Poverty and Inequality in Rural Assam
An Indicative Study of Seven Villages in Udalguri Subdivision, Assam (India)

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1. Introduction : If we set a single goal of economic development in the less developed regions, it is the removal of poverty and if we choose a single measure of injustice, it is inequality in income distribution. Growth and justice being the two very important issues that every economy faces, poverty and inequality assume particular significance. Failure of economic growth in reducing the number of people below poverty line and promotion of equality may raise questions as to the desirability of growth itself.

The objective of this paper is to report our findings on the extent of poverty and income inequality in the Udalguri Subdivision, District Darang, Assam. It is based on primary data collected from randomly chosen 182 households inhabiting seven sample villages in the Udalguri subdivision.

2. The Study Area : The Darrang District of Assam is situated on the Northern bank of the river Brahmaputra. It has two subdivisions - Udalguri and Mangaldai. The Udalguri subdivision lies between 26° 9' to 26° 52' Latitudes and between 91° 45' E to 92° 22' E Longitudes. It is bounded by the Himalayan Kingdom of Bhutan in the North, the Brahmaputra river in the South, river Paasnoi, separating Darrang from Sonitpur District, in the East and the Mangaldai Sub-division in the West. This sub-division covers a geographical area of 1914.80 square kilometers, and is constituted by three Revenue Circles namely Udalguri Circle, Mazbat Circle and Dalgaon Circle-II. Under these three circles there are 534 villages (according to 1991 Census).

According to 1991 Census, the total population of Ugalguri sub-division was 485091, out of which 457663 lived in rural areas and only 27428 lived in towns. The Scheduled Tribe population was 94921 and Scheduled Caste population was 12221; the rest was General population. Thus, 19.57 per cent of the total population was of ST category, 2.52 per cent was of SC population in the area. Among the scheduled tribe population the majority belong to the Boro-Kachary group. The literacy rate of the area was 24.35 per cent.

The sub-division has only two towns - Udalguri and Kharupetia. The infrastructure facilities in the subdivision, especially in the rural areas, are very poor. A railway line, facing East-West direction, passes through the heart of the subdivision headquarter having three stations - at Udalguri, Rowta and Mazbat. The National Highway No. 52 runs through this subdivision touching some small towns like Kharupetia, Dalgaon, Rowta and Orang. A pucca road connects the subdivision with the National Highway at Rowta in the East, another with Bhairabkunda, the bordering town with the neighbouring Bhutan, and yet another road connects the western part of the subdivision and also some

parts of the Mangaldai Subdivision. Very few road connections of the different places and villages with the subdivision are graveled - most of them are un-graveled and are not motorable. Some graveled roads too are not in a motorable condition. Many factors are responsible for it, some of which are : many rivers are flowing through the subdivision that erode the roads as well as bridges during rainy season; negligence on the part of the government to take necessary steps to improve the conditions of roads in the area; socio-political unrest leading to the destruction of some of the roads and bridges, etc. Most of the remote villages remain cut-off from the towns and other parts of the world during rainy season. Another most important infrastructure facility that is lacking in most of the villages of the subdivision is electricity. Only 258 of the total villages of the subdivision are fully or partially electrified and the rest have to still live in darkness. Health facilities are scant in the villages, and even if the facilities are available, the medical officers remain absent through out the year. There are a few veterinary hospitals to look after the health conditions of the domestic animals.

There are 524 primary, 52 middle and 29 high schools in the rural area of the subdivision. There are 4 colleges within this subdivision out of which 2 are in rural area. The number of post offices in the area is 51 out of which only 5 post offices have telegraph facilities. These facilities are situated at the town or semiurban areas. The rural inhabitants hardly use any such postal services, or telephones, telecommunications, etc.

3. The Occupational Structure : The total number of working population in the rural area of the subdivision is 182857 and the number of non-working population is 274806. Out of the total workforce, 144504 are the main workers and 38353 are the marginal workers. Male workers constitute 66.79 per cent, while female workers account for the remaining 33.21 per cent. Again, 60.91 per cent of the total female workforce is marginal worker and only 39.09 per cent constitutes the main workers category. Thus, the working population of the study area is constituted of only 39.95 per cent of the total population, against 44.12 per cent in case of the District of Darrang as a whole, out of which 31.57 per cent is the main workers and 8.38 per cent the marginal workers. So, practically 60.05 per cent of the total population depends on the 31.57 per cent of the main working population. Thus, one person has to support almost two non-working persons. (see table 1)

Table 1: **Distribution of the Rural Population of Udalguri and Mangaldai Subdivisions into Workers and Non-workers**

Subdivision	Population (Rural)	No. of Workers	Main Workers	Marginal Workers	Non-workers
Mangaldai	777213	320035	242763	77272	457175
Udalguri	457663	182857	144504	38353	274806

Source: Rural Primary Census Abstract, 1991, Directorate of Census Operation, Assam.

