Contrasting Consumption Poverty with Asset Poverty: A Case of India

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Dissertation submitted in partial fulfillment of the requirements for the award of the degree of Master of Philosophy in Economics of the Jawaharlal Nehru University

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CENTRE FOR DEVELOPMENT STUDIES

June, 2012

I hereby affirm that the work for this Thesis, **Contrasting Consumption Poverty with Asset Poverty: A Case of India**, being submitted as part of the requirements for award of the degree of Master of Philosophy in Applied Economics of the Jawaharlal Nehru University, was carried out entirely by myself. I also affirm that it was not part of any other programme of study and has not been submitted to any other University for the award of any Degree.

June 30, 2012

Deepak Singhania

Certified that this study is the bona fide work of **Deepak Singhania**, carried out under our supervision at the Centre for Development Studies.

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Dedicated to the memories of
my father,
who continues to live
in all that is good of me...

Acknowledgment

I am relieved that space for such a section exists; for my dissertation would be incomplete without this. Personally, I feel that this is the most difficult part of my dissertation. This so, because of the extent of care required while expressing my sincere gratitude towards the generous and unrestrained support of those who are responsible in making my dissertation journey a soothing and an exciting experience.

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ABSTRACT OF THE DISSERTATION

Contrasting Consumption Poverty with Asset Poverty: A Case of India

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Various scholars, including Sen (1999), have argued that the households are likely to remain in poverty trap if they lack freedom to own, accumulate and effectively exchange the assets required for livelihood purposes. It is also true that in case of rural India the households are not free to own, accumulate and effectively exchange assets due to various lacunae in credit, land, labor and product markets. It has been hypothesized initially in this thesis that a large proportion of the Indian households, particularly rural, continue to remain poor because they lack relevant assets or the ability to exchange the ones they own; and in the later part of the thesis it is also substantiated that the predominant reason could be the inability to exchange the assets. A recently developed asset based approach for measuring asset based poverty is the precise answer to this kind of problem, and hence, has been used in this thesis. This approach divides the asset poor (non-poor) into structural poor (non-poor), i.e. those who are poor (non-poor) due to structural reasons like lack (sufficiency) of relevant assets, and stochastic poor (non-poor), i.e. those who are poor by chance or due to bad (good) luck.

A humungous amount of research on poverty in India is largely centered on consumption poverty. One of the reasons for this could be due to Indian policies being focused on provisioning to the households as a remedy instead of enabling. A stream of current debates on poverty have established that it is not sufficient to look at the vulnerable status of the households from the lens of consumption or expenditure alone, rather than evaluating the household assets alongside their ability to effectively exchange such assets in the open market for commenting upon their vulnerability. So, the main objective of this thesis is to add to this discourse on the need for an asset-based framework, besides consumption based framework for understanding poverty in India. This objective is fulfilled by identifying the households, who need enabling and not just provisioning, in the four Indian states, viz. Maharashtra, Uttar Pradesh, Orissa and Tamil Nadu. For this purpose, the Debt and Investment Survey conducted in the 59th round by NSSO has been used.

Overall, the results show that possibly the reason behind households being poor is not the just the lack of ownership of assets, but it is also because they lack the capability to exchange such assets in the market. Moreover, it is also found that the highest proportion of poor are found in those regions of the Indian states where human development or economic development is at its low. Although, in the absence of sufficient panel data, this study is limited to measuring static asset poverty, that is for one time period, from a policy perspectives it is strongly advisable to carry out a dynamic analysis of asset-based poverty. Following from the major results, and the limitations of this study, it is safe to conclude that in order to fight the problem of poverty the policy makers must equip themselves with sufficient data to successfully identify the households who are dynamically asset poor.

Key words: Asset poverty; consumption poverty; regional disparity; structural; stochastic

JEL: I32, P36, E21

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List of Abbreviations

CBO	Community Based Organization
CSO	Central Statistical Organization
DGCI&S	Directorate General of Commercial Intelligence and Statistics
DISE	District Information System for Education
EAS	Employment Assurance Scheme
FWP	Food for Work Programme
GSDP	Gross State Domestic Product
HCR	Head Count Ratio
HDI	Human Development Index
HH	Household
IAY	Indira *Awas Yojana*
IBA	Indian Banks' Association
IGOAPS	Indira Gandhi Old Age Pension Scheme
IRDP	Integrated Rural Development Programme
JGSY	*Jawahar Gram Samridhi Yojana*
JRY	*Jawahar Rozgar Yojana*
kms	Kilometers
MPCE	Monthly Per Capita Expenditure
n.d.	no date
NCEUS	National Commission for Enterprises in the Unorganized Sector
NDP	Net Domestic Product
NFBS	National Family Benefit Scheme
NGO	Non-government organization
NMBS	National Maternity Benefit Scheme
NOAPS	National Old Age Pension Scheme
NREGA	National Rural Employment Guarantee Act, 2005
NSAP	National Social Assistance Programme
NSDP	Net State Domestic Product
NSSO	National Sample Survey Organization
OBC	Other Backward Classes
OECD	Organisation for Economic Co-operation and Development

OLS	Ordinary Least Squares
PNB	Punjab National Bank
RBI	Reserve Bank of India
SATHI	Support for Advocacy and Training to Health Initiatives
SC	Scheduled Caste
SGRY	*Sampoorna Grameen Rozgar Yojana*
SGSY	Swarnjayanti Gram Swarozgar Yojana
ST	Scheduled Tribes
T.N.	Tamil Nadu
TISS	Tata Institute of Social Sciences
TPDS	Targeted Public Distribution System
U.P.	Uttar Pradesh
WHO	World Health Organization

1

Introduction

Consumption does not fall like manna from heaven. Households need to have freedom to choose strategies, which in turn depend on the assets they own, to earn a proper livelihood. These assets can also be only in form of labor as mentioned by Fields (2012). If a household lacks the required abilities to generate such livelihoods, then the government brings in its invisible hands to provide for such requirements. However, for the government too, resources don't fall like manna from heaven. It has to incur debt, which has to be paid back in various forms; not to mention the everlasting economic problem of limited resources. Hence, the government cannot, perennially, ensure the consumption needs of those below the poverty line. In such circumstances, it is in the best interest of all the three entities, i.e., the government, the tax payers and the beneficiaries, to move towards a system where the households become capable of generating their own livelihoods in an open market economy with kind of freedom mentioned by Sen (1999). For this reason, it is important to focus on the asset based poverty and not just the consumption based poverty.

In his seminal work Sen (1999) observes attainment of development only in the form of freedom for individuals. Freedom, according to him, means 'freedom from poverty, tyranny, poor economic opportunities, systematic social deprivation, and neglect of public facilities, intolerance or overarching repressive states'. Further, in the context of poverty, Sen (1999) argues that lack of substantive freedom leads to economic poverty.

In one other work, by Carter and May (2001), the main title reads 'One kind of freedom'. This work assesses the situation of poverty in post-apartheid South Africa using an asset based

approach[1]. The central idea of the series of work (Carter and May 1999 & 2001; Carter and Barrett 2006) is that in order to study the poverty trap faced by individuals or households it is necessary to incorporate the concept of asset ownership, ability to exchange such assets in the open market, ability to protect and insure in the events of uncertainties within the conventional framework of poverty based on consumption/expenditure,. To put it in Sen's (1999) words, the individuals or households are likely to remain in poverty trap if they face unfreedom to own, accumulate and exchange the assets required for livelihood purposes.

1.1 (Un)freedom in India

In the Indian context also various kinds of unfreedom exists in the rural economy which is similar to that of the apartheid situation of South Africa. These sources of unfreedom hinder the ability of the households to own, accumulate and exchange the assets required for livelihood purposes, and hence, in this way, the rural India is affected by a kind of virtual apartheid. Some of these prominent sources of unfreedom are inadequacy of credit markets, unprotected land markets, exploitative labor and product markets which are discussed below.

Since the Indian rural households lack adequate savings to finance farming and other economic activities, availability of timely credit at affordable rates becomes a necessary prerequisite for rural livelihood (Acharya 2006). However, the Indian rural credit market is confronted by several inadequacies and is highly insufficient (Acharya 2006; Satyasai and Patil 2002; Thorat 2005; Sharma 2010; Mohan 2004; Golait 2007; Ministry of Agriculture 2006). These studies have highlighted that the rural households face considerably higher rate of interests, do not get timely credit, and have to depend more on the informal credit markets in the absence of lack of access to formal markets which in turn makes them victim of different kinds of exploitations.

The rural land market is highly unproductive as well as unprotected. Various studies have shown that due to continuous marginalization of agricultural land and its shrinking size holdings, it is becoming unprofitable to invest in agricultural activities (Mishra 2006; Rawal 2008; Deshpande 2003). Other reasons that have been cited as roadblocks to better returns from agricultural land are in terms of rising cost of cultivation, poor irrigation facilities, untimely

[1] Prequel and sequel to the same situation analysis can be found in Carter and May (1999), Adato, Carter and May (2006) respectively

availability of required inputs, etc. Moreover, various lacunae in legally protecting the land by the state has also led to either encroachments of land, or it has resulted in landlords exercising the exploitative production relations and retaining control over landholdings through illegal means (Wadhwa 1989 & 2002; Mearns 1999; Appu 1996).

Indian rural labor market is affected by segmentation on account of gender, age, tribe and caste, and the differential wages alongside availability of quantum of work are neither determined by productivity nor the demand-supply situation of labor (Deshingkar and Farrington 2006; Chadha and Sahu 2002). There is also evidence of bonded labor or unfree labor in India owing to indebtedness and many other forms of contracts (Srivastava 2005).

The conditions of Indian rural product market do not favor the large proportion of cultivators. Lack of infrastructure, excessive regulatory framework and dominance of the unorganized sector restricts the farmers' freedom to sell their products and earn good returns (Acharya 2006; Rao 2004). Also, pricing and trade, particularly international trade, situations are adverse towards the farmers in rural areas (Ghosh 2005; Ministry of Agriculture 2006). Like the other three markets, that are credit, land and labor, in the product market as well, the farmers are under exploitative relations with the landlords.

These sources of unfreedom to effectively utilize assets lead to the failure in accumulation which is one of the likely reasons behind persistence of poverty. With this background, the present work adopts the idea of asset based poverty approach proposed by Carter and May (1991 & 2001) and Carter and Barrett (2006) to diagnose the Indian poverty situation.

1.2 Asset Based Poverty in Indian Context

Incidentally, a whole lot of the studies in India have been centered on consumption poverty. However, livelihood of a household strongly depends on the assets owned by it (Sen 1981; Carter & May 1999). So, the present work looks at poverty in India from an alternative perspective of assets as against the common consumption based assessment of poverty. Hence, the prime departure of this work against the humungous amount of research on poverty in India, lies in examining asset based poverty of the Indian states which is rare excepting the one by Naschold (2009).

Capability comes from the assets owned by households. Assets can be either tangible, like land, production units, animals, etc., or they can be non-tangible, like human capital, and also

social capital. Households strategically use their assets in the market to generate the required livelihoods. A household lacking the required assets to convert into its consumption requirements is asset-poor. It is possible for a household to be both consumption poor as well as asset poor. It is also possible that the household falls in either of these categories or even neither. Since assets become crucial in deciding the consumption status of a household, it is important to have a distinction of an asset poor from a consumption poor. In essence, vulnerability of a household depends more on the nature of its asset poverty than on the consumption poverty, because it is the asset poverty that leads to consumption poverty.

Unfortunately, as already mentioned, works on poverty in India lacks discussion on asset based poverty. It is but obvious that the skewed focus on understanding poverty from a consumption perspective is conditioned by the primary aim of a society being towards ensuring some minimum standard of living for its citizens. As a result, the pro-poor policies in India are designed to make provisions through various programs, whose major objective is to cater to the consumption needs of the poor and not enable the poor to get out of poverty. Hence there has been concerted effort regarding identification of those poor whose consumption needs are to be satisfied, but there is hardly any attempt at identifying deficit in enabling conditions, in terms of institutional or infrastructural support, to move out of poverty through self-motivated strategies. Another problem in assessing asset based poverty is lack of appropriate data on asset holding in India[2].

1.3 Research Questions and Objectives

With the above pre-text, the research questions raised for this thesis are as under:

1. Is there an overlap of consumption and asset poverty in Indian states? If yes, what is its extent?
2. Does asset poverty exist due to lack of assets or due to lack of ability to use the available assets efficiently?

[2] It is important to mention here that precisely for the reason of lack of appropriate data, this thesis is limited to analyzing static asset poverty, and does not study the dynamic asset poverty. This is discussed further in Chapter 3 of this thesis.

3. What are the possible policy measures to move extremely poor or stochastically static poor[3] out of poverty trap?

Addressing these set of research questions lend us the following objectives:

1. To add to the discourse on the need for asset based framework as an alternative to consumption based framework to understanding poverty in case of India.
2. To identify the poor households who need enabling and not just provisioning.
3. To identify the asset ownership nature of the extremely poor.

1.4 Chapterization Scheme

The thesis is further divided into five chapters. Second chapter reviews the literature while moving from development of consumption based poverty to theory of asset based poverty. The analytical framework and the type of data used are presented in third chapter. The fourth chapter attempts at fulfilling the second and third objectives by identifying the households, who need enabling and not just provisioning, in four Indian states, viz. Maharashtra, Uttar Pradesh, Orissa and Tamil Nadu. Fifth chapter does a comparative analysis of the results obtained in the fourth chapter. Sixth chapter concludes the thesis with some suggestions on the policy measures.

[3] Stochastically static poor are those who are both consumption poor as well as asset poor. For further clarity please refer to Chapter 3 of this thesis.

2

Theory behind Asset based Poverty: A Literature Review

The most basic problem stated in economics is the problem of limited resources. Another problem is inefficient allocation of the available resources. Food is limited because the population is rising faster than the rise in agricultural produce, and also due to various other reasons. Moreover, only one-third of the earth is land, so limited space to create enough houses for the rising population. Modern technologies, industrialization, urbanization, etc., have given rise to the problems of pollution, corruption, global warming, etc. In some spheres life has been made easier, but at the same time cost of acquiring necessities like health and education has escalated. In fact, overall cost of living particularly in the developing world is quite high (Chen and Ravallion 2008), which further strengthens the scarcity of resources. Such problems of scarcity can be seen in almost all the arenas of life of a human being. Nothing is abundant and whatever is available is not efficiently distributed which leads to many living under poverty[4].

The quantitative study on poverty was started, academically, by Booth (1889) and then by Rowntree (1901). For many years, poverty was diagnosed from the ambit of income. It was assumed that an individual or a household requires a certain minimum level of income to earn such necessities which broadly included food, clothing and shelter that would keep them out of poverty.

However, with further studies on poverty it was later argued that income is not sufficient to understand poverty. It is quite possible that the available income is not used efficiently to consume the basic necessities- food, shelter and clothes. It is also possible that these necessities are not available easily to acquire despite the fact that there is money to buy them.

[4] As of 2005, about one-fourth of the world population, that is 1.4 billion people, lived below the international poverty line of $1.25 a day in 2005 prices (Chen and Ravallion 2008).

Studies on poverty based on income have also been questioned because the data on income are not considered reliable. Usually, questions on income are not well-answered due to various reasons. Sometimes, it also becomes difficult to assess the sources of income and collate them in one figure. Moreover, there can be different types of income, real as well as monetary. In such case it is complex to convert income in real terms into monetary terms.

For various limitations with income based poverty measurement, from 1960s and 1970s studies on poverty started shifting focus to consumption instead of income (Moser 2006). With the World Bank reports of 1990 and 2000 a strong emphasis was given to diagnose and approach the problem of poverty from consumption aspect.

Various modifications were made to estimate the consumption poverty accurately. Officially, the World Bank report of 1980s and 1990s added the elements of education and health to basic consumption that earlier comprised only of food, clothing and shelter. Also, while moving beyond estimating just the one-time period consumption poverty, that is static poverty, efforts have been made, using the longitudinal data, to measure the dynamics of consumption poverty in order to distinguish between the chronic poor and transitory poor.

Lately it has been realized that even the poverty measures based on consumption are not sufficient. Both, income and consumption based measures are insufficient in explaining poverty because they are the means of achieving the ultimate ends and not the ends[5] in themselves (Hulme and McKay 2005). In his path-breaking work, Sen (1981) claims that poor are those who share common income claiming strategies or "entitlements", and not just income (or consumption).

Sen has argued that poor should not be identified by what they have consumed or earned, rather by the capabilities they have to exchange the entitlements they are endowed with. Poor are those who are vulnerable to risks and shocks arising from uncertainty. Those, who can, through self-motivated strategies, move out of poverty in certain time are not vulnerable. Sen (1981), and further Chambers (1992 and 1994), gave rise to new angle of understanding poverty that included concepts like assets, vulnerabilities, capabilities, endowments, risk and insecurity.

Picking up on these new ideas of poverty, Carter and May (1999) initiated to put up the analytical framework to understand the capability of a household through an asset based

[5] The ends here refer to aspects like avoiding premature mortality or an ability to live with dignity in community, which is also reflected in Sen (1990)

approach. The idea of Sen's entitlement mapping, which can also be called livelihood mapping according to Carter and May (1999), is summarized in the figure below.

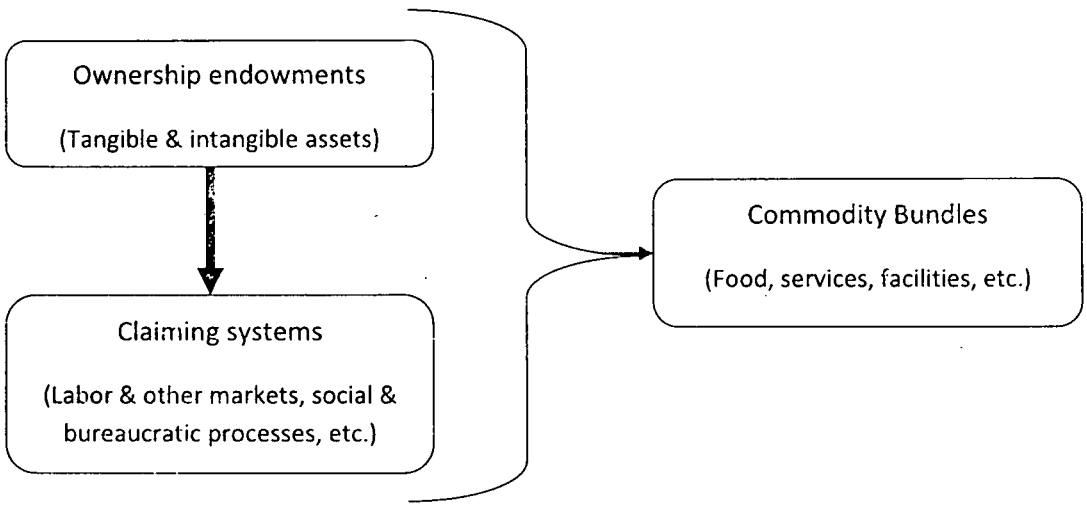


Figure 2.1: Sen's Entitlement Mapping or Carter and May's Livelihood Mapping

The above figure shows that households own certain endowments and what they finally earn, in form of various commodity bundles, depends on the claiming systems available to them. Using this framework, the methodology for the construction of asset indices has been worked out in a series of work by Carter and May (1999 & 2001) and Carter and Barrett (2006)[6]. Before moving ahead to discuss this methodology, in simple terms, it is important to first understand few basic concepts.

2.1 What is an Asset?

Asset is something that not only helps in generating livelihood, but also provides protection against risks and uncertainties, thereby making someone invulnerable. Assets can be both tangible as well as intangible.

According to Moser (2006), "asset is the stock of financial, human, natural or social resources that can be acquired, developed, improved and transferred across generations. It

[6] Though there are two other methods of constructing asset indices, one by Filmer and Pritchard (1998) that uses principal component analysis, and the other by Sahn and Stifel (2000) that uses factor analysis, these methods have been criticized, see for example Liverpool and Nelson (2010), and hence have not been preferred for the purpose of this study.

generates flows or consumption as well as additional stock. In the poverty debate, the concept of assets or capital endowment includes both tangible and intangible assets."

On similar lines of thought, for Carter and Barrett (2006) asset broadly includes conventional, privately held productive and financial wealth, as well as social, geographic and market access position that confer economic advantage.

2.2 Why an Asset Based Approach to Understanding Poverty?

The asset based approach is helpful in explaining the poverty dynamics and mobility (McKay and Perge 2011; Barrett and Carter 2012). As it can be seen in Figure in the Appendix to this chapter, the asset based approaches to poverty comprise of the third and fourth generation of approaches that help to distinguish the poor and non-poor into structurally and stochastically poor and non-poor (Carter and Barrett 2006).

Commonly used poverty concepts tell us relatively little about how and why those identified as poor are poor (Carter and May 1999; Chiwaula et al. 2011). In 2001, Carter and May reiterated that consumption based poverty concepts confuse distinct sorts of poverty and in particular are unreliable guide to a number of households caught in a poverty trap.

In contrast, highlighting the role of assets Liverpool and Nelson (2010) argue that assets reflect productive capacity, and hence, are better mode for understanding poverty. Considering the dynamic nature of assets, Hulme and McKay (2005) argue that assets capture longer term dynamics better than a measure of income at one or two points in time. Another benefit of assets is that it is less subject to fluctuations in short to medium term, compared to consumption or income. So, flow measures such as consumption or income are more prone to measurement error than stock variable (Barrett et al. 2006; Woolridge 2002).

According to Sen (1999) assets or the ability to earn from assets decide the freedom to live. Moreover, besides generating income, assets also represent wealth and status, and it offers social security in form of protection against shocks and gaining easier access to credit (Hulme and McKay 2005). Even Barrett et al. (2006) suggest that productive assets can be used for generation of livelihood and also work as collateral for expenditures based on credit.

Naschold (2009) has listed three reasons for estimating household welfare and poverty through asset holdings. First, economic well-being of a household is dependent on its stock of assets. Second, asset level fluctuate less from day-to-day than income and thus are closer to the

measure of structural well-being. Finally, surveys tend to measure asset holdings more accurately than income or consumption.

Neither of the consumption based measures, whether static or dynamic, is designed to separate out a stochastic or a temporary nature of poverty from a structural one, which is crucial for target intervention. Asset based approach to poverty is helpful in distinguishing between stochastic and structural nature of poverty. This measure creates a line between those who became poor or non-poor stochastically, i.e., out of sheer luck, and those structurally, i.e., for not having adequate assets. The basic idea is that if a poor household lacks assets to remain above consumption poverty line, and if, in a particular year this household becomes non-poor, due to some good luck (say, some transfers from a relative), then this type of transition from poor to non-poor status is stochastic in nature. But, if this household moves above the consumption poverty line because of improvement in relevant assets, then it is a structural shift. This is important from a policy perspective, because, those who are stochastically poor are likely to move back to the non-poor position and hence don't need policy intervention, unlike those who are structurally poor. The same applies to stochastically and structurally non-poor as well.

Dynamically, it is possible that a section of households remain persistently poor or in poverty trap because of shortfall in minimum required assets. It is also possible to identify such asset poor households who have sufficient asset base to move out of poverty, within some time through self-motivated strategies. Dynamic asset poverty measure draws a line (known as Micawber threshold) between those structural poor who are likely to persist in poverty trap and those who can, through various economic strategies, become asset non-poor in some time-period. The ones who are in the poverty trap need a big push to move out of it because they lack relevant assets to even feel motivated to adopt to the strategies that will bring them out of this poverty trap. Theoretically then, those who are in poverty trap are a subset of the set of structurally poor.

2.3 Theoretical Framework for Asset Based Poverty Approach

Theoretical framework towards asset based poverty approach is introduced in the literature by Carter and May (1999), and then taken forward to develop it further in Carter and May (2001), Carter and Barrett (2006) and Adato, Carter and May (2006).

In Figure 2 below, the vertical axis measures utility of a household which is a basic money metric measure. The horizontal line BP indicates the minimum level of utility (based on

consumption) that divides poor from non-poor. In other words, this is the consumption poverty line. Assets accessible to households are measured on the horizontal axis[7]. The assets are defined in terms of both tangible (land, livestock, etc.) and intangible assets (human capital and social capital). Now suppose that a household's livelihood function is shown by the curve EF which tells that at point L the household is exactly on the consumption poverty line BP. The vertical line AL′ cutting at this juncture is the level of asset that separate out the people into two group of asset poverty status: poor and non-poor. The household at point C is non-poor in terms of consumption but poor in terms of asset holding by it. We can, therefore, term this household as stochastically non-poor, since it is likely to move back to C′ and be caught in poverty because it does not hold sufficient assets to persist at point C. Similarly, a household at point D can be termed as stochastically poor (for some bad luck) and is likely to move to D′ and get rid out of poverty with the assets it owns. A household at the point C′ (D′) is structurally poor (non poor) because the household does not (does) have adequate assets to be non-poor.

Within the structurally poor there are those who can do away with poverty, with time, while adopting some accumulation strategies, and there are also those who cannot move out of poverty on their own, because of lack of sufficient assets and remain in a poverty trap. This poverty trap is denoted by Micawber threshold in Figure 2.

