POVERTY, SOCIAL EXCLUSION IN TRANS-GIRI HIMACHAL PRADESH

Rakesh Kumar[*]

Abstract

This paper presents a cross-sectional, inter-regional analysis of poverty and factors which keep poverty from generation to generation with help of a case study of Trans-Giri of Himachal Pradesh. It is calculated that state intervention in alleviation of poverty remain ineffective in presence of caste ridden society. The outcomes reveal that poverty prevailed and percolates with rigidity of social hierarchies. In a caste society, the schemes and programmes meant for targeted population often adversely diverge to the non-poor dominant class. Present case study found that merely focusing on economic measures to target the poor population may results underachievement.

1. Introduction

Poverty, deprivation and social exclusion are inter-related and reinforce to each other (Conchita and Vito, 2003, Dean Hartley, 2006: Bossert and Gijsbers and Vrooman, 2007and De Haan, 2011). In India draft papers of 11th and 12th Five Years Plans (FYPs) recognized that some groups in India witness exclusions on various fronts and growth has not percolated to them and they remained left behind from the mainstream (Approach papers of 11th and 12th FYPs, 2006, 2012). These left out groups were belonging

[*]*Research Scholar,Department of Commerce & Management, K.S.K.V. Kachchh University, Bhuj – Kutch, Gujarat, Email id: bhumi.bhatt1090@gmail.com*

to scheduled caste, scheduled tribe and from minorities. Since independence, the poverty in India has fallen substantially but it was still higher for some excluded groups such as for scheduled caste, scheduled tribe and for minorities and also poverty was crystallized among some of the regions (Pangariya and Mukim, 2013). Himachal Pradesh is often placed as exemplary at par with Kerala in terms of human development and reduction of poverty (Amartya Sen, 1998, Amartya Sen and Zean Dreze, 1996). In fact poverty in Himachal Pradesh is substantially low (10.9 per cent) when compare to average poverty in India (21.9) in 2011-12 (Report of The Planning Commission of India, 2014). However, it is seen that though in totality Himachal Pradesh reveal substantial reduction in poverty but still there are many pockets in the state which indicates towards discriminatory development (NITI Ayog, 2018) and peoples in these pockets deprived in basic services. Two such districts namely Chamba and Sirmour are identified last in terms of many modern development indicators (Himachal Pradesh Human Development Report, 2002 and Census, 2011). On the basis of above observation, the present study focuses on one of the marginalized pockets of Himachal Pradesh namely Trans-Giri where people rise for grant of tribal status on the basis of its backwardness. Other reasons for selection of Trans-Giri as a case study that this region belong to the second most backward district of Himachal Pradesh after Chambaand two Blocks of Trans-Girihave also highest percentage of scheduled caste population (Rajgarh 45 per cent and Sangrah 41 per cent).

To analyse the state intervention in reduction of poverty and deprivation two major schemes namely MGNREGS and IAY or PMGAY-G has been analysed. The former scheme is largest in term of employment provision to rural population. The later scheme focuses on housing as Vancouver Declaration on Human Resettlements, which has recognized adequate housing as a part of the right to an adequate standard of living (UNCoHS, 1976 and Istanbul Declaration, 1996). There are many studies supporting that MGNREGS despite of many loop and holes continue to gain top position in rural employment among employment schemes in India and also

positively turned as poverty reducing scheme (Sarkar, Kumar and Supriya, 2011, Ghosh, 2013: Desai, Vashishta and Onkar, 2015: MoRDGoI, 2012 and Klonner and Oldiges, 2012).

IAY or PMGAY-G is a public housing scheme for the houseless poor and those were living in kutcha house and mainly focus on Below Poverty Line (BPL) households (MoRD, 2013) and have emerged one of the flagship scheme which helped poor to own a houses (NITI Ayog, 2016). Though, there were some irregularities in the allocation of houses due to discretionary criteria of the states (CAG, 2014).Whereas, there were strong forward linkage due to IAY or PMGAY-G in the other sectors of the economy e.g 55.82 lakh jobs were created and the standard of living of rural households has increased (NITI Ayog, 2016, NIPFP, 2018).

