3502	38962
	State Overall	**406468**	**361370**	**271486**	**238646**	**51478**

Source : Directorate of Economics and Statistics, Government of Karnataka.

Note : GDDP- Gross District Domestic Product; NDDP- Net District Domestic Product

1,06,871 ha in 2000-01 to 1,64,889 ha in 2010-11, followed by Dharwad with an increase in the area from 48,655 ha in 2000-01 to 59,248 ha in 2010-11 which showed a CAGR of 5.69 per cent at 5 per cent significance level.

4.3.3 District-wise Area under Food Grains in Karnataka

Table 4.15 presents district wise area under food grains in Karnataka from 2000-2001 to 2010-2011. It indicated that, Bagalkot ranked first with an increase in the area from 3,14,869 ha in 2000-01 to 3,96,889 ha in 2010-11 with a significant CAGR of 3.10 per cent at 5 per cent significance level. Bellary being in second position had a significant growth rate of 2.69 per cent with an increase in an area from 3,37,230 ha in 2000-01 to 3,87,180 ha in 2010-11. Among the top three districts, Bijapur ranked third in the area under food grains, which had seen a CAGR of 2.66 per cent at 5 per cent significance level with an increase in the area from 6,32,887 ha in 2000-01 to 7,77,746 ha in 2010-11. Haveri, Bidar and Bengaluru districts had shown a negative CAGR of 1.91 per cent, 2.48 per cent and 7.37 per cent, respectively during the same period.

4.3.4 District-wise Production of Food Gains in Karnataka

District wise production of food grains in Karnataka from 2000-2001 to 2010-2011 (in tonnes) is shown in the Table 4.16. Among top three districts, Dharwad was in the first position with a significant CAGR of 9.6 per cent with an increase in the production from 2,52,743 tonnes in 2000-01 to 3,00,468 tonnes in 2010-11, followed by Gadag which had registered a significant CAGR of 7.96 per cent with an increase in the production from 2,00,805 tonnes in 2000-01 to 2,70,868 tonnes in 2010-11. Bagalkot being in third position had recorded a significant growth rate of 7.80 per cent with an increase in the production from 3,80,124 tonnes in 2000-01 to 5,99,579 tonnes in 2010-11. Bidar, Bengaluru and Chamrajnagar are the last three ranked districts in terms of CAGR of -1.61 per cent, -3.99 per cent and -5.18 per cent, respectively.

4.3.5 District-wise Distribution of Fertilizers (NPK) in Karnataka

District wise distribution of fertilizer (NPK) in Karnataka from 2000-01 to 2011-12 (in tonnes) presented in the Table 4.17 showed that the highest fertilizer distribution was seen in Gadag which had increased from 24,068 tonnes in 2000-01 to 49,270 tonnes in 2011-12 with a significant CAGR of 10.23 per cent at 1 per cent significance level followed by Bijapur with an increase in the fertilizer distribution from 30,385 tonnes in 2000-01 to 74,826 tonnes in 2011-12 with a CAGR of 9.78 per cent. At third position, Chamarajanagar showed a significant CAGR of 9.33 per cent with an increase in the fertilizer distribution from 16,799 tonnes in 2000-01 to 33,857 tonnes in 2011-12. The last three districts with low fertilizer distribution were Udupi, Bengaluru and Bengaluru Rural with a significant CAGR of 2.18 per cent, 0.345 per cent and -0.69 per cent, respectively.

4.3.6 District-wise Percentage Change in Electrification in Karnataka

Table 4.18 presents percentage change in electrification in Karnataka during 2004-05 which showed that, there were 1,15,89,176 total consumers of electricity who consumed electricity of about 2,13,279 lakh units but these numbers had increased to about 1,82,84,195 consumers by consuming 4,25,259 lakh unit of electricity by 2011-12. Bangalore stood first in terms of total numbers of consumers for total electricity consumption during both the periods i.e., 2004-05 and 2011-12. But Mandya had recorded around 61 per cent growth in electricity consumption in 2011-12 when compared to 2004-05.

4.3.7 District-wise Percentage Change in Rural Road Length in Karnataka

Karnataka state had witnessed 22.64 % positive growth in road length in terms of kilo meters for a period of 2002-03 to 2011-12 which is presented in the Table 4.19. Among 27 districts of the state, Kodagu had recorded 48.82 per cent increase in road length when compared to the year 2002-03. Bengaluru had registered a decrease in rural road length to a tune of about -4.25 per cent which might be due to urbanisation effect in peripherals of the city. Water Bound Macadam and Kachha road had registered 38.40 per cent, -5.69 per cent and 22.01 per cent change in their rural road length when compared to the base year.

4.3.8 Determinants of Poverty at Macro Level

Perusal of the Table 4.20 revealed that about 68 per cent of variation in the dependent variable, namely, poverty level at macro level, was explained by all the variables included in the model. Among all the variables included in the model, water, literacy, electricity and food were found

Table 4.14 District Wise area under Irrigation in Karnataka

(Area in Hectares)

SN	Districts	2000-01	2010-11	CAGR
1	Bengaluru (U)	15154	9165	-3.75***
2	Bengaluru(R)	64233	70507	0.78
3	Chitradurga	66696	92897	3.10***
4	Davanagere	137408	172139	2.75***
5	Kolar	80089	78200	-0.55
6	Shimoga	132467	141680	1.10**
7	Tumkur	139932	163730	2.79***
8	Chikmagalur	22692	39239	5.43***
9	Dakshina Kannada	70849	70301	-0.30 **
10	Udupi	34303	34348	-0.07
11	Hassan	80398	126533	3.90***
12	Kodagu	3733	3934	2.26
13	Mandya	107417	140756	4.37***
14	Mysore	106871	164889	5.84 ***
15	Chamarajanagar	47987	67011	3.21**
16	Belgaum	395190	485039	3.73***
17	Bijapur	143748	314855	10.19***
18	Bagalkot	200241	276315	4.38***
19	Dharawad	48655	59248	5.69**
20	Gadag	67517	99353	4.37***
21	Haveri	73627	78943	1.77
22	Uttara Kannada	23264	29439	3.32***
23	Bellary	157397	194200	2.26**
24	Bidar	47220	54675	1.22
25	Gulbarga	149719	229371	4.56***
26	Raichur	124900	179711	4.87***
27	Koppal	101016	113326	2.49
	State Total	**2642723**	**3489804**	**3.67*** **

Source : Directorate of Economics and Statistics, Government of Karnataka.

Note : *** Significant at 1 per cent probability level

** Significant at 5 per cent probability level

* Significant at 10 per cent probability level

CAGR = Compound Annual Growth Rate

Table 4.15 District-wise Area under Food Grains in Karnataka

(Area in Hectares)

SN	Districts	2000-01	2010-11	CAGR
1	Bengaluru (U)	67655	30963	-7.37***
2	Bengaluru(R)	213971	167538	-1.26
3	Chitradurga	209811	242758	1.22**
4	Davanagere	353841	370723	1.29
5	Kolar	204810	202866	1.64
6	Shimoga	189988	180761	0.55
7	Tumkur	337326	264738	-0.32
8	Chikmagalur	147663	147382	0.02
9	Dakshina Kannada	66680	57883	-1.33 ***
10	Udupi	78525	61678	-1.81***
11	Hassan	266087	266869	-1.50
12	Kodagu	40403	39512	0.003
13	Mandya	199787	197920	1.51
14	Mysore	309314	333499	1.83 *
15	Chamarajanagar	121490	134317	1.38***
16	Belgaum	575780	556648	0.59
17	Bijapur	632887	777746	2.66
18	Bagalkot	314869	396889	3.10 **
19	Dharawad	238444	246535	0.46
20	Gadag	247298	300134	1.84
21	Haveri	263194	244364	-1.91**
22	Uttara Kannada	96113	82642	-1.00***
23	Bellary	337230	387180	2.69**
24	Bidar	373396	307128	-2.48***
25	Gulbarga	1169374	1269386	0.89**
26	Raichur	460263	525156	1.56*
27	Koppal	287615	352597	2.47***
	State Total	**7803814**	**8145812**	**0.84***

Source: Directorate of Economics and Statistics, Government of Karnataka.

Note: *** Significant at 1 per cent probability level
** Significant at 5 per cent probability level
* Significant at 10 per cent probability level
CAGR- Compound Annual Growth Rate

Table 4.16 District-wise Production of Foodgrains in Karnataka

(in tonnes)

SN	Districts	2000-01	2010-11	CAGR
1	Bengaluru (U)	138930	73914	-3.99
2	Bengaluru(R)	393504	392567	3.24
3	Chitradurga	369584	476981	3.52
4	Davanagere	1031188	1271526	5.42*
5	Kolar	361262	421504	5.74
6	Shimoga	445340	653273	4.52***
7	Tumkur	526188	500406	2.97
8	Chikmagalur	256300	292169	2.80
9	Dakshina Kannada	129373	131880	-0.49
10	Udupi	141140	144511	-0.02
11	Hassan	459298	626276	4.58 *
12	Kodagu	92087	106045	2.56***
13	Mandya	418165	493502	3.99
14	Mysore	571163	673564	4.39**
15	Chamarajanagar	169321	22674	-5.18
16	Belgaum	689789	1000988	6.28*
17	Bijapur	464174	732015	6.75*
18	Bagalkot	380124	599579	7.80*
19	Dharawad	252743	300468	9.60*
20	Gadag	200805	270868	7.96*
21	Haveri	584507	658996	2.99
22	Uttara Kannada	160817	170919	2.53*
23	Bellary	644133	894057	4.88***
24	Bidar	240838	230751	-1.61
25	Gulbarga	756786	995706	3.43**
26	Raichur	658411	809654	4.64**
27	Koppal	423823	645252	5.11**
	State Total	**10959793**	**13590045**	**4.26****

Source : Directorate of Economics and Statistics, Government of Karnataka.

Note : *** Significant at 1 per cent probability level
** Significant at 5 per cent probability level
* Significant at 10 per cent probability level
CAGR = Compound Annual Growth Rate

Table 4.17 District-Wise Distribution of Fertilizers (NPK) in Karnataka

(in tonnes)

SN	Districts	2000-01	2011-12	CAGR
1	Bengaluru (U)	41928	46761	0.34
2	Bengaluru(R)	35124	32748	-0.69
3	Chitradurga	25889	45215	5.08**
4	Davanagere	78208	129085	6.55**
5	Kolar	61509	77656	4.77***
6	Shimoga	54026	87183	6.65***
7	Tumkur	48504	60756	4.26*
8	Chikmagalur	49351	73387	6.17***
9	Dakshina Kannada	14084	18513	4.32***
10	Udupi	5470	6262	2.18
11	Hassan	62003	99214	5.83***
12	Kodagu	35523	56598	7.25***
13	Mandya	65757	112496	8.14***
14	Mysore	67480	80051	3.68**
15	Chamarajanagar	16799	33857	9.33***
16	Belgaum	122422	199041	8.07***
17	Bijapur	30385	74826	9.78***
18	Bagalkot	43883	98212	8.29***
19	Dharawad	43675	64661	7.12**
20	Gadag	24068	49270	10.23***
21	Haveri	45498	83626	7.92***
22	Uttara Kannada	9803	16138	8.75***
23	Bellary	109245	190051	6.95***
24	Bidar	19461	44102	8.00**
25	Gulbarga	58454	139398	9.23***
26	Raichur	117103	186705	6.39***
27	Koppal	62703	117377	8.54***
	State Total	**1503442**	**2223189**	**5.24*** **

Source : Directorate of Economics and Statistics, Government of Karnataka.
Note : *** Significant at 1 per cent probability level
** Significant at 5 per cent probability level
* Significant at 10 per cent probability level
CAGR = Compound Annual Growth Rate

Table 4.18 District-Wise Percentage Change in Electrification in Karnataka

(in Lakh units)

