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Estimates of BPL-households in Rural Gujarat: Measurement, Spatial Pattern and Policy Imperatives

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Abstract

The recent discourse on poverty in Gujarat is marked by three important dimensions, viz; (i) low and rapidly declining incidence of poverty; (b) spatial concentration with predominance of tribal poor; and (c) state's pro-active role in identification of poor and adoption of targeted policy for poverty reduction. One of the important highlights of the initiatives by the Government of Gujarat is to place the information on BPL-survey in public domain. While this is a commendable step, identification and sharing of information may not necessarily lead to effective targeting for want of appropriate understanding on the causes/correlates of poverty within the state. The need is to find a right kind of balance between individual/household as well as area based approach for alleviation of multi-dimensional poverty across communities and regions in the state. Given this backdrop, this paper tries to address three objectives: (i) review the official estimates of poverty and link that with the BPL estimates across regions in Gujarat; (ii) examine the correlates of poverty (using BPL-ratios); and (iii) discuss the policy implications.

Three important implications emerged from the study. First, there is substantial scope as well as need for improving the specification of the indicators. Also there should be a supplementary survey not only for verification, but also for understanding the actual magnitude of deprivation. These initiatives could be taken up in collaboration with the research and other academic institutions. Second, it is essential to develop spatial profiles and understand relative scenarios before putting up the information about the individual households and resorting to modifications on a case-by-case basis. This would help resolving the disputes in the light of the local setting at village/taluka/district levels. In fact efforts should be made to review the database at least at taluka level so as to overcome the issue of asymmetry across areas for raising the disputes. The review process should be transparent and should involve various stake holders. Third, it is imperative that the database helps triggering an informed debate on causes of poverty and the solutions thereof. This would help creating active involvement of the people in policy formulation, implementation and monitoring.

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Estimates of BPL-households in Rural Gujarat:
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1.   The context

The poverty scenario in Gujarat is marked by two important features-low incidence and spatial concentration. Whereas poverty in Gujarat has declined substantially from 24.9 per cent during 1993-94 to 16.8 per cent in 2004-05 [Dev and Ravi, 2007], a significantly large proportion of poor are concentrated in the eastern belt of the state, which is predominated by forest areas and tribal inhabitants. Not only that the incidence of poverty, in some parts of the state, is fairly high, the poor seem to suffer significantly from deprivation of basic needs such as food, nutrition, and education. A recent study by Radhakrishna and Ray (2005) indicated that the incidence of under-nourished children in Gujarat was 48.9 per cent during 2000-01, which was fairly close to All India average of 50.5 per cent.

Together the poverty scenario in the state indicates critical importance of looking into the issues of multiple deprivations faced by a large proportion of households on one hand and the spatial concentration on the other.

Identification of households `below poverty line' (BPL) assumes special significance in this context as it helps capturing multiple deprivation faced by individual households inhabiting the state. Though introduced mainly for the purpose of targeting eligible households on priority basis for various anti-poverty programmes, the survey as argued, could potentially be used for developing a profile of the rural people and their livelihoods, which in turn could feed into macro level planning [Planning Commission, 2006]. The Working Group on Poverty Elimination Programme for the Eleventh Five Year Plan, therefore, has recommended that comprehensive database, capturing multiple deprivation through BPL-survey, should be institutionalized and shared with the communities.[1] This, *prima facie*, may bring greater transparency, and perhaps,

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trigger public demand for more effective policies as well as implementation of poverty reduction programmes with better targeting of areas and individual households.

Though comprehensive and useful, the BPL-estimates pose a number of methodological as well as practical problems as discussed by several scholars[2]. This is despite the fact that the methodology for identification of BPL-households has undergone substantial changes since 1992 when the first BPL-survey was conducted. The next survey was done during 1997 based on a revised methodology, which involved two stages. First stage was to apply multiple criteria for excluding the households, which *prima facie*, were treated as non-poor, and the second stage was to assess monthly expenditure of the remaining households for identification of poor following the official poverty line. The survey, despite the exclusion criteria, came up with a significantly higher estimate of BPL-households as compared to the official estimates by the National Sample Survey (NSSO). It was therefore imperative to find some degree of reconciliation between the magnitudes of poverty among the two sets of estimates[3]. Apart from the issue of the large magnitude of BPL-ratios in most of the states, the methodology was found to have only limited relevance from the viewpoint of targeting the poor[4]. This led to one more revision in the methodology in 2002, which prescribed a score based ranking of households, using a cut-off value for the composite index of the 13 indicators[5].

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[1] The report submitted by the Working Group noted that `it is of utmost importance that household level data on deprivations and indicators based on them, occupy the central place in planning, monitoring, evaluation and steering of the poverty elimination programmes by the mission personnel as well as the policy makers and senior administrators at the central and state levels' [Planning Commission, 2006; p. 54].

[2] For details see, Sundaram (2003); and Hirway (2003).

[3] As per the recommended norm, BPL-ratio should not be more than 10 per cent higher than the official poverty ratio (rural) for the state.

[4] According to Sundaram (2003) 'the difficulties inherent in devising a single measure of multiple facets of deprivation are compounded several fold by the use of a number of indicators that do not relate directly to deprivation in capability space' [p.899]. This, according to the author leads to absurd situation whereby zero score for any indicator is treated on par with extreme deprivation in terms of food security.

[5] These indicators are: (i) Size of operational Land holding; (ii) type of house; (iii) Average availability of normal wear clothing; (iv) Food security; (v) access to sanitation facility; (vi) ownership of consumer durables; (vii) highest literacy among adult; (viii) type of labour force; (ix) means of livelihood; (x) school attendance and child labour; (xi) type of indebtedness; (xii) reason for migration; and (xiii) preference for assistance from the state.

Although the new methodology helps presenting a fairly good profile of households, especially poor households, much of the limitations of the previous methodology continue to persist as reflected by a rich debate on the theme. The major limitations as highlighted by Sundaram (2003; p.897) are: (a) inappropriate/overtly stringent exclusion criteria; (b) non-availability of official poverty line for all states; (c) adoption of uniform criteria across states; and (d) lack of provision for including new poor. There are also problems with respect to attribution of score in the case of several of the indicators where the categories are not clearly defined.

While we do not intend to get into the details of the ongoing debate, two important limitations may deserve special attention. First, taking a cut-off value of the total score of 16 (for very poor) and 20 (for other poor) may dilute the criticality of basic deprivation with respect to variables like food security, clothing, type of indebtedness, reason for migration, monthly income etc. Using equal weights across all the 13 variables may make it more simplified- the issue that has been discussed at length by Sundaram (2003). This would leave out those households having less than adequate food, but not included in the BPL-list[6]. The other issue pertains to area specific deprivation, which is likely to be more or less same for most of the households within the same villages/blocks. Combining these two sets of variables, once again, may loose the focus on identification of very poor and poor households hence, may be of limited use for targeting households facing critical deprivation-the point already noted earlier.

Notwithstanding the methodological limitations, it may be argued that the BPL-survey could prove to be a good tool for understanding policy dynamics and spatial planning for poverty alleviation. However, both these necessitate dis-aggregated information much below the NSSO-regions, which does not adequately capture regional variations within the state. It is therefore postulated that: (a) the BPL-ratios are useful for generating profile of multiple deprivation faced by rural households, if not poverty estimates; (b) since the survey covers

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[6] The study by Hirway (2003), tried to verify consistency of the BPL-status through a detailed survey of households in six villages in Gujarat. The study observed that errors of inclusion of non-poor are larger than errors of exclusion of the poor. About 25-35 per cent of the non-poor households were included in the list, whereas 10-15 per cent of the eligible households were excluded. What is noteworthy is that- the inclusion of the non-eligible households consisted mainly of the powerful group within the village dynamics- the issue highlighted earlier (see F.N. 2).

all the households below and above poverty line, it may facilitate analysis of co-relates of deprivation at sub-regional level; and (c) conceding that the aggregate scores with a cut-off value may not be useful for targeting, scores of specific indicators may help unraveling the broad contours of deprivation, irrespective of BPL-status of the households. This in turn may help designing a few critical interventions, like food distribution, credit and cash transfers for girl children, widows, and disabled among both-BPL and APL households. This may be consistent with the view that targeting of the `poor' households *per se*, is difficult especially when poverty is rooted in various structural factors and also where poor are dis-empowered[7]. What is important in this context is changing the composition of growth and adoption of area-based approach (geographical targeting) for poverty reduction.