In the study area, main workers are engaged mainly in the Primary sector. The percentage of workers in the primary sector, out of the total main working population, is 88.30 out of which 57.31 per cent is cultivators, 20.57 per cent is agricultural labourers, 10.40 per cent is engaged in livestock, forestry, fishing, hunting, plantation, orchards and allied

activities; and only 0.02 per cent, in mining and quarrying. In the secondary sector, percentage of workers is 1.96 of the total main working population, out of which 0.44 per cent is in manufacturing, processing, servicing and repairing in household industry, 0.92 per cent in manufacturing, processing, servicing and repairing in other than household industry, and 0.60 per cent in construction works. The percentage of workers in the tertiary sector is 9.74, a little higher than that of the secondary sector. Out of the total workers in the tertiary sector, 0.57 per cent is in transport, storage and communication, 3.17 per cent in trade and commerce and 5.99 per cent in other services. These data indicate that there is a phenomenon of overwhelmingly high percentage of workers in the primary sector and disproportionately small percentages in secondary and tertiary sectors in the study area.(see table 2).

Table 2: **Sector-wise Distribution of Main Working Population of the Study Area, 1991**

Occupational Category	Main Working Population	Percent to Total
A. **Primary**	127600	88.30
1. Cultivators	82822	57.31
2. Agricultural Labourers	29730	20.57
3. Livestock, Forestry, Fishing,Hunting, Plantation, Orchard, etc	15022	10.40
4. Mining and Quarrying	26	0.02
B. **Secondary**	2744	1.96
5a. Manufacturing, Processing, Servicing and Repairing in Household Industry	633	0.44
5b. Manufacturing, Processing,Servicing and Repairing in Other than Household Industry	1332	0.92
6. Construction	869	0.60
C. **Tertiary**	14068	9.74
7. Transport, Communication and Storage	829	0.57
8. Trade and Commerce	4578	3.17
9. Other Services	8663	5.99
Total	144504	100.00

Source: Rural Primary Census Abstract, 1991, Directorate of Census Operation, Assam.

4. The Sample Study : The present study is based on a small sample drawn from the villages of Udalguri Subdivision. First, we have selected seven villages by design. These sample villages have been chosen in a manner such that they exhibit three

characteristics; variability in location distant from the nearest urban area and availability of infrastructure, variability in community type of habitants and variability in sources of livelihood. Accordingly, some village is as near as 3 kilometers away, while some other is located at a distance of 45 kilometers away from the subdivisional Head Quarters. Similarly, the households of a particular community exclusively inhabit some villages while the households belonging to different communities inhabit some others. In particular the households that are immigrants from Bangladesh exclusively inhabit two villages. Further, households in some villages earn a substantial part of their income from service, while those in some other villages heavily depend on agriculture. At that, households in some villages cultivate for the market while in some other villages they cultivate for home consumption. These variations are relevant for determining the level of living of the households.

From the sample villages we have chosen households randomly. In choosing the number of households from different villages we have been guided by the consideration that their representation in the total sample should be pretty close to the overall structure exhibited at the subdivisional level. Since the villages are of different sizes (as per the total number of inhabitant households) a proportional representation at the village level would grossly distort the said representation at the subdivisional level. Therefore, we have parted with the proportional representation at the village level, but maintained their representation at the subdivisional level. The details of the sample villages and the number of sample households are given in table 3.

Table 3: **Sample Villages from Udalguri Subdivision**

Sample Villages	No. of Households	Communities living in the Village	Distance from Subdivisional Head Quarters	Electrification	No. of Sample Households
Barigaon Gerua	49	Boros	15 Kms	No	30
Bhagdal Gaon	163	Assamese, Bengalis, Boros, Nepalese, Tea Gardners	35 Kms	Yes	30
Kalabari	89	Boros, Assamese	15 Kms	No	30
Sapkhaiti (ii)	46	Boros	3 Kms	Yes	30
Nizdal Gaon	236	Assamese	35 Kms	Yes	22
Baruajhar	349	Muslims	30 Kms	No	20
Sialmari	96	Muslims	45 Kms	No	20
Total	1028	---------	---------	- --------	182

5. Income from Various Sources : From the chosen sample households data on income from various sources have been collected through filling in the questionnaires

by a personal visit. (Although the complex of information collected from the households are wide ranging and they cover various aspects of the household and village economy, but at present we are concerned with income only.) As the data reveal, the mean household income (annual) is Rs. 66.5 thousand. Of this, about 50.71 percent is contributed by the primary sector and about 40.06 percent is derived from the tertiary sector. The secondary sector contributes a meager 5.71 percent of the total. This distribution is like an hourglass, an inverted pyramid mounted on a pyramid - with a wide base, very slim waist and a wide apex - characteristic of the occupational and economic structure in the northeastern region of India in particular (Mishra, 2004-a).