SN	Districts	2004-05		2011-12		Percentage Change (2004-05 to 2011-12)	
		Total No. of Consu-mers	Total Electricity Consump-tion	Total No. of Consu-mers	Total Electricity Consump-tion	Total No.of Consu-mers	Total Electricity Consump-tion
1	Bengaluru (U)	2386103	53970	4127962	123263	42	56
2	Bengaluru(R)	546128	12190	862248	25983	37	53
3	Chitradurga	300734	4747	478794	8676	37	45
4	Davanagere	411541	5513	593023	10169	31	46
5	Kolar	566758	15389	915099	22027	38	30
6	Shimoga	358126	6004	507752	10048	29	40
7	Tumkur	616680	10688	938528	20182	34	47
8	Chikmagalur	244674	6309	355922	4949	31	-27
9	Dakshina Kannada	418351	6394	599766	13915	30	54
10	Udupi	258370	3131	360272	6311	28	50
11	Hassan	363404	3468	585863	8766	38	60
12	Kodagu	99440	725	157842	1310	37	45
13	Mandya	380235	4823	544290	12474	30	61
14	Mysore	562540	7956	851147	18041	34	56
15	Chamarajanagar	191525	3086	300097	5931	36	48
16	Belgaum	741156	15992	1203548	31414	38	49
17	Bijapur	293286	5578	497397	11127	41	50
18	Bagalkot	332844	7637	471126	14874	29	49
19	Dharawad	344746	4329	484579	7684	29	44
20	Gadag	178458	1931	281760	3299	37	41
21	Haveri	287864	3915	401574	5588	28	30
22	Uttara Kannada	292669	2423	425203	4695	31	48
23	Bellary	350907	7282	589934	14571	41	50
24	Bidar	226800	3786	370807	7410	39	49
25	Gulbarga	435886	6173	711729	13225	39	53
26	Raichur	223771	3977	369732	9356	39	57
27	Koppal	176180	5865	298201	9971	41	41
	State Total	**11589176**	**213279**	**18284195**	**425259**	**37**	**50**

Source : Directorate of Economics and Statistics, Government of Karnataka.

Table 4.19 District-wise Percentage change in Rural Road Length in Karnataka During 2002-03 to 2011-12

(Percentage)

SN	Districts	Pakka Road	W.B.M. Road	Kacha Road	Total Roads
1	Bengaluru (U)	-3.53	10.23	-19.24	-4.25
2	Bengaluru(R)	33.99	-43.26	-6.53	8.45
3	Chitradurga	84.95	-12.12	23.28	38.82
4	Davanagere	67.73	-32.11	21.88	19.44
5	Kolar	41.35	8.37	-49.62	11.60
6	Shimoga	42.20	-1.83	38.78	28.48
7	Tumkur	22.82	-9.39	19.90	14.32
8	Chikmagalur	51.35	16.95	11.20	28.51
9	Dakshina Kannada	-8.79	28.16	41.79	26.78
10	Udupi	61.74	71.27	35.85	43.39
11	Hassan	-4.21	1.52	-49.34	-19.39
12	Kodagu	19.95	65.42	73.70	48.82
13	Mandya	27.38	-21.60	-45.20	-23.65
14	Mysore	16.83	-9.69	22.50	10.26
15	Chamarajanagar	22.85	23.06	7.38	16.01
16	Belgaum	36.09	-45.50	13.17	13.49
17	Bijapur	60.07	-25.33	73.87	59.73
18	Bagalkot	-17.16	-0.77	54.03	30.44
19	Dharawad	-4.47	-63.67	20.11	6.51
20	Gadag	6.08	-27.36	10.48	6.39
21	Haveri	14.59	-56.91	49.93	25.59
22	Uttara Kannada	65.57	-18.98	-19.20	17.00
23	Bellary	34.04	7.64	3.00	13.83
24	Bidar	16.47	27.02	-4.62	13.00
25	Gulbarga	56.61	-6.14	75.31	55.86
26	Raichur	75.25	-6.05	-48.29	19.34
27	Koppal	57.07	0.84	-38.98	7.02
	State Total	**38.40**	**-5.69**	**22.01**	**22.64**

Source : Directorate of Economics and Statistics, Government of Karnataka.
W.B.M = Water Bound Macadam

to significantly influence the poverty level of the household. Of these four variables, water, literacy and electricity were significant at 5 per cent and food was significant at 10 per cent.

The regression coefficients of food production (35.8742), electricity (899.1185) and road length (3491.5517) were found positive; among these variables, food production and electricity were found to be statistically significant at 10 and 5 per cent level of probability, respectively.

On the contrary, the variables, namely, housing facilities (-680.223), water availability (-488.9692) and literacy level (-129.1441) were found negative. Among these variables the coefficient for water availability and literacy level were found statistically significant at 5 per cent level of significance.

4.3.9 Demographic Profile of Sample Households

The demographic profile of the sample respondents is presented under the following sections under different sub-heads. The distribution of the sample respondents by age groups, educational status, caste groups, family type, type of house owned and family size is furnished in Table 4.21.

Age Distribution

The age distribution pattern of sample respondents indicated that, a majority of the respondents belonged to middle age (50.00 per cent), old age groups (30.00 per cent) and the young ones accounted for nearly one fourth (20.00 per cent) of the respondents in Bijapur district. In Tumkur district, majority of the respondents belonged to old age (46.67 per cent), middle age groups (31.67 per cent) and the young ones accounted for nearly one fourth (21.67 per cent) of the respondents. Combined together in two districts, majority of the respondents belonged to middle age (40.83 per cent), old age groups (38.33 per cent) and the young ones accounted for nearly one fourth (20.83 per cent) of the respondents.

Educational Status

The analysis of educational status of both Bijapur and Tumkur district sample households revealed that, about 22.50 per cent of the respondents were illiterate, 6.65 per cent of them studied up to primary school, 20.00 per cent of them had secondary schooling, 22.50 per cent completed SSLC, 12.50 per cent finished PUC (Pre-University Course, equivalent to XII standard), and 2.50 per cent obtained Diploma. Hardly 12.50 per cent of the respondents had degree and 0.83 per cent of them were postgraduates.

Caste Composition

In Bijapur and Tumkur districts, nearly two-thirds of the sample respondents belonged to “Other Backward Caste” (60.00 per cent), followed by “Scheduled Caste” and “Scheduled Tribe” in equal proportions (14.17%). The respondents who belonged to “General Category” accounted for 11.67 per cent.

Family Type

The analysis of family type of sample respondents in the Bijapur and Tumkur districts revealed that 61.67 per cent of the respondent households were nuclear families, while the remaining 38.33 per cent of the respondent households were joint families.

District-wise analysis revealed that, the proportion of sample respondents following joint family system were 55 per cent as against 45 per cent practicing nuclear family system in Bijapur district, while in Tumkur district, 21.67 per cent of the households followed joint family system and 78.33 per cent followed nuclear family system.

Family Size

The average family size in both Bijapur and Tumkur district was 6.16. It was relatively higher in Bijapur district (7.33 No.) as compared to Tumkur District (4.98 No.). Male members (42.63 per cent) had marginally outnumbered the female family members (34.78 per cent) in both Bijapur and Tumkur districts.

Type of Residential House

The analysis of the respondents for type of house revealed that, 8.33 per cent of households had shed type of house, 24.17 per cent had thatched type of house, 35.83 per cent had tiled type of house and 31.67 per cent of the respondents had RCC type of house.

Table 4.20: Determinants of Poverty at Macro Level?

Variables	Coefficients	Standard Error	t Stat	P-value
Intercept	165.3556***	36.7027	4.5053	0.0002
Net District Domestic Product	0.0001	0.0001	0.5508	0.5882
Food Production	35.8742*	18.205	1.9706	0.0635
Housing	-680.223	493.2416	-1.3791	0.1839
Water	-488.9692**	186.7153	-2.6188	0.0169
Literacy	-129.1441**	51.0485	-2.5298	0.0204
Electricity	899.1185**	399.1702	2.2525	0.0363
Road length	3491.5517	2282.9053	1.5294	0.1426
R^2	0.6857			
F value	5.9220***			
n	27			

Note: ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

Table 4.21: Demographic Profile of Sample Households

SN	Particulars	Bijapur		Tumkur		Both	
		No.	**%**	**No.**	**%**	**No.**	**%**
I	Age group						
	Young (18-35 years)	12	20.00	13	21.67	25	20.83
	Middle(36-50 years)	30	50.00	19	31.67	49	40.83
	Old(> 50years)	18	30.00	28	46.67	46	38.33
	Total	**60**	**100.00**	**60**	**100.00**	**120**	**100.00**
II	Educational status						
	Illiterate	16	26.67	11	18.33	27	22.50
	Primary (1-7)	7	11.67	1	1.67	8	6.65
	Secondary (8-9)	11	18.33	13	21.67	24	20.00
	SSLC	11	18.33	16	26.67	27	22.50
	PUC	6	10.00	9	15.00	15	12.50
	Diploma	3	5.00	0	0.00	3	2.50
	Degree	5	8.33	10	16.67	15	12.50
	Postgraduate	1	1.67	0	0.00	1	0.83
	Total	**60**	**100.00**	**60**	**100.00**	**120**	**100.00**
III	Caste						
	SC	11	18.33	6	10.00	17	14.17
	ST	9	15.00	8	13.33	17	14.17
	OBC	33	55.00	39	65.00	72	60.00
	General	7	11.67	7	11.67	14	11.67
	Total	**60**	**100.00**	**60**	**100.00**	**120**	**100.00**
IV	Family type						
	Nuclear family	27	45.00	47	78.33	74	61.67
	Joint family	33	55.00	13	21.67	46	38.33
	Total	**60**	**100.00**	**60**	**100.00**	**120**	**100.00**
V	Type of house						
	Shed	6	10.00	4	6.67	10	8.33
	Thatched	18	30.00	11	18.33	29	24.17
	Tiled	18	30.00	25	41.67	43	35.83
	RCC	18	30.00	20	33.33	38	31.67
	Total	**60**	**100.00**	**60**	**100.00**	**120**	**100.00**
VI	Family size						
	Male	3.08	42.05	2.17	43.48	2.63	42.63
	Female	2.45	33.41	1.83	36.79	2.14	34.78
	Children	1.80	24.55	0.93	19.73	1.39	22.60
	Total	**7.33**	**100.00**	**4.98**	**100.00**	**6.16**	**100.00**

4.3.10 Land Holdings and Source of Irrigation

The details on the land holdings and source of irrigation presented in Table 4.22 showed that, in both Bijapur and Tumkur district, the average size of land holding of the sample respondents was 5.05 acres of which 2.40 acres (47.61 per cent) was rainfed land and 2.65 acres (52.39 per cent) was irrigable.

In Bijapur, the average land holding of the sample respondents was 5.28 acres, out of which 1.97 acres was rainfed land and 3.32 acres was irrigated. Contrarily, respondents of Tumkur district had average land holding of 4.82 acre, out of which 2.84 acres and 1.98 acres was of rainfed and irrigated lands, respectively.

With regard to the sources of irrigation for the farm land, 27.50 per cent of the sample respondents in both districts had no irrigation facility, 13.33 per cent of them had access to open well as a source for irrigation. The proportion of sample respondents who had access to bore well irrigation was about 26.67 per cent, 10 per cent of respondents had access to tank irrigation and 22.50 per cent of respondents had access to canal irrigation.

4.3.11 Land Holding Pattern

The land holding pattern of sample households is presented in Table 4.23. Since, it was pre-classified to have equal number of sample respondents in each of the farm size categories (landless labourer, marginal farmer, small farmer, medium farmer and large farmer), the number of sample respondents were equally distributed across farm size categories in the district, viz., 24 in each group for the both Bijapur and Tumkur district.

The average size of land holding in both Bijapur and Tumkur district was 1.69 acre for marginal farmers, 3.60 acre for small farmers, 7.00 acre for medium farmers and 12.96 acre for large farmers.