It could be envisaged that the households not having adequate food, clothing, and having debt from informal sources, if not resort to migration of distress type should be treated as poor for targeting special kind of income/employment support. Any household having a score less than the cut-off value in the case of any one of the critical indicators should be deemed eligible for special support. This may help at least partially addressing the issue of errors of exclusion, as highlighted by Hirway (2003). The composite score taking all the 13 indicators together may then be used for launching area-based interventions especially in the talukas where BPL-ratio is significantly high say, more than 50 per cent.

Thus, more than identification of households and targeting, this may help creating a profile of deprivation with respect to critical indicators as noted above, and at the same time help understanding the correlates of the critical deprivation among the households-BPL or otherwise[8]. The other important variables like access to land, education, and amenities like drinking water and sanitation as separate set of deprivation-could be treated separately for initiating area based approach for development. **Together the approach may imply adopting inclusion rather than exclusion criteria**.

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[7]   It has been argued that targeting of poor under poverty alleviation programmes in India is not merely a statistical problem. The real problem is to identify and reach the poor through programmes that are attractive for the non-poor [Hirway, 2003; p. 4808].

[8]   This approach is somewhat similar to the concept of stages of progress, adapted by Anirudh Krishna. According to this a household has a well-defined notion of the ladder of well-being; beyond which it ceases to be poor. The ladder or the stages invariably include subsistence needs like food, clothing, house maintenance, health facility, education etc. For details, see Krishna, 2003.

The Government of Gujarat (GoG), in an unprecedented move, has put up the BPL-list along with information on various indicators of deprivation/well-being for all rural households in the state (www.ses2002.guj.nic.in; www.ruraldev.gujarat. gov.in). The Socio-Economic Survey covering 6.86 million rural households was based on 13 indicators as recommended by the expert group in 2002. Each indicator gets a value ranging from 0 to 4, capturing the highest to lowest level of deprivation. Thus the aggregated score for a household, using equal weights for all indicators, would range from 0 to 52. The aggregate score forms the basis for identifying households as: a) very poor- if the aggregate score is up to 16; b) poor - if the score is between 17-20; and c) non-poor or above poverty line –APL - if the score is between 21 and 53. The list is also amenable to verification, periodical changes, and querying for various aspects such as `food security' [9].

The information as provided in the website (www.ses2002.guj.nic.in) contains all rural households rather than limiting it only to BPL households (with the aggregate scores up to 20). This facilitates creating a fairly comprehensive view of the rural households, based on each indicator of deprivation independent of the household's status as BPL or APL[10]. Also it makes the data amenable to various crosschecks, corrections, and analyses. This of course, is not to undermine the methodological limitations noted earlier. Nevertheless it may be useful to examine whether the score based ranking is consistent in terms of relative values (if not in terms of absolute values) across space with the official estimates of poverty on the one hand, and the received wisdom on factors influencing poverty across regions/districts/talukas on the other.

Given this backdrop, this paper analyses the pattern of BPL-estimates in Gujarat by focusing on the following specific objectives:

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[9] The data set on the website has generated significant response from individuals as well as by the elected representatives. It appears that more that two lakhs applications were received for making modifications/corrections in the indicator specific scores, which had to be attended to within a given time frame. While this is a major move, it may have adverse implications in terms of introducing yet another bias in the scoring pattern (besides the one, which emanates due to error in reporting/recording at the time of the survey). This is so owing to the fact that the process of the appeal and dispute resolution is significantly influenced by asymmetry in the access as well as political patronage among communities with varying socio-economic as well as spatial characteristics.

[10] In fact the Government of Gujarat tends to use the information for implementation of various anti-poverty programmes such as widow pension, housing and sanitation, food distribution etc.

1. To examine the extent and spatial concentration of BPL-ratio across talukas in Gujarat, and compare that with official poverty estimates across the NSSO-regions in the state.

2. To examine the correlates of BPL-ratio across districts of Gujarat.

3. To compare the pattern of deprivation with respect to critical indicators, viz; food security, clothing, reason for migration, and type of indebtedness among the BPL and APL households, and draw implications for future initiatives.

2. BPL-estimates in Gujarat: Comparability and consistency

Government of Gujarat had undertaken a Socio-Economic Survey of 6.86 million households in rural areas (2003). More than identification of BPL-households, the purpose had been to get a profile of these household in terms of the 13 indicators as recommended by the 2002 BPL-survey plus develop a few other indicators such as social group, widow headed households, average monthly income etc. The respective scores of each household have been put up on the website, as noted earlier.

2.1 BPL-Estimates in Gujarat: Extent and spatial concentration

While the database has provided a powerful tool in the hands of rural communities for negotiating their stakes with the state, the process, at least initially, is likely to have been influenced by the existing power structure and the regional dynamics thereof. It is reported that as large as 2 lakh objections have been received for making corrections in the scores attributed to households-most of these are likely to be from those above poverty line and likely to have been influenced by proximity to the centres of political power.

It is therefore, imperative to assess the consistency and comparability of the BPL-estimates so as to be able to identify criticality, sequencing, and prioritization among the various indicators being used for the survey. In the absence of this, the score based ranking may lead to a distorted picture of multiple deprivation, especially for the purpose of targeting.

Hence the following section tries to examine the pattern emerging from the Socio-economic Survey (2003), and assesses the consistency with the broad

understanding on spatial pattern of poverty in the state. The analysis also seeks to compare the estimates of the two sets of BPL-ratios i.e. the old and the new list based on the methodologies adopted during 2000 and 2003 surveys respectively. This is important in the light of the fact that notwithstanding the magnitude, the spatial pattern should bear on the existing understanding on factors influencing poverty.

As per the socio-economic survey (2003), 34.2 per cent of households in Gujarat were below poverty line (i.e. with a total score upto 20). This obviously is much higher than the official poverty estimate during 2004-05[11]. Of the total of 2.35 million BPL-households, 1.09 million were in the category of very poor (i.e. with composite score up to 16) and the rest were in the category of poor (i.e. with the composite score of 17-20). These constitute 15.9 and 18.3 per cent of the rural thresholds respectively [Govt. of Gujarat, 2006]. It may be noted that the proportion of very poor households is lower than the official poverty ratio for 2004-05. It is thus, envisaged that those in the category of very poor could be covered under the centrally sponsored programmes whereas the rest of the poor could be covered under the state sponsored schemes.

The BPL-ratio however, varies significantly across districts ranging from 11.26 per cent in Junagadh to 71.47 per cent in the case of Narmada. **It is however, surprising that the BPL-ratio has declined from 39.5 to 34.2 per cent, in spite of eliminating the exclusion criteria, being used in the 1997-methodology (i.e. old list). Of course, BPL-ratio has increased in the case of eight out of 25 districts in the state[12], notwithstanding the decline in the proportion of BPL-households at the state level.** The eight districts, except Surendranagar and Banaskantha**,** belong to economically developed districts with major urban centres such as Ahmedabad, Vadodara, Anand, and Kheda. As a result, one observes a glaring difference in the relative positions of districts while comparing the old list (based on 1997-methodology) and the new list (based on the revised rank based scoring in 2002). For instance, districts having significantly high BPL-ratio as per the old list viz; Bharuch, Navsari, Sabarkantha and Surat have improved their relative ranks. All these districts have relatively large proportion of tribal population as well as areas (talukas). Similarly, all the

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[11]   As per the latest estimates poverty in Gujarat (measured in terms of head count ratio) was 19.76 and 11.96 percent in rural and urban areas respectively {see Table 3].

