Chapter - I

1.1. Introduction:

Development represents a situation where countries not only enable to attain high levels of income but also facilitate to break its vicious circle of poverty. It is acknowledged fact that every facet of development influences poverty and in turn gets influenced by it. There is a mutual interdependence between poverty and development. The development of the people is largely influenced by the diminution of poverty. The Millennium Development Goals (MDGs) Report 2015 states that poverty has declined significantly over the last two decades. As per the MDGs Report, the proportion of poverty dropped from 47% in 1990 to 14% in 2015 in the developing world. This shows that poverty still exists in the world. Since the problem of poverty subsists in the world, both developed and developing countries adopt number of anti-poverty measures in order to solve this problem. But the question is whether the benefits of such poverty reduction go to actual poor household or not. Are the poor households properly identified? Is there any error in the identification of poor? Keeping this in view, different methodologies have been developed by various economists to identify the poor household accurately. These methodologies help in identifying the poor and assure minimum errors associated with the identification of the poor.

1.2. Statement of the problem:

Poverty exists in both developing and developed countries. This is more in case of developing countries or less developed countries. In most of the developing countries, poverty is a stumbling block in their economic development. Therefore, it is an urgent need of the time to eradicate poverty so as to bring all-round development of the country. The Governments of less developed countries take number of social assistance schemes in order to eradicate poverty and, to distribute the benefits of such schemes, it is necessary to identify the poor properly. Thus, identification of poor and distribution of Antyodaya Anna Yojana (AAY) and Below Poverty Line (BPL) cards have great relevance at the policy level because once identified as BPL, households become eligible to obtain benefits from various social assistance programmes implemented by the Central and the State Governments. About the methods adopted for actual identification of poor at the micro level for providing various developmental assistances, a major issue has been the errors of high exclusion of the poor and the errors of high inclusion of the non-poor.

A number of strategies to identify the poor have been put forward in the international literature. Means testing (MT) identifies poor households or individuals on the basis of an income or expenditure threshold (Deaton 1997; Deaton & Zaidi 1999; Coady et al. 2003; Coady & Parker 2005). Proxy means testing (PMT) identifies poor households on the basis of criteria that relate to income such as education, housing characteristics and asset ownership (Filmer & Pritchett 2001; Sharif 2009). Participatory wealth ranking (PWR) identifies poor households on the basis of criteria defined by the community in focus group discussions, (Chambers 1999; Laderchi 2001; Simanowitz 2000; Collins 2009). Geographic targeting (GT) classifies areas or regions into poverty clusters on the basis of aggregate poverty

indicators (Coulombe 2005; Kraybill & Bashaasha 2006; Elbers et al. 2007). Among these strategies, MT is typically considered as the gold standard for the identification of the poor as it would best reflect poverty (Coady et al. 2003) – yet it is costly and requires considerable administrative capacity (Willis & Leighton 1995; Coady et al. 2003). Other strategies are said to be cheaper and easier to administer (Jehu-Appiah et al. 2010), but little is known on their effectiveness, or accuracy, to identify the poor.

Dadabhai Naoroji was the first person who estimated subsistence based poverty line at 1867-68 prices in India. After Independence, there have been many estimates of the number of poor in India. The most prominent are those by the Planning Commission which counts the poor to estimate the extent of poverty, and the Ministry of Rural Development (MORD) which identifies the poor to know "who" is living below the poverty line. The Planning Commission has been estimating the number of people below the poverty line (BPL) at both the state and national level based on consumer expenditure information collected as part of the NSSO since sixth five year plan. For estimation of poverty, the Planning Commission, for the first time, constituted the Working Group in 1962 after taking into account the recommendations of the Nutrition Advisory Committee of the Indian Council of Medical Research (ICMR, 1958) regarding balanced diet. The main object of the Working Group was to find out a desirable minimum level of living for the population. The Working Group recommended that the national minimum consumption expenditure for a rural household of five persons (four adults' consumption units) should not be less that Rs.100 per month or Rs. 20 per capita per month of 1960-61 prices. For urban areas, the figure was Rs. 125 per month or Rs. 25 per capita per month to cover the higher prices there. This poverty line was widely used in the 1960s and 1970s to estimate the poverty ratio at national and state level. The poverty norm, proposed by the Working

Group, represented a broad judgment of minimum needs but was not strictly related to nutritional requirements, although it took them into account. In July, 1977, the Planning Commission had constituted Task Force on "Projections of Minimum needs and Effective Consumption Demand" under the chairmanship of Dr. Y.K. Alagh. The Task Force provided a quantitative measure of poverty by estimating the average calorie requirements and the poverty line corresponding to the calorie requirement. It was estimated that, on an average consumer expenditure (Food and non-food) of Rs. 49.09 per capita per month was associated with a calorie intake of 2400 per capita per day in rural areas and Rs. 56.64 per capita per month with a calorie intake of 2100 per day in urban areas. This Monthly Per Capita Expenditure (MPCE) was termed as poverty line. This poverty line at 1973-74 was updated by the Planning Commission using the implicit Central Statistical Organization (CSO) private consumption expenditure deflator. Estimation of poverty by the Planning Commission, following Task Force methodology, is based on the national poverty line and pro-rata adjustment of the National Sample Survey (NSS) consumption expenditure to National Accounts Statistics (NAS) consumption across all expenditure groups of the population. The Task Force methodology, for estimating poverty, was suffered by a few criticisms, viz., the adjustment procedure, the choice of deflators to represent price changes in the poverty time, application of the same poverty line in all the states, which imply the absence of price differentials across the states, use of a fixed consumption basket over time etc. The magnitude of poverty ratio based on this methodology significantly as the adjustment factor (i.e. the difference between the NSS and the NAS consumption) increased overtime. Faced with these odds, the Planning Commission, in September, 1989, constituted the Expert Group under the chairmanship of Prof. D.T. Lakdawala to re-visit the methodology of poverty