4.3.12 Occupation of the Sample Respondents

The Table 4.24 presents the distribution of household respondents under different occupations. There were six main and six subsidiary occupations performed in both Bijapur and Tumkur districts of the sample respondents. In Bijapur district, among six main occupations, agriculture occupied first position practiced by about 53.33 of the sample households, followed monthly salaried occupations (21.67%), petty business (10.00%), goat farming (8.33%) and farm wage earner (6.67%) respectively. Under subsidiary occupations, dairy occupied first position followed by 31.91 per cent of the sample households, followed by agriculture (23.40 per cent), goat farming (19.15 per cent), petty business (17.02 per cent) and farm wage earner (8.15 per cent).

In Tumkur district, out of six main occupations of sample respondents, agriculture occupied first position (practiced by 58.33% of sample households), followed by monthly salaried occupation (20.00 per cent), farm wage earner (8.33 per cent), dairy (6.67 per cent), petty business (5.00 per cent) and goat farming (1.67 per cent).

4.3.13 Asset Position of Household Respondents

Table 4.25 indicates asset position of sample households of Bijapur and Tumkur districts. In Bijapur district, average land holding per household was 5.30 acre with the present value of Rs.39,46,667, average number of buildings being 0.92 with current value of Rs.3,40,500, average number of vehicles being 0.58 with current value of Rs.88,250 and average number of livestock was 2.78 per household with present value of Rs.71,667.

In Tumkur district per household average land holding was 4.71 acres with the present value of Rs.3,66,4584, followed by buildings (average number=1.05 with current value of Rs.4,62,250), vehicles (average number=0.55 with current value of Rs.28,800) and livestock (average number=2.23 per household with present value of Rs. 70,000).

All together Bijapur and Tumkur districts' average land holding per household was 5.01 acre with the present value of Rs.36,64,583, average number of building was 0.96 with the current value of Rs.4,01,375, average number of vehicle was 0.56 with current value of Rs.58,525 and average number of livestock was 2.51 per household with present value of Rs.70,833.

Table 4.22: Socio Economic Profile of Sample Households

SN	Particulars	Bijapur		Tumkur		Both	
		Quantity	%	Quantity	%	Quantity	%
1	**Land holding (Acre)**						
	Rainfed	1.97	37.22	2.84	59.00	2.40	47.61
	Irrigated land	3.32	62.78	1.98	41.00	2.65	52.39
	Total	**5.28**	**100.00**	**4.82**	**100.00**	**5.05**	**100.00**
2	**Sources of irrigation (No. of respondents)**						
	No irrigation	18	30.00	15	25.00	33	27.50
	Open well	0	0.00	16	26.67	16	13.33
	Bore well	3	5.00	29	48.33	32	26.67
	Tank	12	20.00	0	0.00	12	10.00
	Canal	27	45.00	0	0.00	27	22.50
	Total	**60**	**100.00**	**60**	**100.00**	**120**	**100.00**

Table 4.23: Land Holding Pattern of Sample Households

SN	Category	Bijapur		Tumkur		Both	
		No.of respon-dents	Average area (Acre)	No.of respon-dents	Average area (Acre)	No.of respon-dents	Average area (Acre)
1	Landless (< 0.01 acre)	12	0.00	12	0.00	24	0.00
2	Marginal (> 0.01 acre - 2.5 acre)	12	1.71	12	1.67	24	1.69
3	Small (> 2.5 acre- 5 acre)	12	4.00	12	3.21	24	3.60
4	Medium (> 5 acre – 10 acre)	12	7.54	12	6.46	24	7.00
5	Large (> 10 acre)	12	13.17	12	12.75	24	12.96
	Total	**60**	**5.28**	**60**	**4.82**	**120**	**5.05**

Table 4.24: Occupation of the Sample Respondents

(Percentages)

SN	Particulars	Bijapur		Tumkur		Both	
		Main	Subsidiary	Main	Subsidiary	Main	Subsidiary
1	Agriculture	53.33	23.40	58.33	24.00	55.83	23.71
2	Dairy	0.00	31.91	6.67	54.00	3.33	43.30
3	Goat farming	8.33	19.15	1.67	10.00	5.00	14.43
4	Petty business	10.00	17.02	5.00	4.00	7.50	10.31
5	Farm wage Earner	6.67	8.51	8.33	6.00	7.50	7.83
6	Monthly salaried (Government/Private)	21.67	0.00	20.00	2.00	20.83	1.03
	Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Table 4.25: Asset Position of the Household Respondents

SN	Asset	Unit	Bijapur		Tumkur		Both	
			Quantity	Present Value (Rs)	Quantity	Present Value (Rs)	Quantity	Present Value (Rs)
1	Land	Acre	5.30	3946666.67	4.71	3382500.00	5.01	3664583.33
2	Buildings	No	0.92	340500.00	1.05	462250.00	0.98	401375.00
3	Vehicles	No	0.58	88250.00	0.55	28800.00	0.56	58525.00
4	Livestock	No	2.78	71666.67	2.23	70000.00	2.51	70833.33

Table 4.26: Source of Income of the Respondents during 2012-13

SN	Activity	Bijapur					Tumkur					Both				
		Mean No.of HME		Mean Net Income		Overall Income	Mean No.of HME		Mean Net Income		Overall Income	Mean No.of HME		Mean Net Income		Overall Income
		M	F	M	F	Total	M	F	M	F	Total	M	F	M	F	Total
A	**AGRICULTURE**															
1	Crop Production -Field crops	0.62	0.00	46667	0	46667	0.52	0.00	17933	0.00	17933	0.57	0.00	32300	0	32300
2	Crop Production - Horticulture crops	0.50	0.00	91833	0	91833	0.57	0.02	85600	417	86017	0.53	0.01	88717	208	88925
3	Wage earning	0.17	0.12	5777	2245	8022	0.17	0.18	5607	3480	9087	0.17	0.15	5692	2863	8554
4	Dairy	0.00	0.20	0	3217	3217	0.18	0.33	8550	24833	33383	0.09	0.27	4275	14025	18300
5	Sheep or Goat	0.13	0.12	9417	3947	13363	0.03	0.13	2250	4767	7017	0.08	0.13	5833	4357	10190
B	**NON AGRICULTURE**															
1	Salary employment	0.27	0.00	38167	0	38167	0.38	0.05	55867	5667	61533	0.33	0.03	47017	2833	49850
2	Business	0.30	0.00	50200	0	50200	0.12	0.00	8333	0	8333	0.21	0.00	29267	0	29267

Note : HME = Household Members Engaged; NI = Net Income (in Rupees), OI = Overall Income (in Rupees)

4.3.14 Source of Income of the Household Respondents

Sources of income for the sample households during 2012-13 are presented in the Table 4.26. A perusal of the Table revealed that, the major source of income, irrespective of the sample districts, was horticulture crops with a net income of Rs.88,925 per annum/per household, followed by salary employment, field crops, business, dairy, sheep/goat farming and wage earning with net incomes of Rs.49,850, Rs.32,300, Rs.29,266, Rs.18,300, Rs.10,190, and Rs.8,554, respectively. Similarly, in Bijapur the major source of income was horticultural crops which accounted for Rs.91,833, but followed by business (Rs.50,200) and field crops (Rs.46,666), whereas in Tumkur district, highest income was obtained from horticulture crops followed by salary employment (Rs.61,533) and dairy (Rs.33,383).

4.3.15 Determinants of Poverty at Micro Level

The multiple regression analysis was undertaken to identify the determinants of poverty at micro level in Karnataka (Table 4.27).

A perusal of the Table revealed that about 45 per cent of the variation in poverty level at micro level was explained by the seven variables included in the model. Among the various variables included in the model, the regression coefficient for education (-0.0571), land holding (-0.0345) were found negative and statistically significant at one and ten per cent level. Remaining five variables, namely, caste group, family type, religion, family size and asset value were found non-significant.

4.4 Vulnerability to Poverty and Strategies to Cope with Poverty

4.4.1 Households Exposed to Shocks under Poverty and Crisis Circumstances

Only 5 per cent of the respondents suffered from regular food shortage and none of them was exposed to other shocks on regular basis (Table 4.28). None of the respondents was exposed to shocks for twice a year except for the food shortage and livestock loss in both the districts during a year. For 30.83 per cent of the respondents, loss due to wind damage had occurred which holds maximum share among shocks that occurred once in a year. About 5 per cent of respondents had consumed less food on regular basis in both Bijapur as well as Tumkur district.

4.4.2 Coping Strategies Adopted by Sample Households

Borrowing of funds was the most commonly used coping strategy (adopted by 56.67% of the sample households), whereas only 1.67 per cent of the households opted for migration as a strategy on regular basis. Most often people migrated (13.33%) to overcome poverty. In the same way, 63.33 per cent and 50 per cent of households followed borrowing of funds in Bijapur and Tumkur districts, respectively (Table 4.29).

4.4.3 Households Exposed to Shocks under Poverty and Crisis Circumstances by Social Groups

Among all the sections of the society, same proportion (5.88%) were being affected regularly by food shortage in Scheduled Caste (SC) and Scheduled Tribe (ST) households category followed by 5.56 per cent in the case of Other Backward Caste (OBC) households, whereas none of the general category households was affected by shortage of food regularly in a year. Majority of the SC, ST, OBC and General Category households were exposed to the hocks-theft, death of household members, wind damage, poor production and hailstorms, respectively, which are expressed in percentages as 35.29, 35.29, 34.72, and 42.86, respectively (Table 4.30).

4.4.4 Coping Strategies Adopted by Social Groups

Among 120 farm households, majority (50.67%) of them adopted “borrowing of funds” regularly but in contrary, only 1.67 per cent of them migrated regularly to overcome poverty (Table 4.31). Most often, 15.83 per cent of respondents diversified their activity and only 1.66 per cent of the respondents adopted farm savings strategy to overcome poverty. Majority of the farmers who belonged to SC, ST and OBC borrowed funds regularly but it was not so in the case of general category who regularly saved from farm income (78.57%).

Table 4.27: Determinants of Poverty at Micro Level

SN	Variables	Coefficients	Standard Error	t Stat	P-value
1	Intercept	1.1395***	0.1985	5.7419	0.0000
2	Education	-0.0571***	0.0198	-2.884	0.0047
3	Caste Group	-0.0107	0.0464	-0.2301	0.8185
4	Family Type	-0.0716	0.1065	-0.6723	0.5028
5	Religion	0.0655	0.1307	0.5013	0.6172
6	Family Size	-0.0096	0.0139	-0.6928	0.4899
7	Land Holding	-0.0345*	0.0207	-1.6649	0.0987
8	Asset Value	0.0001	0.0001	-0.7539	0.4525
	R^2	0.4527			
	F value	13.2339***			
	n	120			

Note: *** and * indicate significance at 1% and 10%, respectively.