[12]   This calls for a careful probing into the issue of the problem of exclusion criteria, which was seen to be associated with lower BPL-ratio than what it actually may be.

districts in Sauarshtra region, except Surendranagar, have registered improvement in their relative ranks [Table 1].

**Table 1: Proportion of BPL-Households among Districts in Gujarat:
Comparing the Old and New Lists**

District	Old List	Rank	New List	Rank	Difference in Ratio	Change in Rank
Ahmedabad	26.46	4	38.57	13	-12.11	-9
Amreli	27.04	5	2018	5	6.86	0
Anand	29.48	6	43.97	19	-14.49	-13
Banaskantha	33.96	11	**45.52**	20	-11.56	-9
Bharuch	**51.18**	20	40.67	15	10.51	5
Bhavnagar	29.70	7	21.69	7	8.01	0
Dahod	**80.90**	23	**64.82**	24	16.08	-1
Danga	**86.89**	25	**63.70**	23	23.19	2
Gandhinagar	22.02	2	17.19	2	4.83	0
Jamnagar	45.19	17	18.61	4	26.57	13
Junagadh	25.12	3	11.26	1	13.86	2
Kachchh	32.26	10	30.32	12	1.94	-2
Kheda	36.43	13	**54.54**	22	-18.11	-9
Mehsana	19.57	1	29.82	11	-10.25	-10
Narmada	**82.66**	24	**71.47**	25	11.19	-1
Navasari	**50.65**	19	23.79	8	26.86	11
Patan	34.38	12	39.67	14	-5.29	-2
Panchmahals	**69.92**	22	**46.39**	21	23.53	1
Porbandar	29.83	8	17.21	3	12.62	5
Rajkot	30.17	9	20.90	6	9.27	3
Sabarkantha	43.73	16	23.86	9	19.87	7
Surat	48.21	18	29.23	10	18.98	8
Surendranagar	36.93	14	42.87	18	-5.94	-4
Vadodara	38.08	15.	41.98	16	-3.90	-1
Valsad	**53.66**	21	43.83	17	9.83	4
Gujarat	40.39	16	34.20	13	6.19	3

Source: www://ses2002.guj.nic.in

The above phenomenon is further examined at the level of Talukas. Table 2 presents a profile of the top 60 taluks with respect to BPL-ratios in the two surveys. The top 60 talukas with high BPL-ratios are spread over 19 out of 25 districts in Gujarat. However, more than 70 per cent of these 60 talukas are located in 8 districts, viz; Panchmahals (11); Dahod (7); Surat (6); Banaskantha (6); Jamnagar (4); Sabarkantha (4) and Bharuch-Narmada combined (5). It may be noted that most of these talukas, except those in Jamnagar are located in the eastern belt, dominated by forest based economies and tribal population.

Table 2: Distribution of Top 60 Talukas with higher BPL-Ratios:
A comparison of Old and New lists

Districts (Total Talukas in District)	No. of Talukas	
	New List (BPL-Ratio more than or =45%)	Old List (BPL-Ratio more than or = 49%)
Valsad (5)	2	3
Dahod (7)	**7**	**7**
Narmada (4)	**4**	**4**
Banaskantha (13)	**6**	**5**
Surat (14)	3	**6**
Mehsana (9)	1	1
Vadodara (12)	**5**	3
Dangs (1)	1	1
Kheda (10)	2	-
Anand (8)	2	-
Ahmedabad (11)	**6**	-
Panchmahals (11)	**8**	**11**
Bharuch (8)	**1**	**2**
Sabarkantha (11)	1	**4**
Patan (8)	3	1
Surendranagar (10)	**6**	2
Kachchh (10)	1	1
Amreli (11)	1	1
Jamnagar (10)	-	**4**
Rajkot (14)	-	1
Junagadh (14)	-	1
Navsari (5)	-	2
Total	60	60

Note: For the List of the top 60 Talukas in new and Old list, see Appendix 1.
Source: As in Table 1.

It is observed that about two thirds of the 43 tribal talukas in Gujarat are included in the list of the top 60 talukas. The 29 tribal talukas account for nearly 47 per cent of the 60 talukas described in Table 2. Overall the pattern observed in the old–list corroborates the phenomenon of significantly high incidence of poverty among the tribal areas.

The New-list following the score based ranking in 2003-survey however, provides a somewhat mixed picture. For instance, the top 60 talukas are spread over 18 (as comp red to 19 in the case of old list). Of these, roughly same proportion of talukas (i.e. over 70 %) is located in eight districts, of which five are common. The five districts are Dahod, Panchmahals, Banaskantha, and Bharuch plus Narmada. The remaining three districts with larger number of talukas having

higher BPL-ratios are Ahemdabad, Surendranagar and Vadodara. Whereas Surendranagar and Vadodadra represent drought prone and tribal areas respectively, Ahmedabd seems to be a major outlier, which registered a significant increase in BPL-ratio from 26.46 per cent to 38.57 per cent between the two surveys.

It is likely that a part of this increase in BPL-ratio is due to the political processes enabling rural households in this most powerful district (Ahmedabad) in the state to influence the scores as noted earlier [Hirway, 2003]. For instance, some of the developed talukas like Sanand (in Ahmedabad district) has relatively higher BPL-ratio (52.88%) as compared to several of the tribal talukas like Dharampur (48.18%), Kadana (46.33%) and Uchchhal (48.54%). Same hold true of other talukas in Ahmedabad and Anand-Kheda districts.

Of the top 60 talukas as per the new list, 34 are found to be common in both the lists. However, if we take the top 20 talukas (as per the new list) 16 also appeared in the old list though, the relative ranks are found to be fairly different [See Appendix 1]. Also, the new list has more or less same proportion of talukas (28 out of 60) that belong to the categories of tribal talukas. Overall therefore, the pattern emerging from the two surveys may be treated somewhat similar with respect to the talukas with relatively higher BPL-ratios in the two sets of estimates, though it does not obtain at the regional level as will be demonstrated subsequently. The important outliers are those belonging to a developed district like Ahmedabad, Anand, Kheda, which were missing in the case of the old list.

Two observations are important in this context: First, the new list appears to have a greater element of subjectivity, owing (perhaps) to the initial processes of disputes and resolution mechanisms thereof. Second, as compared to this the old list seems to be relatively more consistent with the broad understanding of spatial distribution of poverty and the factors associated thereof. This being so, the subsequent analysis in this section addresses the second aspect in the light of the existing analysis with respect to (a) link between the official poverty estimates across regions/degraded areas; and (b) factors influencing BPL-ratios across talukas in the state.

2.2 BPL-Ratios across NSSO-regions and degraded areas

Table 3 presents a brief view of poverty estimates for Gujarat over the last four surveys. The state seems to have made significant achievement in terms of poverty reduction; the poverty ratio has almost halved over the two decades during 1983 and 2004-05. Nevertheless, the state ranks seventh in terms of poverty ratio among the major states in India [Dev and Ravi, 2007]. An important feature however, is that urban poverty has declined faster than rural poverty.

Table 3: Poverty in Rural Gujarat (Head Count Ratio-HCR)

Poverty	1983	1993-94	1999-00	2004-05*	2004-05**
Rural	27.9	22.4	20.5	18.9	19.1
Urban	38.0	29.4	16.8	13.3	13.0
Gujarat State	31.1	24.9	19.4	17.0	16.8

Source : * Estimates are based on household level data from 61st round, using Unique Reference Period (URP). **Figures are official estimates based on (URP), released by the Planning Commission [Govt. of India, 2007].
Based on Table 8 in Dev and Ravi, 2007.