estimation. It submitted its report in July, 1993. The Expert Group did not redefine the poverty line. It retained the one defined by the Task Force which was at national level in rural and urban areas. Its methodology was based on Uniform Reference Period (URP) consumption data. These data were collected from the households using 30 day recall period for all the items. The only difference between the expert group and the task force is that the expert group method used state specific poverty lines as against national poverty line for estimation of poverty in the state. Secondly, the expert group used the state wise consumption distribution of the NSS without any adjustment to the NAS consumption. The official estimate of poverty was derived by the Planning Commission using the Expert Group methodology until January, 2011. In order to examine the issues relating to the comparability of the NSS 50th (1993-94), NSS 55th (1999-00) and NSS 61st (2004-05) round consumer expenditure data and suggest methodologies for deriving such comparability with past and future survey data as well as recommend any changes in the existing procedures of official estimates of poverty, the Planning Commission constituted the Expert Group under the chairmanship of Suresh D. Tendulkar in December, 2005. The Group submitted its report in November, 2009. This Group did not construct a poverty line. It adopted the officially measured urban poverty line of 2004-05 based on Lakdwala methodology and converted this poverty line (which is URP- consumption based) into Mixed Reference Period (MRP) consumption. Under the MRP, consumption data of five low frequency items, viz., clothing, footwear, durables, education and institutional health expenditure over the previous year and all other items over the previous 30 days were collected. Following the Planning Commission Methodology, the Government of India launched one of the popular programmes, viz., Integrated Rural Development Programme (IRDP) in all the blocks of the country in order to eradicate poverty in

October, 1980. The objective of this programme was to assist the poorest of the poor rural families first and the target group was the rural families having annual income below the cut off line of Rs. 4,800. But families with an annual income up to Rs. 3,500 were assisted first. Registers were maintained at the village level for recording person identified to be under the poverty line as defined by the Planning Commission in monetary terms was adopted. There was no systematic survey or census to prepare the BPL list. However, it was noticed that a large number of beneficiaries who were either ineligible or were comparatively better-off got the assistance under the programme and the most eligible families were left out. Therefore, the need for a systematic survey of poor families was felt. In addition various government social sector schemes are targeted specially at the poor and require the government to identify 'below the poverty line' (BPL) beneficiaries. For this purpose the Ministry of Rural Development (MORD), India designs a BPL census and that is conducted by the states/ UTs. MORD conducted BPL censuses in 1992, 1997, and 2002 in order to identify the poor and the fourth census, known as the Socio-Economic Caste Census (SECC 2011), is recently completed. The 1992 Census used income as a criteria, the annual income cut-off was Rs. 11,000 per household, below which all were poor. The Ministry of Rural Development (MORD) used respondents' self-reported income as the main parameter to identify poor households in this Census. However, the under estimation of income by households has included more than the expected number of poor in the list. As a result, the general BPL list looks bulky with a mix of poor and non-poor. To solve this, the 1997 BPL census used food expenditure and exclusion criteria which excluded the visibly non-poor. However, the exclusion criteria were too stringent. Poor families were excluded, poverty lines were not available for all state and they were not even uniform across states and district territories (Alkire and Seth

2008; Mehrota and Mander 2009). Besides there was no scope of allowing new households to be declared poor in the interim period before the next survey was introduced (Sundaram, 2003). Due to above limitations, the 2002 BPL census shifted from exclusion criteria to a 13 criteria method based on socio-economic indicators reflecting the quality of life in rural areas. The BPL census 2002 defines poverty using 13 indicators that include a wide range of areas like landholding, housing, food security, water supply and sanitation, literacy and migration. The methodology to identify the poor based on 13-point criteria of 2002 faced severe criticism even before its implementation (Sundaram 2003; Hirway 2003; Alkire and Seth, 2008). The key criticisms relate to (i) lack of clarity in the criteria (ii) methodological drawbacks in scoring and aggregation (iii) data quality and corruption and (iv) increasing probability of wrong selection. The methodological drawbacks involve several other criticisms which are: (a) since the distance between response categories within each dimension is not necessarily equal, treating the ordinal responses (0-4) as cardinal is misleading. (b) As a one-point gain in one dimension can be compensated by an equivalent decrease, in another dimension it would make it irrelevant. (c) Equal weights of dimensions can be treated as a poor description of poverty. For instance, not having one square meal a day throughout the year is treated equivalent to open defecation or not possessing electrical appliances. (d) No national poverty line is set. In practice, almost all states and in some cases districts set their own poverty line across the 52-points scale, such that the number of BPL households is equivalent or 10% more than the proportion declared by Planning Commission for 1999-2000. Thus, households not declared as BPL in their states might be considered as BPL if living in a neighboring state. (e) Though a cap in the states' BPL estimate to not exceed 10% from the NSSO estimates of 1999-2000 was imposed for fiscal reasons, it

has been widely disputed across states. (f) The poor often has no access to credit market because of their inability to offer any acceptable collateral. But the highest score of "4" has been assigned to the household who is not indebted. Thus, the score attached to "type of indebtedness" might have ruled the poor out of the BPL category. (g) With uncertain future, "preference of assistance" is meaningless. People might have given wrong answers to get a favourable score (Mahamallik and Sahu, 2011). For making the identification of the poor household, the Government of India has conducted SECC 2011. It used separate methodology for surveying rural and urban households. Methodology based on Saxena Committee used for rural households and methodology based on Hashim Committee for urban households. This Census has adopted three criteria, viz., exclusion, inclusion and deprivation for identifying the poor households. But this Census is also not free from defects. Some of them are – basic amenities like a telephone connection, motorized two wheeler possessions is considered a luxury, information of caste details is misused, any household for urban areas that has laptop excluded, the deprivation indicators do not consider food consumption and expenditure on health is also not considered etc.