Table 4: **Income of Sample Households from Various Sources**

Sources of Income	Income (in Rs)	Average Household Income (in Rs)	Percent to the Total
A. **Primary Sector**	6138707.00	33729.15	50.71
1. Agriculture	3897050.00	21412.36	32.19
2. Labour	638808.00	3509.93	5.28
3. Animal Husbandry	247740.00	1361.21	2.05
4. Fishery	327390.00	1798.85	2.70
5. Orchard	762719.00	4190.76	6.30
6. Plantation	265000.00	1456.04	2.19
B. **Secondary Sector**	691290.00	3798.3	5.71
7. Cottage Industry	225490.00	1238.96	1.86
8. Mill/Factory	130800.00	718.68	1.08
9. Construction	335000.00	1840.66	2.77
C. **Tertiary Sector**	4850364.00	26650.35	40.06
10. Trade & Commerce	663740.00	3646.92	5.48
11. Services	4186624.00	23003.43	34.58
D. **Property**	425440.00	2337.58	3.51
Total	12105801.00	66515.39	100.00

6. Holding Size Distribution and Agricultural Productivity : A perusal of tables 5 and 6 reveals that there is an acute inequality in distribution of land holdings among the farm families. Many farmers are sharecroppers cultivating on very small areas of land. The sharecroppers have to give a half of the produce raised on land to the owners of the land. On an average, it requires 12 to 15 labour days to raise paddy (the main staple crop) on a bigha of land. The prevailing mean wage rate of hired labourer is Rs. 50 per day, a barely subsistence wage rate (see ILO, 1996 and Mishra & Lyngskor, 2004). Some 8 to 10 monds of paddy can be raised on a bigha of land. Harvest prices of paddy are as low as Rs. 150 per mond while the peak prices seldom cross the upper limit of Rs. 200 per mond. In this milieu, the *medial* productivity of a bigha of land is barely

Rs. 2000. Now, if the sharecropper has to give a half of the produce (valuing Rs. 1000 or so) to the landlord, he is left with Rs. 1000, which is only a little over the remuneration that he would get for 15 days' labour in the casual labour market. Seen in this light, the sharecropper is only slightly better off than the casual agricultural labourer (Mishra, 1984, pp. 16-17). In fact, when farming is primitive, mostly rain-fed and meant for subsistence *and* the wage rates of agricultural labourers are at the subsistence level (due to over supply of labour in the rural economy), the labour coefficient of agricultural production ensures that a half of the produce is given to the landlord and the other half remains with the sharecropper. What remains with the tenant sharecropper is the opportunity cost of cultivation - the income foregone that would have accrued to him if he worked as a casual labourer for some 15 days. The surplus over that cost goes to the landlord. In the midst of uncertainties of successful crops, frequency of occurence over cases (farmers) and time, tendency to *institutionalisation* of frequent experience, etc. determine the conventional share of 50:50 between the landlord and the sharecropper (see note-1). This, in part, provides a tentative answer to the question regarding the most frequently observed ratio of share of the produce between the tenant and the landlord (Rudra, 1982, pp. 111-115).

Except in the last two villages (inhabited by the immigrants from Bangladesh) farmers often cultivate for consumption and not for the market. Therefore, paddy is the main crop in the first five villages. However, farmers of the last two villages often produce vegetables for the market which fetches good returns.

Table 5.**The Land Base and Farm Size Distribution of Cultivators in the Sample Villages**

Sl.No.	**Category of holdings of sample farm families**	**Size Group (in bighas)**	**Number of owners having TCL**	**Number of FF cultivated on purely own land**	**Number of FF cultivated as purely tenants**	**Number of FF cultivated as mixed of own and tenant**	**Number of absentee land owners**
1	Marginal	Up to 7.5	59 (220.8)	20 (90.9)	5 (23.5)	9 (38.5)	13
		Percent	38.56%	31.25%	83.33%	14.29%	
2	Small	7.5 to 30	79 (1159.1)	37 (596.4)	1(8.0)	43 (645.7)	6
		Percent	51.63%	57.81%	16.67%	68.25%	
3	Medium	30 to 75	14 (588.5)	6 (227.5)	0 (0.0)	11(400.5)	0
		Percent	9.15%	9.38%	0.00%	17.46%	
4	Large	75 and above	1 (85.0)	1 (85.0)	0 (0.0)	0 (0.0)	0
		Percent	0.65%	1.56%	0.00%	0.00%	
	Total FF		153 (2053.40)	64 (999.8)	6 (31.5)	63 (1083.2)	19
		Percent	100.00%	100.00%	100.00%	100.00%	

Note: TCL = total cultivable land, FF=Farm Family. (Figures in the brackets represent area in bighas; The % shown below the numbers of farm families belonging to different categories are the % to the total farm families.)

