PRODUCTIVITY AND FOOD SECURITY
A MARGINAL SITUATION CASE STUDY

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November 2003

FOREWORD

This paper presents the results of a collaborative study between CBPS and CYSD in Koraput district of Orissa. The field costs were met by CYSD and the researcher time by CBPS. Such collaboration between NGOs is a new, and welcome feature in India which I hope will become more common. This study was conducted in Koraput by Dr Sharadini Rath and Mr. Jacob John of CBPS. They worked with COATS—the Council of Analytical Tribal Studies—in Koraput for local support. We are grateful to all who helped us.

Before discussing the specific results of this study, some background is essential. I first went to Koraput in the 1970s, and was shocked at the poverty of the people in a district rich in forest resources and exceptional in terms of natural beauty. That was when NALCO's Damanjodi unit was on the drawing boards, and there was much concern about the impact of that project on the natural environment. Today, NALCO is a major presence in what still remains a district of poor people.

In the early 1990s, I had an opportunity to study rural credit—then called priority sector lending—in Phulbani and Kalahandi. Today, these areas are collectively known as the KBK districts, and the term is synonymous with extreme poverty. Thus, since my visit more than two decades ago, poverty remains the cruel reality of Koraput. What has changed is that the forest wealth seems to have reduced considerably for a host of reasons. The district has been divided, but poverty stubbornly remains.

Thus, when CYSD mooted the idea of this study, I was anxious to get on with it as it may serve to give insights into this underlying and persistent poverty. CYSD is Orissa based, and it works with a deep understanding of the sociology and political economy of poverty. It has a comprehensive approach to development, and does not fall prey to the target mentality of many government departments. It understands the long term nature of persistent poverty and of the complex nexus of exploitative forces that perpetuates it, and would not take short cuts to showcase 'success' in the short term. It works with people, and has a local reach that government departments rarely have. Thus, if anyone stood a chance of making a dent on poverty, I felt it would be an agency like CYSD.

It was agreed that we would use the CGAP methodology that was developed after much experience in many countries. It has the advantage of asking a narrow and specific question, not getting bogged down in the grand generalizations of political economy. To which economic strata do households which join SHG's belong? Since the idea was to target those below the poverty line, would the SHG contribute to taking them above it? The study is of manageable size, both in terms of administration and cost. Thus, it could serve as a beginning for further work based on what the results are. This study presents the results of this study, which focused on the status of new members of SHGs in two panchayats of Koraput where Prayas, CYSD's local partner, has been working. It is *not* an exercise in political economy, nor is it an impact analysis of Prayas' work.

The findings are interesting. The study showed that those who joined the Prayas SHG's are, taken together, 'better off' than others who were not group members. This is because of the marginal impact of lowland paddy cultivation. But those who are 'better off' in this sense are also themselves below the poverty line. What is one to make of this finding? What does it teach Prayas?

Credit will help if the people who get the credit have skills they can harness in the local market. What this study has shown is that these people, whether or not members of SHGs, *do not* have such skills. Thus, they need help, but credit and SHGs may not be the answer to their problems.

What is required is skill formation, after simple survival. And this Prayas cannot—and should not—do. Such basic skills—rudimentary knowledge of agriculture, functional literacy, minimal health care, access to adequate food and so on—are the responsibility of the State. What we have here is a case of complete failure by the State. Till the State meets these responsibilities, these people will be condemned to persistent poverty, whether or not they join SHGs. Prayas should shift to a new way of working, trying to force the State to fulfill its function, instead of letting the State abdicate its responsibility by doing the job for the State. Recognising the KBK districts for special attention is perhaps only a first step. Much more has to be done on the ground. What that is, goes well beyond the scope of this paper.

The study also has other findings that merit serious consideration by the wider community. Look at the number of childless couples in the study area. The population is declining. If action is not taken soon, the result may be a disappearance of this group of very poor tribals from Koraput. The levels of nutrition, even among the better off, are far too low for them to be able to earn a living by hard labor even if it were available. How should NGOs react to this distress situation in Koraput, which probably reflects that situation of the entire KBK region? There is much to ponder over.

I recommend a careful reading of this brief report for the longer term issues it raises. Prayas has reached the poor in Koraput, but there are even poorer people there. Will bringing them into SHGs improve the poverty situation? The immediate question has been answered, but the answer to the finding requires deep consideration, and I argue, major changes not only in State action, but also NGO responses. This report has begun to ask these questions. A lot more will be needed if we are to find appropriate answers—and related development practices.

I hope that a wider dissemination of this paper will lead to not just healthy debate, but a deeper appreciation of what needs to be done in this poorest of poor areas.