An important observation emerging from the trends in poverty estimates for the state indicates that: **whereas urban poverty was significantly higher than rural poverty till 1993-94, the pattern has reversed in the subsequent two rounds. The rural poverty has declined from 27.9 per cent in 1983 to 19.1 percent during 2004-05**. This may highlight importance of non-farm employment, especially in urban areas; a part of this could be due to the positive outcomes of rural-urban migration [Kundu and Sarangi, 2007]. Region level estimates of poverty as presented in Table 4 further capture this phenomenon.

The regional estimates of rural poverty in Gujarat bring out some important findings. **First of all**, **there is only a marginal decline in rural poverty since the early nineties (i.e. 22.8 per cent in 1993-94 to 19.1 per cent during 2004-05. Second, two out of the five regions have experienced increase though, marginal, in poverty ratio over the past decade; these regions are-Dry Areas and Eastern regions. And lastly, a significant part of the decline in rural poverty in Gujarat is contributed by only one region i.e. Saurashtra**.

Table 4: Poverty Ratios by NSSO-Regions

NSSO-Regions	HCR (1993-94)	Estimate by Lijima and Lanjaw (1999-00)	HCR (2004-05)	Per cent BPL- HHs 2003-04	Per cent BPL-HHs (Old List)
Plains Northern	24.6	26.2	21.6 (3)	33.5 (2)	20.7 (1)
Plains Southern	22.4	25.1	17.9 (2)	36.9 (3)	53.7 (4)
Dry Areas	23.3	35.2	25.0 (4)	40.5 (4)	40.0 (3)
Saurashtra	18.8	14.2	2.7 (1)	18.0 (1)	35.5 (2)
Eastern	25.0	36.1	26.1 (5)	46.5 (5)	62.4 (5)
Gujarat state	22.8	27.7	18.9	34.2	39.5

*Source :*HCR for 1999-00 is based on estimates by Lijima and Lanjaw (2003). World Bank (2005), Estimates based on the data from 61st Round of the NSSO, using the URM (See Table 3). Figures in parentheses indicate the respective ranks. Based on estimates provided in Shah and Singh, 2004. The old list of BPL-ratios is based on 1997-methodology.

If we compare the ranks with BPL-ratios (new list), we find that the ranks are similar for three regions except Northern and Southern Plains. **Saurashtra and Eastern regions have retained the lowest and the highest ranks with respect to poverty/BPL-ratios respectively, as also observed in the case of poverty estimates for 1993-94 and 1999-00.** In fact Saurashtra region, known for its long drawn tradition of out migration, had experienced the lowest level of poverty through out the period. The other factors that may have created favorable conditions for Sauratshtra region are: (a) predominance of commercial crops and developed markets; (b) higher levels of urbanization in terms of small towns; and (c) migration resulting into remittances etc. [Shah and Guru, 2004].

While this appears to be a fairly valid explanation for consistently low level of poverty in Sauarashtra region, the latest estimate based on the 61st Round of NSSO, presents a somewhat startling picture. As per this, only 2.7 per cent of the rural population in the region was poor! We tried to check whether the non-poor have been concentrated just above the poverty line or not. This was attempted by raising the poverty line by 25 per cent. It was found that only 9.1 per cent of households in the region got added to the category of poor. According to this the HCR for the region would increase to 11.8 per cent, whereas the state average would go up to 37.8 per cent.

The phenomenon of abysmally low level of rural poverty in Sauarashtra, with a significant decline over the past decade, needs careful probing. It may be noted that the relatively sharper decline in poverty in this region over 1993-94, has taken place at the time when poverty ratio for Dry Areas and eastern regions in the state had experienced a marginal increase. While it is likely that the estimates of 2004-05 are subject to minor corrections as they are based only on the center-sample, the difference in poverty ratio however, is too large to be attributed to the limitation of the sample. The issue thus, is not merely that of the level of poverty, rather it is more about seeking a reasonable explanation for such low level of poverty in the region, notwithstanding the explanations such as high incidence of out-migration, industrialisation, and commercialization of agriculture as mentioned earlier.

If we look at the BPL-ratios, we find that although Saurashtra region remains to be the least poor region (with 18 % BPL-households), the relative difference in the value of BPL- ratio of Saurashtrra *vis-a-vis* the state average is much less than what obtains in the case of the official estimates. The ratio between Saurasthra and Gujarat state is 0.52 in the case of BPL-estimate (new list), whereas it is as low as 0.14 in the case of poverty-ratio 2004-05. It may be noted that the estimates by Lijima and Lanjaw for 1999-00 give similar ratio i.e. 51.2.

In fact the estimates in Table 4 indicate that the region was relatively much worse off with the ratio of 0.82 during 1993-94, and 0.89 as per the BPL-old list. It may be noted that as per the BPL-old list, Northern Plains region, consisting of some of the developed districts like Ahmedabad, Gandhinagar, Kheda, Anand, and major parts of Mehsana (besides parts of Sabarkantha) had the lowest BPL-ratio. At the same time these estimates had pulled the relative position of Saurashtra region to the second rank-unlike all other estimates. Apparently, this pattern may be closer to the ground reality than what the new-BPL list provides.

The questions therefore are: Whether the poverty in Saurashtra Region has really declined so significantly? If so what are the main reasons for the decline? Is `distress' migration the major cause for reducing poverty in this region? If so, why has it not worked at all in the case of the Dry Areas-a major part of which is constituted by the two districts viz; Surendranagar and Kachchh which share spatial, cultural as well as environmental features with most parts of Saurashtra region? While there are no ready

made answers to the pertinent questions raised above, some of the existing studies using BPL-ratios across talukas in Gujarat do provide useful insights.

Before looking at the existing analyses, it may be useful to recapitulate the major observations regarding comparability and consistency between the official poverty estimates and the BPL-ratios across regions in the state. These are: (i) in terms of relative ranking, three out of the five regions have the same ranks in terms of poverty/BPL-ratios; (b) whereas eastern region remains to be the most poor, Saurashtra remains to be the least poor region according all the estimates-the poverty ratio in Sauarashtra had dipped to as low as 2.7 percent during 2004-05; and (c) the gap between poverty/BPL estimates for Saurashtra region and the state average is almost same and relatively more favorable in the case of the estimates by Lijima and Lanjaw (for 1999-00) and the New BPL-list (2003-04), whereas the gap is larger in case of the poverty estimates for 1993-94 and the old BPL-list.

The above observations thus highlight the overall consistency of the official poverty estimates with BPL-ratio (new list), and at the same time indicate better coherence with the ground reality especially in the case of dry areas and Saurashtra regions. The comparative scenario thus, indicates need for a systematic analysis of the indicators of deprivation and the factors determining the extent of BPL-ratios at more dis-aggregated level. One of the possible ways of checking this is to examine the association between resource endowment on the one hand and the determinants of BPL-ratio on the other. If these correlates tend to confirm the broad understanding about the pattern and causes of poverty, the BPL-profile may be treated as a useful set of information, if not as poverty estimates or, tool for targeting the households for specific anti-poverty programmes.

2. 3 Resource degradation and development

The links between natural resources and poverty is often complex owing to the fact that (a) the link between the two is neither direct nor, linear; (b) impact of irrigation varies across source and regions; and (b) some of the short term solutions such as extraction of forest and/or ground water are not sustainable. Notwithstanding these complexities, it may be useful to look at the existing evidence pertaining to the link between environmental degradation and BPL-ratios. This may help gauging the overall consistency of the BPL-estimate if, not

the magnitude thereof. The evidence is drawn from an earlier study by the author [Shah, 2006], using the old-list of BPL-households noted earlier.

Table 5 presents estimates of BPL-ratio for four categories of degradation, viz; soil erosion, soil salinity, drought prone areas, and forest based economies in the state. The estimates suggest that the proportion of BPL-population was found to be higher than the state average in the case of three out of the four categories except soil salinity where the BPL-ratio is or more less the same as the state average. The incidence of BPL-population is as high as 61.5 per cent in the forest-based talukas, followed by the talukas facing soil erosion (40.8 per cent) and DPAP (36.6 per cent).