Table 6. **Yield and Cost of Production of various Crops in the Sample Villages (In Rs.)**

Name of Crops	Paddy	Wheat	Potatoes	Green Vegetables	Onion	Chillies	Spices	Oilseeds	Jute	Average
Crop Yield Per bigha (in Rs.)	2934.59	2312.50	5340.98	10686.08	11377.02	7176.19	9363.64	1063.77	3908.97	6018.19
Cost of Production per Bigha (in Rs.)	912.32	1700.00	2996.82	4309.33	3574.47	2841.39	5045.45	250.00	1903.64	2614.82

7. Negligibly Small or Near-Zero Marginal Productivity of Labour : A Cobb-Douglas type of production function is fit with land (**£**), family labour ($\mathbf{L}_F$), hired labour ($\mathbf{L}_H$) and other expenses (proxy for capital, **K**) as inputs. It is found that the elasticities with regard to family as well as hired labour are statistically not different from zero (see tables 7.a and 7.b). When composite labour (family labour plus hired labour) is used as input, the elasticity remains statistically indifferent from zero. Since the elasticity η (of production, P) with regard to any particular input (say L) is given by $\eta = (\delta P/\delta L)(L/P)$, and if η is statistically indifferent from zero, it implies that the marginal productivity of L = $(\delta P/\delta L)$ is statistically indifferent from zero. Viewed differently, the elasticity η may be considered as a ratio of marginal productivity of L (that is, $\delta P/\delta L$) to the average productivity of L (that is, P/L), which may also be interpreted as the product of the marginal productivity of L (that is, $\delta P/\delta L$) and the average labour-output coefficient (that is, L/P). Since the average productivity of L (or the average labour-output ratio for that matter) will not be infinitely large (or zero for that matter), the conclusion derived above stands that if η is not different from zero then the marginal productivity of labour as well cannot be different from zero. This finding also indicates an excessive degree of disguised unemployment in the rural economy of the sample villages.

The near-zero marginal productivity of labour coupled with primitive technology of cultivation leads to a large value of the *realized* labourer-output ratio, far larger than the *optimal* labour-output ratio. In this regard, the imports of the well-known Leontief's paradox and further investigations into the reasons thereof are highly instructive that suggest to discriminate labour supply/endowment from the labourer supply/endowment (see Leontief's Paradox). Its direct consequence is a small size of dividend from farming to be distributed among a large number of people. This amounts to a small income per capita, which in other words is poverty.

Disguised unemployment in the agriculture sector has other consequences as well. Once the workforce develops the habit of considering itself employed (although it is unemployed in disguise), its efforts to find an alternative gainful employment elsewhere are slackened. This leads to low motivation to quit the agriculture sector for anything worthwhile.

In due course of time, poverty among a section of people automatically perpetuates, intensifies and extends itself to promote inequality. Poverty brings poverty and riches bring riches. No man can become rich only through the earning of his muscular labour, howsoever persistent and diligent. Only when he saves, little by little, to gather some

capital and this capital, rightly invested, starts earning, riches flow over time. Poverty attacks and erodes the very base of capital formation - instead of savings it begets indebtedness and thus poverty intensifies itself over time (see Mitra et al., 1986). On the other hand, the capital of the lender earns to add to his riches and in this process inequality flares up.

Table 7.a. Regression Summary for Dependent Variable: $\log_e(P)$

Variables ($\log_e$ values)	Coefficient	Std. Error	't' Value	Prob level
Intercept	4.557070	0.662496	6.878638	0.000000
Land (bigha)	0.499488	0.106818	4.676070	0.000008
Family Labour (Mandays)	0.001225	0.115111	0.010643	0.991527
Hired Labour (Mandays)	0.021095	0.062358	0.338285	0.735787
Other expenses (Rs.)	0.562071	0.072816	7.719036	0.000000

R^2= 0.785 Adjusted R^2= 0.777; F(4,111)=101.05 p < 0.00000
Std.Error of estimate: 0.51465; When any input value is zero, the observation has been excluded.