It is perceived that as per cost of living, the person poor in city may not be poor in the rural areas and by undertaking this factor, the poverty line constructed by planning commission for Himachal Pradesh is not considered for present purpose and a new poverty line based on field statistics is constructed. The underlying reasons explain the idea to drop Planning Commission poverty line for present study:

a)   It is constructed in 2011-12 and based on 2010-11 prices. The gap in prices is wide (inflation rate is about 5 per cent between 2011-12 and 2018-19 as per CPI inflation of MoSPI) and applying poverty line of Planning Commission may underestimate/overestimate poverty in the region.

b)   Poverty line of Planning Commission is uniform for Himachal Pradesh and not disintegrated among twelve districts of the state. Application of the same may again underestimate/overestimate poverty.

c)   Price variations in study region are also considered to present realistic picture of poverty in Trans-Giri.

1.2   Hypothesis

H_0: Poverty and inequality are positively related
H_1: State schemes are fairly distributed in the society

1.3   Data Sources and Methodology

A multistage stratified random sampling procedure was adopted for the selection of the appropriate sample size.

As study region is substantially heterogeneous, all region is selected for survey. The next step was to select the villages for which ten per cent of the villages (i.e. 39 out of 388 villages) were selected for sampling. Selection of villages for sampling is made on the basis of an index which was constructed on thirteen indicators. After that proportionate villages were selected from each of three slabs.

b)   Number of Samples and Selection of Households

After selection of villages, the number of sample households had to decide and for this purpose the methodology developed by RGD Steel and J.H. Torrie (1981) has been applied. On the basis of this method, range and standard deviation ($б$) was calculated. Dividing the range with standard deviation($б$) gave a value of 5.21 for household and for population the table value was 5.31. Corresponding table value for calculated value was 100 respondents. For this purpose, out of one hundred respondents which table value referred for sampling, 96 respondents' were surveyed from study region and 4 people were consulted as key informants. These 96 respondents are surveyed on the proportionate basis among regions. Final Survey Units (FSUs) were the household selected randomly from the selected village.

Multidimensional Poverty Index

Multidimensional poverty index (MPI) considers many overlapping deprivations that poor people experience. Global MPI (2018) describes that people living poverty regularly describe lack of education, poor health and nutrition, ramshackle housing, unsafe water and so on. Multidimensional poverty index is calculated for the study area on basis of three dimensions namely, education, health and living conditions which contain 14 indicators (see appendix-I).The MPI is based on the indicators from the global multidimensional index, however for present study some of the indicators have added new as per requirement of the study.

Indicators are weighted as given standards as;

1/9 = education and health indicators i.e. 66 per cent or 0.667 out of 1
1/18 = for living conditions i.e.33 per cent or 0.33 out of 1
And,

$$\mathbf{D_w} = \sum D_V \times W_D$$

Where D_w = weighted count of deprivation　　D_V = Deprivation in each variables
W_D = Weight of each deprivation

And,

$$\mathbf{MPH_c:}\ D_W/P_{HH}$$
Where: MPH_c = Multidimensional poverty headcount　　D_w = weightedcount of deprivation
P_{HH} = size of poor households

And,

$$D_I = D_W + P_{HH}/P_{HH}(\mathbf{N})$$

Where D_I = Intensity of deprivation　　D_w = weighted count of deprivation
N = number of indicators　　P_{HH} = size of poor households

And finally,

Multidimensional Poverty Index (MPI=MPH$_c$ X D_I) is product of incidence that is the percentage of people who are poor or headcount ratio(MPH$_c$) and intensity that is the average share of indicators in which poor people's are deprived (D_I).

d) Head Count Ratio

$$P0 = \frac{q}{n}$$

P0 = Head count poverty   q = number of poor
n = total population

e) Income Gap Ratio (Ip)