Adding up the present value of all the future poverty lines for the household we can get a dynamic poverty line like B′P′ which is naturally above the line BP. Similarly, adding up the present value of likely future livelihood strategies of the household we get a curve GH above the present livelihood curve EF. Micawber threshold cuts the juncture of the dynamic poverty line B′P′ and the curve GH and a household presently lying below this threshold is in a poverty trap. Micawber threshold is the lower level equilibrium, and the households scattered around this threshold are likely to move towards this lower level equilibrium. It is this section of poor household that needs a big push to enable them to move at least to the position (between A′ and A) from where they can, on their own, come out of poverty by breaking the lower level equilibrium trap.

Static asset poverty can be easily estimated using a cross sectional data set. But for the dynamic asset poverty, as can be easily understood, longitudinal data is required. Unfortunately,

[7] For the time being let's assume that different types of assets can be combined into one unit, which is actually done later in this thesis through an asset index.

such a data panel with relevant assets and consumption information is not available at state level in India. Therefore, we have confined ourselves to study the static asset poverty only.

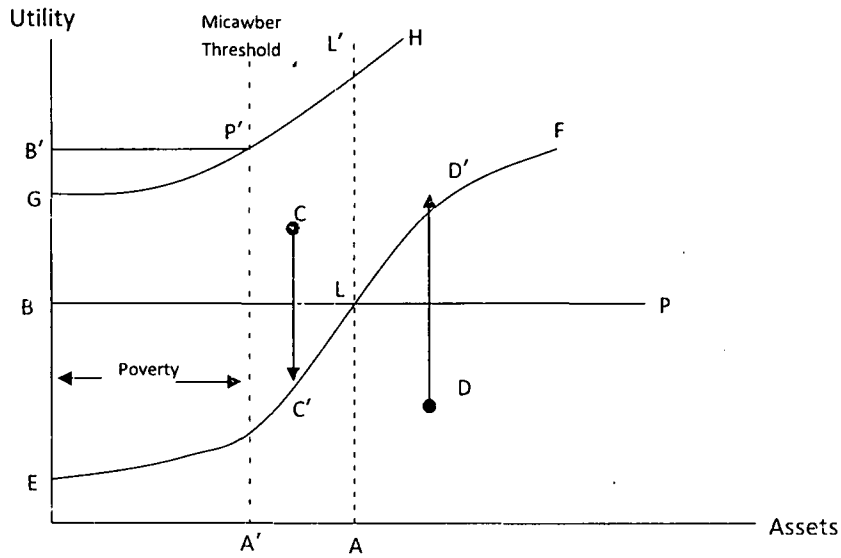


Figure 2.2: Static and Dynamic Asset Poverty Lines

2.4 Applications of Asset Based Poverty Approach

The first effort to look for multiple equilibria in order to identify the poverty trap was made by Carter and May (2001). They conclude that significant numbers of South African households are in poverty trap. Similarly, Adato et al. (2006) has estimated the patterns of asset dynamics in South Africa for the period 1993-98. Their finding is that 'households that begin with an asset base expected to yield a livelihood less than two-times the poverty line are predicted to collapse toward a low-level poverty trap with an expected standard of living equal to 90 per cent of the South African poverty line. Households that begin above that threshold are estimated to advance over time.' In case of Ethiopia, multiple equilibria have been found by Liverpool and Winter-Nelson (2010). Their findings strengthen the case for the need of asset based measure in more seriously targeting poverty interventions.

In India, asset based poverty measure has been used in only the recent study of Naschold (2009), at the best of our knowledge[8]. Naschold (2009) has tested the existence of poverty trap

[8] The recent study of Dutta (2011) also deals with asset based poverty issues in India. Unfortunately, however, it lacks latest methodological development in the literature. Moreover, the asset poverty line seems to be chosen on some ad hoc basis and, therefore, we do not discuss it in details.

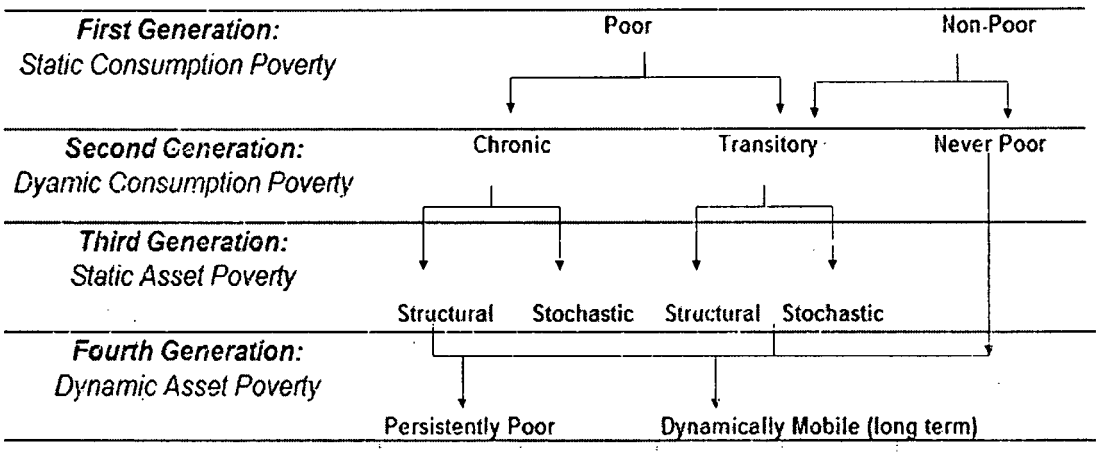
for three villages, one from Andhra Pradesh and two from Maharashtra. Using such village level panel data for a period spanning across 27 years from International Crop Research Institute for the Semi-arid Tropics' this study concludes that households' asset holding are stagnant over time. In other words, poor stay poor and non-poor stay non-poor. No multiple equilibria were found. So, poverty traps in these villages are due to structural reasons and not because of existence of multiple equilibiria. Moreover, 'higher castes, larger landholders and more educated households are significantly less likely to be poor'.

So, a part of literature has found the existence of multiple equilibria, and there are also such works that have found no multiple equilibria. Naschold's (2009) finding in India is similar to the one which he found in his study of 2005 on Pakistan and Ethiopia. There are yet another set of studies (McKay and Perge 2011; Jalan and Ravallion 2001) that have found no evidence of poverty traps, whatsoever.

Breaking the trend of estimating asset poverty in just one country, McKay and Perge (2011) have used the technique of factor analysis for five countries, viz., Bolivia, South-Africa, Tanzania, Uganda and Vietnam. They have not found any evidence of a poverty trap in these countries. Their paper raises serious questions about whether asset poverty trap applies in many cases.

All the studies discussed above have used longitudinal data to estimate the asset based poverty. However, like our study, Chiwaula et al. (2011) have used cross sectional data in Cameroon and Nigeria. They observe different section of poor in form of structural and stochastic poverty. Apart from agriculture and livestock, fisheries were an important productive asset used in their analysis. However, the central theme of their study was not to estimate an asset index per say, but an effort to understand the reasons behind probability of poor being vulnerable in South Africa and the elements of enquiry being the assets.

A.2.1 Appendix



Source: Carter and Barrett (2006)

Figure 2-A: A shift in the studies of poverty

3

Methodology and Data

3.1 Analytical Framework

Liverpool and Winter-Nelson (2010) proposed an analytical framework while following the theoretical framework guiding the asset based poverty presented in Carter and May (1999), Carter and Barrett (2006) and Mogues (2006). The framework proposed by Liverpool and Winter-Nelson (2006) was developed from the one suggested in Adato, Carter and May (2006). It involves the estimation of the following relationship:

$$L_{ivt} = f(A_{ivt}, H_i, D_v, D_t) \qquad (1)$$

where L_{ivt} is the poverty line adjusted consumption expenditure of household i in village v at time t. In other words, if $L_{ivt} = 1$, then the household is exactly on the poverty line, $L_{ivt} < 1$ implies that the household is poor and $L_{ivt} > 1$ means the household is non-poor. A_{ivt} is the asset owned by household i at region v in time t. In order to control for other variables, several dummies are included since assets may respond differently for different kind of households. Level of education of the head of a household or the location of it may be responsible for such variation. H_i is the dummy that captures household characteristics, the dummy D_v captures regional effects and D_t is the time specific dummy. One important point to note here is that the above equation includes two important, namely location and time-specific, characteristics which we denote putting the subscripts v and t respectively. Although it is written in panel data framework, due to unavailability of such data we confine ourselves to only cross-sectional analysis in our study. Moreover, due to the kind of information available, village specific component is replaced with region specific component to get our final framework as under:

$$L_{ir} = f(A_{ir}, H_i, D_r) \qquad (2)$$

Since returns from an asset may also depend on the presence of other assets—say, for land and cattle animals, our strategy to estimate equation (2) considering asset interaction terms as well and, therefore, we have chosen the transcendental logarithmic (i.e., the well known *translog*) version of implicit relation (2) as our explicit form. It also takes into account the rate at which returns from assets are derived. Thus, the asset index is given by the estimated value of equation (2) is specified as follows:

$$\Lambda_{ir} = \sum_{j} \hat{\beta}_j (A_{ijr}) + \sum_{j} \sum_{k} \hat{\beta}_{jk} (A_{ijr})(A_{ikr}) + \hat{\gamma}_i H_i + \hat{\gamma}_r D_r \qquad (3)$$

The asset index Λ_{ir} is in poverty line units. Since equation (2) is estimated in translog form, Λ_{ir} divides the poor from non-poor at $\Lambda_{ir} = 0$. So, $\Lambda_{ir} < 0$ represents poor and vice-versa.

It is important to mention here that the main objective of equation (2) is to estimate the asset index, and not to worry about the signs and the magnitude of the estimated coefficients obtained.[9] However, we discuss the regression results also, particularly for the important regressors.

3.2 Marginal Effect

To obtain a clear cut picture at the effect of an asset on the scaled consumption expenditure of the households, the marginal effect of each of them is analyzed. As it can be easily understood, this is done by taking the first differential of equation (2) against the respective asset. Such an analysis is extremely important for the simple reason that considering merely the estimated coefficient of an asset may be misleading, since its interaction effects with the other assets will remain left out in that case.[10]

[9] Naschold (2009) has also pointed out this.
[10] Mind that, we have considered translog form for constructing our asset index.

3.3 Consumption Vs Asset Poor

A crosstab between the asset poverty status of the households and their consumption poverty status has also been done in order to bifurcate the households into the four type of poverty status discussed in chapter 2, i.e., structurally poor, structurally non-poor, stochastically poor and stochastically non-poor[11]. Such an analysis will give us a mapping of the following type:

Consumption versus Asset Poverty		
	Consumption Non-Poor	**Consumption Poor**
Asset Non-Poor	STRUCTURALLY NON-POOR	STOCHASTICALLY POOR
Asset Poor	STOCHASTICALLY NON-POOR	STRUCTURALLY POOR

The analysis is also done regionally to have an idea whether regional pattern of economic and/or human development is also important in the asset poverty status of a household.

3.4 Profiling Structurally (or, Extremely) Poor

To fulfill our third objective (as indicated in the introductory chapter), a profile of the structurally or extremely poor households is made according to the type of households and the type of assets they own. This kind of analysis will tell us whether a household is poor for lacking adequate assets or its inability to exchange them.

3.5 Data

As we have already discussed, analysis of longitudinal data is ideal to study the asset poverty status of the households. However, such data across different states of India is not available. Hence, we have used single period cross-sectional data in our study. Needless to say, it limits us to study a variety of important aspects of households' asset poverty status, which we have elaborated in the Second chapter.

[11] As we have already mentioned, we consider only the static analysis in our study.

We have used the 59th round of National Sample Survey Organization (NSSO) data on Debt and Investment Survey conducted in 2002-03. We have done our analysis only for rural areas. In the survey, information was collected on assets owned by households. The assets, for which data is available and, therefore, we use in our analysis, are lands, buildings, animals, tools and equipments used for farming as well as non-farming activities, transport equipments, other durable assets, and financial assets. The information on both quantity as well as value for these assets is available. For our analysis, value of the assets is considered. In rural areas, household members are engaged in a variety of activities which need not always be an economic activity. However, engagement of some members, like children and women in unpaid household activities, may help and promote other adults better engaging in economic activities. To account for differentials on this count, household composition is categorized in terms of children, working adults and elderly to be treated as human capital.

A measure of household well-being, in terms of its monthly per-capita expenditure (MPCE), is also available in the database, but we do not directly use it. Instead, we modify this indicator keeping up with the size and composition of the household members for robust representation of the status of household well being. For MPCE, adjustments in household size have been made to ensure the scale equivalence among the households (Sen 1981; Srivastava and Mohanty 2010). Household size has been adjusted for household composition to take into account different types of members of the household, like adult and children. Adjustment has also been made for the scale efficiency since an additional member does not lead to equal amount of additional expenditure. The final adjustment for composition and scale efficiency has been made using OECD-modified scale[12] (OECD n.d.).

The poverty line for an individual is chosen arbitrarily, instead of an official one. Official poverty line has been under debate, and various alternative poverty lines have been proposed (Deaton and Kozel 2005; Schreiner 2006). In 2005, as per the official poverty line by the Planning Commission of India, national poverty head count ratio (HCR) was 27%, as against which, according to upgraded $1.25 and $2 poverty line standards of the World Bank, the HCR was 41.6% and 75.6% respectively. Moreover, the Asian Development Bank standard poverty line of $1.35, estimated the HCR to be at around 60% (Chen and Ravallion 2008; Himanshu

[12] OECD-modified scale assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child.

2008). In order to avoid such disagreement encompassing the poverty line, the median consumption expenditure is taken as the poverty line for the purpose of our analysis. Thus, we have arbitrarily assumed that 50% of the population is below the poverty line.[13]

[13] Justification for such poverty line can also be given by the argument that it is near the average of Planning Commission poverty line and World Bank's $2 poverty line; also closer to World Bank's HCR estimate using $1.25 as the poverty line.

4

Contrasting Consumption Poverty with Asset Poverty in Four Indian States

India is primarily a rural economy with 70% of its population being rural residents and a large majority of them engaged in agricultural activities. As is already discussed in the introductory chapter, various roadblocks pertaining to all the markets for land, labor, credit and product adversely influence the gainful returns for a large number of marginal and landless farmers; and a huge chunk of the gains remain in the hands of few. The incapability of the households to utilize their assets efficiently or to accumulate assets sufficiently is not only limited to the four markets, but goes beyond them as well.

In this chapter, while contrasting consumption poverty with asset poverty, we pretext our discussion with a brief understanding of the situation of households in rural India. For the ease of representation and coverage, we have chosen four states only, one from each region. To be specific, Maharashtra, Uttar Pradesh, Orissa and Tamil Nadu are chosen to represent respectively the Western, Northern, Eastern and Southern part of the country.

The basis for choosing these four states for analysis is their poverty and population share in the respective regions and, understandably, poverty share is chosen to be the obvious primary criterion. Tamil Nadu is chosen for its highest poverty share among the southern states as indicated by the Tendulkar Committee Report (2009). Further, it has the second highest rural population share in the region according to the Government of India (2001). Similarly, Orissa is chosen to represent the east for its poverty share not only among the eastern states but for the country as a whole. Uttar Pradesh is representing the north on account of its large rural population share. Maharashtra is chosen for its highest poverty as well as population share in the west. For this reason and for simplicity and centricity of the discussion we consider Maharashtra

to be the focus state in this chapter with a discussion of the other three states in adjunct boxes for each of the respective sections.

Following a briefing on each state, the discussion moves on to establish the regional disparity aspects of the four states, since the assets strongly respond depending on the region of its operation. This will be followed by characterizing the asset ownership in each region and then the proposed task of identifying asset poverty and contrasting consumption poverty with it will be done. The chapter will be concluded with a profile of the most vulnerable classes.

4.1 A Brief Introduction on Each Chosen State

Maharashtra

Maharashtra, geographically a Western state, covers an area of about 308 thousand square kilometers. It comprises of 35 districts with a population of about 96.8 million, which accounts for approximately 9.5% of overall India's population.[14] It has five geographic regions, namely Konkan, Western Maharashtra, Northern Maharashtra, Marathwada and Vidarbha which form popularly known divisions of Konkan and Mumbai, Pune, Nashik, Aurangabad and Nagpur and Amravati respectively. These five regions have been re-clubbed into four for the purpose of our study, namely, Konkan-Mumbai, Pune-Nashik, Marathwada and Vidarbha.[15]

Uttar Pradesh (U.P.)

U.P. is the largest state in India, both in terms of geographical coverage and population. It is spread over an area of about 241 thousand square kilometers and having about 166 million, approximately 16.15% of overall Indian, population. It is divided into four administrative regions, namely Western, Central, Eastern and Southern with 26, 10, 27 and 7 districts respectively.

Orissa

Orissa is an Eastern state of India with a coastline of about 450 kms. It has the highest proportion of poor in India (as per the Tendulkar Committee Report 2009). Orissa extends over an area of around 155 thousand square kms comprising of 30 districts with a population of around 36.7 million sharing approximately 3.57% of overall India's population. For our study we divide it into three regions namely Coastal, Northern and Southern Orissa.

[14] For population figures, we follow Government of India (2001).
[15] For this study, regional division for each state follows that of NSSO (2006) *All-India Debt and Investment Survey*

Tamil Nadu

Tamil Nadu is the southernmost state of India and a large part of it is also coastal region. It is spread over an area of about 130 thousand square kilometers. It is divided into 30 districts with a population of approximately 62.4 million that amounts to about 6.12% of India's total population. The state is divided into four regions, viz., 1. Northern Coastal, 2. Coastal, 3. Southern, and 4. Inland.

4.2 Regional Dimension of the Four Selected States

Maharashtra topped in its contribution to India's Net Domestic Product (NDP), about 15% in 2010 (RBI 2011).[16] However, it has its own regional disparity in terms of contribution to Maharashtra's Gross State Domestic Product (GSDP). Table 4.1 shows a comparison of the population share against GSDP share of each of its regions. Mumbai-Konkan contributes the most to GSDP followed by Pune-Nashik, whereas Marathwada contributes the least followed by Vidarbha. However, when this GSDP share is compared with the corresponding population share, the regional contribution is disproportionate. Such disproportionate representation is most in Mumbai-Konkan followed by Pune-Nashik, while Marathwada and Vidarbha come third and fourth respectively.

Table 4.1: Population and GSDP shares for Regions in Maharashtra

Regions	Share of Population (I)	Share in GSDP, 2008-09 (II)	Ratio of Col.II to Col.I
Konkan-Mumbai	26%	38.4%	1.48
Pune-Nashik	37%	36%	0.97
Marathwada	16%	10%	0.63
Vidarbha	21%	15.6%	0.74
Total	**100%**	**100%**	**1**

Source: Calculate by author using Government of Maharashtra 2010

Table 4.2 presents further evidence of regional disparity in Maharashtra in terms of ranking of Human Development Index (HDI) across districts of different regions. In Mumbai-Konkan region, all but one is in the top HDI ranking. Pune-Nashik stands more or less same like

[16] Although RBI is not the official authority to release basic macroeconomic data for India, it collects all the data from the respective official authorities, say for instance, basic macroeconomic data from the Central Statistical Organization (CSO), international trade related data from the Directorate General of Commercial Intelligence and Statistics (DGCI&S) and so on. Since we get data of various such dimensions under a single umbrella of RBI website, we consider it as the source of our official figures.

Mumbai-Konkan as it has the same numbers of districts in the topmost HDI range, followed by four districts in second range and one in the third range. Marathwada and Vidarbha, on the other hand, are the lowest performers in HDI since none of the districts of these regions qualify to be in topmost HDI range. In fact, Vidarbha is the worst, since it has the highest number of districts in the lowest range. In an earlier study, however, Shaban (2006) has shown that Marathwada is worse than Vidarbha in terms of economic development, while Mumbai-Konkan and Pune-Nashik region hold first and second position respectively.

Table 4.2: No. of Districts in HDI Ranking Range for Regions in Maharashtra

HDI Ranking→ Regions↓	1 to 10	11 to 20	21 to 30	31 and above
Konkan-Mumbai	5	0	1	0
Pune-Nashik	5	4	1	0
Marathwada	0	3	4	1
Vidarbha	0	3	5	3

Source: Same as Table 4.1

Further, Shaban (2006) has also reiterated that about half of the Net State Domestic Product (NSDP) is contributed by four highly urbanized districts only, i.e., Mumbai, Thane, Pune and Nagpur. His results also show that about three-fourth of the net state income comes from Mumbai-Konkan and Pune-Nashik regions.

Discussion on such regional aspects of the remaining three states is provided in Box 4.1 below.

Box 4.1: Regional Dimension of U.P., Orissa and Tamil Nadu

Uttar Pradesh

U.P.'s contribution to India's NDP is almost half of its population share in India at around 9% (RBI 2011). The share in NSDP at regional level is given in Appendix for U.P. (Table UP.1). Western region contributes the highest share, followed by Eastern region and Central region, and the contribution by Southern region is the least. This regional pattern changes when the NSDP shares are compared against the population share. The last column shows that Western region enjoys the highest share of NSDP and Eastern region the lowest. NSDP share for Central and Southern region is more or less equal to their share of population. In terms of human development too Western region is in the top (Table UP.2), followed by Southern region and

Central region. Eastern region seems to experience the least human development with more than 50% of its districts lying in lowest two ranges. These preliminary findings matches with Diwakar (2009) which shows that the Western region to be the most developed region and Eastern region being the least developed one.

Orissa

Orissa contributes only about 2.61% to India's NDP (RBI 2011). Table OR.1 in the Appendix for Orissa gives further break up of regional contribution to Orissa's NSDP. This table also provides the regional share of the population. Following from the third column, in coastal and Southern Orissa, the share of population is marginally lesser than the share of NSDP by these regions, and for Northern Orissa it is marginally higher. So, regional share in economic achievement of the state is almost equal to their share of population.

From table OR.2, it is clear that Southern Orissa is the lowest in terms of human development, since six out of its eight districts belong to the lowest ranking of human development. However, a similar comparison between coastal and Northern Orissa is difficult.

Following from the analysis above, the only inference that can be made is that Southern Orissa is lowest in terms of human development, but nothing much can be said about the other two regions. In such case, literature has got a clearer answer.

Pradhan et al. (2004) while studying the demand of a separate state for Koshala region, a part of Orissa, have argued that this region is the worst in terms of poverty situation, literacy, health status and physical infrastructure. Koshala region comprises of sixteen districts in Orissa, which is formed out of all the eight districts of Southern Orissa and eight out of eleven districts of Northern Orissa. Many of these findings, implying Southern Orissa being the least developed followed by Northern Orissa, are also echoed in Haan and Dubey (2005) and Haan (2004).

Tamil Nadu

In 2009-10, Tamil Nadu has contributed about 8.1% to India's NDP (RBI 2011). Regionally, the GSDP share in Tamil Nadu almost follows the share of respective regional population share (see Table TN.1 in Appendix for Tamil Nadu). The figures in the last column, which are close to one, imply lack of regional disparity from an output perspective. Table TN.2 also gives a mixed picture of human development in the four regions of Tamil Nadu. Though Southern Tamil Nadu and inland Tamil Nadu are weaker than the other two regions, it is difficult to find a

strong dominance of one region over the other. Similar weak evidences of regional disparity are reported in the studies by Chelliah and Shanmugam (n.d.) and Narain et al. (2000) on evaluation of the development indicators across regions.

4.3 Regional Profiling of the Households in the Four States

In the Debt and Investment Survey of NSSO, sample size for rural Maharashtra was 5811 households. Table 4.3 shows that 70% of the households in rural Maharashtra had primary occupation in agriculture. This scenario varies across regions owing to difference in rural-urban share of population. Mumbai-Konkan region inclusive of Mumbai is largely urban with little more than 50% of the households engaged in agriculture. In Marathwada and Vidarbha, the proportion of households engaged in agriculture is higher than the state level.

90% of the households in overall Maharashtra are headed by a male member and regarding their education level, 61% of the household heads had a maximum of higher secondary level of education. An overwhelming majority of the households in rural Maharashtra follow Hinduism, and Islam is followed by around 5% of the households. More than 60% of the sample households belonged to Scheduled Caste (SC), Scheduled Tribes (ST) or Other Backward Classes (OBC) group. Interestingly, more than 90% of the households belong to such backward social groups in Vidarbha, whereas in Marathwada it is even less than 50%.

Table 4.3: Percentage of total within the Region for each respective category

		Mumbai-Konkan (N=672)#	Pune-Nashik (N=2468)	Marathwada (N=1173)	Vidarbha (N=1498)	Maharashtra (N=5811)
Agricultural Occupation		54%	68%	77%	76%	70%
Male Headed household		89%	89%	94%	90%	90%
HH Head Education	Primary and Below	27%	26%	37%	32%	30%
	Middle to Higher Secondary	63%	62%	56%	63%	61%
Religion	Hinduism	89%	93%	82%	84%	88%
	Islam	8%	5%	7%	3%	5%

Table 4.3 contd.

		Mumbai-Konkan (N=672)#	Pune-Nashik (N=2468)	Marathwada (N=1173)	Vidarbha (N=1498)	Maharashtra (N=5811)	Mumbai-Konkan (N=672)#
Social Group	Scheduled Caste	15%	12%	4%	17%	12%	
	Scheduled Tribe	7%	13%	18%	18%	14%	
	Other Backward Classes	34%	27%	26%	56%	35%	

N is the sample size for the corresponding region
Source: Generated by the author using NSSO's Debt and Investment Survey (59th Round)

Box 2 below shows the discussion on regional profiling of the remaining three states.