Table 5: BPL - Households among marginal areas by BPL-Ratios

Types of Marginal Areas	% of BPL- Households among Talukas* 2004-05 (Old list)
Soil erosion	40.8 (55.3)
Soil salinity	34.8 (39.7)
Drought Prone Areas (covered under DPAP)	36.6 (52.3)
Forest (Tribal)	46.4 (61.5)
Gujarat state (for rural talukas)	34.2 (39.5)

Note: * Talukas having more than 30 per cent tribal population thus, implying relatively closer link with forest-based economy.

The observation of significantly high BPL-ratio in forest based (tribal-dominated) talukas confirms the general perception about high incidence of poverty in eastern region. Similarly the BPL-estimates indicate relatively higher incidence of poverty in Drought Prone Areas. It may be noted that 19 out of 43 talukas identified as drought prone belong to four districts in Saurashtra region, which has experienced a steep fall in poverty with HCR of only 2.7 per cent (See Table 3). This, once again, raises the issue of very low level of poverty in Sauarashtra region, and the likely explanation thereof.

The estimates presented in Table 5 thus reinforce the positive link between natural resource degradation and poverty among different categories of degraded areas in the state. It also indicated that correspondence between the two sets of BPL-estimates in terms of relative ranks if not relative magnitude across categories of degraded areas.

2.4   Determinants of Poverty: A Taluka Level Analysis

A study by Shah and Singh (2004), tried to examine determinants of poverty (BPL-ratio) among rural talukas in the state. The BPL-ratios were based on the old list of BPL-households, using 1997-methodology. The study observed that the variables having significant impact on BPL ratio were: (i) percentage of villages electrified; (ii) number of classrooms in primary schools per village; (iii) urban population ratio; (iv) distance from the industrial belt in the Golden Corridor; and (v) gross farm income per rural person. The study, however, argued that although land productivity has relatively marginal impact on poverty reduction compared to the other variables chosen for the model, it seems to offer the only variable around which practical poverty reduction strategy could be built.

This has been borne out by the fact that per capita farm income in rural areas is influenced by net sown area per person and also by land use intensity, which in turn has direct bearing on irrigation. Moreover, the analysis emphasized the fact that canal irrigation has a substantially larger impact on productivity increase as compared to that resulted from ground water irrigation.

The study however, note that the positive impact of irrigation, especially canal irrigation, resulted into zero-sum game owing to population shift from dry to irrigated areas. To what extent the analysis holds true for the new series of BPL-ratio (with significantly low estimate in the case of Saurashtra region), remains to be examined.

Overall it appears that **determinants of poverty (BPL-ratio) seem to be fairly in consonance with the broad pattern of the causes of rural poverty in India. In that sense the BPL-ratios offer useful database for understanding the profile of rural poverty in the state.** It may however, be noted that the analysis is based on the old-BPL-list where proportion of BPL households was much higher in Saurashtra and fairly lower in Northern plains region as compared to the new list. This may raise questions about the consistency of the New BPL-list with the analysis of received wisdom on determinants of poverty in the state.

We have addressed this issue by examining the correlates of BPL-ratios (New Series) across talukas in Gujarat [see Table 6]. We found that BPL-ratio is significantly correlated with some of the important developmental indicators such as proportion of workers in non-farm employment, employment in small scale

industries, number of commercial banks, number of secondary and higher secondary schools, rural female literacy, and the number of hospital beds, and proportion of SC population. *Prima facie*, a negative correlation between SC-population and BPL-ratio appears somewhat strange. This could be due to higher concentration of these communities in Saurashtra region, which has fairly low incidence of poverty owing to various reasons-the phenomenon noted earlier. All these variables have significant negative association with BPL-ratios. On the other hand, BPL-ratio is found to have significant positive correlation with proportion of mal-nourished children and proportion of ST-population. The results thus, reinstate the expected pattern of correlates of poverty in rural areas.

Table 6: Correlates of BPL-Ratios Across Talukas in Gujarat

Variables	Pearson Correlation Co-efficient
1. ST Population (%)	0.504**
2. SC Population (%)	-0.367**
3. Workers in non-agri. activities (%)	-0.260**
4. Workers in agriculture (%)	0.379**
5. Employment in small scale Industries (No. per lakh of population)	-0.206**
6. Branches of commercial banks (No. per lakh population)	-0.150*
7. Female literacy in rural areas (%)	-0.504**
8. Secondary and higher secondary schools (No. per lakh population)	-0.266**
9. Hospital Beds (No. per lakh population)	-0.242**
10. Malnourished children (0-6 years -%)	0.202**

Source: Report of the committee to study Backwardness of Talukas of Gujarat, Government of Gujarat, Gandhinagar.

Given this background, the next section explores alternative scenarios by using the approach of critical indicators as against the cut-off scores (16 or 20) for identification of poor households at the village level.

3.   Clustering of Factors of Deprivation

Is there any congruence among the various indicators used for identification of BPL-households? This has been ascertained by attempting factor analysis and the correlates of BPL-ratios across districts in Gujarat. Initially sixteen variables representing deprivation were selected for this analysis. A sub-set of twelve indicators could be used in the final analysis taking into account the correlation among the variables, and measure of sampling adequacy using Kaiser-Meyer-

Olkin[13] (KMO) index. For subsequent analysis factor scores were computed for all the districts using component loadings and standardized actual values of the indicators. The KMO measure was 0.65 and the Barlett's test was significant indicating appropriateness of data for factor analysis. Table 7 presents the list of indicators that have been used for the factor analysis along with their communality[14].

Table 7: List of Selected Indicators and Communalities

Indicators	Communality
1. Seeking Preference of Assistance for Wage/Self Employment (%)	0.92
2. Seeking Preference Assistance for Housing (%)	0.82
3. With Working Child (%)	0.97
4. Reporting Less than 2 Clothing /Person (%)	0.87
5. Reporting Less than 2 Square Meals Throughout the Year (%)	0.92
6. Reporting Indebtedness for Daily consumption (%)	0.93
7. Reporting Indebtedness for Production / Other Purposes from Informal sources (%)	0.87
8. With highest Literacy of adult below Secondary (%)	0.83
9. With Casual Labour as Means of Livelihood (%)	0.94
10. Reporting Open Defecation (%)	0.85
11. Reporting Migration for Work (%)	0.87
12. Reporting operational holdings: < 2 ha of unrrigated land/ <0.5 ha of irrigated land (%)	0.71

The results of the factor analysis suggest four orthogonal patterns of deprivation as depicted in Table 8. The first pattern shows clustering of six indicators implying incidence of severe multiple deprivation. These include (i) occasional food scarcity; (ii) less than two pieces of clothing per person; (iii) migration for seeking work; (iv) small landholding with limited irrigation; (v) child labor; and (vi) seeking assistance for employment. The coefficients of second component indicate deprivation in terms of employment opportunities and hence dependence on funds for daily consumption. Together these two indicators explain nearly 63 per cent of the total variance. Two other components that emerge exhibit maximum loadings on low literacy levels of adults and percentage reporting indebtedness for production or other purposes respectively.

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[13]   KMO measure of sampling adequacy is an index comparing the magnitudes of observed correlation coefficients to the magnitudes of partial correlation coefficients. Elimination of variables with small values for sampling adequacy is desirable for factor analysis. A value closer to 0.70 is desirable.

[14]   Communalities are estimates of the variance in each variable accounted for by the factors (or components) in the factor solution.