Table 7.b. Regression Summary for Dependent Variable: $\log_e(P)$

Variables ($\log_e$ values)	Coefficient	Std. Error	't' Value	Prob level
Intercept	3.822299	0.682353	5.601645	0.000000
Land (bigha)	0.477175	0.095434	5.000038	0.000000
Family labour + Hired Labour (Mandays)	0.171037	0.134350	1.273068	0.205630
Other expenses (Rs.)	0.542676	0.071547	7.584943	0.000000

R^2=0.787 Adjusted R^2=0.781; F(3,112)=138.56 p < 0.00000
Std.Error of estimate: 0.50895; When any input value is zero, the observation has been excluded.
Functional Form is given as:
$P = A[£^{\alpha}(L_F + L_H)^{\beta}K^{\gamma}]\varepsilon$

8. Distribution of Income among the Sample Households : In table 8 we present the distribution of households according to the income (accruing from all sources) per capita per month. We observe that about 50 percent of households have income below Rs. 550 (per capita per month) and they are the recipients of only 17 percent of the total income. On the other hand, some 18 percent households (with per capita per month) income above Rs. 1600 command over 50 percent of the total income.

Inequality in income distribution is often measured in terms of the Gini index, which is graphically presented by the Lorenz diagram. The Gini index is the Gini coefficient expressed in percentage form. The Gini coefficient is calculated as the ratio of areas on the Lorenz curve diagram. If the area between the line of equality and the Lorenz curve is A and the area underneath the Lorenz curve is B, then the Gini coefficient is given by A/(A+B). The Gini coefficient is often calculated with the more practical Brown's formula (see Wikipedia) given as

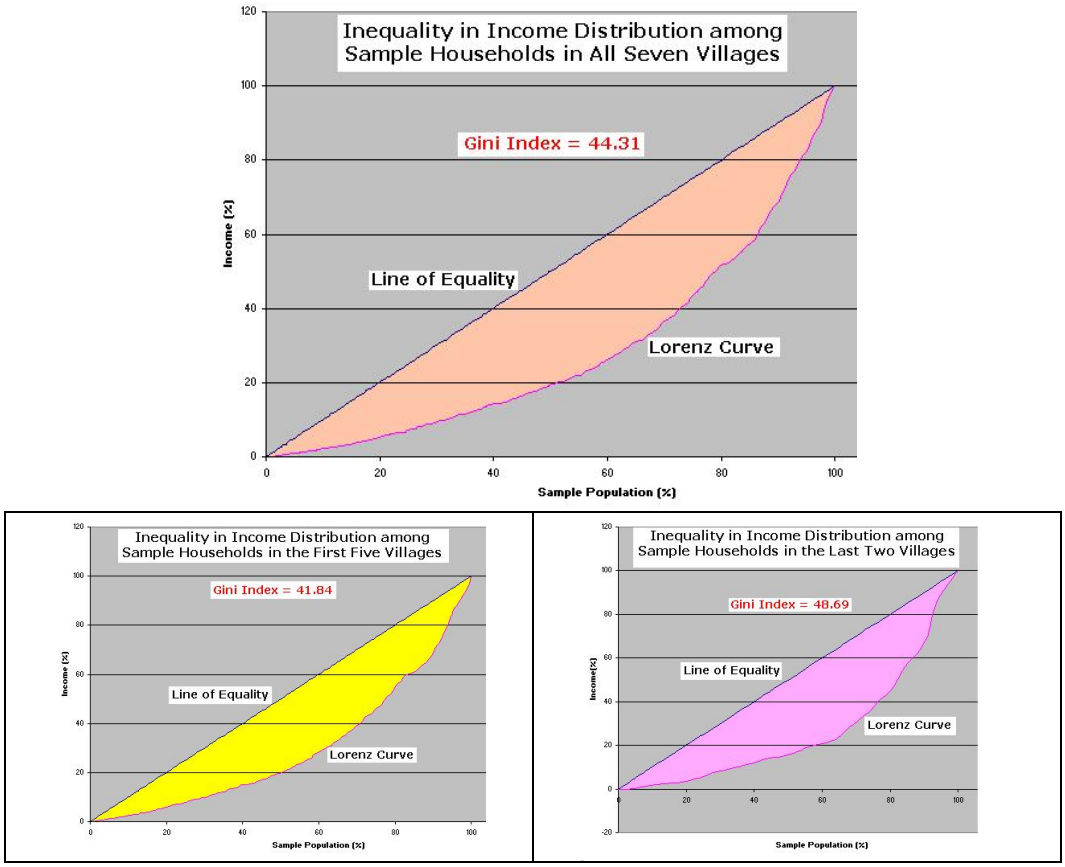
$$G = \left|1 - \sum_{k=0}^{n-1} (X_{k+1} - X_k)(Y_{k+1} + Y_k)\right|$$