Box 4.2: Regional Profiling of the Households in U.P., Orissa and Tamil Nadu

Uttar Pradesh:

Across rural U.P. about 70% of the households' principal occupation is agriculture (see Table UP.3). However, there is wide regional variation in this regard with the most developed region, i.e., the Western U.P., and the other regions—proportion of households having agriculture as the principal source of income being higher in the latter than the former.

More than 90% of the households are headed by males across U.P. with an exception for the Eastern U.P. For about 93-94% of the household heads, higher secondary education is the highest educational attainment. Almost 99% of the households follow either Hinduism or Islam, and the former is eight to nine times higher than the latter. Also, an overwhelming majority (about 80%) of the households belong to either SC or OBC.

Orissa

It is observed that Southern Orissa is the least developed region whereas coastal Orissa is the most. Incidentally, the proportion of households engaged in agriculture as their primary occupation is the highest for Southern region at 79.3% and the lowest for coastal region at 57.8% (see Table OR.3). Also, education level of household heads is the lowest for the Southern Orissa, since 98% in this region have at best attained higher secondary education as against 94% and 89% in Northern and Coastal Orissa respectively.

Proportion of households follow Hinduism is about the same across all the regions and it is as high as about 98%. Interestingly, the proportion of households belong to ST, who are known

as highly vulnerable (United Nations 2007, Government of India 2009), is higher in the lesser developed regions like Southern and Northern Orissa and relatively less in Coastal Orissa. Also, proportion of households belong to either of the social groups, all known to be vulnerable, is the highest for Southern Orissa, marginally followed by Northern, and it is least for Coastal Orissa.

Tamil Nadu

Table TN.3 shows that about 50% of the population in rural Tamil Nadu is engaged in agriculture as their principal occupation, which is relatively less as compared to the other three states. Except in the Northern Coastal region where the proportion of households having agriculture as their principal occupation is close to 60%, in all the other regions it is close to 50% or below.

About 82% of the households have male head and about 92% of the household heads have attained maximum higher secondary education. Majority of the households follow Hinduism and only 3% follow Islam.

Interestingly, a large proportion of the households (about 98%) belong to either of the social groups which are considered relatively vulnerable. Households belong to ST are quite low, but the proportion belonging to OBC is as high as 70%.

4.4 Characterization of Asset Ownership in Each Region and State

An exposition of regional disparity in rural Maharashtra in terms of a whole host of characteristic is presented in Table 4.4. To start with we provide the average monthly per capita consumption expenditure (unadjusted as well as the one adjusted for HH size and composition) in Maharashtra across its four regions. For Marathwada and Vidarbha, these figures are much below than Mumbai-Konkan and Pune-Nashik regions and even lower than the state average. Also, in Vidarbha the household consumption expenditure is highly negatively skewed, indicating the extremity of lower consumption expenditure and possibility of high inequality. This is true even for Pune-Nashik region. But, in Mumbai-Konkan region, the consumption is highly positively skewed, and in Marathwada it is comparatively less skewed.

However, skewness for adjusted MPCE is comparatively less. This could be because adjustment helps in making this welfare indicator comparable on one hand and represents as an indicator of welfare on the other. Given that adjusted MPCE values moderate differences and

variations at large, the implied inequality too comes down when compared to the inequality in consumption based on the MPCE prior to adjustment.

As expected, the ownerships of all kind of assets, except few in some regions, are positively skewed. This means that a small proportion of the households own high valued assets.

Despite higher average consumption expenditure in Mumbai-Konkan region, the average values of agricultural land owned in the region is the least in comparison to the other regions. Perhaps the consumption in this region is driven by non-agricultural sources because of the close proximity to highly developed city Mumbai.

Assets like buildings are not owned by many, which is also expected. Buildings for farm business, like barn, animal shed, etc., are owned only by 25-30% of the households, whereas non-farm business buildings, like shops, are owned by a mere 5% of the households. But, of course, residential buildings in form of flats, bungalows and other houses are owned by a large section of the households. Although the ownership of such asset is not as skewed as the other ones, there are substantial differences in its average values across regions.

Like building, ownership of animals is also with few households and is very less in Marathwada region. Cattle animals are owned hardly by 20% of the households in Mumbai-Konkan and Marathwada regions. But in the other two regions, it is owned by almost 40% of the households. However, poultry animals are owned by 30% of the households in Mumbai-Konkan region as against 15% in Pune-Nashik followed by 5% in Vidarbha and 1% in Marathwada.

Table 4.4: Mean, Median & Standard Deviation of HH Assets in Maharashtra & its Regions (All values, except for Human Capital, are in Rs.)

	Mumbai-Konkan	Pune-Nashik	Marathwada	Vidarbha	ALL Maharashtra
HH Consumption Expenditure	3065 [2600] (2151)	2646 [4800] (1647)	2253 [2000] (1344)	1994 [3400] (1194)	2447 [2000] (1593)
MPCE (Adjusted)	1065 [938] (576)	967 [875] (410)	849 [762] (377)	767 [689] (437)	901 [800] (446)
Agricultural Land (in '000)	94.5 [11.5] (240.3)	197 [90] (433.6)	150.1 [65] (266.7)	111.9 [55] (369.1)	153.7 [39.6] (370.9)
Non-Agricultural Land (in '000)	25.5 [5] (66.3)	25.6 [20] (70.6)	17.4 [12] (20.5)	19.9 [15.8] (83)	22.5 [10] (67.1)

Table 4.4 contd.

	Mumbai-Konkan	Pune-Nashik	Marathwada	Vidarbha	ALL Maharashtra
FarmBusinessBuilding (in '000)	3.5 [0] (23.3)	2.4 [0] (9.9)	1.1 [0] (6.8)	1.7 [0] (4.9)	2.1 [0] (11)
Non-FarmBusinessBuilding (in '000)	3.2 [0] (30.6)	2.8 [0] (29.4)	0.86 [0] (5.7)	1.7 [0] (14.1)	2.2 [0] (23.1)
Residential Building (in '000)	81.6 [50] (106.6)	56.2 [70] (76.4)	50.4 [39] (48.7)	30.5 [30] (51.6)	51.3 [30] (72)
Cattle Animals	3689 [0] (8475)	5893 [0] (12,048)	4919 [0] (8960)	4602 [650] (11,407)	5109 [0] (10,964)
Poultry Animals	96 [0] (218)	68 [0] (289)	17 [0] (240)	31 [0] (166)	51 [0] (246)
Hand-Farm Equipment	435 [175] (623)	642 [450] (1800)	971 [285] (1635)	627 [505] (2250)	680 [240] (1814)
Machine-Farm Equipment	783 [0] (7697)	4420 [0] (26,647)	2712 [0] (17,436)	2753 [0] (20,936)	3225 [0] (22,001)
Non-Farm Business Equipment	3209 [0] (25,292)	2407 [0] (31,365)	759 [0] (4605)	1233 [0] (9344)	1865 [0] (22,783)
Transport Equipment	11742 [0] (69,153)	8450 [300] (51,626)	2270 [0] (16,953)	3420 [580] (14,097)	6286 [0] (42,473)
Durable Assets	15,416 [7560] (20,236)	15,101 [16,250] (18,518)	9070 [6270] (9883)	10,214 [10,325] (14,428)	12,660 [7000] (16,547)
Financial Assets	16,755 [553] (52,198)	10,989 [1710] (34,997)	6227 [100] (31,104)	9671 [680] (38,773)	10,355 [450] (37,758)
Household Size	4.81 [5] (2.46)	4.99 [10] (2.50)	5.08 [5] (2.39)	4.54 [9] (2.04)	4.87 [5] (2.37)
Scaled Household Size	2.62 [2.5] (1.05)	2.68 [5.1] (1.03)	2.67 [2.6] (0.98)	2.49 [4.8] (0.86)	2.62 [2.5] (0.99)
Adult (in working age group)	2.97 [3] (1.68)	2.98 [6] (1.65)	2.74 [2] (1.60)	2.71 [4] (1.48)	2.86 [2] (1.61)
Children (<14 years)	1.40 [1] (1.40)	1.55 [3] (1.49)	1.83 [2] (1.57)	1.43 [2] (1.40)	1.56 [1] (1.48)
Elderly (>60 years)	0.44 [0] (0.67)	0.45 [0] (0.69)	0.51 [0] (0.72)	0.41 [0] (0.65)	0.45 [0] (0.68)

***Figures in square brackets are Median and that in round brackets are standard Deviation.**
Source and sample for each region: Same as Table 4.3

Considering high dependence on agriculture, it is not surprising that hand-farm equipments, like sickle, plough, spade etc., is owned by a majority share of households, and with lesser skewed in Pune-Nashik and Vidarbha regions. Although machine farm equipments, like tractor and threshers, and non-farm business equipments, like powerlooms, Xerox machines, etc., are not owned by many, the standard deviations for such equipments are quite high, indicating the wide variation in the type and value of such assets. So is the case with the transport equipments as well.

Durable and financial assets are owned by a large proportion of households, though the variation in value of such assets owned is also large. Also, as expected, their average values in relatively backward regions like Marathwada and Vidarbha are low in comparison to the two other regions.

An important point to mention about Pune-Nashik region is that the distribution of consumption expenditure and all the assets across households seems to be comparatively less skewed, and its mean and median, both are higher than the state averages. Though in the case of Mumbai-Konkan region, the mean is as high as or even higher than the Pune-Nashik region, the median is lesser in many cases. This indicates at the more unequal distribution of assets in Mumbai-Konkan vis-à-vis Pune-Nashik region. Similarly, there is unequal distribution in Vidarbha and Marathwada, but the overall nature of distribution is slightly different. Like Mumbai-Konkan region, the distribution is positively skewed in Vidarbha and Marathwada, but the means are comparatively lower. So, even for the higher segment of the households, the value of assets in Vidarbha and Marathwada regions is lower than that of Mumbai Konkan or Pune-Nashik regions.

Box 4.3: Characterization of Asset Ownership in U.P., Orissa and Tamil Nadu

Uttar Pradesh

Except for Western U.P., the mean household consumption expenditure for the other regions is below the state average with Central U.P. having the lowest MPCE (see Table UP.4). However, in terms of MPCE, along with Western U.P. even Southern U.P. falls above the state average. This probably highlights at the importance of adjusting the consumption expenditure for household size.

Though the average MPCE is higher in Southern U.P. than that in Eastern U.P., the agricultural land is of higher value in Eastern U.P. However, an important point to be noted here is that the skewness of both MPCE and agricultural land value is higher and positive in Eastern region, hinting at higher inequality in this region. Similar argument applies in case of non-agricultural land in Eastern region against the Southern region.

A regional pattern, similar to the mean of agricultural land, can also be seen in the non-agricultural land. However, the skewness in the value of land is higher for the agricultural type as compared to the non-agricultural type.

Buildings of both types - farm and non-farm - are owned by less than 50% of the households. Also, mean value of farm business building is much higher than non-farm business buildings, which is expected also in rural areas. Unlike Western and Eastern regions, average values of residential buildings are below state average for central and Southern regions.

The poultry animals are also owned by less than 50% of the households - which is also the reason behind its low mean value. In contrast, the mean value of cattle animals is quite high, but below state average for all regions except Western region.

Given the large number of landless laborers or marginal landholders, the mean value for hand farm equipment across all the regions are close to state average, though highly positively skewed. For the same reason, high valued asset like machine farm equipments are owned by few and similar for non-farm business equipment as well.

Mean and median values of transport equipment are close to the overall state values for Western, Central and Eastern regions, but surprisingly they are highly positively skewed for Southern region due to much higher mean value. In fact, whatever being the reason, the mean value of transport equipment in Southern region is exceptionally higher compared to the other regions. Similarly, mean value of durable assets is highest in Southern region and close to state average for the others. Finally, the financial assets are highly positively skewed.

The household size varies from about 5.25 to 6, and is positively skewed for all but Western region, although this is not the case when the household size is scaled.

Overall, the summary results for U.P. suggest that mean values for majority of the assets are highest for Western region, with the second and third position varying between Southern

and Eastern regions. As expected, the ownership values of all the assets are positively skewed.

Orissa

Substantiating the discussion on regional analysis for Orissa, it is observed from Table OR.4 that the household consumption expenditure is the lowest for the least developed Southern Orissa, followed by Northern and Coastal Orissa.

Relating to the overall picture Table OR.4 shows that except for assets like farm business buildings, animals and hand-farm equipments, the average values of all other asset ownerships across the regions follow the hierarchy of development in all these regions. This analysis is true even of human capital captured in the variables like household size, number of adults, children and elderly etc.

Another crucial aspect about the set of assets mentioned in the previous paragraph is that the average values of almost all of these assets in Southern and Northern Orissa is below the state average. This implies that either the Coastal Orissa is dominating to pull up the state averages, or the other two regions are pulling them down. It seems that the former possibility is true because the skewness for Coastal region is higher and positive for almost all the assets when compared with the other two regions.

Considering the remaining category of assets, the farm business building and animals are owned by less than 50% of the households, though the average value of these assets is the highest for Northern region; and it is the lowest for Southern region in case of the former and for coastal region in case of the latter.

Hand-farm equipment is an important asset in rural areas where large proportion of households is engaged in agricultural activities. The mean value of this asset is almost similar in Coastal and Southern regions, compared to other assets. However, the skewness is higher in case of Coastal region and lower in case of Southern, implying a more equitable distribution of ownership of such assets in Southern region.

Tamil Nadu

Average household consumption expenditure is the highest in the Inland region of Tamil Nadu and the lowest in the Northern Coastal region (see Table TN.4). In terms of overall asset

ownership, no clear cut regional pattern is observed. However, for eight out of thirteen assets (excluding human capital), the mean value is the highest for inland region and at for seven out of these eights assets the median value is zero. In fact, across all the regions, for majority of the assets, i.e., eight out of thirteen (excluding human capital), the median value is zero implying the ownership of assets in few hands.

The average values of assets like non-farm business building, non-farm business equipments and transport equipments are relatively much higher for Inland region hinting at possibilities of household dependence on non-farm sources of income. Again, dependence on agriculture seems to be less as compared to the other three states when one looks at median of agricultural land and mean of hand farm and machine farm equipments.

Tamil Nadu is the only state among those we have considered where the household size is negatively skewed. But, when the household size is adjusted by scaling, it becomes usual positively skewed.

4.5 Regression Results

As we have already pointed out we consider transcendental logarithmic form for relation (2), in chapter 3 and is estimated using ordinary least squares (OLS) method. Initially, there were 181 independent variables in the regression equation, which finally got reduced to 49 after removing the insignificant ones. Breusch-Pagan/Cook-Weisberg test for heteroskedasticity rejects the null hypothesis of constant variance. So, White's heteroskedasticity-corrected standard errors, also known as robust standard errors, are used for interpreting the coefficients.

On the whole the regression model is significant and the independent variables explain for about 46% of the variation in the scaled consumption expenditure. All the independent variables, except the dummies, are assets and their interactions terms. Using robust standard errors, all the variables are statistically significant at 5% or lesser level. Some important regressors and their results are presented in Table 4.5 for discussion.[17]

Regional disparity in household consumption expenditure in Maharashtra is evident from the regional dummies. Pune-Nashik is the reference group here. A household that belongs to

[17] Complete regression results for all the states can be made available at a request to the author.

Marathwada experience a negative impact of 0.06% on consumption, whereas a household from even more backward region Vidarbha faces negative impact with almost double the magnitude. On the contrary, being in Mumbai-Konkan is an advantage as it results in positive impact on consumption expenditure. Shaban (2006), Mohanty (2009), Mishra and Panda (2006), and SATHI (2009) also observed similar kind of picture on regional disparity in Maharashtra.

A household headed by a male tends to increase the consumption expenditure, which is in line with the findings of Gangopadhyay and Wadhwa (2003), Meenakshi and Ray (2002) and Buvinic and Rao Gupta (1997). Some studies like Srivastava and Mohanty (2010), Farsi et al. (2005), Viljoen (1998) and Yimer (2011) have also shown that the consumption expenditure is also a function of the educational attainment of household head. In line with these studies, the education dummies in Table 4.5 show that lower the level of education of household head, lesser will be the possibility of consumption expenditure. It is likely that higher secondary education will lead to more consumption because, one, it increases the opportunity of higher income, and two, the basket of goods to be consumed widens (Yimer 2011; Farsi et al. 2005). The significance of education dummies also hints at the importance of education as an important asset for a household.

Kisan Credit card is insignificant, which corroborates the point made by Rao (2005) that '*Kisan* Credit Scheme does not seem to be succeeding in its avowed purpose because of various stipulations and restrictions'.

Various studies have shown that in India SC or ST households are more vulnerable compared to the others (Sundaram and Tendulkar 2003; Meenakshi et. al. 2000; Gang et. al. 2008). Historically, households of such castes lack adequate assets and thus such caste dummies have negative impact on the consumption expenditure .The dummy for agricultural occupation was not significant and so was dropped from the equation. It is surprising that this dummy is insignificant, when 70% of the households' principal occupation[18] is agriculture. The reason could be that the households are diversifying to other occupations. According to Mishra (2006a), the farmers in Maharashtra are disadvantaged due to price uncertainties of major agricultural products like cotton. Mishra (2006a) has also shown that over the years the profitability from cotton has declined. Though the principal occupation is agriculture, the main driving force

[18] Principal occupation according to NSSO is one which fetched the maximum earnings to the household during the last 365 days preceding the date of survey.

behind the total consumption expenditure could be the engagement in various other occupations, which is also evident from the studies of Himanshu et al. (2011), Kumar et al. (2011) Ellis (2004, 1999), Menon (2009) and Hussein and Nelson (1998) which show that in the developing countries rural households diversify from their main occupation agriculture to tackle with the uncertainties associated with it.

Unexpectedly, the coefficient of agricultural land is negative. It reduces scaled consumption expenditure by almost 0.02% for its additional increase of 1%. One would expect that agricultural land, being the most important asset in rural areas, would push up the consumption expenditure, which is not happening. This could be because a large section of the households own small pieces of land[19] (Mishra 2006b; Rawal 2008)[20], which instead of giving positive returns becomes like a debt to the households. According to a final report submitted to Mumbai High Court by Tata Institute of Social Sciences, "Repeated crop failures, inability to meet the rising cost of cultivation, and indebtedness seem to create a situation that forces farmers to commit suicide" (TISS 2005). This might also be the reason behind the insignificance of agricultural occupation dummy discussed earlier. Also, important is the fact that the farmer suicides in Maharashtra are by the farmers who owned land, and a larger proportion is of those who owned relatively smaller pieces of land (Mishra 2006b). Moreover, the interaction of land with some important assets like hand-farm tools, machine-farm tools and cattle animals turned out to be insignificant. Probably the returns from agricultural land in Maharashtra do not depend just on these tools but on the other factors like size of the land, productivity of it, associated inputs like water, fertilizers, pesticides, etc.

[19] Data shows that about 88 percent of the households own less than 2 hectares of land.
[20] About 70 percent of the total operational holdings in Maharashtra are either marginal or small farmers (Mishra 2006b).

Table 4.5: Ordinary Least Square Estimates (Dependent Variable: (Logarithmic vale of) Scaled Consumption Expenditure)		
R-Square		0.46
No. of observations		5808
F-Statistic		89.13
Probability>F		0.0000
	Coefficient	**t-value (based on Robust Standard Errors)**
Mumbai-Konkan_Dummy	0.134	8.2
Marathwada_Dummy	-0.063	-5.05
Vidarbha_Dummy	-0.124	-11.24
Male-HouseholdHead_Dummy	0.114	6.69
Primary &Below_Dummy	-0.095	-4.45
Middle to High Secondary_Dummy	-0.075	-4.15
Scheduled Tribe_Dummy	-0.041	-2.97
Scheduled Caste_Dummy	-0.024	-1.91
Agricultural Land	-0.019	-2.06
Non-Agricultural Land	0.028	1.95
Non-FarmBusinessBuilding	-0.061	-3.39
Residential Building	-0.044	-5.1
Cattle Animal	0.01	2.31
Hand-Farm Equipment	0.046	2.31
Non-Farm Business Equipment	0.005	2.91
AgriculturalLand squared	0.004	6.8
Non-Agricultural Land squared	0.002	3.85
Non-Agricultural Land_Non-FarmBusiness Building	0.003	2.15
Farm Business Building_Machine-Farm Equipment	5E-04	1.66
Non-FarmBusinessBuilding squared	0.006	3.78
Non-Farm Business Building_Residential Building	-0.002	-1.85
ResidentialBuilding squared	0.002	3.36
Residential Building_Cattle Animal	-0.001	-2.97
Residential Building_Poultry Animal	-0.002	-2.42
Residential Building_Transport Equipment	8E-04	2.17
Cattle Animal_Machine-Farm Tools	9E-04	2.12
Poultry Animal_Financial Assets	-0.003	-3.3
Hand-Farm Equipment squared	0.003	4.01
Hand-Farm equipment_Machine-Farm Equipment	-0.002	-2.44
Machine-Farm equipment_Financial Assets	-0.002	-2.76
Transport Equipment_Financial Assets	-0.001	-2.45
Children	0.072	2.23
Children_Adult(Working Age)	-0.048	-2.7
Adult(Working Age)_ResidentialBuilding	0.016	6.2
Adult(Working Age)_Transport Equipment	-0.009	-3.6
Children_Residential Building	0.009	3.31
Children_Poultry Animal	0.009	2.35
Constant	-0.862	-10.14
		Source: Same as Table 4.3

Unlike agricultural land, non-agricultural land increases the consumption expenditure. This could be because the prices of non-agricultural land tend to increase faster over time. The positive coefficient for the squared term of non-agricultural land indicates that owning an extra piece of land increases the possibility of consumption expenditure by an increasing rate. Moreover, non-agricultural land along with non-farm business building increases the scaled consumption expenditure, which is expected given the economic possibilities of such combination.

Buildings, by themselves, don't yield positive consumption expenditure. But, non-farm business buildings along with non-agricultural land, or farm business building along with machine farm equipments, increase the possibility of better business and thus better returns.

Cattle animals increase consumption expenditure because it is a source of dairy products and can also be traded for agricultural activities. However, they don't increase consumption expenditure when owned with residential building; probably because in such cases the extracted dairy products are used for household consumption, and so, do not function as assets to be traded economically in the market. Moreover, maintaining cattle animals also involve cost.

Mishra (2006b) has shown that the cost of human labor in the operational cost, which contributes in the range from 50% to 75% of cost of production of major crops in Maharashtra, is as high as 30% for some of the crops. This means that human labor is significant and human labor is generally employed with hand-farm equipment. Moreover, the proportion of landless farmers or agricultural laborers is large (Mishra 2006b) and thus hand-farm equipment yield increasing consumption expenditure for households owning them. However, machine farm equipments, like tractors, threshers, etc., were not significant, which may be because they are owned by a less proportion of the households. However, machine farm tools with cattle animals do have a positive and significant effect on the scaled consumption expenditure since they might together give a better agricultural output.

Returns from business equipments, like photocopying machines, handlooms, power looms, etc., have significant positive coefficient despite being owned by lesser proportion of households.

Some asset combinations have unexpectedly negative sign and require further study for understanding the reason behind that. These are hand-farm equipment with machine farm equipment, machine farm equipment with financial assets, and transport equipment with

financial assets. However, the hints of the insignificance of financial assets can be found in Mishra (2006b) which shows that agricultural credit in Maharashtra has been declining and more than half of the farmer as well as rural households are indebted.

An additional child in the household increases the consumption expenditure, which is obvious, as the additional child requires various expenditures in form of nutritious food, education and health. But the interaction of the variable *adult* and the variable *child* leads to decreasing consumption expenditure. Note that we are talking about scaled consumption expenditure as dependent variable. So, an additional child means some adjustment in the poverty line in denominator, and perhaps the households are able to adjust the numerator by more than the denominator adjustment, also considering the child's contribution to household economic activity, if any. But, the variable *adult* being an insignificant one results in reduction in the scaled consumption expenditure when interacted with *child*. Insignificance of the variable adult is probably hinting at insufficient assets with households to gain from an additional human capital. Moreover, a large proportion of adults do not have sufficient education to gain from better skilled jobs (Paranjape 2007).

Box 4.4: Regression Results for Uttar Pradesh, Orissa and Tamil Nadu

Uttar Pradesh

Regression results for U.P. are presented in Table UP.5. The regressors in the final regression equation together explain about 35% variability in the scaled consumption expenditure in U.P.

The signs and magnitude of regional dummies corroborate the findings in literature that Western U.P. is comparatively more developed than the other regions (Diwakar 2009). Also, as expected, a household headed by a male person affects the scaled consumption expenditure positively and by 0.05%. However, lower the educational attainment of household heads, the more is the possibility of fall in scaled consumption expenditure.

Following any type of religion, Hinduism or Islam, negatively affects scaled consumption expenditure by 0.12%. Also, an ST membership has a negative effect with much greater magnitude than for those belong to SC or OBC. *Kisan* credit card seems to be an important and significant asset in U.P.

Agriculture does not seem to be a profitable occupation in U.P. Possibly this is also a reason

behind agricultural land having negative coefficient. However, important to note is the fact that this is just a segregated effect, and so, it is crucial to look at the joint effect of agricultural land with assets like hand farm equipment and machine farm equipment.