Vinod Vyasulu
Director, CBPS
Bangalore**Introduction**

This study was conducted to assess the relative poverty status of new members of micro-finance or self-help groups (SHGs) being organised by Prayas in two panchayats of the Boipariguda block in Koraput district of Orissa. The aim of the study is to find out the relative poverty status of new members in comparison to non-members.

The reason for this kind of assessment is clear. It is preferable that such initiatives to organise local people to become self-sustaining should be aimed at, to begin with, the relatively poorer section of population, since they are the most in need of new input and ideas to better their lot. Organising them would, as is the case in most micro-finance initiatives, at the very least give them a resource to take care of immediate consumption needs such as, expenses on food, health, education, etc. A benchmark study, carried out before organising SHGs, would give an idea of the dominant poverty indicators in the area. This would make it relatively easy to select the poorer households for targeting the SHG initiative.

It should be remembered that a) this is a *relative* poverty assessment, confined to the ambit of the study area, and b) that it targets *new SHG members only*, who have not as yet been impacted to any great extent by belonging to an SHG. The methodology used is the one developed by the Consultative Group for Assisting the Poor (CGAP)[1].

Prayas is a sister organisation of the Bhubaneshwar based Centre for Youth and Social Development (CYSD), with its office in Boipariguda town in Koraput district. Prayas has been implementing the Integrated Tribal Development Project in the Baligao, Haladikund, Doraguda and Asana panchayats of Boipariguda block in Koraput district for the past 7 years. It has a long history of a multi-layered approach to community participation in development programmes in this area. This includes formation of Community Based Organisations (CBOs), training of animators and village workers, formation of self-help groups for women, water shed development, agricultural intervention and social forestry management. It interacts with the people as well as the district administration to address development issues in the area.

Some of its oldest SHGs in villages of the Haladikund panchayat show impressive fund accumulation and a sustained turn over of loans. These are taken for consumption needs, as well as for productive reasons such as, farm and non-farm activity.

Sampling Frame

The survey area for the present study falls in the Baligao and Doraguda panchayats. There are older programme villages in this area, but over the past year, Prayas has brought in more villages into the ambit of their programme and this study targets these new villages. Prayas works on a village, rather than on a household or individual, basis. The entire village is encouraged and persuaded to join the activities initiated by Prayas, including the formation of SHGs. It was found that in many programme villages all households had contributed a member to the SHG.

It was also found that the definition of a 'new SHG' being one that had been formed no earlier than in the past six months did not really apply here. Prayas workers indicated that it took six months to get people to start coming for meetings regularly and another six to have a steady flow of monthly contributions from members. Nobody took loans within the first year, since the fund level of the group was too low to allow it. It also became clear from Prayas records that it would not be possible to get a sample of 200 member households if the six-month definition was adhered to. After talking to group members in villages where the SHG had been formed within the past year, it was decided that the cut off date for the definition of a 'new SHG' would be November 2001.

A list of such new programme villages was provided by the Prayas office, along with names of members belonging to the respective SHGs. Choosing the control group was then a matter of identifying villages where Prayas was not running its programmes. Such villages had to be in the immediate vicinity of the programme villages, and approximately of the same size in terms of the number of households. The area of Baligao and Doraguda gram panchayats geographically consists of mildly undulating plains. Small villages of about 15-30 households are found within 1-3 kms of each other.

It was decided that the sampling ratio of 2:3 of programme to non-programme households would be implemented panchayat-wise. In effect the panchayats became the clusters in this study. Programme and non-programme villages were identified. It was further decided that since all, or most, households in a programme village contributed members to the SHGs, the most comparable sampling method would be to take all households in non-programme villages as the control group. There would be no further selection of households within the programme or non-programme villages. Table 1 gives a list of programme and control villages with their respective number of households in each category in both panchayat areas. Any two adults in the household could be chosen as respondents. It was preferable that at least one adult woman from the household be present during the interview.

Preparation of Questionnaire

The localisation of the questionnaire outlined by CGAP was done by carrying out extensive field work in the survey area. Initially help was taken from Prayas field workers to get familiarised with local language usage, common concerns expressed, and to get an input from them about their view of the people they worked with. These were valuable. It contributed in validating the presence of the survey team in the area. This led to conversations with the population at large, in the absence of Prayas workers, which was essential for effectively localising the questionnaire.

The monitors for the survey were two senior staff members of the Council of Analytical Tribal Studies in Koraput, with extensive knowledge of the local socio-economic conditions. This also contributed to making the questionnaire focused and highly relevant to prevailing practices and mores. Two pilot studies were done on a small number of households, which were not going to be in the final sample. The finalised questionnaire was then translated into Odiya. An English version is given in the Appendix.