Table 4.28: Households Exposed to Shocks under Poverty and Crisis Circumstances by Farm Size Categories

(In percentage)

SN	Shock	Bijapur				Tumkur				Both			
		O	T	>T	R	O	T	>T	R	O	T	>T	R
1	Shortage of food	0.00	8.33	10.00	5.00	5.00	3.33	5.00	5.00	2.50	5.83	7.50	5.00
2	Illness	31.67	21.67	0.00	0.00	13.33	6.67	0.00	0.00	22.50	14.17	0.00	0.00
3	Loss of Livestock	16.67	10.00	1.67	0.00	18.33	6.67	0.00	0.00	17.50	8.33	0.83	0.00
4	Poor Production	26.67	15.00	0.00	0.00	20.00	20.00	0.00	0.00	23.33	17.50	0.00	0.00
5	Wind Damage	43.33	1.67	0.00	0.00	18.33	0.00	0.00	0.00	30.83	0.83	0.00	0.00
6	Theft	6.67	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Death of household Members	23.33	1.67	0.00	0.00	18.33	0.00	0.00	0.00	20.83	0.83	0.00	0.00
8	Market Fluctuation	3.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00
9	Hail Strom	51.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.83	0.00	0.00	0.00
	Total	**22.59**	**6.48**	**1.30**	**0.56**	**10.93**	**4.07**	**0.56**	**0.56**	**16.76**	**5.28**	**0.93**	**0.56**

Note : O = Shock occurred once in a year; T = Shock occurred twice in a Year; >T = Shock occurred more than twice in a year; R = Shock occurred regularly

Table 4.29: Coping Strategies Adopted by Farm Size Categories

(In percentage)

SN	Strategy	Bijapur		Tumkur		Both	
		Regular	Often	Regular	Often	Regular	Often
1	Farm income saving	38.33	3.33	43.33	0.00	40.83	1.67
2	Borrowing funds	63.33	6.67	50.00	6.67	56.67	6.67
3	Migration	3.33	13.33	0.00	13.33	1.67	13.33
4	Eating less preferred food	16.67	1.67	10.00	0.00	13.33	0.83
5	Borrowing grain from others	5.00	3.33	3.33	3.33	4.17	3.33
6	Diversification of activity	13.33	18.33	8.33	13.33	10.83	15.83
7	Selling livestock	10.00	13.33	3.33	3.33	6.67	8.33
8	Sale of personal household effects	26.67	6.67	13.33	13.33	20.00	10.00
	Total	**22.08**	**8.33**	**16.46**	**6.67**	**19.27**	**7.50**

Table 4.30: Households Exposed to Shocks under Poverty and Crisis Circumstances by Social Groups (SC/ST/OBC/GEN)

(In percentage)

Shock*	SC (n=17)				ST (n=17)				OBC (n=72)				GEN (n=14)				Total (n=120)			
	O#	T	>T	R	O	T	>T	R	O	T	>T	R	O	T	>T	R	O	T	>T	R
S1	5.88	5.88	17.65	5.88	5.88	23.53	11.76	5.88	1.39	2.78	5.56	5.56	0	0	0	0	2.5	5.83	7.5	5
S2	35.29	11.76	0	0	23.53	17.65	0	0	20.83	15.28	0	0	14.29	7.14	0	0	22.5	14.17	0	0
S3	11.76	17.65	0	0	29.41	0	0	0	15.28	8.33	1.39	0	21.43	7.14	0	0	17.5	8.33	0.83	0
S4	17.65	17.65	0	0	11.76	11.76	0	0	23.61	18.06	0	0	42.86	21.43	0	0	23.33	17.5	0	0
S5	35.29	0	0	0	17.65	5.88	0	0	34.72	0	0	0	21.43	0	0	0	30.83	0.83	0	0
S6	5.88	0	0	0	5.88	0	0	0	5.56	0	0	0	7.14	0	0	0	5.83	0	0	0
S7	23.53	0	0	0	35.29	0	0	0	19.44	0	0	0	7.14	7.14	0	0	20.83	0.83	0	0
S8	0	0	0	0	5.88	0	0	0	1.39	0	0	0	0	0	0	0	1.67	0	0	0
S9	29.41	0	0	0	11.76	0	0	0	25	0	0	0	42.86	0	0	0	25.83	0	0	0
Total	**18.30**	**5.88**	**1.96**	**0.65**	**16.34**	**6.54**	**1.31**	**0.65**	**11.78**	**3.56**	**0.56**	**0.44**	**17.46**	**4.76**	**0.00**	**0.00**	**16.76**	**5.28**	**0.93**	**0.56**

Note : #O = Shock occurred once in a year; T = Shock occurred twice in a Year; >T = Shock occurred more than twice in a year; R = Shock occurred regularly;

*S1= Shortage of food, S2 = Illness, S3 = Loss of Livestock , S4 = Poor Production, S5 = Wind Damage , S6 = Theft , S7 = Death of household Members, S8 = Market Fluctuation and S9 = Hail Storm

Table 4.31: Coping Strategies Adopted - by Social Groups (SC/ST/OBC/GEN) in the Study Area

(In percentage)

SN	Strategy	SC (n=17)		ST (n=17)		OBC (n=72)		GEN (n=14)		Total (n=120)	
		Regular	Often	Regular	Often	Regular	Often	Regular	Often	Regular	Often
1	Farm income saving	35.29	5.88	11.76	0	41.67	1.39	78.57	0	40.83	1.67
2	Borrowing funds	70.59	5.88	64.71	11.76	56.94	6.94	28.57	0	56.67	6.67
3	Migration	5.88	11.76	5.88	23.53	0	13.89	0	0	1.67	13.33
4	Eating less preferred food	17.65	0	41.18	0	8.33	1.39	0	0	13.33	0.83
5	Borrowing grain from others	0	17.65	5.88	5.88	5.56	0	0	0	4.17	3.33
6	Diversification of activity	11.76	11.76	11.76	5.88	6.94	18.06	28.57	21.43	10.83	15.83
7	Selling livestock	11.76	11.76	11.76	0	5.56	11.11	0	0	6.67	8.33
8	Sale of Personal household effects	52.94	5.88	17.65	5.88	15.28	12.5	7.14	7.14	20	10
	Total	**25.74**	**8.82**	**21.32**	**6.62**	**17.54**	**8.16**	**17.86**	**3.57**	**19.27**	**7.50**

DISCUSSION

The findings of the study which are presented in the previous chapter are discussed in this chapter under the major headings to arrive at meaningful interpretations of the findings.

5.1 Poverty Alleviation Programmes Implemented in India and Methodological Approaches for Measuring Poverty

5.2 Deprivation and Inequality of Human Well Being

5.3 Determinants of Poverty at Macro and Micro Levels

5.4 Vulnerability to Poverty and Strategies to Cope with Poverty

5.1 Poverty Alleviation Programmes Implemented in India and Methodological Approaches for Measuring Poverty

5.1.1 Poverty Alleviation and Employment Generation Programmes in India

The Indian government has taken up several measures to overcome the problem of poverty. Poverty alleviation programmes comprising of wage employment programmes, rural housing schemes and public distribution system have been initiated from time to time. Only few programmes had made an immense impact in alleviating poverty directly or indirectly. Some of them are Community Development Programme (CDP) with a main objective of overall development of rural areas and people's participation, Twenty Point Programme (TPP) poverty eradication and an overall develeoment of rural people, Food for Work Programme, Antyodaya Anna Yojna (AAY) provided 35 kgs of food grains per household per month to 2.43 crore Antyodaya households at the of Rs 3, Rs 2, and Rs of rice, wheat, coarse grains respectively. National Rural Employment Guarantee Scheme (NREGS) provided employment opportunity for rural and urban people. Yesudian (2007) study revealed that poverty alleviation programmes in India have been broadly classified into self-employment programmes, wage employment programmes, food security programmes and social security programmes with an objective of overall development of rural poor.

5.1.2 Impact of Poverty Alleviation Programmes in India

A review of the poverty alleviation programmes implemented in India since her independence till date was done and the impact, furnished in brief Table 4.2, was analysed. Among the programmes considered for the study, Antyodaya Anna Yojna (AAY) has provided 35 kg of food grains per household per month composed of three, two, and one kg for rice, wheat, coarse grains respectively per beneficiary family, benefiting 2.43 crore Antyodaya households. MGNERGA, first of its kind in the world, which made employment a right, has provided employment opportunity to 3.77 crore households with 120.88 crore person-days of employment in the country. The results of study are in accordance with the findings of Prasad (2012) who reported that MNREGA provided employment amounting to 120.88 man-days. The role of MNREGA in uplifting the poor is important considering the humongous amount of employment generated by it.

5.1.3 Methodological Approaches for Measuring Poverty

This study has undertaken a comprehensive chronological review of poverty estimation methods in India by different committees and by different approaches over the period 1901 till date. Among the various methods evolved over time, the ones by Dadabhai Naoroji measured a poverty based on cost of a subsistence diet consisting of 'rice or flour, dhal, mutton, vegetables, ghee, vegetable oil and salt', National Planning Committee (NPC) estimated poverty based on Capability Minimum Standard of living and nutritional requirements , Working group and VM Dandekar committees measured poverty by per capita daily calorie requirement of 2250, measured poverty by traditional approaches (Uni-Reference Period) [URP] method, whereas, those by YK Alagh, DT Lakdawala, Suresh Tendulkar and C. Rangarajan committees measured poverty by Mixed Reference Period [MRP]. These approaches considered several dimensions of poverty from time to time based on necessities. It could be inferred from this review that during initial period, measurement of poverty was done exclusively based on minimum food or calorie requirement. Poverty is a multi-dimensional factor and cannot be measured accurately by calorie need alone. Over the years, dimensions such as income, sanitary facilities, health, and literacy were also included as factors in estimating the poverty (Alkire, 2009).

5.2 Deprivation and Inequality in Human Well Being

5.2.1 State-wise Per Capita Net State Domestic Product

Compound annual growth rate (CAGR) of per capita net state domestic product at factor cost was worked out separately for different states for the period 1981 to 2012. It could be noted that the overall rate of growth in per capita net state domestic product was 12.42 per cent per annum. It showed that, there was an overall significant compound growth rate of 12.42 per cent in terms of per capita net state domestic product at factor cost in all the states over 30 years. Goa registered highest rate of growth in per capita income (CAGR = 14.96%) and Bihar occupied last place with CAGR of 9.96 per cent. The economy of Goa, to a larger extent depends on tourism. Significant growth registered by Goa tourism during the period could be the possible reason for the tremendous growth registered in net per capita income during the reference period. Though Bihar registered positive growth rate, the magnitude of CAGR was as low as of 9.92 per cent. Low rate of growth in Bihar could be attributed to widespread illiteracy and poverty. In line with this, Gaur (2010) per capita state domestic product had significantly increased during 1980-2002 in BIMORU states like Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh.

5.2.2 Plan and Non-Plan Budgetary Expenditure on Education

During the period 1980-81 to 2010-11, both the plan and non-plan expenditure on education by education departments of central sector showed a significant growth rate of 19 per cent whereas the state/union territories sector's plan and non-plan expenditure on education was 13.41 per cent. On the whole, there was a significant growth in the budgetary expenditure on education at both central and state/union territory sectors. De and Endow (2008) revealed that, initially education was the responsibility of individual states, but in 1976 it became the joint responsibility of both central and state governments. The analysis found that the centre has been playing an increasingly important role in the state education finance.

5.2.3 Public Expenditure on Education in India

During the period from 1981-82 to 2011-12, the GDP at current prices (at factor cost) had a growth rate of 14.11 per cent, which was significant at 1 per cent probability level. Nearly 13.85 per cent and 14.63 per cent significant growth was seen in total expenditure on all sectors and education and training, respectively, which showed that expenditure on education and training was more when compared to expenditure on all sectors. On the other hand, the percent of education expenditure to all the sectors' expenditure and to GDP showed a significant growth rate of 0.52 per cent and 0.45 per cent, respectively. Expenditure in real terms too increased during the 1990s and has continued to increase considerably over the years. As a proportion of GDP the share of public expenditure on education has been less than 4 per cent. But there had been major changes in the composition and modalities of public expenditure (De and Endow, 2008).

5.2.4 Expenditure on Education, Health, Social Security and Welfare Services in India

Both total expenditure and per capita expenditure incurred on education, health and social security and welfare services in India during the period from 1980-1981 to 2011-2012 showed a significant growth rate in all the three sectors, growth rate ranging from nearly 11 to about 18 per cent per annum. The per capita expenditure on social security and welfare services registered the highest growth rate (12.89 per cent) followed by education and health (12.23 per cent and 11.67 per cent, respectively). Similar was the case with respect to total expenditure on education, health and social security and welfare services (14.18%, 15.27% and 17.51%, respectively). In all, the growth rates in these sectors were greater than double digits, which in itself, was a significant achievement. This enormous growth in expenditure on health and education could be due to the increased recognition of the need for overall human development and empowerment and to reduce mortality rate as well. This study is in line with the findings reported by Gaur (2010), wherein per capita expenditure on medical and public health, for twenty states has had risen significantly during the period 1980-2005.