Since machine farm equipments are not owned by many in U.P., neither the variable itself, nor its joint effect with agricultural land turned out to be significant. But, the ownership of hand farm equipment does have a positive and significant effect on scaled consumption expenditure and so does its joint effect with agricultural land, even though the effect is very small in magnitude. Joint effect of agricultural land and financial assets is not positive, which could be due to the inability of the meager amount of financial assets (that is evident from low median values from Table UP.4) to meet the requirements of better and sophisticated agricultural inputs. Even otherwise, financial assets do not have a positive partial effect on scaled consumption expenditure.

Similar picture is observed for non-agricultural land as well. It has positive partial effect only when it goes hand-in-hand with non-farm business equipment like handlooms, mills, Xerox machines, etc. Obviously, in such cases the possibility of return on investment increases and is less uncertain than agriculture.

Surprisingly, residential buildings don't turn out to be significant, but it has positive joint effect with durable assets. Perhaps, this reflects the affluent status of the households.

Another noteworthy finding is that both the coefficients of cattle and poultry animals are not significant. Although for poultry animals it is expected since not many households own it. However, joint effect of cattle animals with durable assets has positive effect, which could also reflect the affluent status of the households owning both types of assets.

Other such variables that have significant joint effects on scaled consumption and, thus, may reflect the affluent status of the households are transport equipment and financial assets separately each with durable assets.

As far the human capital is concerned, an additional adult does not have a significant impact on the scaled consumption expenditure which could also be due to inadequate level of education for a large number of households.

As we have observed for Maharashtra, for U.P. also an additional child does increase the scaled consumption expenditure that may be due to the demand for additional consumption by a child in form of nutritious food, education and health expenditures. Again, joint effect of a

child with an adult has negative coefficient, whereas that is positive for an adult with elderly. Explanation for the earlier case may be a reduction in work time for an adult due to an increase in the number of children in the household. Alternatively, it could also be for the sharing of same consumption expenditure by an extra child member. As for the latter, sharing of existing work load by an additional elder person actually increases the available working time to earn more income. This extra income is then spent for additional consumption. It may be due to additional health expenditure as well due to an additional elderly.

Lastly, in U.P. ownership of other animals like ovine, pigs, elephants, horse, camels, etc. also lead to significant and positive effect on consumption expenditure.

Orissa

The overall regression for Orissa is significant and R-square value is 0.52 (see Table OR.5). The regional dummies for both more developed Coastal Orissa and lesser developed Southern Orissa have expected signs as well.

As we observe for other states, a household with male head spends more on consumption. Also, higher education of the household head has upward bearing on the consumption expenditure.

Although regional dummies are not significant, backward social group dummies affect consumption negatively. Particularly, this negative coefficient for the ST group is of maximum magnitude. Perhaps, this also partly explains the poorest state of tribal in Orissa.

The coefficient of agricultural occupation is negative which could be due to insignificance of agricultural land. In fact, agricultural land didn't turn out to be significant even for its joint effect with other important assets like hand-farm equipments and machine-farm equipments. However, joint effect of agricultural land with cattle animals is significant although the associated coefficient is very small. These seem not a surprise since a large part of Orissa, particularly Southern and Northern Orissa, are very poorly developed.

The coefficient of non-agricultural land is negative and significant. Its interaction with other such assets that helps generating non-farm income is either negative or insignificant. Interaction of non-agricultural land with non-farm business building is negative and with non-farm business equipment is insignificant. All these hint at the dearth of opportunities for income generation through non-farm sources.

The coefficient of cattle animals is insignificant, but its interactions separately with agricultural land and residential buildings are positive and significant, although the associated coefficients are of small magnitudes.

Hand-farm equipment seems to be an important asset because it is positive and significant not only by itself, but also with all other assets, except with financial assets and adult, either it is insignificant or it is positive and significant. Farm business building seems to enhance the possibility of positive consumption expenditure in Orissa, and along with hand-farm equipment it further adds to consumption. Hand farm equipment along with machine farm equipment is positive and significant despite the later being insignificant by itself.

Interestingly, financial assets by itself and also its squared terms are positive and significant. This is despite its interaction effect being either insignificant or negative with all other assets. Also, important to note from Table OR.4 is that this asset is highly positively skewed.

An additional child or adult yields positive consumption expenditure. This is despite the fact that education level in general is quite low in Orissa. Perhaps, a lower average household size, also average number of adult and children, has a role to play, when compared to other states like Maharashtra and U.P.

Surprisingly, interaction of adult and hand-farm equipment is negative but that of elderly and hand-farm equipment is positive. This phenomenon is contrary to what is expected and needs further study for a valid explanation.

Tamil Nadu

Overall regression for Tamil Nadu is significant with the R-square of about 48% (see Table TN.5). Unlike in case of the three other states, the coefficient of all regional dummies are positive, possibly hinting at the lower level of prosperity of the reference group with whatever marginal the magnitude may be.

Dummy that captures the male headed household is positive and higher education of the household head has an upward impact on the scaled consumption expenditure of the household also.

A household following Islam faces increase in consumption expenditure, but following Hinduism doesn't have any significant effect. However, belonging to SC or OBC group does

have a negative bearing on the scaled consumption expenditure.

Agricultural occupation dummy is insignificant and also the coefficient of agricultural land is negative. Moreover, interaction of agricultural land with the hand-farm equipments yields negative effect. Also, the coefficient of farm business building is insignificant and its interaction with any other asset, except with agricultural land and durable assets, is either negative or insignificant. All these imply that agriculture is quite inadequate to generate even subsistence level of household consumption expenditure in rural Tamil Nadu.

Though the coefficient of non-agricultural land is negative, its interaction separately both with hand-farm equipments and transport equipments are positive which hint at the existence of non-agricultural sources of generating significant share of consumption expenditure.

One interesting phenomenon that needs further enquiry is that residential building either alone, or its interacting with any other asset, except with child, is negative or insignificant.

The coefficient of adult is positive, while its interaction with a child or an elderly is negative which could be due to the time adult might be spending on the care of the additional child or elderly. At the same time, interaction of an adult with any other asset is either negative or insignificant implying that adult yields some positive share of consumption expenditure by generating extra income through employment alone and without any other asset.

4.6 Marginal Effect of an Asset

In the regression above, each coefficient represents the partial dependence of the scaled consumption expenditure on the respective asset or its interaction with its own as well as some other assets, where sign of some were not as expected and a few others were unexpectedly insignificant. But the story does not end there. In order to get a complete picture, it will be useful to see the marginal effect of each asset by taking the first order derivative of the transcendental logarithmic function with respect to each asset.[21] This will help in confirming the discussion made above.

[21] It will give us the elasticity of scaled consumption expenditure with respect to an asset. Since transcendental logarithmic function is quadratic in nature, it could be easily understood that such elasticity will depend not only on the associated coefficients but on the levels of assets use as well. Therefore, it is important to see what proportion of total observations actually have positive such elasticity. Table 4.6 precisely shows this.

Table 4.6: Percentage of Households for which Marginal Effect of an Asset on the Scaled Consumption Expenditure is Positive (Maharashtra)	
Agricultural Land	58%
Non-Agricultural Land	89%
FarmBusinessBuilding	100%
Non-FarmBusinessBuilding	5%
Residential Building	80%
Cattle Animals	25%
Poultry Animals	12%
Hand-Farm Equipment	75%
Machine-Farm Equipment	15%
Non-Farm Business Equipment	100%
Transport Equipment	50%
Durable Assets	100%
Financial Assets	90%
Adult (in working age group)	18%
Children (<14 years)	60%
Source: Same as Table 4.3	

Table 4.6 shows that almost half of the assets, used in the regression, increase the scaled household consumption expenditure for a majority of the households. For reasons discussed earlier, agricultural land increases the scaled consumption expenditure for only 58% of the household, and for the rest it has negative effect. Partial effect of non-farm business building was negative and which holds true here too. But, for residential building, the marginal effect has now become positive for majority of the households. Surprisingly, the ownership of animals doesn't increase the consumption expenditure for majority of the households. One reason for this could be the ownership of such assets is restricted to a select small set of households. Although some of the assets, like durable assets and financial assets, did not have significant partial effect by them alone, their marginal effect is positive for majority of the households.

Box 4.5: Marginal Effect of an Asset in Uttar Pradesh, Orissa and Tamil Nadu

Uttar Pradesh

Table UP.6 shows that a large number of assets yield into a positive marginal effect for majority of the households, which is also expected. Agricultural land, which had a negative partial effect, is also positive for about 70% of the households.

Some of the assets which were insignificant in their partial effect have positive marginal

effect for majority of the households. These assets are residential building, cattle and poultry animals, non-farm business equipment, transport equipment and durable assets. Whereas, some set of assets had negative effect partially, but there marginal effect is positive for majority of the households. These are non-agricultural land and financial assets.

Buildings, both farm and non-farm business, were partially insignificant. In terms of their marginal effect also they are not positive for majority of the households.

An interesting point is that machine farm equipments, which are supposed to increase the productivity of land, don't have positive marginal effect for majority of the households.

Orissa

In terms of marginal effect, the high productive assets, like agricultural and non-agricultural land, which were insignificant and negative in their partial effect, have positive effect for majority of the households (see Table OR.6).

Farm and non-farm business buildings follow the result of their partial effect even in case of marginal effect. The former had positive and significant coefficient and it is also positive for majority of the households in terms of its marginal effect. Non-farm business building was insignificant partially and it doesn't have positive marginal effect for majority of the households.

Animals don't seem to play an important role of a productive asset. Surprisingly, hand-farm equipment, which turned out to be a crucial variable in previous section has positive marginal effect only for 15% of the households. Perhaps, this is due to the interaction of this asset with financial assets and adult, and hence, this needs further enquiry.

High valued assets like machine farm equipment, transport equipment, durable assets and financial assets have positive marginal effect for majority of the households. Non-farm business equipment was neither partially significant nor did it add to consumption in its partial effect. An additional adult was partially positive and significant but when the marginal effect of this asset is calculated, while considering its interaction with the other assets, this doesn't seem to be adding to consumption for majority of the households.

Tamil Nadu

The argument so far regarding agriculture as a principal source for household consumption expenditure in rural Tamil Nadu gets further validation while looking at the marginal effect of

agricultural land (see Table TN.6). This asset doesn't have a positive marginal effect for majority of the households. But, non-agricultural land does have a positive marginal effect on consumption expenditure of a large majority of the households.

Unlike non-farm business building, the farm business building and residential building have a positive marginal effect for majority of the households. Animals don't seem to contribute to consumption expenditure, which was also evident in the regression results.

Contradicting the regression result, hand farm equipment is positive for majority but it is not so with machine farm equipment. Non-farm business equipment and transport equipment don't have a positive marginal effect for majority of the households, but durable assets and financial assets do play an important role.

From human capital point of view the only asset that has positive marginal effect is children.

4.7 Contrasting Consumption Poverty with Asset Poverty

The estimated value of the regression reported above is the static asset index. The benchmark value of this asset index is 0, that is, it divides the asset poor from the asset non-poor. Using the estimated value it was found that 52% of the households in Maharashtra are asset poor (see Table 4.7). [22]

Among the consumption non-poor households, that is, 50% of the total households, almost 15% are asset poor. This proportion of the households are consumption non-poor by chance, and not structurally, hence, they are stochastically non-poor. In other words, they are likely to move back to the status of consumption poor in future. Similarly, 13% of the households are consumption poor as well as asset non-poor, so these households are stochastically poor, and are likely to become consumption non-poor in future. In contrast, there are such households who are non-poor in terms of both consumption and assets. These households are structurally non-poor and are likely to remain so for a longer period. Likewise, 37% of the households are structurally poor and are likely to remain so even in future.

This set of households is the most vulnerable section of the society and hence needs specific policy targeting. In addition, next important section for policy targeting should be the 15% who

[22] Recall here that median consumption expenditure of the households is assumed to be the consumption poverty line for Maharashtra.

are consumption non-poor and asset poor, and not the consumption poor and asset non-poor. In short, the targeting should be towards the asset poor in making them asset non-poor, which will then automatically take care of their consumption poverty status in the long run.[23]

Table 4.7: Consumption Poverty versus Asset Poverty: No. of households in Maharashtra

	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	2033 (35%)	753 (13%)	2786 (48%)
Asset Poor	869 (15%)	2155 (37%)	3024 (52%)
Total	2902 (50%)	2908 (50%)	5810 (100%)

* All the figures in this table are rounded off to the nearest integer value. The figures in brackets are proportion of the total households in Maharashtra.
Source: Same as Table 4.3

Like the cross-section table of asset poverty and consumption poverty for Maharashtra, tables are also presented for its different regions in the Appendix for Maharashtra (see Tables MH.1 to MH.4). Regional disparity can be clearly seen in these tables. More importantly, this kind of analysis substantiates further the strong link between asset poverty and livelihood. As it can be seen, the situation of asset poverty and consumption poverty in the most developed region, that is Mumbai-Konkan, and in the least developed region, that is Vidarbha, is exactly opposite. This reflects the idea of unfreedom by Sen (1999) and also the idea of capability by Sen (1981). The most vulnerable section, i.e., both consumption and asset poor in Mumbai-Konkan region is about 15%, and the best-off section that is both consumption and asset non-poor is 59%. It is almost the other way round for Vidarbha. Also interesting is the fact that these figures move in tandem with the ranking of development among the regions. The ratio of consumption non-poor to consumption poor and asset non-poor to asset-poor is highest for Mumbai-Konkan, followed by Pune-Nashik and then Marathwada region, followed by Vidarbha. This pattern is obvious because we are likely to see higher proportion of asset poor in the regions

[23] It is important to note here that if there had been panel data available at state level, the asset poor could have been further broken to get those sections of households who are trapped in poverty below the Micawber threshold and keep moving towards a lower level equilibrium.

that have higher unfreedom in form of lesser human development or lesser economic development.

Box 4.6: Contrasting Consumption Poverty with Static Asset Poverty in Uttar Pradesh, Orissa and Tamil Nadu

Uttar Pradesh

In U.P., there is about 53% of asset poor and 47% of asset non-poor (see Table UP.7). A major cause of concern is the 36% of the households which is structurally poor, i.e., asset poor as well as consumption poor. A certain part of this group is likely to remain in poverty in future as well, which is a subject of discussion under the dynamic nature of poverty in U.P.

Another group of concern is the stochastically non-poor, i.e., the households those are consumption non-poor but asset poor. Since these 17% of the households lack sufficient assets to remain out of consumption poverty line, with time they are likely to move back to the state of consumption poverty, if asset accumulation doesn't take place.

The households that are asset non-poor but consumption poor, are likely to become consumption non-poor, or those who are consumption non-poor are likely to remain so until and unless they face any kind of shock that affects their level of assets to fall to the poor state.

A regional analysis (reported in Tables UP.8 to UP.11) shows that the regions like Central and Eastern U.P. which had almost similar negative coefficients in the regression equation, have the highest proportion of asset poor (or structurally poor). Whereas the most well-off region, i.e., the Western U.P. has more or less opposite situation in comparison to the worse off regions.

Orissa

Among all the households, 37.8% are structurally poor that is these are both consumption poor as well as asset poor, and so, should be of primary concern for the policymakers (see Table OR.7). Another group of concern is those who are stochastically non-poor, that is consumption non-poor but asset poor.

Those who are consumption poor but asset non-poor, i.e., stochastically poor, are poor by chance or due to some bad luck and are likely to move back to the status of consumption non-poor. Those who are non-poor on both the dimensions are in a better-off position.

Regionally, the pattern of asset poor vs. non-poor and consumption poor vs. non-poor varies greatly (see Tables OR.8 to OR.10). Coastal Orissa, the most developed region, has about

23% asset poor followed by about three times higher about 65% in Northern Orissa. But the region of a grave concern is the Southern Orissa where the proportion of asset poor is as high as around 93%, despite 74% being poor only on consumption dimension. Within these 93%, around 72% are the extremely poor or structurally poor. This region needs a special focus in terms of policy attention.

Tamil Nadu

In Tamil Nadu, about 48% are asset non-poor and 52% are asset poor (see Table TN.7). The worst off section of rural Tamil Nadu is about 37% of the households who are consumption as well as asset poor, or structurally poor. Whereas the best-off section, that is, structurally non-poor is about 35%. Similarly, the stochastically poor and non-poor are 13% and 15% respectively.

A deeper regional analysis (see Tables TN.8 to TN.11) reveals that the region with the highest proportion of asset poor and consumption poor is Northern Coastal and with the lowest proportion is Coastal. However, the regional disparity between these two polar regions is not as conspicuous as it was for the two polar regions of the other three states.

Southern and Inland regions of rural Tamil Nadu have similar distribution of poor and non-poor on asset and consumption dimensions; the former having higher asset poor than the latter.

4.8 Profiling Structurally Poor (or Extremely Poor) in Maharashtra

Table 4.8 below compares the profile of the structurally poor against that of all the households in Maharashtra. This will further substantiate the idea of the need for asset based poverty approach.

In the regression analysis the coefficient for male headed household was positive. Perhaps, this is why only about 82% of households of structurally static poor sample are headed by males as against 90% in overall Maharashtra. Moreover, proportion of these extremely poor households engaged in agricultural occupation is higher. Another interesting feature, which is also expected, is that unlike for all the sample households in Maharashtra, maximum education level for almost all the households is up to higher secondary education. Religion does not seem to be

differentiating criteria, but to be a particular social group member is predominant for the extremely poor households.

Table 4.8: Comparing the Profile of the Structurally Poor against entire Maharashtra			
		Structurally poor	Maharashtra
Male Headed household		82%	90%
Agricultural Occupation		76%	70%
HH Head Education	Primary and Below	50%	32%
	Middle to Higher Secondary Education	49%	60%
Religion	Hinduism	85%	88%
	Islam	5%	5%
Social Group	Scheduled Caste	21%	15%
	Scheduled Tribe	25%	15%
	Other Backward Classes	31%	33%
Source: Same as Table 4.3			

In order to get further clarity on the profile of the extremely poor, we have presented the summary of assets held by such households against that by all the households in Maharashtra in Table 4.9. The average values of all type of assets held by the extremely poor households in Maharashtra is half or even lesser than those held by all the households in Maharashtra. This is also true for average MPCE. However, interestingly the proportion on households holding such assets, in both the sample groups, is more or less same, with the exception of machine farm equipments and transport equipments.

Such asset ownership characteristics possibly imply that the households are not poor because they do not own assets, but it is because of lack of their capability to exchange such assets in the market. This also reflects the capability approach discussed in Sen (1981) and also a majority of asset based literature discussed in second chapter.

Table 4.9: Comparing the Assets and MPCE of the Structurally Poor against the entire Maharashtra						
	Structurally Poor			Maharashtra		
	Mean	Median	% of hh holding assets	Mean	Median	% of hh holding assets
Agricultural Land (in '000)	48	0	47	154	40	59
Non-Agricultural Land (in '000)	11	6	89	22	10	89
Residential Buildings (in '000)	26	20	90	51	30	90
Cattle Animals	2476	0	31	5109	0	41
Hand-Farm Equipment	336	160	84	680	240	81
Machine-Farm Equipment	245	0	4	3225	0	15
Transport Equipments	424	0	28	6286	0	44
Durable Assets	4599	3540	99	12660	7000	99
Financial Assets	584	100	88	10355	450	93
MPCE (Adjusted)	599	615	-	920	821	-
Source: Same as Table 4.3						

Similar profiling of the structurally poor and their assets holding against the entire sample of the respective states is discussed in the box below.

Box 4.7: Profiling Structurally Poor (or Extremely Poor) in Uttar Pradesh, Orissa and Tamil Nadu

Uttar Pradesh

Tables UP.12 and UP.13 compare the profile and assets of the sample that contains only extremely poor against the one that contains all the households in U.P.

As Table UP.12 shows difference between the proportions of households headed by male among the structurally poor and among the all U.P. households is very less. This is despite the fact that the coefficient of male headed households in the regression results was positive, although the magnitude was low.

Surprisingly the proportion of households having agriculture as their primary occupation is lesser in the structurally poor segment of the population. This means that there are also other occupations to be explored which leaves a household in the state of extreme poverty.

But as expected, the proportion of household heads having education maximum up to higher secondary education is 98% among structurally poor against 93% for the entire sample.

Religion is not a differentiating criteria but social group is. The proportion of households belonging to the so-called deprived social groups like SC, ST or OBC is higher (around 90%) among the structurally poor in comparison to the entire sample (around 81%).

In terms of asset holding, the average of all the assets held by structurally poor is almost half or even less than the average value of the assets held by the households for the entire U.P..

Out of the nine categories of assets, four are such where the proportion of household holding the assets is almost the same between both the samples. But the proportion of households equipped with the rest five categories of assets, namely, agricultural land, cattle animals, machine-farm equipments, transport equipments and financial assets, is lesser in case of structurally poor compared to the entire U.P. Almost all of these assets can be termed as highly productive assets.

A possible inference that can be made out of the above analysis is that in case of U.P. the households are in the category of extremely poor because either the market exchange value of the assets they hold is less or they don't own sufficient amount of assets at all.

Orissa

Table OR.11 compares the characteristics of extremely or structurally poor households against those in the entire Orissa. The proportion of households headed by a male member is higher in the latter group, but the proportion of households whose principal occupation is agriculture is higher among the extremely poor. These characteristics corroborate our regression results.

Almost all the household heads (about 99.6%) have a maximum higher secondary education attainment, and among these 99.6%, about one-third has attained at best primary education. This signifies that education of the household head has some role to play in deciding the poverty status of the households.

Religious distribution is more or less same for both the groups, but the proportion of

households belonging to ST, which is the most vulnerable social group in Orissa, is almost double in the structurally poor sample than that for the entire Orissa.

The average values of almost all the assets held by extremely poor households are half or even lesser compared to the entire Orissa (see Table OR.12). However, the proportion of households owning the assets is similar in both the samples, except for three assets namely agricultural land, transport equipment and financial assets, where the difference is 10% to 15%.

For Orissa also it seems that structurally poor households are poor not only because they lack assets, but also due to lower market value of assets or their inability to use these assets. As it has already been discussed, the structurally poor households are largely clubbed in the less developed regions of Orissa, like Southern and Northern Orissa. These regions lack the accessibility to the markets and, therefore, the households lack capability to exchange their assets efficiently. In the words of Haan and Dubey (2005) *disparities exist in Orissa due to entitlement failure.*

Tamil Nadu

As expected, the structurally or the extremely poor households are headed less by a male member compared to that in the entire Tamil Nadu (see Table TN.12). Also, the proportion of extremely poor households engaged in agriculture as their principal occupation is greater than that for the entire Tamil Nadu.

Almost 99.5% of the household head have acquired at best higher secondary education among the structurally poor against 92% in the whole sample. Moreover, the proportion of households attaining at best primary education is much higher in the earlier group.

We have observed earlier that following Islam adds positively to households consumption expenditure, and Table TN.12 shows that there are only 1.2% of the households among extremely poor who follow Islam. Proportion of households belong to either of the backward social groups is almost same in both the samples.

Table TN.13 shows that the average value of the almost all assets owned by the extremely poor is half or even less than that for the entire Tamil Nadu. However, the proportion of households owning such assets is more or less same in both the samples for all the assets except machine farm equipment and transport equipment. Surprisingly, proportion of households owning certain assets like non-agricultural land, residential buildings and hand farm

equipments is higher among the extremely poor. All this implies that the real problem lies in enabling the poor households to enhance their exchange capability of the assets they own or help them accumulate higher valued assets.

4.9 Summing Up

In this chapter, we estimate the static asset index for the four selected states. Scaled consumption expenditure of the households in Maharashtra is regressed on various assets owned by them. The estimated result is then used to calculate the asset index.

Regional dummies were used in regression to capture the regional disparity effect, if any, in Maharashtra. Also, our findings support the hypothesis that the SC and ST households are more vulnerable.

Surprisingly, agriculture, which is a principal occupation for majority of the households, has insignificant effect on the scaled consumption expenditure. A possible reason could be that the coefficient of agricultural land is negative. This means that for many households in Maharashtra, owning agricultural land doesn't seem to add to the consumption expenditure. This finding needs a deeper analysis and policy attention for making agriculture a profitable avenue.

Unlike agricultural land, non-agricultural land increases the consumption expenditure. Cattle animals, being a source of dairy products and important capital for agricultural land, increase consumption expenditure as well.

Ownership of hand-farm equipments increases consumption expenditure. Even, returns from non-farm business equipments add to consumption expenditure. These findings hint at creating such opportunities for households where these assets can be used.

The asset index results show that about 52% of the households in Maharashtra are asset poor. If these households are lifted out of asset poverty then chances of sustaining the status of consumption non-poor will definitely increase. Hence, policy should be targeting such households first. Among these 52% households, the most crucial ones to be targeted are those 37% who are consumption poor as well, since these are likely to be trapped in poverty. This set of households is the most vulnerable section of society and hence needs specific policy targeting.

However, from gradual approach perspective Marathwada and Vidarbha, which are relatively backward regions, ought to be given preference since extremely or the structurally poor households are mostly concentrated in these two regions.

Also, the regional disparity in terms of asset poverty matches with the backwardness of the regions. This finding substantiates the need for asset based poverty analysis over the consumption or expenditure based poverty.

One important observation coming out from the profiling of asset ownership implies that the households are poor not just because they do not own adequate assets, but also due to their lack of capability to exchange such assets in the market.

Box.4.8: Summary for Uttar Pradesh, Orissa and Tamil Nadu

Uttar Pradesh

In case of rural U.P., the regions with high concern are Eastern and Central U.P. There are two reasons. First, coefficients of the Eastern and Central dummies were negative and with similar magnitude. Also, the proportion of asset poor and their distribution are similar for both the regions. These findings do not match the extent of economic development presented in Table UP.1, but they do match with the finding of human development in these regions presented in Table UP.2.