where G = Gini Coefficient; X = Cumulated proportion of the population variable; Y = Cumulated proportion of the income variable. The diagrams below show the extent of inequality in income distribution in the sample villages as a whole, in the first five sample

villages inhabited by the indigenous population and in the last two villages inhabited by the immigrant population from Bangladesh. In developed economies Gini index is often between 24 to 36 (exceptionally, USA has exhibited Gini index higher than 40 for the last several decades), while in some countries such as Mexico, Latin America it exceeds 50. In India the value of Gini index is about 32.5 (the United Nations Human Development Report 2004). The observed values of Gini index in the sample villages are considerably high. In the first five villages the Gini index is 41.84 while in the last two villages it is 48.69. Overall the value of Gini index in the sample villages is 44.31. By any standard, these values convey that the extent of inequality in the sample villages is alarmingly high.

Table 8: **Income Distribution of the Sample Households**

Per Capita Monthly Income (Rs.)	No. of Persons	Share of Monthly Income (Rs)	Percent of Persons	Share (Percent) of Monthly Income
Below 200	124	18673.42	11.28	1.85
Below 300	261	55139.79	23.75	5.47
Below 400	394	101639.33	35.85	10.09
Below 500	530	162191.83	48.23	16.09
Below 600	581	190057.08	52.87	18.86
Below 700	636	226963.58	57.87	22.52
Below 800	674	254433.33	61.33	25.25
Below 900	737	308150.83	67.06	30.58
Below 1000	770	339427.83	70.06	33.68
Below 1100	799	369946.67	72.70	36.71
Below 1200	823	397603.58	74.89	39.45
Below 1300	849	430588.25	77.25	42.73
Below 1500	889	486622.08	80.89	48.29
Below 1700	934	558467.50	84.99	55.42
Below 2000	972	627739.58	88.44	62.29
Below 2500	1039	784024.67	94.54	77.80
Below 3000	1057	832696.50	96.18	82.63
Below 4000	1084	922678.25	98.64	91.56
Below 6000	1093	968880.75	99.45	96.14
Below 7000	1099	1007750.17	100.00	100.00



9. Extent of Poverty in the Sample Villages : Very often poverty is defined in terms of the per capita income (per month) and the households that have per capita income below the accepted cut-off norm are classified as "below poverty line" (BPL). Although the concept of poverty line is widely used and classification of population below or above the poverty line is in vogue, it may be borne in mind that the computations and methodology underneath such works involve a long sequence of estimation exercises. Every estimate characterizes the standard error of estimate, which attributes to such estimate an aura of indecisive region around it. So, strictly speaking, one should talk of the region and not the line. The households below that region should be classified poor and above that region not-poor. The households falling within the region are only on the borderline. This view has a significant bearing on the temporal studies on poverty. When the changes over time fall within the standard error of estimate, it is overstretched and often misleading to commit whether poverty is increasing or decreasing.

In 1999-2000, the poverty line for the rural Assam was at Rs. 365.43 per capita per month. Below this line 92.17 lakh people were there (40.04 percent of the total rural population of the state, see Poverty in India - Statewise figures, 1999-2000). Data for our sample study were collected during 2002-2003. During this period it is expected that prices increased by 16 percent or so (see Inflation in India, 2000-2003). Taking this price rise into account, we may take Rs. 425 as the poverty line for our sample villages.

However, some 25 percent of the consumption basket of sample households contains home-grown stuff, unaffected by the inflationary rise in prices. Therefore, one may fix the poverty line somewhere at Rs. 408 or so. In any case, it is unlikely that the poverty line would be below Rs. 400 and above Rs. 425 per capita per month.

Our study indicates (see tables 9 and 10) that at least 35.85 percent of the population (and 33.52 percent of households) in the sample villages is below poverty line (at Rs. 400 per capita per month). On the other hand, no more than 39.5 percent of the people (and 37.36 percent households) is likely to stand under the poverty line (at Rs. 425 per capita per month). At the village level there is some variation (see table 9). Poverty is more widespread in Bhogdal Gaon and less acute in Nizdal Gaon.