Table 8: Rotated Component Matrix

Variables	Components/Factors*			
	1	2	3	4
1. Seeking Preference of Assistance for Wage/Self Employment (%)	0.893	0.342		
2. Seeking Preference Assistance for Housing (%)			0.326	0.792
3. With Working Child (%)	0.875		0.435	
4. Reporting Less than 2 Clothing /Person (%)	0.879			
5. Reporting Less than 2 Square Meals Throughout the Year (%)	0.803	0.484		
6. Reporting Indebtedness for Daily consumption (%)	0.363	0.856		
7. Reporting Indebtedness for Production/ Other Purposes from Informal sources (%)				0.840
8. With highest Literacy of adult below Secondary (%)			0.861	
9. With Casual Labour as Means of Livelihood (%)		0.936		
10. Reporting Open Defecation (%)	0.511		0.695	0.300
11. Reporting Migration for Work (%)	0.867		0.310	
12. Reporting operational holdings: < 2 ha of unrrigated land/ <0.5 ha of irrigated land (%)	0.793			
Variance Explained (%)	**49.5**	**13.7**	**13.2**	**10.8**

Note: * Coefficients less than 0.30 have been suppressed.

The pattern of congruence among selected indicators thus confirms the general understanding on correlates of poverty. This was further confirmed by the fact that the factor scores of these two patterns of deprivation were found to be significantly correlated with BPL-ratio across districts in the state. The value of Pearson correlation co-efficient was 0.78 for the first component, which is significant at one per cent level and that of the second factor was 0.44, which is significant at five percent level.

Together the results from factor analysis and correlation suggest that BPL-ratios are fairly consistent with the general understanding on poverty and its causes. This however, may not necessarily imply that BPL-ratio, by itself is a sufficient indicator for targeting the poor households. It is likely that the BPL-status may exclude a large number of those who suffer deprivation with respect to critical indicators like food, clothing, employment opportunity, income, etc. The next section captures this phenomenon**.**

4. Critical Indicators for Identification of Households

The main purpose of the analyses in this section is to examine the extent of deprivation among households and compare that with the BPL-ratios for the respective state. Ideally one should look at the profile at household level, considering all the 13 variables. This however, would be quite time consuming. Alternatively, we have tried to look at district level scenarios by focusing on five indicators, which appear to be critical for capturing the deprivation. The next step is to examine how many households in the APL-category also have lower scores (i.e. higher level of deprivation) with respect to the selected indicators, viz; food security, clothing, reason for migration, type of indebtedness and monthly income by using a cut-off score for each indicator. Of course, monthly income is not included in the list of 13 indicators prescribed for identification of BPL-households. We have nevertheless included this among the sub-set of indicators so as to see the relative magnitude *vis-à-vis* other indicators. We did not include important indicators like children's education as there is no information on whether the household has children in the school going age or not. Similarly, type of house and land holding size have also been excluded from the list of critical indicators as these variables are structurally and culturally determined.

The cut-off score for each of the Critical Indicators are as follows:

No.	Indicator	Score	Description
1	Food Security (up to C3)	0-2	Up to one square meal a day throughout the year
	(up to D4)	0-3	Up to two square meals a day with occasional scarcity
2	Clothing (up to C3)	0-2	Up to 5 pieces of clothing per person per year
3	Migration (up to C3)	0-2	For basic livelihood (casual, seasonal, livelihood)
4	Indebtedness (up to C3)	0-2	Borrowing from informal sources for basic needs
5	Monthly Income (up to C3)	0-2	Up to Rs. 1,500
6	(up to D4)	0-3	More than Rs. 1,500

4.1   Deprivation in terms of Critical Indicators

We have tried to work out proportion of households that have less than the cut-off score of each of the five variables and compare that with the proportion of BPL-households in each district [see Table 8].

It is postulated that households having less than the cut-off score may be treated as facing critical deprivation. It may however, be noted that deciding the cut-off score was relatively easier with respect to indicators like food security and clothing. For other indicators the cut-off is difficult to choose, as the specification of each score is somewhat ambiguous and/or overlapping. For instance, households with migration for casual work is given the lowest score i.e. `0' whereas seasonal households with migrants get a score of 1. Similarly the category called `migration for livelihood' is difficult to distinguish from the first two categories. The scenario is fairly similar with other indicators.

The results in Table 9 indicate that about 44 per cent of the rural households in the state experience some level of inadequacy with respect to availability of food. These households get up to two square meals a day, but with occasional scarcity. If we consider a more stringent cut-off score up to 2 (i.e. C3), the proportion reduces to 12 per cent. This implies that nearly 12 per cent of the households in the state get only one square meal or less food per day.

As large as 89 per cent of the rural households had less than six pieces of clothing per person. About half of the households have less than three pieces of clothing per person. This is certainly a huge number. Nearly 43 per cent of the households incur debt from private sources and 73 per cent of the households have monthly income of less than Rs. 1500.

Only 24 per cent of the households reported migration for casual work, seasonal work, or livelihood support. The proportion is significantly higher among tribal dominated districts with very high BPL-ratio such as Dangs, Dahod, Narmada, and Panchmahal. Strangely, districts in Sauarashtra region do not report higher incidence of migration as was noted earlier. Perhaps a large proportion of migrants from the region have already settled in small towns and cities outside the region.

We compared the levels of deprivation with the BPL-ratio. It is observed that the proportion of households facing occasional food scarcity is higher by 10 percentage points as compared to the BPL-ratio at state level. This means that there are some households who face occasional food scarcity, but have not been included in BPL-list. The scenario changes if we tighten the norm up to one square meal a day. The estimates suggest that the proportion of households facing relatively more severe food insecurity is lower than the BPL-ratio in all the districts in the state.

The difference between levels of deprivation and BPL-ratios is positive in the case of indebtedness and monthly income, which suggests that the proportion of households facing these deprivations is higher than the corresponding BPL-ratios. The pattern is different in the case of migration where the proportion of households having specific categories of migrants (i.e. casual, seasonal, for livelihood needs) is lower than those below poverty line.

It may be noted that whereas the level of deprivation and comparability with BPL-ratios varies across districts the overall pattern is found to be more or less similar.

Table 9: Extent of Deprivation and Comparison with BP-Ratios Across Districts in Gujarat