Another simple measure used in the present study, that is usually less extensively used, related to the aggregate shortfall of income of the poor from the poverty line is the 'Income Gap Ratio' or 'Poverty Gap Ratio' (Chaubey, 1989).

$$Ip = \frac{Z - \bar{Y}p}{Z} = 1 - \frac{\bar{Y}p}{Z}$$

Where:
Ip = Income Gap Ratio or Poverty Gap Ratio among the sample households
Z = Value of poverty line of the sample household ($\Box$)
$\bar{y}$p = Mean Income of the poor sample households ($\Box$.).

a)   Sen's Measures of Poverty

The results of poverty based on the Lorenze curve and the Gini coefficient provide scope for public policy being concerned with the relatively poor, ignoring the poorest among the poor. There is however a need to also identify the poorest among the poor and to do just this Sen's measures of poverty were found appropriate.

This index of poverty proposed by Sen (1976) takes into account three factors viz., (a) Head Count Ratio (Hp); (b) Income Gap Ratio (Ip) and (c) Gini-coefficient of concentration of income among the poor (Gp).

In other words, it considers three relevant elements in the description of poverty viz., incidence, intensity, and group relativity. One way of expressing the relation between the Sen's index of poverty (Ps*) and these three elements is:

$$\textbf{Ps*= Hp (Ip + (1 - Ip) Gp}$$

Where: Ps* = Sen's measure of poverty (1976)
Hp = Head Count Poverty Ratio
$\bar{y}p$ = mean income of poor (☐)
Gp = Gini-coefficient of the income distribution of the poor.

1- $\frac{\bar{Y}p}{Z}$ or Ip = Income Gap Ratio or Poverty Gap Ratio among the sample Households
Z = Value of poverty index (☐)

d) Kendall's Coefficient of Concordance

Kendall's coefficient of concordance is a non-parametric statistic, is a measure of agreement among several (m) quantitative or semi-quantitative variables that assessing a set of (n) objects of interest, proposed by M.G. Kendall (1939). Kendall's coefficient of concordance also known as (W test) ranges from 0 (no agreement) to 1 (complete agreement), and computed as:

$$S = \sum_{i=1}^{n}(R_i - \bar{R})^2$$

$$\textbf{Or}$$

$$W = \frac{12S}{m^2(n^3-n)-mT}$$

Where:

S = Sum squares of over the row sums of rank R_i.

$\bar{R}$ = Mean of the R_i values**.**

m = The number of variables.

R_i = Row sum of ranks.

W = Kendall's coefficient.

n = The number of objects.

T = Correction factor for tied ranks.

1.4   Cost of Basic Need or Consumption Expenditure on Basic Calorie Intake

A second and more widely used, approach is to construct one per capita poverty line for all individuals, but to adjust per capita y_i for differences in prices and household composition. Present chapter uses this method to construct poverty line for Trans-Giri and separate poverty lines for regions in Trans-Giri

1.4. a)   Food Poverty Line

Poverty line is constructed for food component on basis of minimum calorie requirement prescribed by ICMR. A basket of food items consume in majority is selected by using consumption pattern of 68th round of NSSO consumption survey. Consumption expenditure on food items vary according size, age and sex composition of a household. Varying calorie intake by households in general defines their consumption expenditure.

1.4. b) Non-Food Poverty Line

The component of diet is determined by the dietary energy threshold (Kcl per person per day), and non-food poverty line is defined as the average consumption per capita in households whose food expenditure is between 95 per cent and 105 per cent of the absolute food poverty line.
Finally, the basic needs poverty lines for region is constructed as

$$Z^{BN} = Z^F + Z^{NF}$$

Z = poverty line on the basis of cost of basic need Z^F = Food poverty line
Z^{NF} = Food and non-food poverty line

And a person is identified poor if his or her food and non-food expenditure is less than that needed to meet the poverty line and this can be interpreted as the expenditure at which a typical individual's nutritional needs and other basic needs are met. Separate poverty lines are estimated for different social groups and for different regions of Trans-Giri(see appendix-I).