Keeping in view the difference between the Planning Commission and the MORD on estimation and identification of poor as well as the limitations of the various methodologies of the Planning Commission and BPL Census, proper identification of the poor is the need of the hour. And this will be difficult to achieve if methodological weaknesses are not addressed in appropriate manner and adopted accordingly, thus the efforts of identification of the poor may not give desired result. In this backdrop, it is very interesting to make a study for dealing with the methodological weaknesses in identifying the poor.

1.3. Identification of the poor – the need, and Alkire and Foster Multidimensional Method :

In an egalitarian society, removal of poverty has to be accorded a high priority. But before any Government decides its policy measures to solve the poverty problem, it must identify the poor, i.e. whether a household live below poverty line (BPL) or not. The poverty line is a cutoff point on the line of distribution, which usually divides the population of the country as poor and non-poor. Accordingly people having income below the poverty line are called poor and people with income above poverty line are called non-poor. Once identified as BPL, households become eligible to obtain benefits from various social assistance programmes implemented by the central and the state government. It is assumed that households possessing either BPL or AAY cards are identified as poor by the MORD, whereas households reporting spending of less than the poverty line fixed by the Planning Commission for specific states and sectors are termed as poor. Thus, there is a difference between these two agencies on estimation and identification of poor. This discrepancy generated two unwarranted errors, viz., inclusion error and exclusion error and these errors need to be addressed properly through the proper identification of the poor.

The proper identification of the poor is essential in India as it is proved from the fact that the Planning Commission has used number of methodologies as suggested by the Expert Groups from time to time with a view to identify the poor and to calculate the proportion of poverty. But the results of the various surveys using different methodologies are different from one another. This is shown in the Table 1.1

Table 1.1: Percentage of Population below poverty line

Year	2004-05		2011-12	
Area	Lakdawala Methodology	Tendulkar Methodology	Tendulkar Methodology	Rangarajan Methodology
India	27.5 %	37.2%	21.9%	29.5%
Assam	19.7%	34.4%	32%	40.9%

Source: Planning Commission Report, 2014

From the table 1.1, it is clear that the average level of poverty ratio in 2004-05 derived from the Expert Group (Lakdawala) method is lower than that derived from the Expert Group (Tendulkar) method. However, the average level of poverty percentage in 2011-12 derived from the Expert Group (Rangarajan) is higher than that derived from the Expert Group (Tendulkar) method. These differences whispering errors in the identification of the poor and it lead to a conclusion that still poverty estimation in India is not free from errors. So, the adequate identification is very necessary for providing benefits to the actual poor.

In brief, the proper identification of the poor is useful:--

➢ To distribute the benefits of the development policies to the actual poor.

➢ To reduce inequalities among the members in a society.

➢ To lessen poverty ratio in a country.

➢ To minimize errors in the estimation of poverty.

➢ To implement the developmental policies successfully.

➢ To cut the political support to the programmes whose major benefits go to the poor.

➤ To combat black marketing of benefits to some extent.

Poverty is often defined by one-dimensional measure, such as, income. But no one indicator alone can capture the multiple aspects that constitute poverty. Multidimensional poverty is made up of several factors that constitute poor people's experience of deprivation, such as, poor health, lack of education, inadequate living standard, and lack of income, disempowerment, and poor quality of work. A multidimensional measure can incorporate a range of indicators to capture the complexity of poverty and better inform policies to relieve it. One of the most widely recognized technique for identifying poor is the Alkire Foster Method of multidimensional measurement. It was developed at Oxford Poverty & Human Development Initiative (OPHI) by Sabina Alkire and Prof. James Foster.

The Alkire-Foster method identifies 'who is poor' by considering the range of deprivations they suffer. It aggregates that information to reflect societal poverty in a way that is robust and can be easily broken down to reveal how people are poor. It is a flexible technique that can incorporate several different dimensions, indicators, cut-offs and weights of poverty, according to the context, to create measures that complement income poverty indices. Measures constructed using the Alkire Foster method can identify interconnections among deprivations and improve policy design. Thus, the method captures the percentage of people who are poor (incidence) and the intensity of poverty experienced by the poor. The governments of Mexico, Colombia and Bhutan, and the state governments of Minas Gerais and Sao Paolo in Brazil are

among those to have adopted official multidimensional poverty measures using Alkire Foster method.[1]

1.4. Conceptual and Theoretical framework:

There is a theoretical framework that led us to the identification of the poor. First, we explain the concept of poverty and types of poverty to grip the idea of the subject. Secondly, following Sabina Alkire (2008), in order to measure poverty, we used three dimensions and ten indicators. We give a detail theoretical explanation of all these for getting clear idea of the study. . Thirdly, one of the objectives of our study is to find out the inclusion and exclusion errors in the identification of poor. For this, we explain the concept of errors. Finally, we elucidate the meaning of BPL and AAY card for measuring the errors.

1.4.1. The Concept of Poverty:

Poverty is a multidimensional phenomenon. Poverty can be defined as "the condition of having little or no wealth or few material possessions"[2] or "whether households or individuals have enough resources or abilities today to meet their needs."[3] Regarding the concept of poverty, there cannot be a common definition which can be broadly accepted everywhere. Some define poverty in terms of income as it considered a potential consumption and permits long term choice through savings. But income is likely to fluctuate more than consumption. Consumption is maintained through savings and dis-savings. This is why some other defines poverty

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[1] www.ophi.org.uk

[2] OED online, 2013, "Poverty, n"

[3] The World Bank – Poverty Reduction & Equity – Measuring poverty

in the context of per capita intake of calories and minimum level of consumption. Thus, there are large differences between the definitions of poverty accepted in various countries of the world. Leaving aside all these differences, it can be broadly said that poverty is a situation where a section of the society, having no fault of their own, is denied of even basic necessities of life. These basic necessities include food, clothing, housing education and basic health.