District Name	% of BPL	Food Security				Clothing		Migration		Indebtedness		Avg Montly Income			
		% HHs up to score 2	Diffe-rence*	% hhs up to score 3	Diffe-recne	% hhs up to score 2	Diffe-rence	% hhs up to score 3	Diffe-rence	% hhs up to score 2	Diffe-rence	% hhs up to score 2	Diffe-rnce	% hhs up to score 3	Diffe-rnce
Ahmedabad	38.57	46.79	8.22	17.72	-20.9	85.33	46.76	30.68	-7.89	50.48	11.91	80.56	41.99	65.96	27.39
Amreli	20.18	28.23	8.05	9.1	-11.1	90.17	69.99	16.13	-4.05	30.44	10.26	82.43	62.25	62.22	42.04
Anand	43.97	55.94	12	19.86	-24.1	88.83	44.86	27.25	-16.72	57.65	13.68	90.42	46.45	80.98	37.01
Banaskanta	45.52	52.81	7.29	15.19	-30.3	93.72	48.2	26.04	-19.48	52.88	7.36	91.1	45.58	79.47	33.95
Bharuch	40.67	57.03	16.4	21.43	-19.2	89.17	48.5	27.06	-13.61	49.19	8.52	88.68	48.01	77.25	36.58
Bhavnagar	21.69	21.47	-0.2	6.15	-15.5	93.33	71.64	16.4	-5.29	37.51	15.82	81.88	60.19	59.92	38.23
Dahod	64.82	75.82	11	14.03	-50.8	97.55	32.73	68.25	3.43	45.88	-18.94	95.89	31.07	92.64	27.82
Dangs	63.7	77.61	13.9	37.71	-26	95.6	31.9	64.97	1.27	33.79	-29.91	96.28	32.58	93.07	29.37
Gandhinagar	17.19	17.96	0.77	3.4	-13.8	91.05	73.86	9.43	-7.76	27.41	10.22	82.58	65.39	61.04	43.85
Jamnagar	18.61	24.24	5.63	8.12	-10.5	88.71	70.1	19.41	0.8	27.52	8.91	85.6	66.99	66.6	47.99
Junagadh	11.26	14.04	2.78	3.99	-7.27	85.44	74.18	10.04	-1.22	27.42	16.16	77.3	66.04	50.73	39.47
Kachchh	30.32	36.65	6.33	11.28	-19	87.67	57.35	20.39	-9.93	41.94	11.62	86.76	56.44	69.79	39.47
Kheda	40.54	57.29	16.8	14	-26.5	91.23	50.69	12.39	-28.15	56.08	15.54	90.72	50.18	82.95	42.41
Mehsana	29.82	36.86	7.04	14.28	-15.5	87.89	58.07	18.46	-11.36	43.04	13.22	87.77	57.95	74.09	44.27
Narmada	71.47	84.12	12.7	31.01	-40.5	97.33	25.86	54.87	-16.6	63.94	-7.53	96.55	25.08	93.09	21.62
Navsari	23.79	43.61	19.8	14.27	-9.52	82.58	58.79	23.3	-0.49	36.62	12.83	87.7	63.91	76.49	52.7
Panchmahal	46.39	67.78	21.4	14.57	-31.8	95.98	49.59	40.74	-5.65	41.54	-4.85	92.21	45.82	85.99	39.6
Patan	39.67	41.14	1.47	4.96	-34.7	93.17	53.5	27.03	-12.64	46.65	6.98	90.03	50.36	76.42	36.75
Porbandar	17.21	27.51	10.3	6.23	-11	92.76	75.55	11.43	-5.78	26.15	8.94	90.17	72.96	75.04	57.83
Rajkot	20.9	24.57	3.67	7.39	-13.5	89.09	68.19	19.65	-1.25	33.29	12.39	84.27	63.37	63.32	42.42
Sabarkanta	23.86	34.8	10.9	3.87	-20	88.76	64.9	15.45	-8.41	31.57	7.71	89.4	65.54	79.65	55.79
Surat	29.23	40.84	11.6	6.7	-22.5	78.99	49.76	16.65	-12.58	42.45	13.22	69.17	39.94	54.61	25.38
Surendranagar	42.87	48.8	5.93	16.98	-25.9	94.73	51.86	30.06	-12.81	54.04	11.17	92.28	49.41	81.69	38.82
Vadodara	41.98	56.03	14.1	12.56	-29.4	91.76	49.78	25.79	-16.19	48.38	6.4	89.69	47.71	79.8	37.82
Valsad	43.83	70.1	26.3	27.08	-16.8	83.88	40.05	35.92	-7.91	47.79	3.96	86.16	42.33	74.25	30.42
Gujarat	34.2	44.35	10.1	12.31	-21.89	89.48	55.28	24.35	-9.85	42.94	8.74	86.32	52.12	72.82	38.62

Note: *Difference between % of HHs in each category of deprivation and BPL-ratio
Source: Same as in Table 1

4.2   Comparison between BPL and APL Households

Table 10 presents a comparative picture of households facing certain level of deprivation among BPL and APL categories. The results indicate that about 76 per cent of BPL-households faced occasional food security, the proportion being about 28 per cent among APL-households. More importantly, about one fourth (26.06%) of the BPL-households had reported that they do get only one square meal a day through out the year. This is quite substantial and calls for a close examination of the profile of these households.

For clothing the scenario is still more startling. As large as 99 per cent of the BPL-households reported availability of less than six pieces per person; the proportion is about 85 per cent among APL-households. In the case of monthly income, 96 per cent of the BPL-households had income of less than Rs.1,500/ whereas 61 per cent among APL-households also reported income within this range.

Of course, we do recognize a fair amount of exaggeration in under-reporting of availability of food, clothing, and income. Nevertheless, the magnitude of the reported deprivation is simply too huge to be overlooked. The implications therefore are twofold. First, there's a need to take up an exercise for cross-verification on a sample basis so as to be able to gauge the extent of exaggeration. At the same time, it would be useful to probe further into the details of the actual food intake among those having reported availability of only one square meal a day through out the year.

The data in Table 10 thus, reinstate the importance of treating individual indicators and the specific scores thereof so as to be able to address critical deprivation, irrespective of the households' status as BPL or APL.

Table 10: BPL-ratio and Extent of Deprivation among Districts in Gujarat: A Comparison

District Name	Food Security				Clothing		Reasons For Migration		Type of Indebtedness		Income			
	Up to 3 BPL	Up to 3 APL	Up to 4 BPL	Up to 4 APL	Up to 3 BPL	Up to 3 APL	Up to 3 BPL	Up to 3 APL	Up to 3 BPL	Up to 3 APL	Up to 3 BPL	Up to 3 APL	Up to 4 BPL	Up to 4 APL
Ahmedabad	34.28	7.31	77.94	27.21	98.86	76.84	98.90	15.12	85.29	28.64	94.29	48.17	99.34	68.76
Amreli	22.65	5.67	60.96	19.96	98.33	88.11	99.12	9.22	75.35	19.09	90.78	54.99	98.57	78.34
Anand	33.97	8.79	77.90	38.71	98.42	81.31	98.62	14.15	84.26	36.77	97.07	68.35	99.43	83.33
Banaskanta	27.05	5.27	76.71	32.84	98.79	89.47	99.23	11.88	81.99	28.57	95.73	65.88	99.32	84.23
Bharuch	39.57	9.01	84.09	38.48	98.42	82.83	99.01	14.70	77.23	29.96	96.75	63.89	99.36	81.36
Bhavnagar	16.76	3.21	47.86	14.17	98.95	91.77	99.10	10.29	81.01	25.47	87.53	52.27	97.90	77.44
Dahod	18.83	5.16	86.33	56.44	99.41	94.10	99.31	37.48	60.39	19.16	98.47	81.90	99.73	88.79
Dangs	50.86	14.63	90.51	54.97	98.70	90.15	99.11	36.58	47.03	10.56	97.93	84.54	99.61	90.41
Gandhinagar	11.05	1.81	41.14	13.15	99.00	89.39	99.30	5.71	72.08	18.14	91.18	54.78	99.08	79.15
Jamnagar	24.32	4.41	57.59	16.61	98.66	86.44	99.18	12.65	76.53	16.32	92.31	60.73	98.69	82.61
Junagadh	15.43	2.54	43.47	10.31	98.34	83.81	99.18	7.07	81.83	20.52	86.85	46.15	98.32	74.63
Kachchh	23.77	5.84	62.72	25.30	97.81	83.26	98.73	11.90	76.94	26.70	90.93	60.59	98.56	81.62
Kheda	26.10	5.77	81.81	40.58	98.67	86.15	98.98	5.90	86.32	35.45	97.37	73.12	99.61	84.65
Mehsana	33.10	6.28	68.70	23.33	98.66	83.31	98.41	10.57	81.92	26.51	96.26	64.67	99.41	82.83
Narmada	37.85	13.90	93.97	59.48	99.14	92.80	99.26	24.80	75.09	36.01	98.55	79.42	99.68	88.73
Navsari	36.24	7.41	79.63	32.37	98.49	77.61	99.23	15.16	74.72	24.73	97.80	69.84	99.67	83.98
Panchmahal	23.82	6.57	85.58	52.38	99.21	93.18	98.95	20.64	64.33	21.82	97.51	76.02	99.52	85.89
Patan	9.42	2.03	62.66	27.00	98.88	89.41	99.42	12.36	77.26	26.53	95.01	64.19	99.43	83.84
Porbandar	20.30	3.30	64.81	19.76	98.89	91.49	99.54	6.21	73.16	16.39	95.79	70.72	99.63	88.19
Rajkot	21.16	3.75	55.57	16.38	98.55	86.59	99.13	12.21	79.77	21.01	92.73	55.55	98.96	80.39
Sabarkanta	9.41	2.14	64.74	25.42	97.91	85.90	99.13	8.11	68.60	19.95	96.47	74.38	99.34	86.30
Surat	16.11	2.81	82.41	23.68	98.40	70.98	99.47	8.06	82.42	25.94	92.06	39.14	99.40	56.68
Surendranagar	30.24	7.03	72.63	30.91	98.72	91.72	99.09	13.09	83.09	32.25	96.80	70.34	99.61	86.77
Vadodara	23.05	4.98	81.96	37.28	98.50	86.89	98.76	9.92	75.68	28.63	96.81	67.50	99.42	82.66
Valsad	46.35	12.05	93.64	51.74	98.04	72.82	99.64	16.71	72.89	28.21	97.40	56.18	99.72	75.57
Gujarat Total	26.06	5.10	75.88	27.90	98.82	84.62	99.24	11.72	77.05	25.21	95.64	60.95	99.51	79.46