1.5 a) Head Count Ratio

Poverty head count ratio of the sampled households is calculated below

Table 1.1 Head Count Ratio in Trans-Giri

Regions	Head Count Ratio	Head Count Ratio for General Category	Head Count Ratio for SC Category
Sangrah	88/226 (38.94)	31/142 (21.83)	57/84 (67.86)
Rajgarh	41/158 (25.95)	16/104 (15.38)	25/54 (46.30)
Shillai	75/176 (42.61)	56/118 (47.46)	19/39 (48.72)
Kamrau	65/132 (49.24)	49/103 (47.57)	16/29 (55.17)
AnjBhoj	22/76 (28.95)	15/62 (24.19)	7/14 (50.00)
Trans-Giri	291/768 (37.89)	167/529 (31.57)	124/220 (56.36)

Source: Field Survey

Note: ()-parenthesis depicts percentage of persons out of corresponding total persons.

Table shows lopsided poverty toward SC category. About56 per cent of the SC respondent households were poor when measured on head count, whereas, on the same measure only about 31 per cent general category households were poor. More poverty among SC category respondent households isdue to the meagre land holding that excerpt downward pressure on income earning of SC category households and thereby household consumption expenditure. Whereas, land holding on the one hand directly linked with the income earning, it on the other side results in poor quality of calorie intake and poor quality of livestock.

Headcount index does not indicate how poor the poor are and hence does not change if people below the poverty line become poorer. The size of households also affects the number of poor individuals in head count index.

1.5 b) Poverty Gap Index (PGI)

 A moderately popular measure of poverty is the poverty gap index, which adds up the extent to which individuals on average fall below the poverty line, and expresses it as a percentage of the poverty line.

Poverty gap index shows fraction of poor between zero to hundred. Where zero means no person is below poverty line and hundred means that all persons fall below the poverty line.

Table 1.2   Poverty Gap Index in Trans-Giri

Regions	Poverty Gap Index	Poverty Gap Index for General Category	Poverty Gap Index for SC Category
Sangrah	0.34	0.29	0.36
Rajgarh	0.30	0.19	0.37
Shillai	0.32	0.27	0.31
Kamrau	0.26	0.16	0.31
AnjBhoj	0.24	0.22	0.27
Trans-Giri	0.29	0.22	0.32

Source: Field Survey

Table 1.2 shows that the per capita cost of eliminating poverty is equal to PGI* ZBN (e.g. per capita cost of eliminating poverty in Trans-Giriws 0.29*1528.91= Rs. 443.39for sc category it was 488 and for general category it was 336 only). The highest poverty gap was observed in Shillai 0.32 whereas lowest poverty gap is calculated in AnjBhoj. In all regions poverty gap index for scheduled caste category is highest that means in all regions the poverty gap between scheduled caste category average expenditure and poverty lines are more than general poverty gap in varying extent.

1.5 c) Sen's Measure of Poverty

Amartya Sen provided an alternative definition of poverty on basis of "distribution sensitivity" index of poverty. Index based on ranking takes into account the inequality among the poor households.

Table 1.3 Sen's Poverty Index (1981) for Trans-Giri

Regions	Sen's Poverty Index	Sen's Poverty Index for General Category	Sen's Poverty Index for SC Category
Sangrah	0.37	0.25	0.54
Rajgarh	0.29	0.17	0.40
Shillai	0.36	0.37	0.40
Kamrau	0.34	0.36	0.29
AnjBhoj	0.27	0.23	0.27
Trans-Giri	0.33	0.27	0.43

Source: Field Survey

Inequality among poor households is figured in Table 1.3 which shows index for Trans-Giri to be 0.33 per cent, whereas it was calculated 0.27 per cent for general category and 0.43 per cent for scheduled caste category. Lowest value of Sen's index is in Rajgarh and in AnjBhoj, whereas higher value in Sangrah and in Shillai.