5.2.4 Deprivation Index and Human Development Index – by districts in Karnataka (Per capita availability/accessibility)

As furnished in the Methodology chapter, the Deprivation Index was worked out at macro (district) level using the information on the variables concerning poverty, such as, per capita net

district domestic product (NNDP), per capita availability of / accessibility to food, housing, drinking water, literacy level, electricity, and road length. The deprivation in these resources for the households was measured in terms of Deprivation Index for each of these variables and later summed up to form the Aggregate Deprivation Index using the unweighted average. The lack of deprivation or deviation of Deprivation Index (DI) from unity is taken as the Human Development Index (HDI).

It is interesting to note that Kodagu district topped the list with least mean Deprivation Index (0.2670), followed by Bengaluru urban, Chikmagalur and Hassan. So, it terms of deprivation, Bengaluru Urban district is not the least but Kodagu.

Of the 27 districts included in the analysis, top 13 districts having least Deprivation Index lie in Southern Karnataka. This means that these 13 districts are the top ones in terms of highest Human Development Index. On the other hand, the bottom 11 districts having highest Deprivation Index or lowest Human Development Index belong to Northern part of Karnataka. Obviously, higher HDI indicates higher standard of living.

Thus, it could be inferred that regional imbalances have occurred over years in infrastructure development thus leading to deprivation of some facilities/necessities to some regions than others. Dr. Nanjundappa Committee has rightly brought out these issues in their report on Regional Imbalances in Karnataka. Hence, policy intervention is needed to correct this trend and pattern. Otherwise, this may lead to unrest amongst the masses, as it happened in the Telangana region of Andhra Pradesh.

In a similar study, Gaur (2010) estimated deprivation and inequality in human wellbeing in Indian States. To estimate human poverty, deprivation index developed by UNDP was utilized and for this purpose and deprivation indices was calculated for Per Capita State Domestic product (SDP), Per Capita expenditure of States on Education, Medical and Public health of twenty major states of India for period 1980-81 -2001-02. Major outcomes of the study are (a) Except education, average deprivation in terms of per capita SDP and expenditure on medical and public health, for twenty states had risen significantly during the period 1980-2005. (b) Inter-state deprivation indices for per capita SDP and medical and public health stood at 0.6177 and 0.8294, respectively, in 1980-81 while these indices increased further to 0.6202 and 0.8756 in 2001-2002. However, in case of education, inter-state deprivation indices have shown declining trend during the period 1980-2002. (c) Deprivation indices in terms of per capita SDP, per capita expenditure on medical and public health and education for BIMARU states like UP, MP, Orissa, Rajasthan and Bihar were found significantly higher than the average deprivation indices during the period 1980-2002.

5.2.6 Food Security Status at Household Level

In both Bijapur and Tumkur districts, majority (nearly 78%) of the respondents were just food secure or in above normal food security status. Nearly 28 per cent of the respondent households were just food secure, thereby indicating that in times of crisis (shocks including crop failures), they might slide down to the category of food insecure. The problem to worry was about the 22 per cent of the respondent households who belonged to below normal food security status or low food security status. This chunk of the population needs special attention. Government should strengthen the on-going programmes or launch new programmes to ensure food security to these households. Thanks to Mahatma Gandhi National Rural Employment Guarantee Scheme of the Government of India, tremendous impact has been created by this and other such programmes in this direction in terms of employment generation and achieving food security to the targeted population.

5.2.7 Nutritional Security Status at Household Level

Those who are food secure need not be nutritionally secure. Hence, the nutritional security status of the sample households was also estimated. The scenario was more or less similar to that of food security, as seen earlier. Again, it was about 18 per cent of the sample households which were “high” in terms of nutritional security, 33 per cent was above normal and 19 per cent was just normal. This 19 per cent group was a volatile group which might slide down to the below normal nutritional security status in the event of encountering any shock. Though only 22 per cent of the sample households were food insecure, it was about 30 per cent of them, who were nutritionally insecure. That means, the difference of eight per cent households, though they were food secure, could not have the intake of nutritional food, which pushed them to the “below normal nutritional security status”. In this direction, this sect of population need to be educated on the nutrition front and further should be encouraged to diversify their cropping pattern to include nutritional cereals, pulses and

oilseeds. Between districts, Tumkur slightly scored over Bijapur in terms of food and nutritional security owing to consumption of nutritionally high value commodities such as rice, ragi, pulses, fruits, vegetables, milk and milk products, while in Bijapur, it was mainly jowar, wheat, some pulses, groundnut, fruits and vegetables.

5.2.8 Health Status of Households

There were five major temporary diseases suffered by the sample households, namely, cough, cold, general fever, chicken gunya, typhoid and joint pain or back pain. The three relatively and predominantly found diseases in both districts for both male and female were diabetes, blood pressure and heart related problems. In both the selected districts, male and female respondents suffered relatively more by temporary diseases (like cough, cold, general fever, chicken guinea, typhoid and joint pain or back pain) when compared to occurrence of permanent disease (diabetes, blood pressure and heart related problems), but expenditure made by the respondents to overcome permanent diseases was relatively much more than the expenditure made on temporary diseases. Between districts, it was in Tumkur district that the occurrence of diseases was comparatively more than in Bijapur district, which could be because of the relatively poor sanitary measures adopted by the household respondents of Tumkur district.

5.2.9 Sanitary Measures Adopted by Sample Households

It was observed that Bijapur district had adopted better sanitary measures compare to Tumkur district. Almost all the respondents had the facility for washing clothes in both the districts followed by bath room facility, clean surrounding including drainage, toilet soaps, proper ventilation, toilet facility and hygiene food, while only a small number of respondents used sanitary napkins. It is well known fact that there is positive correlation between adoption of sanitary measures and health status of the households. Govindasamy and Minna (2009) also reported positive relation between sanitary measure and health status. They further reported that the money saved which otherwise would have been spent on illnesses due to poor sanitation of one person for a period of two years could cover the cost of a toilet.

5.3 Determinants of Poverty at Micro and Macro Levels

5.3.1 District-wise Gross/Net Domestic Product and Per Capita Income

It is imperative that higher the net domestic product of a district, lower is the poverty level in the district, unless there are severe problems with respect to distribution of income among different sections of the society and further down to individual households. The per capita annual income in the State as a whole was Rs.51,478 and districts falling above this State average were Bengaluru (Urban), followed by Bengaluru (Rural), Kodagu, Dakshina Kannada, Bellary, Dharwad, Udupi, Ramanagar, Mysore and Chikmagalur. Lowest per capita annual income was observed in Yadgiri, followed by Chamarajanagar, Bidar and Chikkaballapur.

Shiddalingaswami and Raghavendra (2010), in their analysis of the trends of average per capita income in Southern and Northern districts of Karnataka, observed that the Southern Karnataka has had 1.3 times more per capita income than the Northern Karnataka. The same trend had continued over a period of time. South Karnataka has had more number of high ranking districts than North Karnataka.

5.3.2 District-wise Area under Irrigation in Karnataka

Irrigation has been one of the most important factors that could contribute to increase in household income and reduction in poverty. Among the selected 27 districts, there was a significant compound annual growth rate of 10.19 per cent in the irrigated area in Bijapur district. This increase could be simply because the southern part of Bijapur district forms a catchment area of the Krishna while northern part forms catchment area of Bhima. The Bhima river is an important tributary of the Krishna river. A major dam has been constructed across the Krishna River near Almatti in the district. Don River is the tributary of the Krishna and flows for about 160 km in a meandering course from west to east in the central part of the district which in turn led to provision of irrigation water over the years (Kannan, 2011). The district with significantly high but negative growth rate was seen in Udupi (-0.07%). But, on the whole, the compound annual growth rate of the area under irrigation in the state was found to be 3.67 per cent which was significant at 1 per cent significance level.

5.3.3 District-wise Area under Foodgrains in Karnataka

Poverty, defined in terms of nutritional security, was expected to be inversely related to the area under foodgrains in Karnataka. District wise area under food grains in Karnataka from the year 2000-01 to 2010-11 presented in the Table 4.15 revealed that, among the 27 selected districts, Bagalkot had a significant compound annual growth rate of 3.10 per cent at 1 per cent significance level with an increase in the area under food grains from 3,14,869 ha in 2000-01 to 3,96,889 ha in 2010-11. This could be due to the use of good irrigation facility provided in Bagalkot over the years. Bellary was then followed by Bagalkot for a significant increase in the area under foodgrains. The district with significantly negative growth rate was Uttara Kannada (-1.00%) because it is horticulture based area and is not suitable for foodgrain production due to its undulating terrain of land. The state, on an average, had a growth rate of 0.84 per cent at 10 per cent significance level.

5.3.4 District-wise Production of FoodGrains in Karnataka

District wise production of foodgrains in Karnataka during the period from 2000-01 to 2010-11 showed that, among 27 selected districts, Dharwad had a significant compound growth rate of 9.60 per cent at 1 per cent significance level. Contrarily, the growth in area under foodgrains was hardly 0.46 per cent in Dharwad. Thus, this could certainly be due to the adoption of newer crop technologies in the district with the R&D support from the farm university, namely, University of Agricultural Sciences, Dharwad over the years. It was followed by Bagalkot with a significant growth rate of about 7.8 per cent. The districts with negative growth rates in foodgrain production were Bengaluru(Urban), Bengaluru(Rural), Dakshina Kannada, Udupi, Chamarajanara and Bidar. This phenomenon was mainly due to negative growth in the area under foodgrains in these districts because of drifting away towards horticultural and other commercial crops by the farmers in the region.

5.3.5 District-wise Distribution of Fertilizers (NPK) in Karnataka

One of the hypotheses could be that the distribution of fertilizers in a district would have a positive influence on the district's income via enhanced crop productivity. There was a significant compound growth rate in distribution of fertilizer (NPK) in Gadag district, among the 27 selected districts (10.23%). This could be because it is a cotton growing area, wherein cotton crop consumes heavy amounts of fertilizers. The Bengaluru rural district had significant negative growth rate in fertilizer distribution, probably, because of rapid urbanisation, real estate business and cultivation of vegetables rather than cash crops owing to proximity to Bengaluru city that requires more vegetables.

5.3.6 District-wise Electrification in Karnataka

District wise percentage change in electricity consumption in Karnataka from 2004-05 to 2011-12 presented in Table 4.18, revealed that there was about 50 per cent increase in the total electricity consumption in Karnataka. Among 27 districts, Mandya district witnessed highest percentage increased in electricity consumption (61.00%) followed by Hassan (60.00%), Raichur and Bengaluru (56%). This percentage change in electricity was certainly helped in improving of food grain production and other economic related activities. Whereas contrarily to this Chickmagalur district was showed negative percentage change in electricity consumption (-27%) it may due to shift in cropping pattern from any other commercial crop or horticulture crops and stagnated population growth.

5.3.7 District-wise Percentage Change in Rural Road Length in Karnataka

District wise percentage change in rural road length in Karnataka from 2002-03 to 2011-12 presented in Table 4.19, revealed that there was about 23 per cent increase in the total rural road length of Karnataka. Among 27 districts, Bijapur district witnessed highest percentage increase in rural road length (59.73%) followed by Gulbarga (55.86%), Kodagu (48.82%) and Udupi (43.39%). All this has not reflected in the increase in the state net domestic product except in the case of Kodagu and Udupi. Contrarily, Gulbarga and Bijapur districts were still much below the state average net domestic product. Of course, the negative percentage change in road length recorded in Mandya, Hassan and Bengaluru (Urban) districts was due to conversion of rural roads in to urban roads or state/national highways.