Source: Same as in Table 1

5. Summary of Findings

The foregoing analysis addressed two issues pertaining to BPL-estimates in Gujarat. First, it tried to assess the comparability and consistency of BPL-ratios in the light of the official estimates for rural poverty across regions on the one hand, and reflect on the existing understanding on the factors explaining poverty in the state, on the other. Second issue pertained to the applicability of BPL-estimates for the purpose of targeting and other uses such as for understanding the profile, planning, and policy formulation etc.

It may be reiterated that the BPL-estimates are subject to various methodological limitations. The findings should therefore be seen in the light of the data limitations as noted earlier.

5.1   Important Observations

(i)   BPL-estimates appear to be fairly consistent with the official estimates of poverty (2004-05) in so far as there is correspondence between relative ranks among three out of five regions in the state. Both the estimates indicate significantly lower poverty ratio for Sauarashtra region, which raises questions about its compatibility with the ground reality. In this context the estimates based on the old list seem to provide a more realistic picture.

(ii)   While placing the BPL-list in public domain is an important step towards democratization, the initial response seems to have created some distortions whereby people (possibly with support from local leaders) from the relatively developed districts may have obtained better representation as compared to those in the backward-remote areas.

(iii)   The BPL-ratio (34.2%) is substantially higher than the official poverty ratio for rural areas (18.9%). However the BPL-ratio is lower than the old list (39.5%), which was based the 1997-methodology, using the exclusion criteria. This needs to be reconciled.

(iv)   BPL-estimates are found to be consistent with the expected scenario in terms of a positive association with degradation of natural resources, and also other determinants like land productivity and irrigation; urbanization, industrialization, educational infrastructure, etc.

(v)   There is clear emergence of clustering of factors reflecting multiple deprivations, notwithstanding the inappropriate specifications of most of the indicators. Together they explain nearly 50 per cent of variations, and

the matrix of these clusters of factors is found to have strong correlation with BPL-ratio across districts in the state.

(vi)   While score based ranking appears to be a useful tool, applying the cut-off score (say 16 or 20) for identification of poor households may be mis-leading. This is demonstrated by the fact that 44 per cent of the rural households had reported some level of food scarcity; this proportion is higher than the BPL-ratio (i.e. 34.2%) for the state. This suggests that dichotomous scenario of BPL-APL may not be very useful. Instead, the relative levels of deprivation with respect to specific indicator may be a more useful tool for policy intervention.

(vii)   More than the actual numbers, the relevance of BPL-estimates appears to be useful for understanding the spatial scenarios within the state, which in turn has highlight the need for identifying factors responsible for varying levels of poverty at sub-region levels.

5.2   Policy Imperatives

Three important implications emerge from the above findings:

First, there is substantial scope as well as need for improving the specification of the indicators. Also there should be a supplementary survey not only for verification, but also for understanding the actual magnitude of deprivation. These initiatives could be taken up in collaboration with the research and other academic institutions.

Second, it is essential to develop spatial profiles and understand relative scenarios before putting up the information about the individual households and resorting to modifications on a case-by-case basis. This would help resolving the disputes in the light of the local setting at village/taluka/district levels. In fact efforts should be made to review the data base at least at taluka level so as to overcome the issue of asymmetry across areas for raising the disputes. The review process should be transparent and should involve various stake holders.

Third, it is imperative that the database helps triggering an informed debate on causes of poverty and the solutions thereof. This would help creating active involvement of the people in policy formulation, implementation and monitoring.

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Appendix 1: Top 60 Talukas with High BPL-Ratio: Old and New Lists

	2003-04	BPL-Ratio	2000	BPL-Ratio
1	Karpada	82.97	Sagbara	99.5
2	Dhanpur	79.64	Garbada	95.83
3	Sagbara	77.14	Dahod	93.24
4	Dediapada	76.14	Fatepur	92
5	Fatepur	71.77	Dediapada	88.47
6	Dahod	71.12	Uchchhal	84.32
7	Bhbhar	70.03	Ghoghamba	82.39
8	Nadod	68.86	Valia	82.11
9	Nizar	68.29	Bhanvad	80.98
10	Satalasana	67.34	Umarpada	80.89
11	Jalod	66.93	Morava Hadaf	78.82
12	Garabada	66.53	D. Baria	78.7
13	Chhota Udepur	65.43	Dhanpur	78.21
14	Dangs	63.7	Meghraj	77.98
15	Kawant	60.1	Limkheda	77.33
16	Kankrej	59.85	Jhalod	76.12
17	Amirgadh	59.36	Kavant	75.93
18	Valia	58.58	Nandod	75.15
19	Anklav	56.96	Kanpur (Bakor)	74.13
20	Kathalal	55.94	Khedbrahma	74.02
21	Viramgam	55.92	Kadana(Divada)	73.29
22	Ghoghabma	55.88	Santrampur	72.88
23	D.Baria	55.78	Godhra	72.83
24	Bavala	55.19	Shehera	72.11
25	Borsad	54.72	Nizar	68.58
26	Nasvadi	54.59	Dangs	66.69
27	Detroj	53.84	Tilakwada	66.54
28	Jhagadia	53.29	Halol	64.69
29	Khedbramha	53.29	Dharampur	62.49
30	Santarampur	53.27	Kaprada	62.15
31	Limkheda	52.95	Radhanpur	61.56
32	Marva (hadaf)	52.91	Harij	61.55
33	Sanand	52.88	Songadh	60.77
34	Radhanpur	52.3	Lakhpat	56.33
35	Kalol	52.02	Gandevi	56.15
36	Dhandhuka	51.98	Lunawada	56.11
37	Dantiwada	50.78	Jambughoda	56.04
38	Limdi	50.26	Vyara	55.24
39	Lakhpat	50.24	Vav	55.19

	2003-04	BPL-Ratio	2000	BPL-Ratio
40	Tilakwada	50.19	Chotila	55.15
41	Umarapada	49.87	Modasa	54.95
42	Jetpur tavi	49.45	Dhrangadhra	54.54
43	Rapar	49.31	Jodiya	54
44	Patadi	49.13	Valsad	53.75
45	Shehera	48.56	Amirghadh	53.2
46	Uchchal	48.54	Bharuch	53.19
47	Dharampur	48.18	Malpur	52.53
48	Kapadwanj	48	Kalol	52.45
49	Sami	47.48	Mahuva	52.42
50	Santalpur	47.25	Kalyanpur	52.26
51	Sayala	46.98	Kankrej	51.8
52	Barwala	46.85	Mangrol	51.69
53	Kadana	46.33	Rajkot	51.61
54	Jafrabad	45.79	Satlasana	51.44
55	Savli	45.68	Jamjodhpur	50.61
56	Deodar	45.47	Bansda	50.35
57	Wadhvan	45.39	Nasvadi	50.35
58	Vav	45.36	Jafrabad	50.28
59	Halol	45.27	Dansura	49.61
60	Chuda	45.26	Savli	49.4

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