1.5 d) Multidimensional Poverty Index

Poverty measures based on some monetary measurement often bypass assessment of other indicators without which real poverty may overstated or understated. Thus an MPI directs attention to set of deprivations not captured by monetary measures of consumption poverty. Conceptually multidimensional poverty index is motivated by and draws on Amartya Sen's capability perspective of plurality of different features of our lives and concerns (Amartya Sen, 2009:233). Multidimensional Poverty Index (MPI=H*A) is product of incidence, the percentage of people who are poor (or headcount ratio, H) and intensity, average share of indicators in which poor people's are deprived (A).

Table 1.4 Multidimensional Poverty Index (MPI) for Trans-Giri

Regions	MPI	Headcount Ratio (H)	Intensity (A)	Number of poor people
Sangrah	0.30	78	38	193
Rajgarh	0.19	53	36	114
Shillai	0.30	41	62	157
Kamrau	0.23	37	65	126
AnjBhoj	0.23	65	34	51
Gen	0.19	54	35	438
SC	0.32	85	37	203
Trans-Giri	0.28	69	40	641

Source: Field Survey

Table 1.4 shows multidimensional poverty index of 0.28 in Trans-Giri, 0.19 for general category and 0.32 for scheduled caste category which is highest from Trans-Girias a whole. The main reason behind this can be credited to highest score of an MPI indicator related to land. Scheduled caste category households in Trans-Giri possess very small portion of land compare to general category which put a higher weight on their combined score in multidimensional poverty.

In terms of intensity Trans-Giri is deprived in 40 per cent of indicators (in other words 60 per cent of indicators in Trans-Giri shows better results). The deprivation in indicators is highest in Kamrau (65 per cent) and in Shillai (62 per cent). Kamrau and Shillai, as reported by household samples during survey and from field evidences, lack clean drinking water and have dirty floor (the reason that most of the dwellings as traditionally constructed in which ground floor is constructed for cattle which ostensible remain unhygienic).

1.6   Correlation between Poverty and Inequality

Poverty and inequality shows positive correlation in the Study region that less poverty shows less inequality and vice versa. Correlation between Head Count Ratio (HCR) and income Gini was 0.590, between PGI and income Gini was 0.523 and correlation between MPI and income Gini was

higher 0.911. Higher correlation between income Gini and MPI was due to the fact that where income Gini takes shows the inequality in possession of income, MPI shows inequality in the final achievement and inequality in accessing economic perks. In all poverty measures the relation between inequality and poverty is positive and higher so the null hypothesis cannot be rejected.

1.6) Cross Categories Evaluation of Major Schemes on Closed Ended Responses of Households

1.6.a) Indira Awas Yojana

Kendall coefficient of concordance presents degree of agreement among judges (here respondents) for various variables of a dimension. In present case for Indira Awas Yojana the agreeableness is 0.871for all categories in the region which is highest. However, Kendall Coefficient does not show the direction of agreeableness, for those purpose percentage values of choices is presented in corresponding table 1.5.

Table 1.5 Comparative Evaluation of Indira Awas Yojana (IAY) for Selected Variables

Particulars/Variables for assessment	Trans-Giri					
	All Respondents		General Respondents		SC Respondents	
	No	Yes	No	Yes	No	Yes
Fairness of selection criteria	60.42	39.58	52.38	44.44	67.57	32.43
Financial Assistance available on time	94.79	5.21	88.89	6.35	97.22	2.78
Houses have smokeless chullah	80.21	19.79	62.16	18.92	79.49	12.82
Discrimination is make in the selection on castee/religion basis	48.42	52.63	31.15	67.21	16.67	83.33
No large time lags in seeking benefit under scheme	84.62	20.88	83.64	25.45	86.11	13.89

Provision of technical support	83.33	16.67	85.00	15.00	80.56	19.44
After completion of house authorities visit the site and check and work	82.98	19.15	83.33	16.67	82.35	23.53
Houses construction is as per own choice	12.50	87.50	8.33	91.67	19.44	80.56
Self arrangements of materials and labour	3.13	96.88	1.67	98.33	5.56	97.22
Official regularly visits the site of construction of house	79.38	19.59	76.67	23.33	83.78	13.51

Source: Survey Data.