5.3.9 Determinants of Poverty at Macro Level

To identify the determinants of the poverty at macro (district) level in Karnataka, multiple linear regression model was employed. The results of the multiple regression showed that 68 per cent of the variation in poverty level was explained by all the seven independent variables included in the model. It was further observed that among seven variables included in the model, food production, water availability, literacy and electricity were found statistically significant at 10, 5, 5 and 5 per cent probability levels, respectively. Remaining three variables, viz., housing, NDDP and road length were found non-significant in influencing poverty level at macro level in Karnataka.

The regression coefficients of food production, electricity and road length were found positive. On the contrary, the variables, namely, housing facilities, water availability and literacy level were found negative. Among all the variables included in the model, water, literacy, electricity and food were found to significantly influence the poverty level of the household.

Better access to safe drinking water and higher literacy would ensure better health and sanitation and hence reduce poverty through increased human labour productivity. It was interest to note that higher the access to electricity in terms of electricity connections higher the poverty. In other words, higher density electricity connections (per capita) are normally found in thickly populated areas or even in slums where poverty is on the high.

Another interesting thing to note is about the positive relationship with foodgrain production. Probably, due to this, in many regions, farmers have drifted away from the production of foodgrains to commercial crops. In other words, cultivation of commercial crops would increase the incomes of the farmers and drive them out of poverty. As is known, farmers still constitute two-thirds of the state's population.

5.3.9 Demographic Profile of Sample Households

The socio-economic profile of the sample respondents is discussed under the following sections under different sub-heads.

Age Distribution

The age distribution pattern of sample respondents indicated that a majority of the respondents belonged to middle age (40.83 per cent) and old age groups (38.33 per cent) and the young ones accounted for one fourth of the respondents in both Bijapur and Tumkur district as a whole (Table 4.21). The Distinct-wise analysis reveals that, on an average, half of the respondents were middle aged followed by old aged ones and young ones in Bijapur District. Similarly, in Tumkur District, more than half of the respondents were of old aged followed by middle aged and young ones. Hence, in the study area in general, the respondents were of middle or old aged, indicating that the middle and old aged ones stuck to agriculture and related occupations owing to their poor education levels and lack of alternative opportunities, while the younger ones either migrated to urban areas or opted for non-farm activities.

Educational Status

The analysis of educational status of sample households revealed that a little less than half of the respondents (22 per cent) were illiterates, while the remaining respondents studied up to primary school, SSLC (Secondary School Leaving Certificate, equivalent to X standard), secondary schooling and PUC (Pre-University Course, equivalent to XII standard), degree and postgraduates. Similarly, in Bijapur and Tumkur Districts, nearly 26 per cent of the Bijapur sample respondents and 18.33 percent of Tumkur districts respondents were illiterates. With regard to literacy, it was found that there was much difference in literacy rate in the study area, Tumkur scoring over Bijapur. This could be due to more scope of good educational and infrastructural facility and more of urbanisation in Tumkur district than that of Bijapur district. Further, the number of matriculates and post-graduates was also higher in Tumkur district as compared to Bijapur district, might be owing to better educational facilities available in Tumkur district.

Caste Composition

A majority of the sample respondents belonged to the "Other Backward Caste" (OBC) (60.00 per cent), followed by "General Category" "Scheduled Caste" and "Scheduled Tribe". It was further probed and found that mostly the backward caste people performed farm and dairy for their major source of income, whereas the households belonging to upper caste category performed crop production or related activities for their livelihood due to their higher socio-economic status in the

society. The analysis of family type of sample respondents in the Bijapur and Tumkur districts revealed that more (61.67 per cent) of nuclear families are emerging from out of joint families. District-wise analysis revealed that the proportion of sample respondents following joint family system was higher (55 per cent) than the nuclear family system (45%) in Bijapur District, while it was reverse in Tumkur district (21.67 per cent following joint family system and 78.33 per cent following nuclear family system).

Family Type

So far as family type was concerned, a little more than half of the sample households adopted nuclear family system, while the remaining respondents had joint family system. The situation was exactly reverse in Bijapur district. However, in Tumkur district, the proportion of households adopting nuclear family system was to the tune of 78.33 per cent.

In general, it was ascertained that the households practicing nuclear family system formed a sizeable proportion of the population and the proportion is on the rise over years. The possible reasons for growing popularity of nuclear family system would be the acceptance of small family norms to lead comfortable life with limited earning, better harmony among household members, better satisfaction of basic needs and lesser responsibility/compromises.

Family Size

The average family size in study district was 6.16. The family size was relatively small in Tumkur district as compared to Bijapur, which could be due to relatively more number of nuclear families than joint families in Tumkur district. As observed at state or national level, the male members marginally outnumbered the female family members in both Bijapur and Tumkur districts. The adult female and children members were slightly higher in Bijapur district as compared to Tumkur district.

Type of Residential House

Almost more than half of the households in the study area were having thatched type of house, followed by tiled house, RCC and Shed type of houses in both Bijapur and Tumkur as a whole. This indicates that the sample households belonged to below average level in terms of socio-economic status.

5.3.10 Land Holdings and Source of Irrigation

The average size of land holding of the sample respondents of both Bijapur and Tumkur district together was 2.02 ha (Table 4.22), of which nearly 52.39 per cent was irrigated land, while the remaining land was rainfed land (47.61%). Thus, the farmers were relatively practicing horticultural crops in the study area. Similar was the situation in the selected districts. However, the irrigated land was slightly higher in Bijapur district (about 1.32 ha) than in Tumkur (nearly 2.65). The Tumkur district lacked adequate irrigation facility compare to Bijapur district. In regard to source of irrigation Bijapur distrint had better irrigation facilities like canal and tank.

5.3.11 Land Holding Pattern

Since, it was pre-classified to have equal number of sample respondents in each of the farm size categories (landless labourer, marginal farmer, small farmer, medium farmer and large farmer), the number of sample respondents were equally distributed across farm size categories in the study district and taluks individually (Table 4.23). The average size of farm land holding across all farm size categories was 2.02 ha in the study area, while it was 2.64 ha and 1.98 ha in Bijapur and Tumkur districts, respectively. The average size of land holding in both Bijapur district was 0.67 ha for marginal farmers, 1.44 for small farmers, 2.8 ha for medium farmers and 5.17 ha for large farmers. Landless and marginal households were found to be comparatively more dependent on wage earning and less dependent on agriculture while the small, medium and large farm households were found to be comparatively less dependent on wage earning and more dependent on agriculture and horticulture.

5.3.12 Occupation of the Sample Respondents

Distribution of household respondents across different occupations in the study area is presented in Table 4.25. Result revealed that there were six main occupations and six subsidiary occupations performed by sample respondents in both Bijapur and Tumkur districts. In Bijapur district, among six main occupations, agriculture occupied first position followed by monthly salaried, petty business, goat farming and farm wage earner respectively. Under subsidiary occupations, out of six,

dairy occupied first position followed by agriculture, goat farming, petty business and farm wage earner. In Tumkur district, out of six main occupations of sample respondents, agriculture occupied the top position followed by monthly salaried, farm wage earner, dairy, petty business and goat farming. It showed that a majority of the sample households in Tumkur and Bijapur districts practiced agriculture and dairy as the main and the subsidiary occupations, respectively.

5.3.13 Asset Position of Household Respondents

The asset position in Bijapur was better when compared to Tumkur district in terms of size of land holding, but with respect to value of land, Tumkur scored over Bijapur due to real estate boom and availability of more irrigation facilities in Tumkur when compared to often drought affected Bijapur district. In terms of livestock, Bijapur has more livestock than Tumkur which indicated that people depend on animal husbandry more in Bijapur to ensure income source in the year.

5.3.14 Source of Income of the Household Respondents

Irrespective of the sample districts, horticulture crops had provided higher income followed by salary employment, field crops, business, dairy, sheep/goat farming and wage earning. In Bijapur district, the sample respondents sourced highest income from horticultural crops, followed by business and field crops, whereas in Tumkur district also, highest income was obtained by the sample households from horticulture crops, but followed by salary employment and dairy. In both the selected districts, horticultural crops are predominant over the seasonal field crops. Bijapur district is blessed with the agro-ecological situation suitable for growing fruit crops, viz., grapes, pomegranate, lime and ber, whereas, it was mainly vegetables and flowers that dominate the horticulture scenario in Tumkur district.

4.3.15 Determinants of poverty at micro level

To identify the determinants of the poverty at micro level in Karnataka, multiple linear regression model was employed. The result of the multiple regression showed that 45 per cent of the variation in poverty level was explained by all the seven independent variables included in the model. It was further observed that education and land holding significantly influenced poverty at micro (household) level. Obviously, higher the education, lower the poverty level via increased employment opportunities and enhanced incomes. Similarly, larger the size of land holding, lower the poverty level through increased farm production and incomes.

Rao and Gedela (2012) identified the determinants of poverty in tribal households of Visakhapatnam district in Andhra Pradesh. The study revealed that the per capita monthly income and per capita monthly expenditure were the two major determinants of poverty at micro level. On the other hand, the per capita asset value variable failed to explain any variation in the poverty level.

5.4 Vulnerability to Poverty and Strategies to Cope with Poverty

5.4.1 Households Exposed to Shocks under Poverty and Crisis Circumstances

It was observed that only five per cent of respondents suffered due to regular food shortage, while none of them was exposed to other shocks regularly. None of the respondents was exposed to shocks twice a year except food shortage as well as livestock loss in both the districts during the 2011-12. For nearly one-third of the respondent households, loss due to wind damage had occurred which held maximum share among shocks that occurred once in a year. It was interesting to note that about five per cent of respondents had consumed less food regularly in both Bijapur as well as Tumkur districts. Out of those shocks that occurred in Bijapur and Tumkur districts, hailstorm and wind damage caused major problem in production, harvesting and processing of horticulture and field crops which led to reduction of major source of income. This study is in line with the findings reported by Rashid *et al.* (2006) on the incidence of various shocks among the sample households; shortage of food and illness were the two most severe shocks faced by Bangladesh households. About 82 per cent of households faced food shortage, followed by 74.5 per cent of households who experienced illness, 39.7 per cent were exposed to loss of animals and 21.5 percent witnessed poor crop production.

5.4.2 Coping Strategies Adopted by Sample Households

Borrowing of funds was the most used coping strategy and that was being used regularly (56.67%) by the households, followed by farm income saving as the second option. Very few households opted for migration as a strategy that was being adopted most often but not regularly.

Similar was the situation in the selected districts when looked at separately. This study was in line with the findings reported by Rashid *et al.,* (2006), who reported that divestment of assets and secured borrowing were the two major important coping strategies adopted by household respondents under different crisis and poverty situations in the Bangladesh. The probability of adopting a coping strategy was positively associated with household exposure to all kinds of shocks (natural disaster, loss of productive assets, illness, and others).

5.4.3 Households Exposed to Shocks under Poverty and Crisis Circumstances by Social Groups

Among all sections of the society, same proportion (5.88%) was being affected regularly by food shortage in Schedule Caste (SC) and Schedule Tribe (ST) categories followed by 5.56% among other backward castes (OBC). It was quite interesting to mention that none of the general category people was affected by shortage of food regularly in a year. Majority of SC, ST, OBC and general category households were exposed to the hocks-theft, death of household members, wind damage, poor production and hailstorms, respectively. Thus it could be seen that the households of the weaker sections of the society, namely, the scheduled castes, scheduled tribes, followed by the other backward castes were more vulnerable to shocks under poverty and crisis circumstances than the general category households. When it was further probed, women headed households, across various social fabrics, were more vulnerable than men headed households.

5.4.4 Coping Strategies Adopted by Social Groups

A majority of the households (50.67%) adopted borrowing of funds regularly, while a few households (1.67%) used to migrate regularly to overcome poverty. Most often, about 16 per cent of the respondent households diversified their livelihood activity, whereas a small chunk of the sample households opted for farm savings strategy to overcome poverty. A majority of the farm households belonging to SC, ST and OBC borrowed funds regularly, but it was not so in the case of general category. Thus, it could be seen that the socially backward groups of households were more vulnerable to such shocks under poverty and crisis circumstances, and in such cases, generally and immediately opt for borrowing of funds regularly, even at very high interest rates. This would further push them down into poverty situation, because poverty breeds poverty.