Particular social group memberships that make the households poor are SC, ST and OBC. The regression coefficients for these social group dummies were negative and also the proportion of households belonging to such groups was higher among the structurally poor.

Some of the important assets that had negative coefficients in the regression results or were insignificant are agricultural land, machine farm equipments, cattle animals and adult belonging to working age group. These assets are directly connected to agricultural occupation which is a primary occupation for a large proportion of the households. Hence, policies need to be focused on ensuring equitable ownership of such assets and also enhancing their productivity.

A category of asset that seems to be an important source of generating income through generating labor opportunities is the hand-farm equipments. The coefficient of this asset was positive and significant. Also, the proportion of households owning such assets was quite high and was almost equal for both the samples - structurally poor and entire U.P. The productivity aspect of these kind of assets reflect that activities involving the use of such assets need to be monitored to ensure better and enhanced opportunities by assuring labor protection and improved returns.

Orissa

Orissa is a peculiar state in the sense that despite having a long coastline, a large part of it is lesser developed. In this chapter it is observed that Southern and Northern Orissa are the most backward regions, and among these two, Southern Orissa is even worse.

The highest proportion of the households belonging to ST that is the most vulnerable social group is there in Southern Orissa. Also, the highest proportion of structurally poor, i.e., both consumption and asset poor belong to this region.

The households in the Southern Orissa are mostly attached with agricultural occupations. The head of the households in this region are less educated compared to the others.

Overall, Southern Orissa needs a special poverty alleviation policy attention for both the backwardness and historical neglect in terms of economic development. In general, like anywhere else Orissa needs special focus to be given particularly to the structurally poor households, because these households own assets without sufficient exchange value for them.

Tamil Nadu

The asset based poverty analysis in Tamil Nadu gives slightly different result in comparison to what we observe for the other three states. It is so mainly for two reasons.

Firstly, the evidence of regional disparity seems to be weak in this state. Regional disparity in terms of economic or human development is not much. Moreover, the difference in the value of the assets owned is also quite low. The regional dummies were all positive and significant. Most importantly, the proportion of extremely poor doesn't differ greatly from region to region.

Secondly, agriculture doesn't seem to be a major source to provide subsistence level of consumption expenditure. This also implies that rural Tamil Nadu has got potential for exploring various agricultural opportunities and making them accessible to a large proportion of households. Another important point to note is that non-agricultural activities seem to be a good source of generating income and hence this can be harnessed properly.

All of these points don't mean that Tamil Nadu has achieved fairly in terms of removing poverty. For median as a poverty line, the extremely or the structurally poor are about 37%. So, the asset related problems of this proportion needs to be addressed.

A.4.1 Appendix for Maharashtra

Table MH.1: Consumption Poverty versus Asset Poverty: No. of households in Mumbai-Konkan Region			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	396 (59%)	104 (15.5%)	500 (74.5%)
Asset Poor	66 (10%)	105 (15.5%)	171 (25.5%)
Total	462 (69%)	209 (31%)	671 (100%)
* All the figures in this table are rounded off to the nearest value. Figures in brackets are proportion of total households in Mumbai-Konkan region. Source: Same as Table 4.3			

Table MH.2: Consumption Poverty versus Asset Poverty: No. of households in Pune-Nashik region			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	1098 (44.5%)	368 (15%)	1466 (59.5%)
Asset Poor	334 (13.5%)	668 (27%)	1002 (40.5%)
Total	1432 (58%)	1036 (42%)	2468 (100%)
* All the figures in this table are rounded off to the nearest value. Figures in brackets are proportion of total households in Pune-Nashik region. Source: Same as Table 4.3			

Table MH.3: Consumption Poverty versus Asset Poverty: No. of households in Marathwada region			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	273 (23%)	162 (14%)	435 (37%)
Asset Poor	228 (19.7%)	510 (43.3%)	738 (63%)
Total	501 (42.7%)	672 (57.3%)	1173 (100%)
* All the figures in this table are rounded off to the nearest value. Figures in brackets are proportion of total households in Marathwada region. Source: Same as Table 4.3			

Table MH.4: Consumption Poverty versus Asset Poverty: No. of households in Vidarbha region			
	Consumption Non-Poor	**Consumption Poor**	**Total**
Asset Non-Poor	266 (18%)	119 (8%)	385 (26%)
Asset Poor	241 (16%)	872 (58%)	1113 (74%)
Total	507 (34%)	991 (66%)	1498 (100%)

*** All the figures in this table are rounded off to the nearest value.**
Figures in brackets are proportion of total households in Vidarbha region.
Source: Same as Table 4.3

A.4.2 Appendix for Uttar Pradesh

Table UP.1: Population and NSDP Shares for Regions in U.P.			
Regions	Share of Population	Share in NSDP, 2006-07	Ratio of Col.II to Col.I
	(I)	(II)	
Western U.P.	36.8%	47.56%	1.29
Central U.P.	18.1%	19%	1.05
Eastern U.P.	40.1%	28%	0.7
Southern U.P.	5.0%	5.15%	1.03
Total	100%	100%	1
Source: Calculated by author using Government of Uttar Pradesh (2011)			

Table UP.2: No. of Districts in HDI Ranking Range for Regions in U.P.				
HDI Ranking→ Regions↓	1-20	21-40	41-60	61 & above
Western U.P.	12	7	5	2
Central U.P.	3	0	7	0
Eastern U.P.	2	11	6	8
Southern U.P.	3	2	2	0
Source: Same as Table UP.1				

Table UP.3: Percentage of Total within the Region for Each Respective Category						
		Western U.P. N=3991	Central U.P. N=2013	Eastern U.P. N=5250	Southern U.P. N=560	U.P. N=11814
Agricultural Occupation		66.3%	70.5%	73.6%	81.4%	70.8%
Male Headed household		93.2%	92.8%	87.3%	90.7%	92.8%
HH Head Education	Primary and Below	49%	50%	51%	44%	50%
	Middle to Higher Sec. Education	44%	43%	41%	50%	43%
Religion	Hinduism	82%	90%	87%	96%	86%
	Islam	17%	10%	13%	4%	13%
Social Group	Scheduled Caste	25%	37%	27%	26%	28%
	Scheduled Tribe	0%	1%	1%	1%	1%
	Other Backward Classes	54%	44%	53%	52%	52%
Source: Same as Table 4.3						

Table UP.4: Mean, Median & Standard Deviation of HH Assets in U.P. & its Regions (All values, except for Human Capital, are in Rs.)					
	Western U.P.	Central U.P.	Eastern U.P.	Southern U.P.	Uttar Pradesh
HH Consumption Expenditure	2695 [2400] (1621.9)	2072 [1800] (1370.3)	2282 [2000] (1497.4)	2244 [2000] (1300)	2383 [2000] (1529)
MPCE (Adjusted)	971.5 [878] (448.6)	756 [693.6] (333.4)	757.3 [706.5] (298.2)	854.5 [826.1] (307.5)	837.2 [769.2] (378.2)
Agricultural Land (in '000)	230.5 [74.5] (664.6)	130.2 [50] (274.4)	205.2 [76.1] (406.7)	135.6 [65] (220.1)	197.7 [69.9] (489)
Non-Agricultural Land (in '000)	35.7 [20] (83.5)	17.1 [10] (25.8)	24.3 [12] (40.5)	14.5 [11] (18.3)	26.4 [15] (57.2)
Farm Business Building (in '000)	7.9 [0] (25.2)	2.7 [0] (6.5)	5.4 [0] (15.9)	5.8 [0] (42.7)	5.8 [0] (20.6)
Non-Farm Business Building (in '000)	1.5 [0] (13.9)	0.8 [0] (8.7)	2.4 [0] (27.4)	0.9 [0] (5)	1.8 [0] (20.3)
Residential Building (in '000)	58.3 [40] (65.9)	41.9 [28] (48.4)	64.7 [40] (87.8)	42.6 [26] (54.5)	57.6 [35] (74.2)
Cattle Animals	6804.1 [4200] (8953.1)	4399.1 [1650] (7060.1)	4232.5 [1500] (6890.2)	4839.8 [2400] (6620)	5158.4 [2150] (7754.5)
Poultry Animals	8.5 [0] (201.7)	13.5 [0] (331.8)	15.2 [0] (196.3)	8.7 [0] (74.8)	12.3 [0] (223.4)
Hand-Farm Equipment	870.8 [250] (1881.9)	707 [200] (1336.3)	647 [210] (2180.1)	832.5 [210] (2235.7)	741.6 [220] (1964.4)
Machine-Farm Equipment	7408.1 [0] (31,862.5)	6399.8 [0] (32,178.8)	8605.8 [0] (45,130)	7968.3 [0] (36,062.4)	7795.1 [0] (38,554.9)
Non-Farm Business Equipment	690 [0] (7848)	386.8 [0] (2725.3)	1135 [0] (20,823.4)	254.4 [0] (1207.8)	815.4 [0] (14,659.7)
Transport Equipment	3201.1 [500] (14,049.9)	3231.4 [475] (21,721.9)	3783 [540] (22,352.7)	19,464.3 [450] (41,4247.9)	4235.7 [500] (92,200.7)
Durable Assets	8991.3 [4960] (13,362.8)	7524.6 [4000] (10,755.3)	8341.8 [4390] (12,372.7)	10,365.5 [6550] (11,666)	8517.9 [4625] (12,445.7)
Financial Assets	4850.4 [300] (30,929.4)	3654.8 [200] (23,462.3)	2488 [160] (15,989.4)	2763.5 [400] (16,655.7)	3498 [200] (23,338.8)
Household Size	5.6 [6] (2.7)	5.5 [5] (2.9)	6 [6] (3.4)	5.3 [5] (2.9)	5.8 [5] (3)
Scaled Household Size	2.8 [2.7] (1.1)	2.8 [2.6] (1.2)	3 [2.8] (1.4)	2.7 [2.6] (1.1)	2.9 [2.7] (1.2)

Table UP.4 contd.

	Western U.P.	Central U.P.	Eastern U.P.	Southern U.P.	Uttar Pradesh
Adult (in working age group)	2.8 [2] (1.6)	2.8 [2] (1.7)	3 [2] (1.9)	2.7 [2] (1.7)	2.9 [2] (1.8)
Children (<14 years)	2.5 [2] (1.9)	2.3 [2] (1.9)	2.6 [2] (2.1)	2.1 [2] (1.7)	2.5 [2] (1.9)
Elderly (>60 years)	0.36 [0] (0.63)	0.37 [0] (0.64)	0.43 [0] (0.70)	0.43 [0] (0.72)	0.40 [0] (0.67)

*Figures in square brackets are Median and that in round brackets are standard Deviation.
Sample size for each region is same as in Table UP.3.
Source: Same as Table 4.3

Table UP.5: Ordinary Least Square Estimates (Dependent Variable: (Logarithmic Value of) Scaled Consumption Expenditure)		
R-Square		0.35
No. of observations		11810
F-Statistic		105.93
Probability>F		0.0000
	Coefficient	t-value (based on Robust Standard Errors)
Western-U.P._Dummy	0.088	6.39
Central-U.P._Dummy	-0.074	-5.07
Eastern-U.P._Dummy	-0.086	-6.23
Male-HouseholdHead_Dummy	0.051	4.58
Primary &Below_Dummy	-0.143	-9.95
Middle to High Secondary_Dummy	-0.097	-7.13
Religion-Hindu_Dummy	-0.12	-2.01
Religion-Islam_Dummy	-0.126	-2.1
Scheduled Tribe_Dummy	-0.127	-4.28
Scheduled Caste_Dummy	-0.033	-3.3
OtherBackwardClasses_Dummy	-0.019	-2.24
KisanCreditCard_Dummy	0.021	1.56
Occupation_Agriculture_Dummy	-0.049	-6.16
Agricultural Land	-0.013	-1.98
Non-Agricultural Land	-0.068	-9.85
Hand-Farm Equipment	0.038	2.96
Financial Assets	-0.027	-2.48
Agricultural Land squared	0.003	9.45
Agricultural Land_HandFarmEquipment	0.001	3.06
Agricultural Land_Durable Assets	-0.002	-3.19
Agricultural Land_Financial Assets	-0.0007	-2.54
Non-Agricultural Land squared	0.005	10.98
Non-AgriLand_Non-farm Business Equipment	0.001	3.68
Non-AgriLand_Transport Equipment	-0.001	-2.52

Table UP.5 contd.

	Coefficient	t-value (based on Robust Standard Errors)
Residential Building_Durable Assets	0.004	7.83
Residential Building_Financial Assets	-0.003	-3.87
Cattle Animals_Durable Assets	0.0006	5.22
Hand-Farm Equipment squared	0.002	3.34
Machine Farm Equipment_Transport Equipment	0.0004	1.74
Transport Equipment_Durable Assets	0.003	4.87
DurbaleAssets_Financial Assets	0.008	6.86
Financial Assets squared	0.0025	6.32
Children	0.206	4.59
Children_Adult	-0.075	-7.76
Adult_Edlerly	0.057	2.27
Adult_Non-Agri Land	0.0055	3.08
Adult_Transport Equipment	-0.011	-5.33
Adult_Financial Assets	-0.008	-2.94
Child_squared	-0.035	-4.1
Elderly_Hand Farm Equipment	0.017	2.21
Other Animals	0.016	1.84
Constant	-0.158	-2.05
		Source: Same as Table 4.3

Table UP.6: Percentage of Households for which Marginal Effect of an Asset on the Scaled Consumption Expenditure is Positive (U.P.)	
Agricultural Land	68%
Non-Agricultural Land	98%
Farm Business Building	22%
Non-Farm Business Building	0%
Residential Building	96%
Cattle Animals	100%
Poultry Animals	81%
Hand-Farm Equipment	80%
Machine-Farm Equipment	41%
Non-Farm Business Equipment	97%
Transport Equipment	77%
Durable Assets	88%
Financial Assets	85%
Adult (in working age group)	13%
Children (<14 years)	60%
Elderly (>60 years)	0.7%
Other Animals	54.4%
	Source: Same as Table 4.3

Table UP.7: Consumption Poverty versus Asset Poverty: No. of households in U.P.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	3899 (33%)	1654 (14%)	5553 (47%)
Asset Poor	2008 (17%)	4253 (36%)	6261 (53%)
Total	5907 (50%)	5907 (50%)	11814 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in U.P.
Source: Same as Table 4.3

Table UP.8: Consumption Poverty versus Asset Poverty: No. of households in Western U.P.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	2299 (57.6%)	782 (19.6%)	3081 (77.2%)
Asset Poor	359 (9%)	551 (13.8%)	910 (22.8%)
Total	2658 (66.6%)	1333 (33.4%)	3991 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Western U.P.
Source: Same as Table 4.3

Table UP.9: Consumption Poverty versus Asset Poverty: No. of households in Central U.P.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	314 (15.6%)	203 (10.1%)	517 (25.7%)
Asset Poor	471 (23.4%)	1025 (50.9%)	1496 (74.3%)
Total	785 (39%)	1228 (61%)	2013 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Central U.P.
Source: Same as Table 4.3

Table UP.10: Consumption Poverty versus Asset Poverty: No. of households in Eastern U.P.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	1008 (19.2%)	520 (9.9%)	1528 (29.1%)
Asset Poor	1118 (21.3%)	2604 (49.6%)	3722 (70.9%)
Total	2126 (40.5%)	3124 (59.5%)	5250 (100%)
* All the figures in this table are rounded off to the nearest value. The figures in brackets are proportion of the total households in Eastern U.P. Source: Same as Table.4.3			

Table UP.11: Consumption Poverty versus Asset Poverty: No. of households in Southern U.P.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	225 (40.2%)	112 (20%)	337 (60.2%)
Asset Poor	103 (18.3%)	120 (21.5%)	223 (39.8%)
Total	328 (58.5%)	232 (41.5%)	560 (100%)
* All the figures in this table are rounded off to the nearest value. The figures in brackets are proportion of the total households in Southern U.P. Source: Same as Table 4.3			

Table UP.12: Comparing the profile of the Structurally Poor against entire U.P.			
		Structurally Poor	U.P
Male Headed household		73%	71%
Agricultural Occupation		87%	91%
HH Head Education	Primary and Below	69%	50%
	Middle to Higher Secondary Education	29%	43%
Religion	Hinduism	85%	86%
	Islam	15%	13%
Social Group	Scheduled Caste	39%	28%
	Scheduled Tribe	2%	1%
	Other Backward Classes	49%	52%
Source: Same as Table 4.3			

Table UP.13: Comparing the Assets and MPCE of the Structurally Poor against entire U.P.

	Structurally Poor			U.P.		
	Mean	Median	% of hh holding assets	Mean	Median	% of hh holding assets
Agricultural Land (in '000)	73	33	65	204	84	74
Non-Agricultural Land (in '000)	14	10	98	29	15	99
Residential Buildings (in '000)	34	25	98	60	40	99
Cattle Animals	2810	0	49	5590	3000	63
Hand-Farm Equipment	369	150	87	781	250	38
Machine-Farm Equipment	1252	0	8	7224	0	21
Transport Equipments	894	400	60	3318	500	72
Durable Assets	4359	3000	100	8984	4950	100
Financial Assets	395	100	81	3829	225	88
MPCE (Adjusted)	569	581	-	837	769	-

Source: Same as Table 4.3

A.4.3 Appendix for Orissa

Table OR.1: Population and NSDP shares for Regions in Orissa			
Regions	Share of Population (I)	Share in NSDP, 2009-10 (II)	Ratio of Col.II to Col.I
Coastal Orissa	48%	44.44%	0.92
Northern Orissa	35%	39.59%	1.13
Southern Orissa	17%	15.97%	0.93
Total	100%	100%	1
Source: Government of Orissa 2010, and Government of India 2001			

Table OR.2: No. of Districts in HDI Ranking Range for Regions in Orissa			
HDI Ranking→ Regions↓	1 to 10	11 to 20	21 to 30
Coastal Orissa	5	4	2
Northern Orissa	5	4	2
Southern Orissa	0	2	6
Source: Same as Table OR.1			

Table OR.3: Percentage of Total within the Region for Each Respective Category					
		Coastal Orissa (N=1585)#	Southern Orissa (N=620)	Northern Orissa (N=1175)	Orissa (N=3380)
Agricultural Occupation		57.8%	79.3%	68.1%	65.9%
Male Headed household		89.1%	92.2%	90.1%	90.1%
HH Head Education	Primary and Below	43%	73%	53%	53%
	Middle to Higher Secondary Education	46%	25%	41%	40%
Religion	Hinduism	98%	94%	97%	97%
	Islam	0.8%	0.6%	0.8%	0.7%
Social Group	Scheduled Caste	24%	23%	15%	20%
	Scheduled Tribe	6%	45%	44%	27%
	Other Backward Classes	45%	28%	35%	38%
# N is the sample size for the corresponding region Source: Same as Table 4.3					

Table OR.4: Mean, Median and Standard Deviation of HH Assets in Orissa & its Regions (All values, except for Human Capital are in Rs.)				
	Coastal Orissa	Southern Orissa	Northern Orissa	ALL Orissa
HH Consumption Expenditure	1861.6 [1600] (1218.3)	1072 [825] (710.6)	1338.5 [1200] (755.7)	1514.2 [1300] (1032)
MPCE (Adjusted)	692.2 [619] (303.9)	452.8 [393.7] (241.9)	530 [500] (209)	585.6 [531.3] (279.3)
Agricultural Land (in '000)	41.9 [7.2] (140.5)	26.1 [12] (46.6)	40 [16.5] (71.4)	38 [12] (104.8)
Non-Agricultural Land (in '000)	20.2 [10] (130.5)	3.4 [2.4] (4.3)	7.8 [5] (10.6)	12.4 [5] (87.2)
Farm Business Building (in '000)	1.7 [0] (4.1)	0.5 [0] (1.03)	2 [0] (4.4)	1.5 [0] (3.9)
Non-Farm Business Building (in '000)	0.7 [0] (4.4)	0.13 [0] (1.3)	0.3 [0] (5.4)	0.4 [0] (4.4)
Residential Building (in '000)	41.5 [20] (79.7)	11.7 [7] (14.8)	27 [16] (35.1)	30.2 [15] (58.4)
Cattle Animals	2176.9 [0] (3489)	2182.3 [0] (3327)	2769.1 [500] (5240)	2386.3 [0] (4171.4)
Poultry Animals	18.4 [0] (81.7)	66.5 [0] (118.8)	75.9 [0] (164.3)	48.6 [0] (126.8)
Hand-Farm Equipment	302.3 [150] (422.6)	290 [240] (268)	219.3 [150] (235.6)	270.6 [180] (338.6)
Machine-Farm Equipment	376.9 [0] (8500.6)	130.6 [0] (3346.4)	266.7 [0] (2264.5)	287.1 [0] (6001.4)
Non-Farm Business Equipment	839.4 [0] (6419.7)	134.5 [0] (1399)	264.2 [0] (3768.5)	491.2 [0] (4866.6)
Transport Equipment	3464.1 [400] (27792.1)	362.2 [0] (3071.7)	1929.1 [400] (53226.6)	2282.1 [300] (36616.1)
Durable Assets	9056.8 [3830] (19484.8)	2436.7 [1000] (4520)	4196.1 [1750] (7407.8)	5976.8 [2150] (14105.2)
Financial Assets	4298.6 [100] (21392.4)	851.2 [40] (8850.4)	4059.9 [50] (24650)	3501.1 [60] (20826.1)
Household Size	4.9 [5] (2.3)	4.2 [4] (1.8)	4.5 [4] (2.1)	4.6 [4] (2.2)

Table OR.4 contd.

	Coastal Orissa	Southern Orissa	Northern Orissa	ALL Orissa
Scaled Household Size	2.6 [2.5] (1)	2.3 [2.4] (0.7)	2.5 [2.4] (0.9)	2.5 [2.4] (0.9)
Adult (in working age group)	2.9 [2] (1.6)	2.4 [2] (1.1)	2.7 [2] (1.5)	2.7 [2] (1.5)
Children (<14 years)	1.6 [1] (1.4)	1.5 [1] (1.4)	1.5 [1] (1.4)	1.6 [1] (1.4)
Elderly (>60 years)	0.5 [0] (0.7)	0.3 [0] (0.6)	0.3 [0] (0.6)	0.4 [0] (0.7)

***Figures in square brackets are Median and that in round brackets are standard Deviation.**
Sample size for each region is same as in Table OR.3.
Source: Same as Table 4.3

Table OR.5: Ordinary Least Square Estimates (Dependent Variable: Scaled Consumption Expenditure)		
R-Square		**0.52**
No. of observations		**3379**
F-Statistic		**59.67**
Probability>F		**0.0000**
	Coefficient	**t-value (based on Robust Standard Errors)**
Coastal Orissa_Dummy	0.144	10.65
Southern Orissa_Dummy	-0.108	-5.73
Male-HouseholdHead_Dummy	0.036	1.67
Primary &Below_Dummy	-0.135	-4.77
Middle to High Secondary_Dummy	-0.073	-2.79
Scheduled Tribe_Dummy	-0.134	-5.99
Scheduled Caste_Dummy	-0.075	-3.59
Other Backward Classes_Dummy	-0.103	-5.72
Agricultural Occupation_Dummy	-0.041	-3.17
Non-Agricultural Land	-0.058	-3.24
Farm Business Building	0.036	2.9
Poultry Animal	-0.043	-2.36
Hand-Farm Equipment	0.029	2.1
Financial Assets	0.014	2.1
Agricultural Land_Residential Building	-0.002	-2.93

Table OR.5 contd.