Table 1.5 reveals comparative positions of responses by respondents belonging from general and scheduled caste on various variables selected for evaluation of Indira Awas Yojana and shows compromise of fairness in selection criteria and the responses are more negative by scheduled caste category.

Households also revealed of not having smokeless chullah in newly constructed house and those reported of having it they themselves constructed it. There are some revelations from above table that a) there are often discrimination not only on caste basis but also on the basis of approach and cronyism. Field evidences further rectify this fact that benefit of these schemes rarely reach to the most needy and these schemes are claimed by those who already well off in the society.

1.6.b) Mahatama Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

There is again high degree of agreeableness among the respondent households for various parameters of MGNREGS to be 0.841 for all categories household respondent.

Table 1.6 Evaluation of MGNREGS for Inclusion of People in Mainstream

Particulars/Variables for assessment	Trans-Giri					
	All Respondents		General Respondents		Scheduled Castee Respondents	
	No	Yes	No	Yes	No	Yes
Initiation of MGNREGS secured improvement in living	21.88	78.13	23.33	76.67	19.44	80.56
One have to apply in GramSabha to seek work under scheme	52.08	47.92	46.67	53.33	61.11	38.89
Within fifteen days after application authorities provide work for applicant	77.08	22.92	73.33	26.67	83.33	16.67
Work under this scheme is provided within radius of 5 kilometres	18.75	81.25	20.00	80.00	16.67	83.33
One's dailies included in MGNREGA when work in own fields	55.21	44.79	56.67	43.33	52.78	47.22
Forestation work is also done through MGNREGS	64.52	38.71	55.74	42.62	70.27	27.03
One don't share his card with somebody else	32.29	67.71	34.38	59.38	24.32	72.97
Pradhan/ward members ask you to share your card on sharing basis	38.14	60.82	40.98	57.38	33.33	66.67
You don't go for work outside your locality after initiation of MGNREGS	35.05	63.92	36.07	62.30	33.33	66.67
You feel financial empowered after MGNREGS	19.79	80.21	19.12	69.12	15.00	75.00
Payments of MGNREGS receive by female member of the family	55.21	43.75	60.00	38.33	47.22	52.78
All your MGNREGS earning spent on food and clothes	50.00	48.96	45.31	48.44	52.78	44.44
Grievances regarding this scheme is well listened by authorities	83.75	37.50	82.35	35.29	86.21	41.38

Source: Survey Data.

Note: *MGNREGS –Mahatma Gandhi National Rural Employment Guarantee Act*

Table 1.6 shows that all respondents accept that number of days must increase from current amount and implementation of scheme must improve.

There are some of the observations for this scheme on which there is complete agreement among respondents namely: a) no allowance is received if employment is provided outside fifteen kilometres of the village radius and work has to be done with own tools b) there is no crèche facilities on the work site for lactating women and also there is no any provision of first aid c) respondents unanimously revealed of not receiving unemployment announce after fifteen days of not having work under this scheme d) delayed payments under this scheme is regular phenomena, though payments nowadays credited directly in beneficiary account.

Overall, all respondents agree about benefits of MGNREGS and was unanimous that their living standards has improved due to MGNREGS.

The above analysis of these schemes presents that there is no fairness in the selection of the schemes.