SUMMARY AND POLICY IMPLICATIONS

Poverty is defined as the inability to obtain the minimum requirements of life, health and efficiency due to very low income or insufficient assets. World Bank defines poor person as “a person who earns less than 1.25 dollar per day”. Poverty is a state where a person finds it unable to maintain a minimum socially accepted level of standard of living. It is pointed as the root cause for low levels of health and educational outcomes, poor access to clean drinking water and sanitation, inadequate physical security, lack of voice and insufficient capacity and opportunity for mobility.

Poverty line is drawn on the basis of expenditure that is necessary to secure the minimum acceptable living standard for work and efficiency. In India, the minimum necessary calorie intake of a person has been put at 2,400 calories per capita per day in rural areas and 2,100 calories per capita per day in urban areas. Those who fail to secure the prescribed calorie intake levels fall below poverty line and are defined as poor.

During the last two to three decades, poverty ratio has recorded a declining trend because of the economic development brought about by significant developments in various sectors of the economy. The percentage of persons below the Poverty Line in 2011-12 has been estimated at 25.7 per cent in rural areas, 13.7 per cent in urban areas and 21.9 per cent for the country as a whole. The respective poverty ratios for the rural and urban areas were 41.8 per cent and 25.7 per cent, while it was 37.2 per cent for the country as a whole in 2004-05.

The Indian government has taken up various measures to overcome the problem of poverty. Poverty alleviation programmes comprising of wage employment programmes, rural housing schemes and public distribution system has been initiated from time to time. Only a few programmes, which made an immense impact in alleviating poverty directly, include National Rural Employment Programme (NREP) 1980-89; Twenty Point Programme (TPP) 1975; Employment Assurance Scheme (EAS) 1993; Antyodaya Anna Yojana (AAY) 2000; Sampoorna Grameen Rozgar Yojana (SGRY) 2001; National Food for Work Programme (NFFWP) 2004; Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) 2009; and National Food Security Act 2013, among others. Few programmes succeeded in the way of tackling poverty directly or indirectly in our country to uplift rural and urban poor people.

6.1 Specific objectives of the study

1. To document the poverty alleviation programmes implemented in India and to understand different methodological approaches for measuring poverty in the country;
2. To estimate deprivation and inequality in human well being;
3. To identify the determinants of poverty at macro and micro levels;
4. To identify the vulnerable groups, assess their vulnerability levels and elucidate the strategies adopted by these households to cope with poverty.

6.2 Methodology

The present study pertains to two districts of Karnataka, one district from North Karnataka and another district from South Karnataka, which were purposively selected based on top five districts from North Karnataka and top five districts from South Karnataka in terms of BPL card holders in the respective districts. Further, two taluks from each district namely, Muddebihal and Sindagi of Bijapur distict, Koratagere and Turuvekere from Tumkur district were selected based on higest and lowest density of BPL card holders. A list of villages in each of the selected taluks was obtained from the concerned Taluk Panchayat office. From each taluk, three villages were selected randomly by using random number table. Thus, in all, 12 villages were chosen from both the districts, viz., Abbihal, Geddalmari, Kuntoji, Aheri, Yargal B.K, Yargal K.D, Hulikunte, Kamrajanahalli, Tumbadi, Marthamnahalli, Sampige and Samipge Hosahalli. From each of the selected villages, 10 respondents were selected at the rate of two each from the five groups, namely, landless (<0.01 acre), marginal farmer (>0.01 acre but up to 2.5 acre.), small farmer (>2.5 acre but up to 5 acre), medium farmer (>5 acre but up to 10 acre) and large farmer (>10 acre). Thus, in all, 120 respondents formed the sample for the study.

For achieving the objectives of the study, both primary and secondary data were used. Secondary data were mainly collected from various published sources of Government of Karnataka,

Government of India and National Sample Survey Organization (NSSO) for the years 2000-01 to 2011-12.

Primary data required for the study were elicited from the respondents by personal interview method using well-designed and pre-tested schedule prepared for the purpose. For analyzing the primary data descriptive analysis and Compound Annual Growth Rate (CAGR) tools were employed.

6.3 Findings of the Study

The major findings of the study are summarized below:

- The Indian government has taken up various measures to overcome the problem of poverty. Poverty alleviation programmes comprising of wage employment programmes, rural housing schemes and public distribution system had been initiated from time to time, out of which few programmes have succeeded in the way of tackling poverty directly or indirectly in our country to uplift rural and urban poor people.
- During the last two to three decades, poverty ratio showed a declining trend. The proportion of persons below the Poverty Line in 2011-12 has been estimated at 25.7 per cent in rural areas, 13.7 per cent in urban areas and 21.9 per cent for the country as a whole.
- Compound annual growth rate of state-wise per capita net state domestic product at factor cost from the year 1981-82 to 2011-12 showed that there was significant growth (12.42 per cent) with respect to per capita net state domestic product at factor cost in all the 32 states over 30 years in India.
- Total plan and non-plan budgetary expenditure on education by education department in India from 1980-81 to 2010-11 showed significant growth of 19 per cent whereas the state/union territories sector's plan and non-plan expenditure on education was 13.41 per cent.
- The public expenditure on education in India during the year 1981-82 to 2011-12 of GDP at current prices (at factor cost) had witnessed a growth rate of 14.11 per cent which was significant at 1 per cent significance level. Nearly 13.85 per cent and 14.63 per cent significant growth was seen in total expenditure on all sectors and education and training respectively at same level of significance.
- The per capita expenditure on education, health and social security and welfare services in India for the years 1980-1981 to 2011-2012 showed a compound annual growth rate of 12.23 per cent, 11.67 per cent and 12.89 per cent respectively, whereas the total expenditure on education, health and social security and welfare services grown annually to the tune of 14.18 per cent, 15.27 per cent and 17.51 per cent respectively.
- Kodagu district topped the list with least mean Deprivation Index (0.2670), followed by Bengaluru urban (0.2965), Chikmagalur (0.3744) and Hassan (0.3918). On the contrary, the highest mean Deprivation Index was recorded in Gulbarga (0.8492), followed by Bidar (0.8214), Raichur (0.7813) and Bijapur (0.7625). As said earlier, devoid of deprivation was measured as human development. Thus, conversely, the Human Development Index was highest in the case of Kodagu district (0.7330) followed by Bengaluru (0.7035), Chikamagalur (0.7035), and Hassan (0.6256). On the other hand, least Human Development Index was recorded in Gulbarga (0.1508), followed by Bidar (0.1786) and Raichur (0.2187).
- District wise area under irrigation in Karnataka during the year 2000-01 to 2010-11 showed that among the selected 27 districts, there was a significant compound annual growth (10.19 per cent) in Bijapur with an increase in the area from 1,43,784 ha in 2000-01 to 3,14,855 ha in 2010-11.
- District wise area under foodgrain crops in Karnataka during the years 2000-01 to 2010-11 showed that among 27 selected districts of Karnataka, Bagalkot had registered a significant compound growth rate of 3.10 per cent at 1 per cent significance level with an increase in the area under field crops from 3,14,869 ha in 2000-01 to 3,96,889 ha in 2010-11.

- District wise production of foodgrains in Karnataka during the years 2000-01 to 2010-11 was showed that among 27 selected districts, Dharwad had a significant compound annual growth (9.60 per cent) at 1 per cent significance level with an increase in the production of foodgrains from 2,52,743 t in 2000-01 to 300468 t in 2010-11.
- District-wise distribution of Fertilizers (NPK) in Karnataka during the years 2000-01 to 2011-12 revealed that among the 27 selected districts, Gadag district had a compound annual growth rate of 10.23 per cent in fertilizer distribution of 24068 t in 2000-01 to 49270 t in 2010-11.
- District-wise per cent change in rural road length in Karnataka during the years 2002-03 to 2011-12 showed 22.64 per cent increase in total rural road length of Karnataka. Among 27 districts, Bijapur district had highest percentage increase in rural road length (59.73%) during the said period, followed by Gulbarga (55.86%), Kodagu (48.82%) and Udupi (43.39%).
- Among various determinants of poverty at macro level, water, literacy, electricity and food were found to significantly influence the poverty level of the household. Of these four variables, water, literacy and electricity were significant at 5 per cent and food was significant at 10 per cent.
- Majority of the respondents belonged to middle age (40.83 per cent) and old age groups (38.33 per cent) while the remaining 20.83 per cent of respondents belonged to the young age group.
- About 22.50 per cent of the respondents were illiterates, 6.65 per cent of them studied up to primary school, 6.65 per cent of them studied secondary schooling, 22.50 per cent completed SSLC (Secondary School Leaving Certificate), 12.50 per cent of them passed PUC (Pre-University Course, equivalent to XII standard). Hardly 1.67 per cent of the respondents perceived degree and 0.83 per cent of them were postgraduates.
- Nearly two-thirds of the sample respondents belonged to the “Other Backward Caste” (OBC) (60.00%), followed by equal proportion of “Scheduled Caste” and “Scheduled Tribe” (14.17%) and 11.67 per cent of them belonged to “General Category”.
- The family type of the households has drifted towards nuclear system from joint family system. During the study period, nearly 61.67 per cent of the sample households were of nuclear type while the remaining 38.33 per cent were in joint family system.
- The average size of land holding of the sample respondents was 5.05 acres, of which 2.40 acres (47.61%) was rainfed land and 2.65 acres (52.39%) was under irrigation. The farmers were mostly dependent on rainfed farming in Tumkur district.
- Among several determinants of poverty at micro level, education (-0.0571) and land holding (-0.0345) were found negative and statistically significant, while the remaining five variables, namely, caste group, family type, religion, family size and asset value were found non-significant.
- In Bijapur district about 75 per cent of the respondents were above the normal food security status, out of which 15 per cent had high food security status. In Tumkur District about 78.34 per cent of the household respondents were above the normal food security status, out of which 19.17 per cent of the respondents had high food security status.
- In Bijapur district about 71.67 per cent of the respondents were above the normal nutritional security status, out of which 16.67 per cent had high nutritional security status. In Tumkur District about 70.00 per cent of the household respondents were above the normal nutritional security status, out of which 20.00 per cent of the respondents were high nutritional security status.
- Health status of household respondents in both Bijapur and Tumkur districts showed that there were five major temporary diseases, i.e., cough, cold, general fever, chicken gunya, typhoid and joint pain or back pain. The three relatively and predominantly found diseases in both districts for both male and female were diabetes, high blood pressure and heart related problems.

- Bijapur district had adopted better sanitary measures than Tumkur district. Regular usage of sanitary measures ranged from 4.17 per cent (sanitary napkins) to 97.50 per cent (washing clothes) in both the districts.
- Majority of the respondents of both districts followed agriculture (53.33%) as the main occupation and dairy (31.91%) as the subsidiary occupation.
- In both Bijapur and Tumkur districts, horticulture crops had obtained higher net income of Rs.88925 per annum per household followed by salary employment, field crops, business, dairy, sheep/goat farming and wage earning with a net income of Rs.49850, Rs.32300, Rs.29266, Rs.18300, Rs.10190, and Rs.8554 respectively.
- In general, majority of the household respondents in the study exposed to different shocks in which illness, poor production, wind damage and loss of livestock caused major problems for livelihood. Farm income saving, borrowing of funds, sale of personal household effects and eating less preferred food were the major coping strategies adopted by the sample respondents under crisis as well as adverse situation.
- Among all the sections of the society, same proportion (5.88%) were being affected regularly by food shortage in SC and ST category, followed by 5.56 per cent among OBC and none of the general category people was affected by shortage of food regularly during year.
- Among 120 respondents, majority (50.67%) of them adopted borrowing of funds regularly, but on the contrary, only 1.67 per cent of them migrated regularly to overcome poverty. Majority of the respondents who belonged to SC, ST and OBC borrowed funds regularly but it was not so in the case of general category who regularly saved from farm income (78.57%).