	Coefficient	t-value (based on Robust Standard Errors)
Agricultural Land_Cattle Animal	0.001	2.14
Agricultural Land_Non-FarmBusiness Equipment	0.001	2.94
Agricultural Land_Transport Equipment	-0.001	-3.56
Non-Agricultural Land squared	0.004	4.66
Non-Agricultural Land_Non-Farm Business Building	-0.002	-3.82
Non-Agricultural Land_Residential Building	-0.002	-1.76
Non-Agricultural Land_Cattle Animal	-0.003	-3.95
Non-Agricultural Land_Hand-farm Equipment	0.005	3.64
Non-Agricultural Land_Durable Assets	0.005	2.42
Farm Business Building_Non-Farm Busines Building	0.003	2.97
Farm Business Building_Hand Farm Equipment	0.003	2.51
Residential Building_Cattle Animal	0.002	3.32
Residential Building_Durable Assets	-0.008	-4.38
Hand-Farm Equipment squared	-0.008	-4.52
Hand-Farm Equipment_Machine Farm Equipment	0.001	2.1
Hand-Farm Equipment_Financial Assets	-0.006	-6.41
Non-Farm Business Equipment_Financial Assets	-0.003	-3.21
Transport Equipment_Durable Assets	0.004	6.97
Transport Equipment_Financial Assets	-0.002	-2.76
Financial Assets_squared	0.005	8.15
Adult (Working Age)	0.178	2.13
Children	0.300	5.41
Elderly	-0.169	-2.44
Adult (Working Age)_squared	-0.094	-4.52
Adult (Working Age)_Residential Building	0.016	2.07
Adult (Working Age)_Hand Farm Equipment	-0.013	-2.15
Adult (Working Age)_Durable Assets	-0.018	-1.99
Elderly_Hand Farm Equipment	0.038	2.39
Constant	-0.363	-4.25
		Source: Same as Table 4.3

Table OR.6: Percentage of Households for which Marginal Effect of an Asset on the Scaled Consumption Expenditure is Positive (Orissa)	
Agricultural Land	60%
Non-Agricultural Land	94%
Farm Business Building	68%
Non-Farm Business Building	36%
Residential Building	95%
Cattle Animals	48%
Poultry Animals	19%
Hand-Farm Equipment	15%
Machine-Farm Equipment	71%
Non-Farm Business Equipment	33%
Transport Equipment	100%
Durable Assets	94%
Financial Assets	74%
Adult (in working age group)	31%
Children (<14 years)	97%
Elderly (>60 years)	26.95%
Source: Same as Table 4.3	

Table OR.7: Consumption Poverty versus Asset Poverty: No. of households in Orissa			
	Consumption Non-Poor	**Consumption Poor**	**Total**
Asset Non-Poor	1207 (35.7%)	412 (12.2%)	1619 (47.9%)
Asset Poor	483 (14.3%)	1277 (37.8%)	1760 (52.1%)
Total	1690 (50%)	1690 (50%)	3380 (100%)
* All the figures in this table are rounded off to the nearest value. Figures in brackets are proportion of total households in Orissa state. Source: Same as Table 4.3			

Table OR.8: Consumption Poverty versus Asset Poverty: No. of households in Coastal_Orissa			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	945 (59.6%)	280 (17.7%)	1225 (77.3%)
Asset Poor	139 (8.8%)	221 (13.9%)	360 (22.7%)
Total	1084 (68.4%)	501 (31.6%)	1585 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Coastal Orissa.
Source: Same as Table 4.3

Table OR.9: Consumption Poverty versus Asset Poverty: No. of households in Northern_Orissa			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	278 (23.7%)	134 (11.4%)	412 (35.1%)
Asset Poor	201 (17.1%)	562 (47.8%)	763 (64.9%)
Total	479 (40.7%)	696 (59.3%)	1175 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Northern Orissa.
Source: Same as Table 4.3

Table OR.10: Consumption Poverty versus Asset Poverty: No. of households in Southern_Orissa			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	32 (5.1%)	12 (2%)	44 (7.1%)
Asset Poor	130 (21%)	446 (71.9%)	576 (92.9%)
Total	162 (26.1%)	458 (73.9%)	620 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Southern Orissa.
Source: Same as Table 4.3

Table OR.11: Comparing the Profile of the Structurally Poor against entire Orissa			
		Structurally Poor	Orissa
Male Headed household		86.6%	90.1%
Agricultural Occupation		75.5%	65.9%
HH Head Education	Primary and Below	76.5%	53%
	Middle to Higher Secondary Education	23.1%	40%
Religion	Hinduism	95.8%	97%
	Islam	0.2%	0.7%
Social Group	Scheduled Caste	20.6%	20%
	Scheduled Tribe	48.5%	27%
	Other Backward Classes	28.3%	38%
Source: Same as Table 4.3			

Table OR.12: Comparing the Assets and MPCE of Structurally Poor against entire Orissa						
	Structurally Poor			Orissa		
	Mean	Median	% of hh holding assets	Mean	Median	% of hh holding assets
Agricultural Land (in '000)	18.9	6.5	49	38	12	63
Non-Agricultural Land (in '000)	4.3	2.6	96	12.37	5	97
Residential Buildings (in '000)	13.06	10	99	30.2	15	98
Cattle Animals	1711.9	0	42	2386.3	0	49
Hand-Farm Equipment	226.4	160	84	270.6	180	82
Machine-Farm Equipment	16.6	0	2	287.1	0	4
Transport Equipments	231.5	0	28	2282.1	300	52
Durable Assets	1585.8	910	99	5976.8	2150	99
Financial Assets	74.4	30	64	3501.1	60	74
MPCE (Adjusted)	380.1	388.9	-	585.6	531.3	-
Source: Same as Table 4.3						

A.4.4 Appendix for Tamil Nadu

Table TN.1: Population and GSDP shares for Regions in Tamil Nadu			
Regions	**Share of Population (I)**	**Share in GSDP, 2006-07 (II)**	**Ratio of Col.II to Col.I**
N. Coastal	30.4%	32.3%	1.06
Coastal	20.8%	21.7%	1.04
Southern	25.3%	24.2%	0.96
Inland	23.5%	21.8%	0.93
Total	**100%**	**100%**	**1**
Source: Calculate by author using Government of Tamil Nadu (2003)			

Table TN.2: No. of Districts in HDI Ranking Range for Regions in Tamil Nadu			
HDI Ranking→ Regions↓	**1 to 10**	**11 to 20**	**21 to 30**
N. Coastal	5	0	1
Coastal	5	4	1
Southern	0	3	4
Inland	0	3	5
Source: Same as Table TN.1			

Table TN.3: Percentage of Total within the Region for Each Respective Category						
		N.Coastal N=1520	**Coastal N=1148**	**Southern N=1596**	**Inland N=1343**	**Tamil Nadu N=5607**
Agricultural Occupation		58.2%	52.8%	51.2%	45.5%	51.6%
Male Headed household		82.5%	80.3%	79.0%	86.3%	82.2%
HH Head Education	**Primary and Below**	43%	41%	43%	48%	44%
	Middle to Higher Secondary Education	50%	51%	49%	43%	48%
Religion	**Hinduism**	93%	91%	83%	95%	91%
	Islam	3%	4%	3%	2%	3%
Social Group	**Scheduled Caste**	32.96%	25%	22%	25%	26%
	Scheduled Tribe	1.41%	0.1%	0%	2%	1%
	Other Backward Classes	63.23%	74%	75%	72%	71%
# N is the sample size for the corresponding region Source: Same as Table 4.3						

Table TN.4: Mean, Median and Standard Deviation of HH Assets in Tamil Nadu & its Regions (All values, except for Human Capital, are in Rs.)					
	N.Coastal N=1520	Coastal N=1148	Southern N=1596	Inland N=1343	Tamil Nadu N=5607
HH Consumption Expenditure	1912 [1700] (1138)	2182 [2000] (1499)	2068 [1800] (1315)	2188 [1975] (1325)	2090.7 [1847] (1327.1)
MPCE (Adjusted)	816 [750] (382.6)	964.6 [869.6] (451.2)	914.8 [833.3] (455.6)	1023 [880] (564.1)	933.4 [833.3] (479.3)
Agricultural Land (in '000)	67.03 [0] (258.1)	47.9 [0] (171.8)	32.1 [0] (113.4)	94.7 [0] (337.8)	61.6 [0] (242)
Non-Agricultural Land (in '000)	25.2 [8] (91.3)	18.8 [10] (29)	19.8 [8.5] (42)	22.2 [10] (46.8)	21.5 [9] (56.8)
Farm Business Building (in '000)	0.73 [0] (3.03)	0.88 [0] (3.6)	0.8 [0] (3.5)	1.3 [0] (10.6)	0.93 [0] (6.4)
Non-Farm Business Building (in '000)	0.62 [0] (9.03)	0.7 [0] (10.3)	0.56 [0] (5.9)	2.1 [0] (15.9)	1.03 [0] (11.16)
Residential Building (in '000)	53.8 [20] (86.7)	57.2 [24.3] (101.7)	66.3 [40] (93.2)	61.7 [30] (105.4)	60.1 [30] (97.4)
Cattle Animals	2235.2 [0] (5113.1)	2166 [0] (5781.8)	1438.1 [0] (4559.5)	1877 [0] (5520.8)	1909.4 [0] (5260.5)
Poultry Animals	13.2 [0] (92)	27.1 [0] (98)	46.6 [0] (136)	65.1 [0] (1668.5)	39.8 [0] (896)
Hand-Farm Equipment	215 [90] (586.8)	199.6 [110] (352.7)	231.4 [75] (534)	241.1 [0] (636.4)	223.4 [70] (546.1)
Machine-Farm Equipment	1841.4 [0] (11738.6)	2132.8 [0] (18687.4)	1535.9 [0] (15413.6)	1735.5 [0] (14738)	1795.1 [0] (15261.3)
Non-Farm Business Equipment	804.2 [0] (17126)	763.2 [0] (6933.5)	741.7 [0] (5060.8)	4112.7 [0] (36090.1)	1722 [0] (21435.9)
Transport Equipment	1889.5 [0] (8713.3)	3831.1 [0] (24960.4)	2383.7 [0] (17528)	5025.5 [0] (25674.7)	3338.2 [0] (20595.6)
Durable Assets	15744.2 [8225] (23228.7)	20652.8 [10860] (34338.8)	24808 [14400] (35126.4)	20381.9 [9700] (27296.8)	20513.3 [10450] (30497.9)
Financial Assets	7686.9 [120] (55564.6)	7076.4 [900] (37494.1)	6428.6 [570] (31209.5)	9434.4 [550] (42809.1)	7722 [500] (42540.2)
Household Size	4.14 [4] (1.87)	3.82 [4] (1.87)	3.81 [4] (1.88)	3.61 [4] (1.58)	3.83 [4] (1.80)

Table TN.4 contd.

	N.Coastal N=1520	Coastal N=1148	Southern N=1596	Inland N=1343	Tamil Nadu N=5607
Scaled Household Size	2.33 [2.3] (0.79)	2.2 [2.1] (0.79)	2.2 [2.1] (0.81)	2.12 [2.1] (0.67)	2.21 [2.1] (0.77)
Adult (in working age group)	2.56 [2] (1.4)	2.38 [2] (1.35)	2.42 [2] (1.43)	2.3 [2] (1.22)	2.41 [2] (1.35)
Children (<14 years)	1.22 [1] (1.25)	1.04 [1] (1.21)	1.04 [1] (1.15)	0.93 [1] (1.06)	1.05 [1] (1.17)
Elderly (>60 years)	0.36 [0] (0.63)	0.39 [0] (0.62)	0.35 [0] (0.61)	0.37 [0] (0.61)	0.37 [0] (0.62)

*Figures in square brackets are Median and that in round brackets are standard Deviation.
Sample size for each region is same as in Table TN.3
Source: Same as Table 4.3

Table TN.5: Ordinary Least Square Estimates (Dependent Variable: (Logarithmic Value of) Scaled Consumption Expenditure)		
R-Square		0.46
No. of observations		5607
F-Statistic		89.18
Probability>F		0.0000
	Coefficient	t-value (based on Robust Standard Errors)
Coastal_TamilNadu_Dummy	0.133	10.05
Southern_TamilNadu_Dummy	0.051	4.07
Inland_TamilNadu_Dummy	0.084	6.44
Male-HouseholdHead_Dummy	0.084	6.28
Primary &Below_Dummy	-0.168	-8.23
Middle to High Secondary_Dummy	-0.123	-6.63
Religion_Islam_Dummy	0.089	3.15
Scheduled Caste_Dummy	-0.046	-1.65
Other Backward Class_Dummy	-0.061	-2.24
Agricultural Land	-0.031	-4.72
Non-Agricultural Land	-0.057	-9.09
Hand Farm Equipment	-0.031	-2.26
Transport Equipment	0.032	2.86
Durable Assets	-0.082	-2.27
Agricultural Land_squared	0.003	5.87
Agricultural Land_Agricultural Building	0.002	3.61
Agricultural Land_Hand-Farm Equipment	-9E-04	-2.1
Non-Agricultural Land_sqaured	0.004	8.67
Non-Agricultural Land_Hand-Farm Equipment	0.002	3.12
Non-Agricultural land_Transport Equipment	0.002	2.79
Agricultural Building_Residential Building	-0.003	-2.91
Agricultural Building_Hand-Farm Equipment	-0.001	-2.03

Table TN.5 contd.

	Coefficient	t-value (based on Robust Standard Errors)
Residential Building_Transport Equipment	-0.001	-2.25
Residential Building_Durable Assets	-0.002	-2.37
Residential Building_Financial Assets	-0.001	-2.07
Hand Farm Equipment_squared	0.011	9.73
Transport Equipment_squared	0.003	4.28
Durable Assets_squared	0.01	4.33
Adult (in working age group)	0.416	5.83
Adult (in working age group)_squared	-0.12	-6.78
Adult_Child	-0.044	-1.72
Adult_Elderly	-0.121	-3.08
Adult_Hand-Farm Equipment	-0.01	-2.96
Adult_Business Equipment	-0.009	-2.09
Adult_Transport Equipment	-0.007	-2.27
Adult_Durable Assets	-0.023	-2.76
Constant	-0.312	-2.14
		Source: Same as Table 4.3

Table TN.6: Percentage of Households for which Marginal Effect of an Asset on the Scaled Consumption Expenditure is Positive (Tamil Nadu)	
Agricultural Land	37%
Non-Agricultural Land	86%
Farm Business Building	74%
Non-Farm Business Building	0%
Residential Building	79%
Cattle Animals	0%
Poultry Animals	0%
Hand-Farm Equipment	61%
Machine-Farm Equipment	8%
Non-Farm Business Equipment	14%
Transport Equipment	48%
Durable Assets	99%
Financial Assets	100%
Adult (in working age group)	32%
Children (<14 years)	66%
Elderly (>60 years)	0.36%
	Source: Same as Table 4.3

Table TN.7: Consumption Poverty versus Asset Poverty: No. of households in Tamil Nadu			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	1962 (35%)	729 (13%)	2691 (48%)
Asset Poor	841 (15%)	2075 (37%)	2916 (52%)
Total	2803 (50%)	2804 (50%)	5607 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Tamil Nadu state.
Source: Same as Table 4.3

Table TN.8: Consumption Poverty versus Asset Poverty: No. of households in Northern Coastal T.N.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	244 (16.1%)	132 (8.7%)	376 (24.8%)
Asset Poor	326 (21.4%)	818 (53.8%)	1144 (75.2%)
Total	570 (37.5%)	950 (62.5%)	1520 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Northern Coastal T.N.
Source: Same as Table 4.3

Table TN.9: Consumption Poverty versus Asset Poverty: No. of households in Coastal T.N.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	505 (44%)	213 (18.5%)	718 (62.5%)
Asset Poor	163 (14.2%)	267 (23.3%)	430 (37.5%)
Total	668 (58.2%)	480 (41.8%)	1148 (100%)

* All the figures in this table are rounded off to the nearest value.
Figures in brackets are proportion of total households in Coastal T.N.
Source: Same as Table 4.3

Table TN.10: Consumption Poverty versus Asset Poverty: No. of households in Southern T.N.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	565 (35.4%)	167 (10.5%)	732 (45.9%)
Asset Poor	250 (15.7%)	614 (38.4%)	864 (54.1%)
Total	815 (51.1%)	781 (48.9%)	1596 (100%)
* All the figures in this table are rounded off to the nearest value. Figures in brackets are proportion of total households in Southern T.N. Source: Same as Table 4.3			

Table TN.11: Consumption Poverty versus Asset Poverty: No. of households in Inland T.N.			
	Consumption Non-Poor	Consumption Poor	Total
Asset Non-Poor	570 (42.5%)	196 (14.6%)	766 (57.1%)
Asset Poor	171 (12.7%)	406 (30.2%)	577 (42.9%)
Total	741 (55.2%)	602 (44.8%)	1343 (100%)
* All the figures in this table are rounded off to the nearest value. Figures in brackets are proportion of total households in Inland T.N. Source: Same as Table 4.3			

Table TN.12: Comparing the Profile of the Structurally Poor against entire Tamil Nadu			
		Structurally Poor	Tamil Nadu
	Male Headed household	71.7%	82.2%
	Agricultural Occupation	60%	51.6%
HH Head Education	Primary and Below	64.5%	44%
	Middle to Higher Secondary Education	35%	48%
Religion	Hinduism	92.1%	91%
	Islam	1.2%	3%
Social Group	Scheduled Caste	38.1%	26%
	Scheduled Tribe	1.2%	1%
	Other Backward Classes	59.6%	71%
Source: Same as Table 4.3			

Table TN.13: Comparing the Assets and MPCE of the Structurally Poor against entire Tamil Nadu

	Structurally Poor			Tamil Nadu		
	Mean	Median	% of hh holding assets	Mean	Median	% of hh holding assets
Agricultural Land (in '000)	17.9	0	25%	61.6	0	33%
Non-Agricultural Land (in '000)	11.6	6	87%	21.5	9	84%
Residential Buildings (in '000)	28.2	18	88%	60.06	30	85%
Cattle Animals	1220.7	0	17%	1909.4	0	21%
Hand-Farm Equipment	133.8	75	63%	223.4	70	57%
Machine-Farm Equipment	259.8	0	5%	1795.1	0	11%
Transport Equipments	362.2	0	27%	3338.2	0	46%
Durable Assets	6786.8	4500	100%	20513.3	10450	100%
Financial Assets	563.2	100	94%	7722	500	97%
MPCE (Adjusted)	596.8	607.9	-	933.4	833.3	-

Source: Same as Table 4.3

5

A Comparative Analysis of the Situation across Four States

This is a brief chapter to present a comparison of the findings of all the four states. Although the tools of analysis are similar to the earlier chapter, here the subject of comparison relates to states rather than across regions within them.

5.1 Comparing Summary Results

There is visible predominance of agricultural occupation among the rural population of all the four states we have studied. In fact, the share of agricultural engagement is more than two third except in Tamil Nadu where it is close to 50% (see Table 5.1). The other conventional feature of rural household of these states is that the male headed households accounting for more than 80 per cent of them. Further, the educational levels of the heads of the households are at best higher secondary in all the states with the exception of Maharashtra wherein a majority are above primary level of education.

Table 5.1: Percentage of total for each State

		Maharashtra (N=5811)	Uttar Pradesh (N=11814)	Orissa (N=3380)	Tamil Nadu (N=5607)
Agricultural Occupation		70%	70.8%	65.9%	51.6%
Male Headed household		90%	92.8%	90.1%	82.2%
HH Head Education	Primary & Below	30%	50%	53%	44%
	Middle to Higher Secondary	61%	43%	40%	48%
Religion	Hinduism	88%	86%	97%	91%
	Islam	5%	13%	0.7%	3%
Social Group	Scheduled Caste	12%	28%	20%	26%
	Scheduled Tribe	14%	1%	27%	1%
	OBC	35%	52%	38%	71%

 # N is the sample size for the corresponding state
Source: Incorporated from Chapter 4

As regard to religious composition, majority are Hindus followed by Muslim households which comprise of 1% in Orissa and close to 13% in Uttar Pradesh. Distribution of households by their social groups varies across the states. Proportion of households belong to SC is lower in Maharashtra compared to other states, and those belonging to ST, which is the most vulnerable class (UNDP 2007; Government of India 2009), are highest in Orissa followed by Maharashtra and about 1% in both U.P. and Tamil Nadu. The latter two states have highest proportion of households in OBC category.

Both the average household consumption expenditure and the adjusted MPCE is lowest for Orissa (see Table 5.2), which is not surprising since it has the highest poverty in India (Tendulkar Committee Report 2009). Again, the reported average MPCE (for both adjusted as well as unadjusted) is highest for Tamil Nadu which also has the lowest poverty level (see Table 5.2).

The mean value for large number of assets (excluding human capital) is lowest for Orissa, along with the median values being quite low, too. This is indicative of an overall lower valued distribution of assets for Orissa compared with other states. Contrary to this, the mean and median values of large number of assets (excluding human capital) are highest for U.P. implying overall higher valued distribution of assets for U.P.

Table 5.2: Mean, Median and Standard Deviation of HH Assets (All Values, except for Human Capital, are in Rs.)

	Maharashtra	Uttar Pradesh	Orissa	Tamil Nadu
HH Consumption Expenditure	2447 [2000] (1593)	2383 [2000] (1529)	1514.2 [1300] (1032)	2090.7 [1847] (1327.1)
MPCE (Adjusted)	901 [800] (446)	837.2 [769.2] (378.2)	585.6 [531.3] (279.3)	933.4 [833.3] (479.3)
Agricultural Land (in '000)	153.7 [39.6] (370.9)	197.7 [69.9] (489)	38 [12] (104.8)	61.6 [0] (242)
Non-Agricultural Land (in '000)	22.5 [10] (67.1)	26.4 [15] (57.2)	12.4 [5] (87.2)	21.5 [9] (56.8)
Farm Business Building (in '000)	2.1 [0] (11)	5.8 [0] (20.6)	1.5 [0] (3.9)	0.93 [0] (6.4)
Non-Farm Business Building (in '000)	2.2 [0] (23.1)	1.8 [0] (20.3)	0.4 [0] (4.4)	1.03 [0] (11.16)

Table 5.2 contd.

	Maharashtra	Uttar Pradesh	Orissa	Tamil Nadu
Residential Building (in '000)	51.3 [30] (72)	57.6 [35] (74.2)	30.2 [15] (58.4)	60.1 [30] (97.4)
Cattle Animals	5109 [0] (10,964)	5158.4 [2150] (7754.5)	2386.3 [0] (4171.4)	1909.4 [0] (5260.5)
Poultry Animals	51 [0] (246)	12.3 [0] (223.4)	48.6 [0] (126.8)	39.8 [0] (896)
Hand-Farm Equipment	680 [240] (1814)	741.6 [220] (1964.4)	270.6 [180] (338.6)	223.4 [70] (546.1)
Machine-Farm Equipment	3225 [0] (22,001)	7795.1 [0] (38,554.9)	287.1 [0] (6001.4)	1795.1 [0] (15261.3)
Non-Farm Business Equipment	1865 [0] (22,783)	815.4 [0] (14,659.7)	491.2 [0] (4866.6)	1722 [0] (21435.9)
Transport Equipment	6286 [0] (42,473)	4235.7 [500] (92,200.7)	2282.1 [300] (36616.1)	3338.2 [0] (20595.6)
Durable Assets	12,660 [7000] (16,547)	8517.9 [4625] (12,445.7)	5976.8 [2150] (14105.2)	20513.3 [10450] (30497.9)
Financial Assets	10,355 [450] (37,758)	3498 [200] (23,338.8)	3501.1 [60] (20826.1)	7722 [500] (42540.2)
Household Size	4.87 [5] (2.37)	5.8 [5] (3)	4.6 [4] (2.2)	3.83 [4] (1.80)
Scaled Household Size	2.62 [2.5] (0.99)	2.9 [2.7] (1.2)	2.5 [2.4] (0.9)	2.21 [2.1] (0.77)
Adult (in working age group)	2.86 [2] (1.61)	2.9 [2] (1.8)	2.7 [2] (1.5)	2.41 [2] (1.35)
Children (<14 years)	1.56 [1] (1.48)	2.5 [2] (1.9)	1.6 [1] (1.4)	1.05 [1] (1.17)
Elderly (>60 years)	0.45 [0] (0.68)	0.40 [0] (0.67)	0.4 [0] (0.7)	0.37 [0] (0.62)

***Figures in square brackets are Median and that in round brackets are standard Deviation.**
Sample size for each region is same as in Table 5.1
Source: Same as Table 5.1

The relative difference between mean and median values is much higher for agricultural land in comparison to non-agricultural land implying a higher skewness in ownership of the former. The proportion of households owning agricultural land is less than 50% in Tamil Nadu. Argument of asset affluence in U.P., discussed in previous paragraph, is also reflected in the higher mean and median values of cattle animals in this state.

Residential buildings, hand farm equipment and durable assets seem to be owned by large proportion of households and the distributions of these assets seem to be less skewed. However, the distribution of financial assets is highly skewed that may be indicative of inadequate/poor reach of financial services to a large proportion of households in the rural areas.

In terms of human capital, the mean household size, both scaled and un-scaled, is lowest for Tamil Nadu and highest for U.P. Perhaps, the average number of children is the reason for such a difference in these states.

5.2 Comparing Regression Results

As we have already mentioned and re-produced in the Table 5.3 that for all the states developmental status of a region has a direct effect on scaled consumption expenditure of a household within it, with an exception for Tamil Nadu. Households headed by a male member uniformly yields additional positive consumption expenditure. Again, level of education of the head of a household matters, since a household head without a higher education degree has negative effect on its scaled consumption expenditure all over these states.

Specific religious status does not affect the consumption expenditure in general, with an exception in U.P. However, membership to the vulnerable communities like SC, ST and OBC affects scaled consumption expenditure of a household negatively, except for OBC in Maharashtra and ST in Tamil Nadu. These could be because of the fact that the proportion of people belong to the two communities in the two respective states is indeed scanty.

Kisan credit card, which is meant for financial support to rural agricultural households, has been fruitful only in U.P. and not that much in the three other states.