The term 'Poverty' has been defined by some economists from various view points. According to classical economist, Adam Smith, poverty is a lack of those necessities that the custom of the country renders it indecent for creditable people, even of the lowest order, to be without. Nobel laureate Amartya Sen states that the poor cannot participate adequately in communal activities, or be free of public shame from failure to satisfy conventions. According to Encyclopedia Britannica (2008), the state of one who lacks a usual or socially acceptable amount of money or material possessions. Whatever definition one uses, authorities and laypersons alike commonly assume that the effects of poverty are harmful to both individuals and society. The United Nations High Commission for Refugees (UNHCR) defines "Poverty" as a human condition characterized by the sustained or chronic deprivation of resources, capabilities, choices, security and power necessary for an adequate standard of living and other civil, cultural, economic, political as well as social rights. The World Bank's definition of Poverty is that Poverty is an income level below some minimum level necessary to meet basic needs. This minimum level is usually called the "poverty line". What is necessary to satisfy basic needs varies across time and societies. Therefore, poverty lines vary in time and place, and each country uses lines which are appropriate to its level of development, societal norms and values. But the content of the needs is more or less the same everywhere. Poverty is hunger. Poverty

is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. Poverty is losing a child to illness brought about by unclean water. Poverty is powerlessness, lack of representation and freedom. The UN defines that fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to; not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living on marginal or fragile environments, without access to clean water or sanitation.

1.4.2. The Concept of Absolute Poverty and Relative Poverty:

To understand the concept of poverty better, we may distinguish between absolute poverty and relative poverty. Absolute Poverty of a person means that his income and consumption expenditure is so meager that he lives below the minimum subsistence level. Because of his absolute poverty condition, he is unable to maintain his health and efficiency, and in fact he may be starving. On the other hand, Relative Poverty indicates large inequalities of income among the rich and the poor. Those who are in the lower incomes are relatively poor as compared to those with higher income, even though they may be living above the minimum level of subsistence.

Absolute and relative poverty trends may move in opposite directions. For example, relative poverty may decline while absolute poverty increases if the gap between upper and lower strata of a population is reduced by a decline in well being

of the former at the same that additional households fall beneath the absolute poverty line.

Amartya Sen points out that poverty can be an absolute notion in the space of capabilities, though relative in that of commodities or characteristics.[4] For example, households incapable of obtaining sufficient food for survival are considered absolutely poor. However, the costs and composition of that food basket may vary considerably between households across different groups, regions and countries.

Another feature of absolute and relative aspects of poverty pertains to changes in circumstances. For example, the well being of some households classified as relatively poor may decline, if prices rise faster than incomes, to levels formally associated with absolute poverty, without a corresponding change in status since the living standards of the absolute poor have also declined proportionally. A similar situation arises when cultural or status values change over time. To quote Paul Streeten, "Absolute deprivation is a function of relative advantage."[5]

For the measurement of poverty, it is necessary to determine the poverty line. The poverty line is a cut-off point on the line of distribution, which usually divides the population of the country as poor and non-poor. Accordingly people having income below the poverty line are called poor and people with income above poverty line are called non-poor. The determination of a poverty line cannot be based on an arbitrary selection of a low level of income. Only scientific criteria independent of income can justify where the poverty line should be drawn. Moreover, the poverty line is estimated on the basis of three factors. First, the poverty line is estimated on the basis

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[4] Sen, A.K., 'Poor, relatively speaking, in Resources, Values and Development,' Oxford, Basil Blackwell, 1994

[5] Streeten, Paul, 'Poverty Concepts and Measurement', in Poverty Monitoring: An international Concern, UNICEF, 1994, pp.19.

of minimum subsistence level of consumption, which means the minimum nutritional level of subsistence. The minimum nutritional requirements per person per day are determined on the basis of an intake of minimum calories. In India, the minimum nutritional requirements per person per day are 2400 calories and 2100 calories in rural and urban areas respectively. Secondly, the poverty line is estimated on the basis of estimated cost of the minimum nutritional diet which again is estimated on the basis of price indices of the consumption baskets. So, state specific price indices are used as deflator to update the poverty line. Finally, the poverty line is spelled out in terms of per capita consumption expenditure on the minimum subsistence level of consumption. In accordance with the study of India's Planning Commission, such per capita monthly expenditure in 2011-12 was Rs. 816 in rural areas and Rs. 1000 in urban areas. The detail of poverty line in India is shown below:

Table 1.2: Poverty line in India (in Rs. per capita per month)

Year	2004-05				2011-12			
Methodology	Lakdawala		Tendulkar		Tendulkar		Rangarajan	
Area	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Assam	387.64	378.84	478	600	828	1008	1006	1420.12
India	356.30	538.60	447	579	816	1000	972	1407

Source: Planning commission Report, 2014

1.4.3. Dimensions and Indicators used in the Study:

In the present study, following Sabina Alkire and James Foster (2008), we used three dimensions and ten indicators for the identification of poverty. Among these three dimensions, standard of living is that dimension which reflects the level of comfort and necessities available to a certain socioeconomic class in a certain geographic area. In this study, standard of living, simply, refers the quality of life. Here, it includes five indicators for its measurement. Firstly, type of house which refers different categories of houses which may vary greatly depending on the types of materials used for their construction. Houses which are simply made of readily available materials, like, bamboo, straw, tarpaulin, plastic, mud etc. are called kuccha houses. Houses that are made of bricks, cement etc are called pucca houses. Houses whose roofs are made of tins and walls are with other materials are called Assam-type houses. Similarly, Semi-pucca houses are made of bricks; cement etc. but roofs are not pucca. Secondly, Household with electricity refers whether a household has accessed to electricity or not. Thirdly, Sanitation refers to the provisions of facilities and services for the safe disposal of human urine and feces. No facility refers absence of sanitation or is usually open defecation. A dry toilet is a toilet that operates without flush water. A pit latrine without a slab is regarded as unimproved sanitation and does not count towards the target. A pit latrine with a slab is counted as being "improved" sanitation facilities as they are more likely to hygienically separate human excreta from human contact. A flush toilet is a toilet that disposes of human liquid and solid waste, by using water to flush it through a drainpipe to another location for disposal. Fourthly, type of cooking fuel refers different kinds of fuel for cooking food. It includes electricity, liquid petroleum gas (LPG), bio-gas, kerosene, coal, animal dung, wood, straw and grass. Fifthly, source of drinking water refers a place from where

water may be obtained. It includes river, well, pond and piped water or PHE supplied water. Occupational status is relating to a household's job or profession, like casual labour, government employee, non-government employee, entrepreneur, driver etc. Here, household's job refers the job of the economic head of the household. Household's assets refers the possession of various assets, like, TV, electric fan, radio, sound system, mobile phone, refrigerator, two/three/four wheeler etc. by the household. Thirdly, social and health status refers household's literacy, health and woman empowerment status.