6.4 Policy Implications

Based on the findings of the study, the following policy recommendations are suggested:

- Poverty is the root cause of under-nutrition. Higher the poverty, lower the nutritional security and vice versa. Hence, in order to upgrade the nutritional status of the respondents in the region, effective poverty alleviation programmes involving transfer of productive assets instead of consumer goods to the poor respondents should be launched and monitored by the government and/or NGOs.
- Poverty is more in rural areas when compared to urban areas. So there is an urgent need to prepare comprehensive schemes that tackle poverty in rural areas on priority basis which would lower the percentage of rural poor population in India.
- Certain steps should be taken by government to create awareness among illiterate parents to send their children to schools through various initiatives that could contribute to country's prosperity. Educated population is believed to be free from poverty as they could earn their bread by availing jobs which could enhance the economic status of the educated families.
- Sanitary facilities need to be improved in the state by providing appropriate sanitary facilities under current operating schemes that would reduce cost of implementing new scheme.
- Mobile hospital facilities should be provided which should be intended to provide free health facilities to BPL card holders at their door steps. This could reduce the transaction cost of poor people, who in turn could spend it on purchasing food items enabling them to be nutritionally secured households.
- Government and/or NGOs should disseminate information on schemes and make mandatory to include in many schemes that would be aimed at providing employment opportunities to targeted population of India. This move of government would increase the economic status of targeted households and alleviate poverty in a phased manner.
- It was interest to note that higher the access to electricity in terms of electricity connections higher the poverty. In other words, higher density electricity connections (per

capita) are normally found in thickly populated areas or even in slums where poverty is on the high.

- Better access to safe drinking water and higher literacy would ensure better health and sanitation and hence reduce poverty through increased human labour productivity. Housing also had negative relationship with poverty. Thus more policy attention needs to be bestowed on these basic amenities to alleviate poverty.
- Regional imbalances have occurred over years in infrastructure development thus leading to deprivation of some facilities/necessities to some regions than others. Dr. Nanjundappa Committee has rightly brought out these issues in their report on Regional Imbalances in Karnataka. Hence, policy intervention is needed to correct this trend and pattern. Otherwise, this may lead to unrest amongst the masses, as it happened in the Telangana region of Andhra Pradesh.

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Appendix-1

UNIVERSITY OF AGRICULTURAL SCIENCES, DHARWAD
Department of Agricultural Economics, AC, Bijapur

Poverty in India and Karnataka: Estimation, Determinants, Vulnerability and Coping Strategies

Survey Schedule

Respondent No.:_____ Date: _____

Village: _____ Taluka: _____ District: _____

A. GENERAL INFORMATION

1. Name of the respondent: _____

2. Age (Years): _____ 3. Education: Illit / Pri / Sec / SSLC / PUC / Dip / Deg / PG

4. Category: SC / ST / OBC / GEN 5. Family Type: Nuclear / Joint

6. Religion: Hindu / Muslim / Christian / Others(Specify) _____

7. Type of house: Shed / Thatched / Tiled / RCC

8. Family size: Total: _____ Male:_____ Female: _____ Children: ____

9. Occupation#: Main: _____ Subsidiary: _____

B. FAMILY COMPOSITION

SN	Name of the family member	Sex (M/F)	Age (Yrs)	Relationship to respondent	Education (Yrs)	Occupation#
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

#Codes: 1=Agriculture; 2= Dairy, 3= Fishery, 4. Sericulture, 5= Poultry, 6=Mushroom, 7= Sheep farming; 8=Goat farming; 9=Petty business; 10=Farm wage earner; 11=Non-farm wage earner; 12=Monthly salaried (govt/pvt); 13=Others (specify)

C. BENEFITS UNDER GOVERNMENT PROGRAMMES

1) Are you a Ration Card holder? Yes / No
If Yes, what type? AAY / BPL card with LPG /BPL card without LPG/ APL / Other/ Nil

2) Are you a beneficiary under any Poverty Alleviation Programme of the Govt/ (GOK/GOI)/NGO? Yes/No

If Yes, give details:

SN	Name of the Programme	Year during which benefited	Benefit availed		
			Cash (Rs)	Kind	
				Item	Value
1					
2					
3					
4					
5					

D. LAND HOLDING AND USE PATTERN

RF / IR	Area (acres)				Land use			
	Own	Leased-in*	Leased-out*	Total	Field crops	Horti-culture	Permanent fallow	Others
Rainfed								
Irrigated+								
Total								

* If leased-in / leased-out, rent paid / received (Rs/acre): _____ (per season / per year)
+ If irrigated, source of irrgation: _____ (open well, borewell, tank, canal, others)

E. ASSET POSITION (As on 1st June 2013)

SN	Asset	Unit	Quantity	Mode of acquisition (P/A/G/L)#	Year of purchase/ creation/ acquisition	Present Value (Rs)
1	Land					
2	Buildings					
3	Vehicles					
4	Machinery					
5	Livestock					
6	Investments					

Code: P=Purchase, A=Ancestral, G=Gift, L=Lottery/Lucky draw.

F. SOURCES OF INCOME

SN	Activity	No. of HH Members engaged in				Net Income (Rs/year)				Over all Income (Rs/year)
		Adult		Children		Adult		Children		
		M	F	M	F	M	F	M	F	
(a)	AGRICULTURE									
1	Crop Production – Field/Seasonal									
2	Crops Prodn – Orchard/Plantation									
3	Wage earning (on others farms)									
4	Bullock labour hiring-out services									
5	Dairy (cows/buffalos)									
6	Sheep or Goat									
7	Poultry									
8	Fishery									
9	Forestry									
10	Mushroom									
11	Vermi-Compost (Vermiculture)									
12	Sericulture									
13	Nursery									
14	Others(Specify):									
(b)	NON-AGRICULTURE									
1	Wage employment (daily/weekly)									
2	Salary employment (monthly/yearly)									
3	Local agriculture labour									
4	Migration for Daily labour									
6	Rent out of land									
7	Religious services									
8	Business(Specify):									
9	Other(Specify):									

G. FOOD AND NUTRITIONAL SECURITY STATUS:

SN	Food Security Status	Tick	SN	Nutritional Security Status	Tick
1	High (+2)		1	High (+2)	
2	Above Normal (+1)		2	Above Normal (+1)	
3	Normal (BF, 2 Meals, Beverages) (0)		3	Nutritionally just secure (0)	
4	Below Normal (-1)		4	Below Normal (-1)	
5	Low (-2)		5	Low (-2)	

H. HEALTH STATUS OF THE HOUSEHOLD

SN	Illness	No. of members affected		Frequency	Cost involved to cure (in Rs)
		Male	Female	D/W/M/Y	
(a)	Temporary Disease				
1	Cough				
2	Cold				
3	General fever				
4	Dengue fever				
5	Chikunguniya				
6	Malaria				
7	Typhoid				
8	Cholera				
9	Anemia				
10	Scabies				
11	Small pox				
12	Back pain				
13					
14					
(b)	Permanent Disease				
1	Tuber Culosis				
2	Viral/ hepatitis				
3	Influenza				
4	Diabetes				
5	Blood pressure				
6	Heart problem				
7	Any other permanent				
8					
9					
10					

I. SANITARY MEASURES

SN	Sanitary measure	Availability (No.)	Usage (No / Often / Regular)
1	Toilet facility		
2	Bathroom facility		
3	Use of toilet soap		
4	Sanitary napkins		
5	Cleaning location		
6	Washing clothes		
7	Proper ventilation		
8	Hygienic food		
9	Using boiled water		
10			
11			
12			
13			

J. SOURCES OF DRINKING WATER

	Particulars	Availability (Tick)	Distance (km)	Average time taken in (min)	Cost involved (in Rs)
(a)	Main Sources of drinking water				
1	Public tap				
2	Tube well / borehole				
3	Protected / common well				
4	Rain water				
5	Water tank				

6	River				
7	Pond				
8	Un protected well				
9	Bottle water				
10					
(b)	Drinking water treatment method				
1	Using chlorine				
2	Boiling				
3	Filtration				
4	None				
5	Any other				

K. LABOR EMPLOYMENT AND WAGE EARNING PATTERN

SN	Activity	Daily			Weekly			Monthly			Yearly		
		M	F	Amt (Rs)	M	F	Amt (Rs)	M	F	Amt (Rs)	M	F	Amt (Rs)
(a)	AGRICULTURE												
1	Crop Production-Field/Seasonal												
2	Crops Production-Orchard/Plantn												
3	Farm wage earning (on others' farms)												
4	Bullock labour hiring-out services												
5	Dairy (cows/buffalos)												
6	Poultry												
7	Sericulture												
8	Fishery												
9	Forestry												
(b)	NON-AGRICULTURE												
1	Wage employment (daily/weekly)												
2	Salary employment (monthly/yearly)												
3	Business(Specify): a)												
	b)												
	c)												

Note: Wage rate for male Rs/day_____ Wage rate for female Rs/day_____

L. HOUSEHOLDS EXPOSED TO SHOCKS UNDER POVERTY & CRISIS CIRCUMSTANCES

SL	Type of shock	Once	Twice	More Twice	Regular
1	Shortage of food				
2	Illness				
3	Loss of livestock/poultry				
4	Poor production				
5	Flood				
6	Wind damage				
7	Dowry/wedding				
8	Excessive rainfall				

9	Drought				
10	Theft				
11	Death of household member				
12	Market fluctuation				
13	Cyclone				
14	At least one of the above shocks				
15	Simultaneous incidence of two or more of the above shocks				
16	Other specify				

M. COPING STRATEGIES ADOPTED BY HOUSEHOLD

SN	Strategy	Frequency of adoption	
		Regular	Often
1	Farm income saving		
2	Borrowing funds		
3	Migration		
4	Reducing number of meals		
5	Reducing quantity of meals		
6	Eating less preferred food		
7	Borrowing grain from others		
8	Diversification of activity		
9	Withdrawing children from school		
10	Selling livestock		
11	Sale of Productive asset (except livestock)		
12	Sale of Personal household effects		
13	Sale of firewood/ dung/ charcoal		
14	Participating in Govt programmes		
15	Other specify		
16			

Poverty in India and Karnataka: estimation, determinants, vulnerability and coping strategies

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ABSTRACT

The present study attempts to analyse the impact of different poverty alleviation programmes in India, documentation of different methodological approaches for measuring poverty in India, estimation of deprivation and inequality in human wellbeing, determinants of poverty at micro and macro levels and also to know vulnerability and coping strategies adopted by household under poverty condition in Bijapur and Tumkur districts of Karnataka State. The multistage random sampling technique was employed to select 120 respondents comprising equal number of landless, marginal, small, medium and large farmers of the study area. The study is based on both primary and secondary data. Primary data for the agricultural year 2012-13 were obtained from 120 farmers of Bijapur and Tumkur district. Secondary data were collected from the DES and other statistical sources in the state. Data were processed using tabular analysis, compound annual growth rate, regression function and deprivation index.

The present study revealed that, our Indian government has taken up various measures to overcome the problem of poverty by initiating different poverty alleviation programmes, but only a few programmes had made an immense impact in alleviating poverty directly or indirectly. Out of 27 districts, top 13 districts having least Deprivation Index lie in Southern Karnataka. This means that these 13 districts are the top ones in terms of highest Human Development Index and the bottom 11 districts having highest Deprivation Index or lowest Human Development Index belong to Northern part of Karnataka. Among several determinants of poverty at micro level, education (-0.0571) and land holding (-0.0345) were found negative and statistically significant, In general, majority of the household respondents in the study exposed to different shocks in which illness, poor production, wind damage and loss of livestock caused major problems for livelihood. Farm income saving, borrowing of funds, sale of personal household effects and eating less preferred food were the major coping strategies adopted by the sample respondents under crisis as well as adverse situation.