Table 5.3: Some Important Regression Coefficients & their Effect on Scaled Consumption Expenditure				
Coefficients	**Maharashtra**	**Uttar Pradesh**	**Orissa**	**Tamil Nadu**
Regional Dummies	+ve: Mumbai-Konkan -ve: Vidarbha; Marathwada	+ve: Western U.P. -ve: Central & Eastern U.P.	+ve: Coastal -ve: Southern	+ve all
Male-HouseholdHead	+ve	+ve	+ve	+ve
Primary &Below	-ve	-ve	-ve	-ve
Middle to High Secondary	-ve	-ve	-ve	-ve
Religion-Hindu	Insignificant	-ve	Insignificant	Insignificant
Religion-Islam	Insignificant	-ve	Insignificant	+ve
Scheduled Tribe	-ve	-ve	-ve	Insignificant
Scheduled Caste	-ve	-ve	-ve	-ve
OtherBackwardClasses	Insignificant	-ve	-ve	-ve
KisanCreditCard	Insignificant	+ve	Insignificant	Insignificant
Occupation_Agriculture	Insignificant	-ve	-ve	Insignificant
Agricultural Land	-ve	-ve	Insignificant	-ve
Non-agricultural Land	+ve	-ve	-ve	-ve
Farm Business Buildings	Insignificant	Insignificant	+ve	Insignificant
Non-farm Business Buildings	-ve	Insignificant	Insignificant	Insignificant
Residential Buildings	-ve	Insignificant	Insignificant	Insignificant
Cattle Animals	+ve	Insignificant	Insignificant	Insignificant
Poultry Animals	Insignificant	Insignificant	-ve	Insignificant
Hand-Farm Equipment	+ve	+ve	+ve	-ve
Machine-Farm Equipment	Insignificant	Insignificant	Insignificant	Insignificant
Non-Farm Business Equipment	+ve	Insignificant	Insignificant	Insignificant
Transport Equipment	Insignificant	Insignificant	Insignificant	+ve
Durable Assets	Insignificant	Insignificant	Insignificant	-ve
Financial Assets	Insignificant	-ve	+ve	Insignificant
Adult (in working age group)	Insignificant	Insignificant	+ve	+ve
Children (<14 years)	+ve	+ve	+ve	Insignificant
Elderly (>60 years)	Insignificant	Insignificant	-ve	Insignificant
Agricultural Land & Farm Business Buildings	Insignificant	Insignificant	Insignificant	+ve
Agricultural Land & Hand-Farm Equipment	Insignificant	+ve	Insignificant	-ve
Agricultural Land & Machine Farm Equipment	Insignificant	Insignificant	Insignificant	Insignificant
Agricultural Land & Cattle Animals	Insignificant	Insignificant	+ve	Insignificant
Agricultural Land & Transport Equipment	Insignificant	Insignificant	-ve	Insignificant
Agricultural Land & Financial Assets	Insignificant	-ve	Insignificant	Insignificant
Hand Farm Equipment & Farm Business Buildings	Insignificant	-ve	+ve	-ve
Hand Farm Equipment & Adult	Insignificant	Insignificant	-ve	-ve
Machine Farm Equipments & Farm Business Building	+ve	Insignificant	Insignificant	Insignificant

Source: Incorporated from fourth chapter.
All positive or negative signs were significant.

None of the assets related to agriculture bear any evidence of having a significant positive influence on consumption expenditure across majority of the states. This implies that agriculture, which is a principal occupation for majority of the households, is not sufficiently rewarding to induce affluence or rise in consumption. The only exception is the hand farm equipment that is positive for all states, except Tamil Nadu.

Similarly, even in terms of the dependence of consumption expenditure on human capital is weak, which could be due to low education level and poor health status of the entire rural community in the selected states.

5.3 Comparing Asset Poverty

Table 5.4 presents the regions with lowest and highest proportion of structurally or extremely poor households, i.e., the households those are poor both in consumption as well as asset dimension.

Except for Tamil Nadu where it was difficult to establish strong regional disparity between coastal and Northern coastal region, in all the other three sates the lowest proportion of structurally poor is in the most developed region of the respective state, and likewise, the highest proportion is in the least developed region.

Table 5.4: Comparison of Proportion of Structurally Poor in Regions of the States

	Maharashtra	Uttar Pradesh	Orissa	Tamil Nadu
Lowest Proportion	15.5% (Mumbai-Konkan Region)	13.8% (Western Region)	13.9% (Coastal Region)	23.3% (Coastal Region)
Highest Proportion	58% (Vidarbha Region)	50.9% (Central Region)	71.9% (Southern Region)	53.8% (Northern Coastal Region)

Source: Incorporated from fourth chapter

Highest proportion of structurally poor in a region of a state is uniformly above 50%. So, each state has a region where majority of the households are extremely poor. Orissa is much ahead with its Southern region having as high as 72% of the households being extremely poor, which is obviously a matter of grave concern.

With the exception of Tamil Nadu, the other three states have such regions where less than one-fifth of the households are structurally poor. Also, barring Tamil Nadu, in the other three states the least developed regions have about at least four times higher proportion of structurally poor than the most developed regions.

5.4 Comparing the Profiles of Structurally Static Poor Households

While comparing Table 5.5 against Table 5.1, in light of the regression results, it is apparent that the proportion of households with negative effect on the scaled consumption expenditure is higher among the structurally poor than the state as a whole for each state, and vice versa. For instance, proportion of male-headed households is lesser, or those occupied principally in agriculture is higher, within the structurally poor sample than that for the state as a whole. Similarly, the proportion of household heads having lower level of education is higher among the structurally poor. Also, proportion of households of more vulnerable communities like SC and ST is consistently higher within the structurally poor sample. However, it is the other way for those who belong to the OBC community.

Table 5.5: Comparing the Profile of the Structurally Poor across the States

		Maharashtra	Uttar Pradesh	Orissa	Tamil Nadu
Male Headed household		82%	73%	86.6%	71.7%
Agricultural Occupation		76%	87%	75.5%	60%
HH Head Education	Primary and Below	50%	69%	76.5%	64.5%
	Middle to Higher Education	49%	29%	23.1%	35%
Religion	Hinduism	85%	85%	95.8%	92.1%
	Islam	5%	15%	0.2%	1.2%
Social Group	Scheduled Caste	21%	39%	20.6%	38.1%
	Scheduled Tribe	25%	2%	48.5%	1.2%
	Other Backward Classes	31%	49%	28.3%	59.6%

Source: Incorporated from fourth chapter

The proportion of households owning six out of nine assets is quite high among the structurally poor (see Table 5.6). Machine-farm equipment is a high value asset and so occupied by a less proportion of the households. Similarly, since cattle animals involve high maintenance cost, those are in the hands of few. Surprisingly, transport equipment (including even a bicycle)

which is also helpful in saving time to promote other assets, is owned by only about 28%, except in U.P. where it is owned by 60%.

The implication here is that either the structurally poor households are not enabled sufficiently to exchange the assets they own, which could be due to poor access to relevant markets, or the assets that they own don't have sufficient value to be exchanged efficiently.

Table 5.6: Comparing the Percentage of Structurally Poor Households holding Different Kind of Assets

	Maharashtra	Uttar Pradesh	Orissa	Tamil Nadu
Agricultural Land (in '000)	47	65	49	25
Non-Agricultural Land (in '000)	89	98	96	87
Residential Buildings (in '000)	90	98	99	88
Cattle Animals	31	49	42	17
Hand-Farm Equipment	84	87	84	63
Machine-Farm Equipment	4	8	2	5
Transport Equipments	28	60	28	27
Durable Assets	99	100	99	100
Financial Assets	88	81	64	94

Source: Incorporated from fourth chapter

5.5 Summary

In this chapter, we have combined the results from the fourth chapter. It reaffirms that irrespective of the states with their distinct features, the primary occupation of agriculture is not sufficiently rewarding and, therefore, warrants policy interventions to make it a gainful mean of livelihood. Moreover, there is an every need to focus on the human capital which is not showing optimistic results perhaps due to poor educational attainment and physical health.

Particular identities of the households also need to be taken into account. For instance, household who belong to vulnerable groups like SC and ST, or households those stay in

relatively lesser developed regions need special attention. Among the four states we have analyzed, Orissa deserves even more careful attention in this regard.

On a totality, it seems that the households are not enabled sufficiently to exchange the assets they own, which could be due to poor access to relevant markets, or the assets that they own don't hold sufficient value to be exchanged efficiently. Hence, policies need to be framed to ensure asset accumulation for such households, which is discussed further in the concluding chapter in detail.

6

Conclusion and Policy Implications

The introductory chapter highlights the importance of asset based poverty alongside the missing contextualization of poverty in the assets domain in India. This study is an attempt to fill out the missing part, by adopting the asset based framework developed by Carter and May (1999 & 2001) and Adato, et al. (2006).[24] The study is done for rural areas of four Indian states, one from each of the Western, Northern, Eastern and Southern region. To be specific, Maharashtra, Uttar Pradesh, Orissa and Tamil Nadu are chosen respectively from the regions mentioned.[25] The first two objectives, stated in the introductory chapter, have been addressed in the fourth chapter. This chapter is an attempt to achieve the third objective and to conclude the study.

Adopting the asset based framework the asset indices were procured. These asset indices were used to divide the sample households into asset poor and asset non-poor. Through a cross-section of consumption poor/non-poor and asset poor/non-poor, four different types of households have been identified, viz., structurally poor (both consumption poor and asset poor), structurally non-poor (both consumption non-poor and asset non-poor), stochastically poor (consumption poor but asset non-poor), and stochastically non-poor (consumption non-poor but asset poor).

A crucial finding of this study is that agriculture is not sufficiently rewarding among rural households instead of the fact that the agriculture is the primary means of livelihood across all these states. This calls for policy intervention towards making agriculture not merely viable but gainful livelihood. Another aspect to stress upon that human capital formation mission needs

[24] Although the asset based approach has two dimensions, namely static and dynamic, and the latter one is preferred due to its capability to identify the change in poverty status of the concerned households over time, in view of unavailability of required official data we have confined ourselves to the static analysis only.
[25] The reasons for choosing the four states have been outlined in the beginning of the fourth chapter.

special attention which is near absent among the rural agricultural fraternity given their poor educational level. Households belonging to the widely known vulnerable sections like SC, ST and OBC categories are relatively less developed and, therefore, the regions populated mostly with these households need special policy attention.

One common and striking similarity across all the states is that the proportion of asset poor is the highest in the region with least human and economic development (which is also true for structurally poor). Alternatively, there exist inter-regional disparities within a state in terms of asset poverty. Also, the gain from the most important rural assets relating to agriculture is higher in the economically more developed regions vis-à-vis the lesser developed ones.

The possibility of finding higher proportion of poor in lesser developed regions is larger because such regions lack the freedom to own, accumulate and exchange assets freely in the open market (Sen 1999; Naschold 2009). Such regions are limited in various such avenues that would enhance a household's ability to nurture and gain efficiently from the assets they own. For instance, if there are credit market imperfections or limited access to insurance, then this can inhibit household's ability to invest in human capital (Galor and Zeira 1993). Similarly, due to low accumulation of economy and small spatial equipment in infrastructure such lesser developed regions become emigrational areas (Djordjevic and Panic 2007).

Overall, it seems that the households are not enabled sufficiently to exchange the assets they own, which could be due to poor access to relevant markets, or the assets that they own don't hold sufficient value to be exchanged efficiently or a combination of these two. Hence, policies need to be framed to ensure asset accumulation for such households.

6.1 Need for Asset Accumulation Policies

The importance of assets, in terms of both asset accumulation and asset exchange, has been discussed in chapter two of this thesis, and established in the fourth chapter. Reduction of asset poverty is a sustainable solution to the problem of poverty. Policies based on such reduction strategies that are based on asset accumulation and exchange sustainability helps in reducing vulnerability and increases the ability to face risk and uncertainty. Apart from generating livelihoods, assets also prove crucial in generating the capability to sustain and act (Bebbington 1999).

In the past decade, various works have been focused on highlighting the importance of asset accumulation as a sustainable solution to reduce poverty. Sherraden (1991), while arguing against the neoclassical idea of assets having same influence as income, has proposed the concept of permanent asset accumulation, synthesizing the permanent income and the life cycle hypothesis, which means the expected accumulation of assets over a lifetime.

Similarly, many researchers like Wheeler and Haddad (2005), Siegel (2005), Hoddinott et al. (2005), Carter and May (1999, 2001) and Moser (2006) have advocated the asset based poverty reduction policy for developing countries.[26]

Wheeler and Haddad (2005) have listed out pro-poor growth agenda in form of minimizing exposure to shocks or vulnerabilities, enabling consumption smoothing, counteracting asset depletion, promoting innovation and risk taking activities, focusing policies on asset accumulation and investment, and focusing policies on breaking the cycle of deprivation across generation.

On similar line of thought, Moser (2006) has recommended for the following step-by-step asset based policies:

1. First generation asset accumulation policy: Under this step poverty reduction strategies must focus on providing social and economic infrastructure for assets like human capital, physical capital and financial capital.
2. Second generation asset accumulation policy: This step is about strengthening accumulated assets to ensure further consolidation and prevent erosion. This strategy is similar to the case of Bangladesh where households depending on limited assets like an earning member, a transport equipment, a cattle, etc. become vulnerable to poverty once such assets face an event of shock, for example death of the earning member (see Krishna et al. 2010). In such instances, it becomes extremely important to insure the households after helping them in asset accumulation (Hulme and McKay 2005).

We have discussed below the adopted policy approaches for poverty reduction and further strategic suggestions in India for four important assets, viz., human capital, physical capital, financial capital and social capital.

[26] These involve both independent as well as institute-supported research. The esteemed organization like the World Bank, BASIS and the Ford Foundation are those which supported some of the researches referred above.

6.2 Poverty Reduction Policies in India and Recommended Asset Accumulation Policies

Poverty reduction policies in India are largely provisional in nature, which could also be the reason for heavy focus on research on consumption poverty in India.[27] Some of the important provisional policies are as follows:

1. Food provisioning: The most prominent schemes for provisioning of food are TPDS[28] and the mid-day meal scheme. Under TPDS, the poor are provided grains at highly subsidized rates. Similarly, mid-day meal scheme (main objective of which is to attract poor children to school) provides free meal to children attending schools. However, various studies have shown that these food distribution schemes in India have not succeeded to fulfill even minimum expectation due to victimization to seepage, corruption, high administrative costs and targeting errors (K Yesudian 2007; Jha and Srinivasan 2001; Swaminathan 2008; Kattumuri 2011; Saxena and Mander 2008). With the persisting widespread hunger and malnutrition, such provisioning of food at low prices is certainly required. But unfortunately this is not happening efficiently. Moreover, for a sustainable solution provisioning should not be the answer at all.
2. Wage provisioning: India has seen many employment generation programmes – some of these have changed faces and some have been synthesized – for providing wages to poor in cash or in kind. At present the major employment generating programmes are SGRY[29] and NREGA[30]. A large part of SGRY has been merged into NREGA.

   SGRY has been formed by merging three previously run programmes: JGSY[31] (earlier known as JRY[32]), EAS[33] and FWP[34]. The primary objectives of SGRY are to generate employment for rural poor, ensure food and nutritional security for poor, while the secondary objective is the creation of community assets and infrastructure in rural areas. While retaining the objectives of SGRY, the main intention of NREGA is to provide for

[27] There is huge debate going on regarding the validity of official poverty line in India, and hence the problem of identification of the poor. However, this is beyond the objective of this thesis and has not been discussed here.
[28] TPDS stands for Targeted Public Distribution System
[29] SGRY stands for *Sampoorna Grameen Rozgar Yojana*
[30] NREGA stands for National Rural Employment Guarantee Act, 2005
[31] JGSY stands for *Jawahar Gram Samridhi Yojana*
[32] JRY stands for *Jawahar Rozgar Yojana*
[33] EAS stands for Employment Assurance Scheme
[34] FWP sands for Food for Work Programme

100 days of unskilled manual work in a year to an adult member of every household in the rural areas, under the ambit of right to employment.

Unfortunately, NREGA and SGRY have not been able to achieve their objectives adequately in many parts of the country as can be reflected in Saxena and Mander (2007), Bandyopadhyay (2007), Datar (2007), Siddhartha and Vanaik (2008), Raabe et al. (2010), and Kumar et al. (2010). Moreover, since the employment generation programmes don't focus on enhancing the skill, they could not be sustainable in the long run.

3. Social security provisioning: There are some social security programmes run by the central and state governments to cater to certain vulnerable sections of the society. Three prominent ones fall under the umbrella of NSAP[35]. First is the NOAPS[36], renamed as IGOAPS[37], which promises to pay a fixed pension amount to the destitute elderly without any support from family or friends. However, this programme is under heavy criticism for catering to a very small section of the society and also for being fraught with various lacunae (Rajan 2010; Singhania *forthcoming*). The other two schemes under NSAP are NFBS and NMBS, both meant only for families below poverty line (BPL). NFBS provides a lump-sum amount to a BPL family whose breadwinner is victim of a natural or accidental death, whereas NMBS provides a lump-sum amount to pregnant women.

Recommended Asset Accumulation Policies

It is not that the basket of Indian poverty alleviation policies does not include asset accumulation policies. The highlights of such policies can be seen within the discussions of recommended asset accumulation policies made below. Most of the existing asset accumulation policies in India have either failed or have been with inadequate success.

1. Human Capital/capability: While discussing about human capital, which is about enhancing the productive resources, this section implicitly talks about the idea of human capability also, as discussed in Sen (1997), which gives a person a reason to value his or her life and to enhance the substantive choices available. Investment in human capital includes two components – education and health. Both these components play the role of delivering better human capital as well as improved human capabilities. In simple terms,

[35] NSAP stands for National Social Assistance Programme
[36] NOAPS stands for National Old Age Pension Scheme
[37] IGOAPS stands for Indira Gandhi Old Age Pension Scheme

a better educated person can yield better output and earn higher income, and at the same time have a life to reason with higher values. Similarly, a healthy person doesn't have to skip work and can work for longer hours of his or her life, and also live a healthy life with lesser disease to worry about.

In India, one-third of the population is illiterate and the level of education for these literate is quite low. Moreover, the skill level of large proportion of educated is not sufficient to be employed in the modern commercial activities. About 92% of the total employed is in informal and/or unorganized sector (NCEUS 2009). Though some successful steps have been taken to improve the access to education in India, the quality of education still remains doubtful. In the area of health not only quality of health, but even the accessibility to health facilities is quite bleak (Banerjee and Duflo 2011).

Reports like Government of India (2006), WHO (1999), Mehta et al. (2010), DISE (2007), and Hill and Chalaux (2011), need to be followed that give some fruitful answers to such policy perspectives that include the role of the government, private and non-government organizations.

2. Physical Capital: List of assets under physical capital is large. Some of the important ones from rural perspective are agricultural land, agriculture related tools and equipments and infrastructure like water, electricity, road, transportation, etc. All these have significant role in enhancing the gainful returns from agricultural activities.

   We have discussed, in introductory chapter of this thesis, various problems in land market in rural India. On land legislation front, there is a need to ensure the protection of property rights as recommended by Wadhwa (1989, 2002). In terms of making agriculture a rewarding avenue for the farmers, there is a need to ensure participation of and to train the farmers by taking up R&D activities in agriculture, to improve water resources and irrigation drainage/management system, to ensure proper utilization of fertilizer and pesticides, to strengthen rural non-farm sector growth, to improve access to land, to ensure proper electricity transmission and distribution, to provide better road/railways connectivity with the developed markets and adopt technological perspectives (ICRISAT 2008; Planning Commission 2007; Mahadevan 2003; PNB n.d.).

3. Financial Capital: Financial support is needed to accumulate assets and also to prevent its erosion in the event of shocks or risk and uncertainty. Though there are some self-

employment and asset generation programmes like SGSY[38], IRDP[39] and IAY[40], these have not been successful in achieving their objective. IRDP was supposed to provide subsidized credit, training and infrastructure to small farmers and landless laborers, but due many of its shortcomings SGSY was introduced to provide credit support to the enterprises of the poor individual not having proper credit-worthiness. SGSY is a kind of micro-credit programme, and like many other micro-credit programmes run by NGOs[41] and CBOs[42], it has grown at a tremendous pace.

However, a majority of the financial services, including the micro-credit services, in India are fraught with various limitations like high interest rates, default of payments, mismanagement, inadequate outreach, etc. In order to tackle such problems there is a need to ensure inclusive financial services through ensuring reach of financial services to the most needy poor and remotely located people, by reducing the cost to clients and the service providers, by providing crop insurance to protect small and marginal farmers from risk and uncertainty (VOICE 2008; Batra and Sumnajeet 2011; Jain 2011; Mohan 2004; IBA n.d.). In such cases, the successful example of *Kudumbashree* in Kerala can come in handy (Arun et al. 2011).

4. Social Capital[43]: Social capital is like 'glue' that holds together all the other assets (Moser 2006). Social capital is highly important to have the sustainable solution to the problem of poverty (Morris 1998). Given the high value attached to the importance of social capital there is a need to evolve and sustain the institutions and legal framework that enhance the growth of social capital and also implement capability building programmes that help in decision making, etc. (Government of India 2008; Murali 2006; Basargekar 2010; Krishna 2003).

In the current scenario, India is at such cross-road of development that it is difficult to set priorities for specific capital, discussed above, and hence, this work suggests that the development of all types of capital mentioned above should be stressed simultaneously.

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[38] SGSY stands for *Swarnjayanti Gram Swarozgar Yojana*
[39] IRDP stands for Integrated Rural Development Programme
[40] IAY stands for *Indira Awas Yojana*
[41] NGO stands for Non-government organization
[42] CBO stands for Community Based Organization
[43] Social capital refers to the internal social and cultural coherence of society, the norms and values that govern interactions among people and the institutions in which they are embedded (Krishna and Shrader 2000).

Finally, although unfortunately our study is limited to static analysis only due to non-availability of official longitudinal data, from the policy perspectives it is strongly advisable to do a dynamic analysis of asset-based poverty, if required information is available. The point we want to stress here is that doing the static analysis even when panel data is available should never be a choice at all. Anyway, following from the major results, and the limitations of this study, it is safe to conclude that in order to fight the problem of poverty the policy makers must equip themselves with sufficient evidence towards identifying the households who are dynamically asset poor.

References

Acharya, S. S. (2006). *Agricultural Marketing and Rural Credit for Strengthening Indian Agriculture* (No. INRM Policy Brief No. 3). India Resident Mission Policy Brief Series. New Delhi: Asian Development Bank. Retrieved from http://casi.ssc.upenn.edu/system/files/ADB+-+INRM+Policy+Brief+No.+3.pdf

Adato, M., Carter, M. R., & May, J. (2006). Exploring poverty traps and social exclusion in South Africa using qualitative and quantitative data. *Journal of Development Studies*, *42*(2), 226–247. doi:10.1080/00220380500405345

Appu, P. S. (1996). *Land Reforms in India: a survey of policy legislation and implementation*. New Delhi: Vikas Publishing House.

Arun, S., Arun, T., & Devi, U. (2011). Transforming Livelihoods and Assets through Participatory Approaches: The Kudumbashree in Kerala, India. *International Journal of Public Administration*, *34*(3), 171–179.

Bandyopadhyay, K. R. (2007). Poverty Alleviation and Pro-Poor Growth in India. *SSRN eLibrary*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1020867

Banerjee, A. V., & Duflo, E. (2011). *Poor Economics*. Perseus Books Group.

Barrett, C., & Carter, M. R. (2012). The Economics of Poverty Traps and Persistent Poverty: Policy and Empirical Implications. University of California, Riverside. Retrieved from http://dyson.cornell.edu/faculty_sites/cbb2/Papers/Barrett%20Carter%20Poverty%20Traps%2012%20May%20revision.pdf

Barrett, C., Carter, M., & Little, P. (2006). Understanding and reducing persistent poverty in Africa: Introduction to a special issue. *The Journal of Development Studies*, *42*(2), 167–177.

Basargekar, P. (2010). Measuring Effectiveness of Social Capital in Microfinance: A Case Study of Urban Microfinance Programme in India. *International Journal of Social Inquiry*, *3*, 25–43.

Batra, V., & Sumanjeet. (2011). *The State of Microfinance in India: Emergence, Delivery Models and Issues* (AIUB Bus Econ Working Paper Series No. AIUB-BUS-ECON-2011-02). American International University-Bangladesh, Office of Research and Publications (ORP). Retrieved from http://ideas.repec.org/p/aiu/abewps/88.html

Bebbington, A. (1999). Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty. *World Development*, *27*(12), 2021–2044.

Booth, C. (1889). *Life and Labour of the People in London*. London: Macmillan.

Buvinic, M., & Gupta, G. R. (1997). Female-Headed Households and Female-Maintained Families: Are They Worth Targeting to Reduce Poverty in Developing Countries? *Economic Development and Cultural Change*, *45*(2), 259–80.

Carter, M. R., & Barrett, C. B. (2006). The economics of poverty traps and persistent poverty: An asset-based approach. *Journal of Development Studies*, *42*(2), 178–199. doi:10.1080/00220380500405261

Carter, M. R., & May, J. (1999). Poverty, livelihood and class in rural South Africa. *World Development*, *27*(1), 1–20.

Carter, M. R., & May, J. (2001). One Kind of Freedom: Poverty Dynamics in Post-apartheid South Africa. *World Development*, *29*(12), 1987–2006. doi:10.1016/S0305-750X(01)00089-4

Chadha, G. K., & Sahu, P. P. (2002). Post-Reform Setbacks in Rural Employment: Issues That Need Further Scrutiny. *Economic and Political Weekly*, *37*(21), 1998–2026.

Chambers, R. (1994). The origins and practice of participatory rural appraisal. *World Development*, *22*(7), 953–969.

Chambers, R. (1992). *Poverty and Livelihoods: Whose reality counts?* (Discussion Paper No. 347). Brighton: Institute of Development Studies.