1.4.4. Misidentification of Poor: Inclusion and Exclusion Errors

The word 'error' entails different meanings and usages relative to how it is conceptually applied. The concrete meaning of the Latin word "error" is "wandering" or "straying". Unlike an illusion, an error or a mistake can sometimes be dispelled through knowledge (knowing that one is looking at a mirage and not at real water does not make the mirage disappear). For example, a person who uses too much of an ingredient in a recipe and has a failed product can learn the right amount to use and avoid repeating the mistake. However, some errors can occur even when individuals have the required knowledge to perform a task correctly. Examples include forgetting to collect change after buying chocolate from a vending machine, forgetting the original document after making photocopies, and forgetting to turn the gas off after cooking a meal. Some errors occur when an individual is distracted by something else. In Statistics, error describes the difference between a value obtained from a data collection process and the 'true' value for the population.

Broadly, there are two types of error in statistics, viz., Type I error or inclusion error and Type II error or exclusion error. In statistical hypothesis testing, a type I

error is the incorrect rejection of a true null hypothesis (a "false positive"); while a type II error is the failure to reject a false null hypothesis (a "false negative"). More simply stated, a type I error or an inclusion error is detecting an effect that is not present, while a type II error or an exclusion error is failing to detect an effect that is present.

Cornia and Stewart (1993) explained the two types of targeting errors that occur in food and nutrition interventions. Errors of wrong exclusion (Type I errors) refer to the exclusion of genuinely poor or deserving households from a programme. These were termed 'F mistakes' by Cornia and Stewart on account of the failure to reach the target population. Errors of wrong inclusion (Type II errors) refer to the inclusion of non-eligible persons or households in a programme. These were termed 'E mistakes', that is, mistakes of excessive coverage.[6]

1.4.5. Poverty Cards: BPL and AAY Cards

Below Poverty line (BPL) is an economic yardstick and poverty margin used by the Government of India to indicate economic disadvantage and to identify individual and households in need of government assistance and aid. It is determined using various parameters which vary from state to state and within states. Poor households, in our study, are those who have BPL/AAY cards issued by the State Government while Non-poor households are those who have no such cards. According to Public Distribution System (Control) Order, 2001, 'Below Poverty Line households' means those families who have been identified by the State Government for issue of food grains at specially subsidized rates adopting the estimates of poverty given by the Central Government. A distinctive card called Below Poverty Line

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[6] Cornia and Stewart: "Two Errors of Targeting", Journal of International Development, Vol.5, No.5, pp. 459-490.

(BPL) card has been issued to those families by the State Government. In Assam, BPL families are selected on the basis of criteria mentioned by the Secretary to the Government of Assam, Food and Civil Supplies Dept., Dispur, Assam. According to this criterion, landless families, small farmers, rural artisans, daily wage earners etc. shall be eligible to be included in the list of BPL families in rural areas. While in urban areas, families living in slum localities, rickshaw pullers, hand pullers, daily wage earners and such other categories of families who are really poor may be treated as families living below poverty line. Most importantly, families with annual income of not more than rupees fifteen thousand from all sources may be considered as a BPL family. However, it is made very clear to all that no family with salaried member(s) in the family whether under Govt./Semi-Govt./Autonomous/ Private Bodies is eligible to come under BPL category. The BPL scheme was implemented in Assam on June, 1997. Under the BPL scheme, the State Government has been distributing rice@ 35kg to each of the families selected all over the state which are identified living Below Poverty Line. In addition to rice these BPL families are also provided with wheat and wheat product, kerosene oil, sugar, salt etc. through Public Distribution System (PDS) at subsidized prices.

'Antyodaya families', as per Public Distribution System (Control) Order, 2001, means those poorest families from amongst Below Poverty Line (BPL) families identified by the State Governments and are entitled to receive food grains under the Antyodaya Anna Yojana. These families have also received a unique card called Antyodaya Anna Yojana (AAY) Card. As per guidelines of the Government of India, the Antyodaya Anna Yojana has been implemented in Assam since November 2001. Under this scheme, the State Government has been providing rice @ 35 kilogram per family per month at a price of Rs. 3.00 per kilogram to each of the families selected

by the Government of Assam. In addition to rice, the families also get wheat and wheat product, sugar, salt etc.

1.5. Profile of the Study Area: The Cachar District

One of the backward states of India is Assam where a large number of persons live below the poverty line. In Assam, there are two major valleys, viz., the Brahmaputra Valley and the Barak Valley. The Barak Valley is comprised of three districts. One of such districts is Cachar. It is considered one of the oldest districts of the state of Assam. The name of "Cachar" has derived from the Dimasa word 'Kachari'. The district head quarter is located at Silchar. The district was created in 1830 after annexation of Kachari Kingdom by the British. In 1854, North Cachar was annexed and made a part of the district. In 1951 the North Cachar Sub-Division was taken out of Cachar and made a separate district. In 1983 Karimganj Sub-Division was made a separate district and finally in 1989, Hailakandi Sub-Divisions was culled out to form a new district. The official language of the district is Bengali language with majority of people residing in the district primarily speak Bengali language as well as Sylheti dialect.