1.7   Conclusion and Policy Implications

Poverty estimates with help of various poverty measures place Trans-Giri among higher poverty regions except Rajgarh and AnjBhoj At micro level there are some dominant groups which choke out the major portion of any schemes and often discrimination is made on the basis of caste or on some other force able social identities. Following reasons are described for widespread poverty in study region-

i)   Poverty and inequality were positively related with each other. Paper shows high inequality regions with high poverty too. So it can be concluded that eradication of poverty manifests in lowering inequality. It was also established that there is no trade off between poverty and inequality but improvement in one leads to improvement in other.

ii)   State schemes in caste societies ultimately land in the hands of other peoples rather than targeted beneficiaries. To eradicate discrimination in distribution of benefits, either administration has to

be efficient or there must be efforts to eradicate the caste differences from the society.

iii) There was significant social hierarchical discrimination. People from lower caste revealed of facing discrimination in accessing state schemes. It was also documented that dominated peoples in the villages often take the benefits of targeted schemes.

iv) Trans-Giri is comparatively landlocked region which creates barriers for easy in and out migration for opening up new opportunities and to migrate as a wage hunter.

v) Sources of water are so meagre that in summer majority of villages in the region face acute water scarcity. In this situation irrigation facilities are distant dream. If irrigation facilities are increased in the region the income of the farmers can be doubled.

vi) Crop diversity is not seen in majority of surveyed villages. Relying upon traditional crops results in meagre income. Where there was crop diversification there was more income of the farmers and vice versa.

vii) Monkey menace is also cited among other reasons as a major problem behind low farm income. Many farmers reported of giving up cropping as monkey destroy ready to harvest crop.

viii) Majority of migrated population include unskilled labour, which give them low income. Skill imparting has huge potential to ad in income of the farmer and their uplift from poverty.

ix) No market accessibility put extra burden in terms of transportation costs. Farmers who are able to produce surplus cited reasons for inaccessibility it to the market and they loss about one third of intended revenue on transportation cost.

x) Due to low and less quality infrastructure tourism development has not taken a turn in the whole region in spite of having tremendous potential.

xi) Poverty is relatively found less in the villages adjoining Cis-Giri due to the fact of accessibility and alternative opportunities created by cement industry.

xii) The social exclusion of scheduled castee category households helps to persists poverty among them.

xiii) Targeted schemes delivered less intended results when it comes to the benefit of the poor.

xiv) Lack of social awareness and transparency at ground level helps to continue the poverty.

xv) With the passage of time some of the social groups internalize discrimination and accepts the exclusion.

xvi) Selection of beneficiary merely on the basis of BPL census is not sufficient. The inclusion of other caste based measures will help to improve the selection criteria.

xvii) Electronic based filling of muster roll and effectively linking this scheme for land improvement and other activities to increase forest cover can contribute in asset creation and overall contribution in growth.

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Appendix-I

Dimension and Indicators for MPI adopted for the Present Study

Dimensions	Indicators for MPI in Trans-Giri
Education	a) No one in the family has completed five years of education b) At least one school age child not enrolled in school
Health	a) *At least one member of family has chronic disease* b) One or more children has died during one year c) *Consult local doctor (Vaid) instead of going to hospital* d) *Home delivery is preferred/ occurred if female in family is pregnant or born a baby during a year*
Living Conditions	a) Access to clean drinking water b) Access to adequate sanitation i.e. toilet facility c) House with mud floor d) Household uses Firewood, cow dung or charcoal e) Household has vehicle f) Household has television g) *Household has at least road at five Kilometre distance* h) *0 to two bigha or less of land*

Source: literature review and field survey

Note: 13.28 *bigha* in one hectare: indicators in italics have been added on the basis of field evidences.

Appendix-II

Poverty Lines in Study Region (in Rs.)

Sr. No	Regions	Food Component	Non-Food Component	Poverty Line
1	**Sangrah**	777.62	754.29	1523.62
2	**Rajgarh**	781.10	749.86	1530.95
3	**Shillai**	789.95	756.55	1536.50
4	**Kamrau**	773.60	750.39	1523.99
5	**AnjBhoj**	784.54	745.31	1529.53
6	**Trans-Giri**	781.36	751.28	1528.91

Source: Field data