Chelliah, R. J., & Shanmugam, K. R. (n.d.). *Some aspects of inter district disparities in Tamil Nadu* (Working Paper No. 1). Working Paper No.1. India: Madras School of Economics. Retrieved from http://www.mse.ac.in/pub/wp_shanmugam.pdf

Chen, S., & Ravallion, M. (2008). *The developing world is poorer than we thought, but no less successful in the fight against poverty* (Policy Research Working Paper Series No. 4703). The World Bank. Retrieved from http://ideas.repec.org/p/wbk/wbrwps/4703.html

Chiwaula, L. S., Witt, R., & Waibel, H. (2011). An Asset-Based Approach to Vulnerability: The Case of Small-Scale Fishing Areas in Cameroon and Nigeria. *The Journal of Development Studies*, *47*(2), 338–353.

Datar, C. (2007). Failure of National Rural Employment Guarantee Scheme in Maharashtra. *Economic and Political Weekly*, *42*(34), 3454–3457.

Deaton, A., & Kozel, V. (2005). Data and Dogma: The Great Indian Poverty Debate. *The World Bank Research Observer*, *20*(2), 177–199. doi:10.1093/wbro/lki009

Deshingkar, P., & Farrington, J. (2006). *Rural Labour Markets and Migration in South Asia: Evidence from India and Bangladesh* (Background Paper). World Development Report 2008. The World Bank. Retrieved from http://siteresources.worldbank.org/INTWDR2008/Resources/2795087-1191427986785/Rural_Labour_Markets.pdf

Deshpande, R. S. (2003, March). Current Land Policy Issues in India. Food and Agriculture Organization. Retrieved from http://www.fao.org/docrep/006/y5026e/y5026e0b.htm

District Information System for Education (DISE). (2007). *The Status Of Health Education In India Critical Questions in the Nation's Development pdf free ebook download.* Retrieved from http://www.dise.in/Downloads/Use%20of%20Dise%20Data/The%20Status%20Of%20Health%20&%20Education%20In%20India%20Critical%20Questions%20in%20the%20Nation%E2%80%99s%20Development.pdf

Diwakar, D. M. (2009). Intra-Regional Disparities, Inequality and Poverty in Uttar Pradesh. *Economic and Political Weekly*, *44*(26-27), 264–273.

Djordjevic, J., & Panic, M. (2007). *UNDERDEVELOPED AREAS- SOUTH MORAVA REGION* (Collection of Papers No. 56). Belgrade: Geographical Institute "Jovan Cvijic" SASA. Retrieved from http://www.doiserbia.nb.rs/img/doi/0350-7599/2007/0350-75990756131D.pdf

Dutta, S. (2011). Asset Linked Poverty Evalution in India. *Artha Vijnana*, *53*(1), 23–39.

Ellis, F. (1999, April). Rural livelihood diversity in developing countries: evidence and policy implications. *Natural Resource Perspectives, Overseas Development Institute*, (40). Retrieved from http://www.odi.org.uk/resources/docs/2881.pdf

Ellis, F. (2004). *Occupational Diversification in Developing Countries and Implications for Agricultural Policy* (Project No. WB0207). Programme of Advisory and Support Services to DFID (PASS). Overseas Development Group.

Farsi, M., Filippini, M., & Pachauri, S. (2005). *Fuel Choices in Urban Indian Households* (CEPE Working paper series No. 05-42). CEPE Center for Energy Policy and Economics, ETH Zurich. Retrieved from http://ideas.repec.org/p/cee/wpcepe/05-42.html

Fields, G. S. (2012). *Working Hard, Working Poor: A Global Journey*. Oxford University Press.

Filmer, D., & Pritchett, L. (1998). *The effect of household wealth on educational attainment□: demographic and health survey evidence* (Policy Research Working Paper Series No. 1980). The World Bank.

Galor, O., & Zeira, J. (1993). Income Distribution and Macroeconomics. *Review of Economic Studies*, *60*(1), 35–52.

Gang, I. N., Sen, K., & Yun, M.-S. (2008). Poverty in Rural India: Caste and Tribe. *Review of Income and Wealth*, *54*(1), 50–70. doi:10.1111/j.1475-4991.2007.00259.x

Gangopadhyay, S., & Wadhwa, W. (2003). *Are Indian female-headed households more vulnerable to poverty?* India Development Foundation. Retrieved from http://www.idfresearch.org/pdf/sw%20revised.pdf

Ghosh, J. (2005). *Trade Liberalization in Agriculture: An Examination of Impact and Policy Strategies with Special Reference to India* (Human Development Occasional Papers (1992-2007) No. HDOCPA-2005-12). Human Development Report Office (HDRO), United Nations Development Programme (UNDP). Retrieved from http://ideas.repec.org/p/hdr/hdocpa/hdocpa-2005-12.html

Golait, R. (2007). Current Issues in Agriculture Credit in India: An Assessment. *Reserve Bank of India Occasional Papers*, *28*(1), 79–99.

Government of India. (2001). *Census of India 2001*. India: Government of India. Retrieved from http://censusindia.gov.in/2011-common/censusdataonline.html

Government of India. (2005). *Report of the national commission on macroeconomics and health* (pp. 85–109). New Delhi: Ministry of Health and Family Welfare, Government of India. Retrieved from http://www.who.int/macrohealth/action/Report%20of%20the%20National%20Commission.pdf

Government of India. (2008). *Social Capital- A Shared Destiny* (No. 9). Second Administrative Reforms Commission.

Government of India. (2009). *Annual Report 2008-09*. Ministry of Tribal Affairs, Government of India. Retrieved from http://tribal.nic.in/writereaddata/mainlinkfile/File1155.pdf

Government of Maharashtra. (2010). *Economic Survey of Maharashtra 2009-10*. Mumbai: Planning Department, Government of Maharashtra.

Government of Orissa. (2010). *Orissa Economic Survey 2009-10*. Bhubaneshwar, India: Planning and Coordination Department, Government of Orissa. Retrieved from http://www.odisha.gov.in/p&c/Download/Economic_Survey_Final.pdf

Government of Tamil Nadu. (2003). *Tamil Nadu: Human Development Report*. Delhi: Government of Tamil Nadu. Retrieved from http://planningcommission.nic.in/plans/stateplan/sdr_pdf/shdr_tn03.pdf

Government of Uttar Pradesh. (2011). *Annual Plan 2010-11: Uttar Pradesh* (Annual Plan) (pp. 302–322). Planning Department, Government of Uttar Pradesh. Retrieved from http://planning.up.nic.in/Annual%20Plan%202010-11%20for%20website/Volume%20-%20I%20%28%20Part-II%29/Chapter-6.prn.pdf

Haan, A. de, & Dubey, A. (2005). Poverty, Disparities, or the Development of Underdevelopment in Orissa. *Economic and Political Weekly*, *40*(22/23), 2321–2329.

Haan, A. de. (2004). *Disparities within India's poorest regions: why do the same institutions work differently in different places?* (Background Paper). Equity & Development, World Development Report 2006. The World Bank. Retrieved from http://www.rrojasdatabank.info/wdr2006/haan.pdf

Hill, S., & Chalaux, T. (2011). *Improving Access and Quality in the Indian Education System* (OECD Economics Department Working Paper No. 885). OECD Publishing. Retrieved from http://ideas.repec.org/p/oec/ecoaaa/885-en.html

Himanshu, Lanjouw, P., Mukhopadhyay, A., & Murgai, R. (2011). *Non-Farm Diversification and Rural Poverty Decline: A Perspective from Indian Sample Survey and Village Study Data* (Asia Research Centre Working Paper No. 44). London, UK: London School of Economics and Political Science. Retrieved from http://eprints.lse.ac.uk/38371/1/ARCWP44-HimanshuLanjouwMukhopadhyayMurgai.pdf

Himanshu. (2008). What Are These New Poverty Estimates and What Do They Imply? *Economic and Political Weekly*, *43*(43), 38–43.

Hoddinott, J., Quisumbing, A. R., de Janvry, A., & Woldehanna, T. (2005). Pathways From Poverty: Evaluating Long-Term Strategies To Reduce Poverty. *BASIS Brief*, (30). Retrieved from http://pdf.usaid.gov/pdf_docs/PNADE657.pdf

Hulme, D., & McKay, A. (2005). Identifying and Measuring Chronic Poverty: Beyond Monetary Measures. *SSRN eLibrary*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1756793

Hussein, K., & Nelson, J. (1998). *Sustainable Livelihoods and Livelihood Diversification: Ids Working Paper 69*. Institute of Development Studies.

ICRISAT. (2008). *Increasing Agricultural Productivity of Farming Systems in Parts of Central India through Participatory Research-cum-Demonstrations and Knowledge Sharing Innovations* (Progress Report). Andhra Pradesh: International Crops Research Institute for the Semi-Arid Tropics. Retrieved from http://www.icrisat.org/what-we-do/agro-ecosystems/SRTT/pdfs/SRTT_ProgressReport-Apri-Sep081.pdf

Indian Banks' Association (IBA). (n.d.). *Flow of Credit to Agriculture Sector: With Special Reference to Tenant Farmers, Oral Lessees and Agricultural Labourers*. IBA Sub-Committee on Flow of Credit to Agriculture. Mumbai: Indian Banks' Association. Retrieved from http://www.iba.org.in/events/flowofcreditcover.pdf

Jain, B. (2011). TWO CRISES OF INDIAN MICROFINANCE: WHY ARE THEY DISCONNECTED? Presented at the Second European Research Conference on Microfinance, Groningen, The Netherlands. Retrieved from http://www.rug.nl/gsg/Research/Conferences/EUmicrofinconf2011/Papers/1new.2A.Jain.pdf

Jalan, J., & Ravallion, M. (2001). *Household income dynamics in rural China* (Policy Research Working Paper Series No. 2706). The World Bank. Retrieved from http://ideas.repec.org/p/wbk/wbrwps/2706.html

Jha, S., &: Srinivasan, P. V. (2001). Taking the PDS to the Poor: Directions for Further Reform. *Economic and Political Weekly*, *36*(39), 3779–3786.

K Yesudian, C. A. (2007). Poverty alleviation programmes in India: a social audit. *The Indian journal of medical research*, *126*(4), 364–373.

Kattumuri, R. (2011). *Food Security and the Targeted Public Distribution System in India* (Working Paper No. 38). Asia Research Centre. London, UK: London School of Economics and Political Science. Retrieved from http://www2.lse.ac.uk/asiaResearchCentre/_files/ARCWP38-Kattumuri.pdf

Krishna, A. (2003). *Understanding, measuring and utilizing social capital: clarifying concepts and presenting a field application from India* (CAPRi working paper No. 28). International Food Policy Research Institute (IFPRI). Retrieved from http://ideas.repec.org/p/fpr/worpps/28.html

Krishna, A., & Shrader, E. (2000). *Cross-cultural measures of social capital: A tool and results from India and Panama* (Working Paper Series No. 21). Social Capital Initiative. The World Bank. Retrieved from http://siteresources.worldbank.org/INTSOCIALCAPITAL/Resources/Social-Capital-Initiative-Working-Paper-Series/SCI-WPS-21-paper.pdf

Krishna, A., Poghosyan, M., & Das, N. (2010). How Much can Asset Transfers Help the Poorest? Evaluating the Results of BRAC's Ultra-Poor Programme (2002–2008). *Journal of Development Studies, 48*(2), 254-267

Kumar, Anand, Suna, B., & Pratap, S. (2010, June). Responding to People's Protests about Poverty: Making and Implementation of the National Rural Employment Guarantee Act (NREGA) in India. Retrieved from http://www.chronicpoverty.org/uploads/publication_files/kumar_suna_pratap_nrega.pdf

Kumar, Anjani, Kumar, S., Singh, D. K., & Shivjee. (2011). Rural Employment Diversification in India: Trends, Determinants and Implications on Poverty. *Agricultural Economics Research Review*, (2011). Retrieved from http://ideas.repec.org/a/ags/aerrae/119386.html

Liverpool - Tasie, L. S. O., & Winter - Nelson, A. (2010). Asset versus consumption poverty and poverty dynamics in rural Ethiopia. *Agricultural Economics, 42*(2), 221–233. doi:10.1111/j.1574-0862.2010.00479.x

Mahadevan, R. (2003). Productivity Growth in Indian Agriculture: The Role of Globalization and Economic Reform. *Asia-Pacific Development Journal, 10*(2), 57–72.

McKay, A., & Perge, E. (2011). *How strong is the evidence for the existence of poverty traps? A multi country assessment* (Working Paper Series). Department of Economics, University of Sussex. Retrieved from http://econpapers.repec.org/paper/sussusewp/2511.htm

Mearns, R. (1999). *Access to land in rural India - policy issues and options* (Policy Research Working Paper Series No. 2123). The World Bank. Retrieved from http://econpapers.repec.org/paper/wbkwbrwps/2123.htm

Meenakshi, J. V., & Ray, R. (2002). Impact of household size and family composition on poverty in rural India. *Journal of Policy Modeling, 24*(6), 539–559.

Meenakshi, J. V., Ray, R., & Gupta, S. (2000). Estimates of Poverty for SC, ST and Female-Headed Households. *Economic and Political Weekly, 35*(31), 2748–2754.

Mehta, A., Bhatia, A., & Chatterjee, A. (Eds.). (2010). *Improving Health and Education Service Delivery in India Through Public-Private Partnerships*. Asian Development Bank.

Menon, N. (2009). Rainfall Uncertainty and Occupational Choice in Agricultural Households of Rural Nepal. *The Journal of Development Studies, 45*(6), 864–888.

Ministry of Agriculture. (2006). *State of the Indian Farmer: A Millennium Study*. Academic Foundation.

Mishra, S. (2006a). Farmers' Suicides in Maharashtra. *Economic and Political Weekly, 41*(16), 1538–1545.

Mishra, S. (2006b). *Suicide of Farmers in Maharashtra (Submitted to the Government of Maharashtra)*. Mumbai: Indira Gandhi Institute of Development Research. Retrieved from http://www.igidr.ac.in/conf/suicide/FinalReport_SFM_IGIDR_26Jan06.pdf

Mishra, S., & Panda, M. (2006). *Growth and poverty in Maharashtra* (Indira Gandhi Institute of Development Research, Mumbai Working Paper No. 2006-001). Indira Gandhi Institute of Development Research, Mumbai, India. Retrieved from http://ideas.repec.org/p/ind/igiwpp/2006-001.html

Mogues, T. (2006). *Shocks, livestock asset dynamics and social capital in Ethiopia:* (DSGD discussion paper No. 38). International Food Policy Research Institute (IFPRI). Retrieved from

http://ideas.repec.org/p/fpr/dsgddp/38.html

Mohan, R. (2004, February 5). *Agricultural Credit in India: Status, Issues and Future Agenda*. Lecture presented at the 17th National Conference of Agricultural Marketing, Indian Society of Agricultural Marketing, Hyderabad. Retrieved from http://rakeshmohan.com/docs/AgricreditBulletin.pdf

Mohanty, B. B. (2009). Regional Disparity in Agricultural Development of Maharashtra. *Economic and Political Weekly*, *44*(6), 63–69.

Morris, M. (1998). *Social Capital and Poverty in India*. Institute of Development Studies. Retrieved from http://www.ids.ac.uk/files/Wp61.pdf

Moser, C. (2006). Asset-Based Approaches to Poverty Reduction in a Globalized Context. *SSRN eLibrary*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1011176

Murali, K. S. (2006). Microfinance, social capital and natural resource management systems: conceptual issues and empirical evidences. *International Journal of Agricultural Resources, Governance and Ecology*, *5*(4), 327–337.

Narain, P., Sharma, S. D., Raj, S. C., & Bhatia, V. K. (2000). Regional disparities in socio-economic development in Tamil Nadu. *Journal of the Indian Society of Agricultural Statistics*, *53*(1), 35–46.

Naschold, F. (2005). *Identifying Asset Poverty Thresholds: New methods with an application to Pakistan and Ethiopia* (2005 Annual meeting, July 24-27, Providence, RI No. 19115). American Agricultural Economics Association (New Name 2008: Agricultural and Applied Economics Association). Retrieved from http://ideas.repec.org/p/ags/aaea05/19115.html

Naschold, F. (2009). Poor Stays Poor: Household Asset Poverty Traps in Rural Semi-Arid India. *SSRN eLibrary*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1456484

National Sample Survey Organisation (NSSO). (2006). *All-India Debt and Investment Survey: NSS 59th Round (January–December 2003)*. New Delhi: Government of India.

NCEUS. (2009). *The Challenge of Employment in India: An Informal Economy Perspective*. New Delhi: National Commission for Enterprises in the Unorganised Sector, Government of India.

OECD. (n.d.). What are Equivalence Scales? Retrieved from http://www.oecd.org/dataoecd/61/52/35411111.pdf

Paranjape, M. S. (2007). Uneven Distribution of Education in Maharashtra: Rural-Urban, Gender and Caste Inequalities. *Economic and Political Weekly*, *42*(3), 213–216.

Planning Commission. (2007). Tenth Five Year Plan. Government of India. Retrieved from http://planningcommission.nic.in/plans/planrel/fiveyr/10th/volume2/v2_ch3_2.pdf

Planning Commission. (2012). Annual Plan 2012. Government of India. Retrieved from http://planningcommission.nic.in/plans/annualplan/ap2021pdf/ap2021ch4-1.pdf

Pradhan, J. P., Sahoo, M. K., Abraham, V., & Mishra, R. K. (2004). *Interpreting the Demand for Koshala State in Orissa: Development versus Underdevelopment* (MPRA Paper No. 19345). University Library of Munich, Germany. Retrieved from http://ideas.repec.org/p/pra/mprapa/19345.html

Punjab National Bank (PNB). (n.d.). Agricultural Productivity in India –Issues and Challenges. Measures to Boost Productivity and Innovations in Agricultural Lendings by Banks: Future Trends. Punjab National Bank (PNB). Retrieved from http://www.pnbrscmbi.com/Topic_1-CSC-Agrl_Productivity.pdf

Raabe, K., Birner, R., Sekher, M., Gayathridevi, K. G., Shilpi, A., & Schiffer, E. (2010). *How to overcome the governance challenges of implementing NREGA* (IFPRI discussion paper No. 963). International Food Policy Research Institute (IFPRI). Retrieved from http://econpapers.repec.org/paper/fprifprid/963.htm

Rajan, S. I. (2010). *Demographic Ageing and Employment in India* (Working Paper Series). ILO Asia-Pacific Working paper series. Bangkok: ILO Regional Office for Asia and the Pacific, International Labour Organization.

Rao, C. H. H. (2005). *NAC Concept Paper-A Note On Agriculture And Irrigation* (Working Paper). eSocialSciences.

Rawal, V. (2008). Ownership Holdings of Land in Rural India: Putting the Record Straight. *Economic and Political Weekly*, *43*(10), 43–47.

Reserve Bank of India (RBI). (2011). *Handbook of Statistics on Indian Economy 2010-11*. Reserve Bank of India. Retrieved from http://www.rbi.org.in/scripts/AnnualPublications.aspx?head=Handbook%20of%20Statistics%20on%20Indian%20Economy

Rowntree, S. (1901). *Poverty: A study of town life*. London: Macmillan.

Sahn, D. E., & Stifel, D. C. (2000). Poverty Comparisons over Time and Across Countries in Africa. *World Development*, *28*(12), 2123–2155.

Sahn, D. E., & Stifel, D. C. (2003). Exploring Alternative Measures of Welfare in the Absence of Expenditure Data. *SSRN eLibrary*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=436692

SATHI. (2009). *Nutritional Crisis in Maharashtra*. Pune, India: Support for Advocacy and Training to Health Initiatives (SATHI). Retrieved from http://www.sathicehat.org/uploads/PastProjects/Nutritional_Crisis_in_Maharashtra_Report.pdf

Satyasai, K. J. S., & Patil, A. S. (2002). Revitalising Rural Credit System: Views of Expert Committee. *Economic and Political Weekly*, *37*(31), 3235–3238.

Saxena, N. C., & Mander, H. (2007). *Seventh Report of the Commissioners of the Supreme Court*. New Delhi: Supreme Court of India. Retrieved from http://www.righttofoodindia.org/data/comm2007seventhreport.pdf

Saxena, N. C., & Mander, H. (2008). *Eighth Report of the Commissioners of the Supreme Court: A Special Report on Most Vulnerable Social Groups and Their Access to Food*. New Delhi: Supreme Court of India. Retrieved from http://sccommissioners.org/Reports/Reports/SCC8_0908.pdf

Schreiner, M. (2006). *Is One Simple Poverty Scorecard Enough for India*. Retrieved from http://www.microfinance.com/English/Papers/Scoring_Poverty_India_Segments.pdf

Sen, A. K. (1981). *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford University Press.

Sen, A. K. (1997). Editorial: Human capital and human capability. *World Development*, *25*(12), 1959–1961.

Sen, A. K. (1990). Development as capability expansion. In K. Griffin & J. Knight (Eds.), *Human development and the international development strategy for the 1990s*. London: Macmillan in association with the United Nations.

Sen, A. K. (1999). *Development as Freedom*. Oxford University Press.

Shaban, A. (2006). Regional Structures, Growth and Convergence of Income in Maharashtra. *Economic and Political Weekly*, *41*(18), 1803–1815.

Sharma, N. K. (2011). Indigenous Institutions, Benevolent Intervention and Justice: The Case of Rural Credit Markets in India. *Contemporary Issues and Ideas in Social Sciences*, *6*(1). Retrieved from http://journal.ciiss.net/index.php/ciiss/article/viewArticle/80

Sherraden, M. W. (1991). *Assets and the poor: a new American welfare policy*. M.E. Sharpe.

Siddhartha, & Vanaik, A. (2008). CAG Report on NREGA: Fact and Fiction. *Economic and Political Weekly*, *43*(25), 39–45.

Siegel, P. B. (2005). *Using an asset-based approach to identify drivers of sustainable rural growth and poverty reduction in Central America: A conceptual framework* (Policy Research Working Paper Series No. 3475). The World Bank. Retrieved from http://ideas.repec.org/p/wbk/wbrwps/3475.html

Singhania, D. (forthcoming). Sharing the Responsibility of the Elderly: A Case of India. *International Journal of Aging in Society, forthcoming*

Srivastava, A., & Mohanty, S. K. (2010). Economic Proxies, Household Consumption and Health Estimates. *Economic and Political Weekly*, *45*(16), 55–63.

Srivastava, R. S. (2005). *Bonded Labour in India: Its Incidence and Pattern*. International Labour Office.

Sundaram, K., & Tendulkar, S. D. (2003). Poverty among Social and Economic Groups in India in 1990s. *Economic and Political Weekly*, *38*(50), 5263–5276.

Swaminathan, M. (2008). *Programmes to Protect the Hungry: Lessons from India* (Working Paper No. 70). United Nations, Department of Economics and Social Affairs. Retrieved from http://ideas.repec.org/p/une/wpaper/70.html

Tata Institute of Social Sciences (TISS). (2005). *Causes of Farmer Suicides in Maharashtra: An Enquiry*. Final Report Submitted to the Mumbai High Court. 2005-03-15. Retrieved from http://www.vnss-mission.gov.in/htmldocs/Farmers_suicide_TISS_report.pdf

Tendulkar, S. D. (2009). *Report of the expert group to review the methodology for estimation of poverty*. New Delhi: Planning Commission, Government of India. Retrieved from http://planningcommission.nic.in/reports/genrep/rep_pov.pdf

Thorat, Y. S. P. (2005). *Rural Credit in India: Issues and Concerns*. Presented at the Presidential Address, National Bank for Agriculture and Rural Development (NABARD). Retrieved from http://www.nabard.org/fileupload/DataBank/Speeches/MD_speech_Shri%20Y.S.P.%20Thorat_241105.pdf

United Nations. (2007). *UNDP Country Programme for India (2008-2012)*. United Nations. Retrieved from http://web.undp.org/asia/country_programme/CP/CP_IND_2008-2012.pdf

Viljoen, L. (1998). Factors that influence household and individual clothing expenditure: A review of research and related literature. *Journal of Family Ecology and Consumer Sciences*, *26*(1), 3–14.

Voluntary Operation in Community & Environment (VOICE). (2008). *A Report on the Success and Failure of SHG's in India – Impediments and Paradigm of Success*. New Delhi: Planning Commission, Government of India. Retrieved from http://planningcommission.nic.in/reports/sereport/ser/ser_shg3006.pdf

Wadhwa, D. C. (1989). *Guaranteeing Title to Land: A Preliminary Study*. N.M. Tripathi Private Limited.

Wadhwa, D. C. (2002). Guaranteeing Title to Land. *Economic and Political Weekly*, *37*(47), 4699–4722.

Wheeler, R. S., & Haddad, L. (2005, September). Reconciling Different Concepts of Risk and Vulnerability: A

Review of Donor Documents. Institute of Development Studies, Sussex. Retrieved from www.oecd.org/dataoecd/33/60/36570676.pdf

Wheeler, R. S., & Haddad, L. (n.d.). Reconciling Different Concepts of Risk and Vulnerability: A Review of Donor Documents.

Wooldridge, J. M. (2002). *Econometric Analysis of Cross Section and Panel Data*. Boston: MIT Press.

World Bank. (1990). *World Development Report 1990: Poverty*. New York: Oxford University Press.

World Bank. (2000): *World Development Report 2000/01: Attacking poverty*. Washington, D.C.: World Bank.

World Health Organization. (1999). *Improving Health Through Schools: National and International Strategies*. WHO Information Series on School Health. Retrieved from http://www.who.int/school_youth_health/media/en/94.pdf

Yimer, S. (2011). Determinants of food consumption expenditure in Ethiopia. *International Journal of Economics and Research*, *2*(5), 151–165.