Geography:

Cachar district is located in the southernmost part of Assam. It is bounded on the north by Barail and Jayantia hill ranges, on the south by the State of Mizoram, on the west by the districts of Hailakandi and Karimganj and on the east by the state of Manipur. It occupies an area of 3,786 square kilometers. The Barak is the main river of the district and apart from that there are numerous small rivers which flow from Dima Hasao district, Manipur and Mizoram. The district is mostly made up of plains,

but there are a number of tillas spread across the district. Cachar receives an average annual rainfall of more than 3000 mm. The climate is tropical wet with hot and wet summers and cool winters. . The district lies between 92° 24' E and 93° 15' E longitude and 24° 22' N and 25° 8' N latitude. Location of Cachar district of Assam is given in the Figure 1.1. and 1.2.:

Figure 1.1: Map of Assam
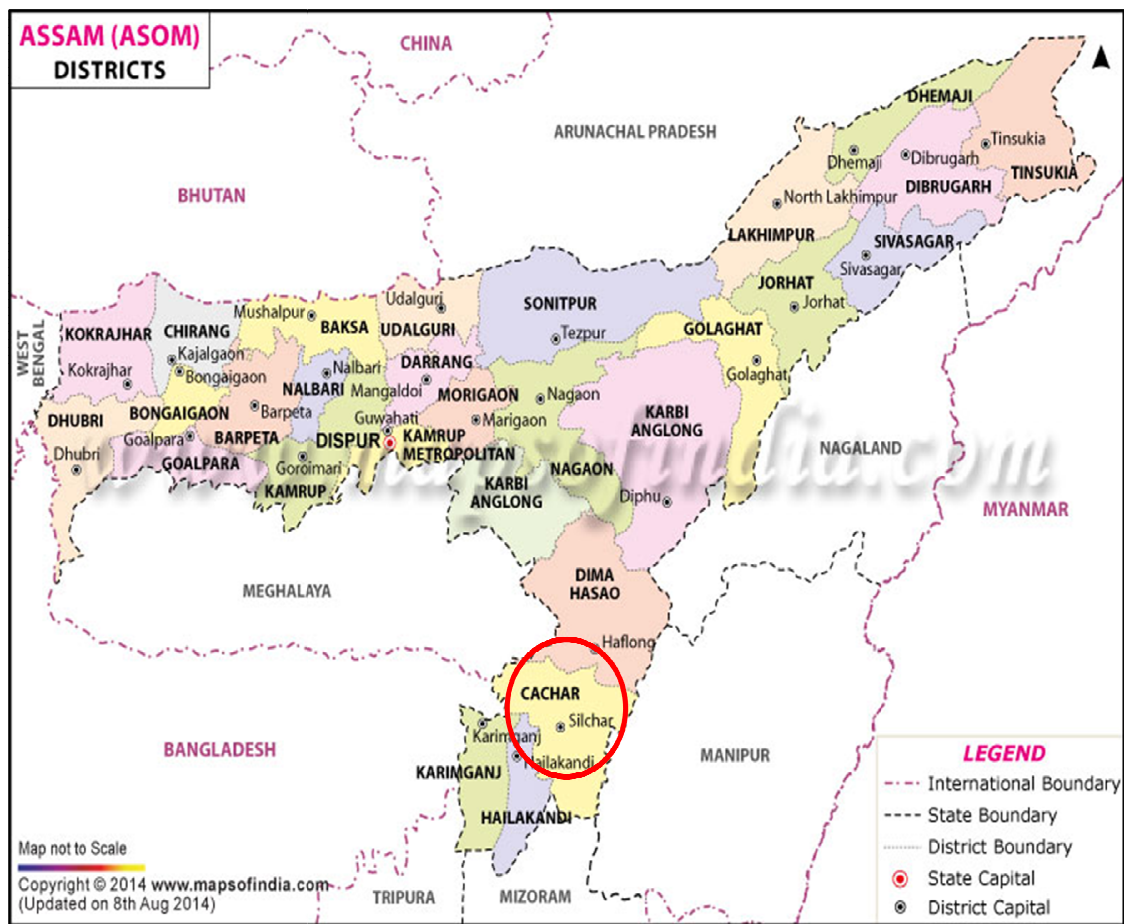
Source: www.mapsofindia.com