Table 9: **Households below Poverty Line in the Sample Villages**

Sample Villages	No. of Sample Households	No. of Households BPL (Rs. 400 PC/Month)	Percent of Sample Households	No. of Households BPL (Rs. 425 PC/Month)	Percent of Sample Households
1. **Barigaon Gerua**	30	9	30.00	11	36.67
2. **Bhogdal Gaon**	30	12	40.00	15	50.00
3. **Kalbari**	30	11	36.67	12	40.00
4. **Sapkhaiti (ii)**	30	8	26.67	9	30.00
5. **Nizdal Gaon**	22	6	27.27	6	27.27
6. **Baruajhar**	20	7	35.00	7	35.00
7. **Sialmari**	20	8	40.00	8	40.00
Total	182	61	33.52	68	37.36

Table 10: **Number and Percentage of Rural Population below Poverty Line (BPL) in Assam and the Study Area**

Description	Assam* (1982-1983)	Assam* (1993-1994)	Assam* (1999-2000)	Study Area** (2002-2003)	Study Area** (2002-2003)
No. of Persons	73.43 Lakh	94.33 Lakh	92.17 Lakh	394 (Out of 1099)	434 (Out of 1099)
Percentage of Persons	42.60	45.01	40.04	35.85 (10.09% of Income)	39.49 (11.73% of Income)
Poverty Line (Rs. Per Capita/Month)	98.32	232.05	365.43	400.00	425.00

Source of Information : * Planning Commission, Govt. of India (see Extent of Poverty in different states of India 1982-2000), ** Based on the present study.Our sample data do not provide the least support to the figures on poverty for the State (and the districts therein) given elsewhere (P&RD, Govt. of Assam).

10. Pattern of Consumption Expenditure and the Empirical Poverty Line : A perusal of consumption expenditure of the sample households (see table 11) reveals that on an average the households below the poverty line spend more than their income. Consequently, they are indebted and their productive resources (land/labour) are captivated by the lenders. Households with mean PC income of Rs. 671 (in the range of Rs. 425 - 1000 per capita per month) consume almost 96 percent of their income. However, the households with monthly per capita income larger than Rs. 1000 can save. The share (percentage) of expenditure on non-durable items and home-grown stuff (imputed) decreases with increase in income while the share of expenditure on

durable consumption goods/other items and purchased commodities increases with an increase in income. The households below the poverty line consume home-grown stuff that constitutes a little over 28 percent of their total consumption outlay. Overall, the average propensity to consume (as observed for our sample households) is about 79 percent of the income. Yet, a regression analysis of the data reveals that the marginal propensity to consume is quite small (0.34). The regression equation is C= 29396.19 + 0.34Y where C is the annual household consumption expenditure and Y is the annual household income. The computed t values for the intercept and the coefficient are 11.49 and 13.61 respectively, with degrees of freedom = 180. The value of adjusted R^2 is 0.505. These findings indicate that overall, the sample households are thrifty, but they must spend for the pressing necessities of life. As most of them are poor (or not so poor), a major part of their income is spent on the necessities (leading to high average propensity to consume), but as soon as they have anything beyond the necessities, they save. So consumption increases in much less proportion than does the income (leading to a small value of the marginal propensity to consume). A small value of the marginal and a large value of the average propensity to consume also suggest an acute inequality in income distribution.

Table 11. **Mean Per Capita (per month) Income and Expenditure of Sample Households**

PC Income Range	No. of House-holds	Mean PC Income	Consumption Expenditure (Total)	On Non-durables	On Durables	On Other Items	On Home-grown (imputed)	On Purchased Goods
Up to 425	68	277.31	520.63 (187.74)	405.68 (77.92)	45.41 (08.72)	69.55 (13.36)	147.35 (28.30)	373.29 (71.70)
425 - 1000	58	670.59	642.77 (95.85)	489.86 (76.21)	69.30 (10.78)	83.62 (13.01)	182.48 (28.39)	460.29 (71.61)
1000 - 2000	35	1436.88	997.42 (69.42)	646.57 (64.82)	144.72 (14.51)	206.13 (20.67)	223.36 (22.39)	774.05 (77.61)
2000 - 7000	21	3106.67	1364.38 (43.92)	830.23 (60.85)	263.34 (19.30)	270.80 (19.85)	289.81 (21.24)	1074.57 (78.76)
Overall	182	952.10	748.60 (78.63)	527.82 (70.51)	97.27 (12.99)	123.52 (16.50)	189.60 (25.33)	559.00 (74.67)

Figures in the parentheses are percentages. In case of consumption expenditure (total) percentage is to income. For other cases, they are as share percentage to total consumption expenditure.