Figure 1.2: Map of Cachar
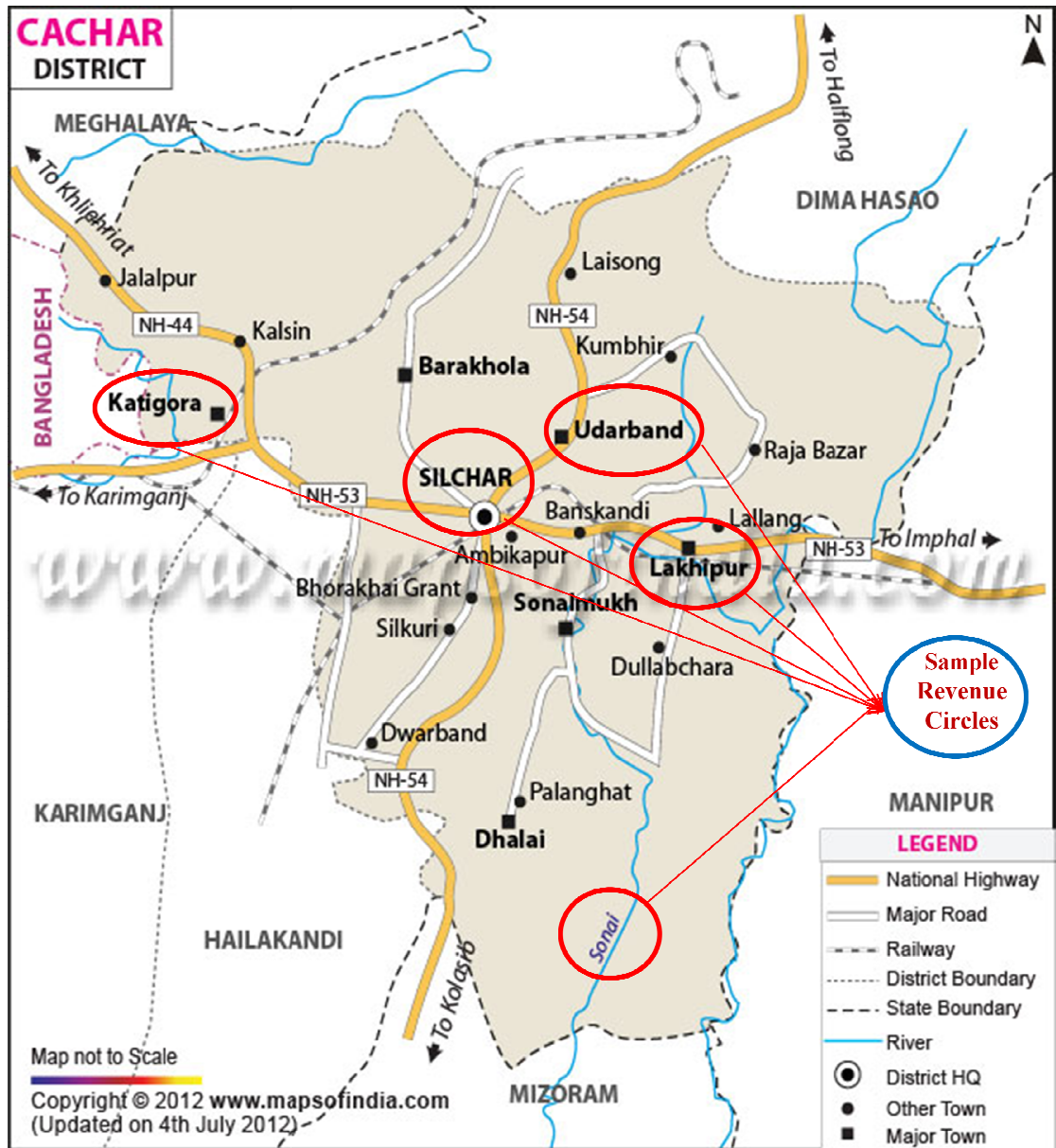
Source: www.mapsofindia.com

Administrative Division:

Administratively the district is now divided into three subdivisions viz. Silchar (Sadar), Lakhipur and Katigora Sub-Division. Below this level, there are five revenue circles, viz., Silchar, Lakhipur, Katigora, Sonai and Udharbond. Furthermore, from developmental angle, the district is divided into fifteen Community Development Blocks. Below the block level set-up, there are 163 Gaon Panchayats each comprising about ten villages on the average and governed by local self bodies. There are seven Assembly constituencies in this district, viz., Silchar, Sonai, Dholai, Udharbond, Lakhipur, Barkhola and Katigora. The seven constituencies make up the Silchar Lok Sabha constituency.

Table 1.3: Administrative Set-up in Cachar District

Administrative Level	Name	Head Quarter
District	Cachar	Silchar
Sub-division	Silchar	Silchar
	Lakhipur	Lakhipur
	Katigora	Katigora
Revenue Circle	Silchar Circle	Silchar
	Lakhipur Circle	Lakhipur
	Sonai Circle	Sonai
	Katigorah Circle	Katigorah
	Udharbond Circle	Udharbond

Source: District Information Centre, Silchar.

Economy:

The economy of Cachar district is basically agrarian in nature with about 80% of the population dependent on agriculture. Paddy is the major crop. Other important

crops include oilseeds, pulses, cash crop like jute, vegetables etc. The sectoral contribution of income in Gross District Domestic Product shows that 40% of the total income is derived from agriculture while secondary sector contributes 14%. The tertiary sector contribution is 46%. The district headquarter, Silchar, is one of the most important business centers of Assam.

Transport:

In Cachar district the length of total road under PWD as on 31-03-2012 was 1162 km .The district has connected with 107 km state highway, 165 major district roads. The district is connected with 848 km rural roads and 42 km urban roads. The railway network touches important places of Barak Valley. Now, the district is also connected by broad gauge railroads to other parts of Assam and by road to the rest of the country. Regular bus and train services are also there with other cities of North-East India. Silchar is one of the six cities of Assam to have an airport which is located at Kumbhirgram. The district is served by regular flights from Alliance Air, a subsidiary of Air India, Jet Airways.

Demographics:

According to the 2011 census, Cachar district has a population of 1,73,6617. This gives it a ranking of 278th in India out of a total of 640. The district has a population density of 459 in habitants per square kilometer. Its population growth rate over the decade 2001-2011 was 20.19%. Cachar has a sex ratio of 959 females for every 1000 males, and a literacy rate of 79.34%. Bengali is the status of official language in this district. Apart from Bengali, other minority languages spoken in the district include Manipuri, Dimasa and Rongmei-Naga. There are also few Mizo, Kuki and Khasi people who form microscopic minority. This is shown in a tabular form:

Table 1.4: Demographic features of Cachar District in 2011

Description	Revenue Circle/ District					
	Silchar	Lakhipur	Sonai	Katigora	Udharbond	**Cachar District**
Number of Households	156321	61985	71698	62857	27094	**379955**
Population	704465	291872	324315	291875	124090	**1736617**
Decadal growth of population	21.29%	15.20%	20.52%	23.27%	18.33%	**20.19%**
Literacy Rate	81.84%	74.69%	80.36%	79.84%	72.08%	**79.34%**
Sex Ratio	958 sq.km	972 sq.km	972 sq.km	943 sq.km	944 sq.km	**959 sq.km**

Source: Census of India, 2011

Poverty Status:

One of the backward districts of Assam is Cachar where a large number of households live below poverty line. . According to 2011 census, in Cachar district, there are 69,511 BPL card holders and 37, 118 AAY card holders. The detail poverty information of Cachar District is given in the Table 1.5:

Table 1.5: Details of BPL and AAY Cardholders in 2011

State/District	Number of Cardholders		
	BPL	AAY	Total
Assam	1202000	704000	1906000
Cachar	69511	37118	106629

Source: 1. Directorate of Food, Civil Supplies and Consumer affairs, Assam

2. Statistical Hand Book, Assam 2014

From the Table 1.5, it is clear that a significant amount of households falls into the grip of poverty in Cachar district. The share of poverty is shown in the Table 1.6 and Figure 1.3.