In the regression equation mentioned above, the intercept is interpreted as the level of consumption expenditure occurring at the income level zero. Naturally, this expenditure is backed up by borrowing, mortgaging, dissaving, etc. This expenditure is the basic requirement of survival; a must to keep body and soul together. Now, in our sample study there are 1099 persons in 182 households. On the basis of that, per capita per month minimal consumption expenditure (MCE) works out to be Rs. 405.68 [= {29396.19/(1099/182)}/12] = [{α/(n/N)}/12] where α is the regression intercept in the estimated consumption function (C = α + βY) and n is the no. of persons in N number of sample households. This estimate is 405.68 ± 35.5 in view of the standard error of estimate giving us the range of Rs. 370 - 441 (also, see note-2). This MCE is the cut off point and may be used as the poverty line. Earlier we estimated the poverty lines Rs. 400

at the lower and Rs. 425 at the higher ends. These lines are based on normative principles since they are obtained from the official data (Rs. 365.43 in 1999-2000) adjusted for inflationary increase in prices during 2000-2003. The official (Govt. of India) line of poverty is estimated on normative principles. However, the MCE estimates are made on purely statistical basis, obtained purely empirically, without any reference to norm. Yet, we see that the normative and the empirical MCE estimates are very close to each other.

11. Conclusion : The present study is highly synoptic and based on a very small sample of 182 households selected from seven villages. Therefore, our results are necessarily indicative and not conclusive. Nevertheless, they indicates the extent of poverty in the rural areas of Assam. Our estimates, although based on a small sample, are very close to the figures for the State of Assam as a whole. Our findings on income inequality are alarming - they indicate that in the villages of Assam inequality is more prevalent than in India.

The prime reasons of poverty are excessive dependence on primary sector, disguised unemployment, poor development of marketing facilities, connectivity and power supply, poor agricultural productivity, absence of any significant manufacturing activities, hourglass shaped occupational distribution and so on (Mishra, 2004-b). Any conscious effort to removal of poverty must aim at the development of the manufacturing sector, creation of infrastructural facilities and enhancement of agricultural productivity.

Notes :

1. If a phenomenon takes place very frequently, absolutely dominating the occurrence of the alternative possible phenomena, and in the midst of uncertainties this dominance is spread over cases and time, the economic agents develop a thumb rule to deal with the phenomena and save time and energy to calculate the probability of its occurrence case-wise. This is the process of institutionalisation, the settled habit of dealing with something prevalent at the social level. In the living beings it takes the form of habit or at the physiological level it gives rise to the reflex action (see James, 1890, Chapter IV[1] on Habit). In practical sciences, this leads to thumb rules such as safety factor, etc. Although it goes contrary to the assumption of rationality, but it is a fact (see Scitovsky, 1974).
2. A homogenous (intercept = 0) regression equation of C (annual household consumption) on Y (annual household income) and F (no. of persons in the household) is obtained as $C= 0.301Y + 5051.476F$ with adjusted $R^2 = 0.852$ for 180 degrees of freedom. The standard errors of estimate for the coefficients are 0.0252 and 385.578 respectively. The coefficient associated with F when divided by 12 gives 5051.476/12 = 420.96, which is the mean per capita per month consumption expenditure even if income is zero. This is the consumption expenditure for mere subsistence. It again supports the MCE as the cut off income for the poverty line.

References

1. **ILO** (1996). *Wage workers in agriculture: Conditions of employment and work.* (Report for discussion at the Tripartite Meeting on Improving the Conditions of Employment and Work of Agricultural Wage Workers in the Context of Economic Restructuring). International Labour Organisation, Geneva.
2. **James, William** (1890) . The Principles of Psychology, Classics in the History of Psychology; an internet resource developed by Christopher D. Green, York University, Toronto, Ontario.
3. **Mishra, SK** (1984) *Evaluation of Public Policies for Agricultural Development in Less Developed Regions*, Indian Institute of Technology, Kharagpur.
4. **Mishra, SK** (2004-a) "Issues and Problems in Human Resource Development in the NER, India" , at http://www.skmishra.owns1.com.
5. **Mishra, SK** (2004-b) "Rural Development in the North Eastern Region : Constraints and Prospects", at http://www.skmishra.owns1.com.
6. **Mishra, SK and JW Lyngskor** (2004) "Trends in Wage Goods Prices and Cost of Living of Casual Workers in Shillong", at http://www.skmishra.owns1.com.
7. **Mitra, MK, DC Roy and SK Mishra** (1986) "Rural Indebtedness : Concept, Correlates and Consequences - A Study of Four Tribal Villages in the North Lakhimpur Subdivision, Assam" *NEHU Journal of Social Sciences and Humanities*, Vol. IV (4), pp. 37-43.
8. **Rudra, Ashok** (1982) *Indian Agricultural Economics - Myths and Realities*, Allied Publishers, New Delhi.
9. **Scitovsky, Tibor** (1974) "Are Men Rational or Economists Wrong?" in M. Abramovitz, P. A. David & M. W. Reder (eds) *Nations and Households in Economic Growth : Essays in honour of Moses Abramovitz*, New York, Academic Press.