Table 1.6: Proportion of Poverty in 2011 (in %)

State/District	Proportion of Poverty		
	Rural	Urban	Total
India	25.70	13.70	21.92
Assam	33.89	20.49	31.98
Cachar	30.97	15.11	28.06

Source: 1. Directorate of Food, Civil Supplies and Consumer affairs, Assam

2. Statistical Hand Book, Assam 2014

Figure 1.3: Proportion of Poverty in 2011
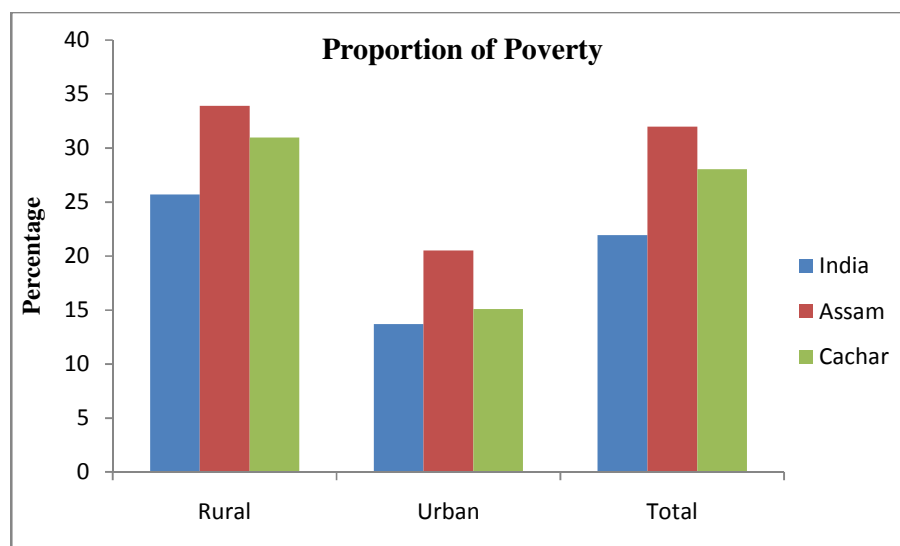
Source: Constructed on the basis of table 1.6.

1.6.　Relevance of the Study:

Given the importance of the identification of the poor, it is seen that the developing countries like India are in the urgent need of identifying the poor, while, the literature shows that in such countries a number of methodologies have been used in this regard. In fact, a much fewer identification of the poor by using the multidimensional method have been conducted in the developing countries. In India also a similar situation has been found. But it is true that the correct identification of the poor is essential for proper implementation of the development policies or providing the real poor the benefits of social assistance schemes.

As per Census 2011, at present India had 640 districts and all these districts are the base of India's economic development. But most of them are underdeveloped, poverty grasp these districts. The Government of India is trying its level best to solve this problem. But due to improper identification of the poor, the efforts of the govt. are not becoming fruitful. In the present study, Cachar – one of the oldest districts of the state of Assam, which is known for the gateway to the neighbouring state of Mizoram and also to the western part of Manipur ---is selected for identification of the poor using the multidimensional method. The Cachar district of Assam is one of the most developed commercial centers of the state as it holds not only the significant business centers, precious natural resources but also provides various historical and tourist places, like, Khaspur Rajbari, Kachakanti Temple, Shiva Temple at Bhuban and Borail wildlife sanctuary. Such assets attract huge number of businessmen, tourists and thus turn out to be the source of income as well as direct and indirect benefits to the local people. In spite of all these advantages, in 2006, the Government of India named Cachar as one of the country's 250 most backward districts out of a total of 640. It is one of the eleven districts in Assam currently receiving funds from

the Backward Regions Grant Fund programme (BRGF).[7] Thus, it is clear that the Cachar district is facing various challenges, like, poverty, unemployment, inequalities etc. The Government while undertaking the pioneering job of developing the district as a whole through various developmental and social assistance schemes, the benefits of these schemes often distributed erroneously. This may be due to the misidentification of the real beneficiaries or poor households. For this reason, the proper identification of the poor in Cachar district is very necessary for its economic development and poverty eradication.

There is a need of considerable effort to solve both the problem of identification of the poor and the welfare of the people of the Cachar district. Without accounting the causes of poverty, the development of the masses and the attainment of the welfare in the true sense of the term could not be achieved. So, in this phase of development, it is essential to know the causes of poverty in the Cachar district.

1.7. Objectives of the Study:

The specific objectives of the study are stated below:

(i) To examine whether there is any inclusion and exclusion errors in the identification of the poor.

(ii) To estimate the extent and magnitude of inclusion and exclusion errors in the identification of the poor.

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[7] Ministry of Panchayati Raj—"A Note on the Backward Regions Grant Fund Programme (BRGF)", 8th September, 2009.

(iii) To assess the relative significance of various factors on the poverty estimate in the study area.

(iv) To suggest suitable measures to reduce the errors in the identification of poor in the study area.

1.8. Hypotheses:

The following hypotheses have been taken to test in the study:

(i) Ho: There is a significant amount of inclusion and exclusion errors in the identification of the poor.

(ii) Ho: All the causal factors have equal impact on poverty identification.

1.9. Limitations of the Study:

(i) The study is based on household responses from different revenue circles of Cachar district. Therefore, the conclusion derived from the study may not always be applicable for any other parts of the state.

(ii) The variables used to assess poverty were based on responses given by economic head of the households. Other members were systematically not asked such questions. As such, the results might not be consistent with the other members.

(iii) Since the survey period is September, 2014 to April, 2015, the study may suffer from the fallacy of time lag. Hence, the result obtained from the present study may differ from a similar study conducted in any later date.