Six field investigators were employed to carry out the actual survey. They were taken to the field and given complete training about all aspects of the method of filling out the questionnaires. The investigators completed data collection for the Baligao panchayat area and returned to Koraput, where the monitors checked the completed questionnaires and corrected misunderstandings and omissions, if any. When the data collection for Baligao was deemed complete in a satisfactory manner, the investigators proceeded to the Doraguda panchayat area. All data collection was completed in a period of three weeks. Data entry was completed over a period of three weeks. The field investigators played a large role in this process also.

Table 1: Distribution of Prayas SHG and Control households in Baligao and Doraguda panchayats

Village Name	SHG	Households Control	Total
Panchayat Baligao			
1. Sisiaguda	6	9	15
2. Mauliguda	8	1	9
3. Sindhiaguda	15		15
4. Kandha Andajodi	16	2	18
5. Kharsaliguda	11		11
6. Dumuriguda	10		10
7. Matikhalguda		19	19
8. Chandrapadiaguda		14	14
9. Badraguda		15	15
10. Bhumia Andajodi		38	38
Baligao Total	**66**	**86**	**164**
Panchayat Doraguda			
11. Majhiguda	27	2	29
12. Godaguda	20	5	25
13. Mundaguda	12	6	18
14. Sapaguda	12		12
15. Khangarpar	26	3	29
16. Dadhiapadar	28	2	30
17. Kasamguda	23	2	25
18. Kenduguda		21	21
19. Banuaguda		42	42
20. Minarbali Kenduguda		16	16
21. Pandriguda		17	17
22. Kumatiguda		7	7
23. Gumma		18	18
24. Gatanguda		18	18
25. Bhejaguda		11	11
26. Udulguda		21	21
27. Berga Kenduguda		17	17
28. Bendraguda		18	18
Doraguda Total	**148**	**238**	**374**
Grand Total	**214**	**324**	**538**

It was found that a small number of households (45) in the control villages contributed members to SHGs organised by a local bank. The survey team talked to some of these group members. The regularity of the monthly contributions in these groups was very uneven. Some members were not contributing at all for a period of time. Most members were also not very clear about the purpose of these groups. There were no regular meetings and for long periods of time nobody came to update the group accounts. Unlike the Prayas SHGs, these groups had not learnt to keep their own books. They could only go and occasionally deposit money in the group account. However, even this was irregular. It was decided that this group would not be disqualified from the control sample, since the presence of the SHGs had not introduced any material or non-material difference between them and the other control households.

As seen from Table 1 there were a few households in the Prayas programme villages that did not take part in the SHG activities. These qualified as Control households for the purposes of the relative poverty analysis. In the Baligao panchayat there were 12 such households and in Doraguda there were 20.

Data from the household survey was separated into two main parts. The first contained data at individual level, where personal details of all household members were entered. Age, sex, level of education, main and secondary occupations and the respective wages earned from them (in money or kind), number of days spent on each in the year, expense on clothes, etc. The second file contained data that pertained to the entire household. This included details of the type of land cultivated (irrigated paddy, rain fed up land, horticultural land, etc.), number of meals eaten by members of the family per day, daily intake of cereals, household stock of cereals, frequency of luxury food consumption, frequency of food purchase, condition of dwelling, etc. The data was checked for internal consistency and cleaned.

Profile of Survey Area

A total of 538 households from 28 villages were surveyed. Of these 214 were programme households, while 324 formed the control group. In all, 2364 individuals came into the ambit of the survey.

Most villages surveyed had no fair weather roads connecting them to the nearest town or main road, none of the villages had electricity, and there were no hospitals or health centres. With the exception of two, all other villages had bore wells used for drinking water and other needs. Some had dug wells and most had access to perennial stream water.

The sex ratio is 1033 females per 1000 males. This is higher than the figures for Koraput district (991 females per 1000 men). The mean size of the household is 4.4 persons. Households mainly consist of nuclear families. Sons move to separate households when they marry. The mean number of adults in the household is 2.5, while the mean number of children is 1.8. The mean household average age is 24.2 years. Age of marriage for women is about 15 and that for men about 17. Table 2 sheds light on an interesting aspect of the population demography of this area.

It shows the percentage of households with number of children in the household ranging from 0 to 7. There are no children in a large proportion of households (27.5%). Data shows that in 50.7% of these households, the average household age is 30 years or less. While there are cases of children being sent to tribal residential schools, they are rare and do not explain this statistic.

Population in the survey area was dominantly tribal, at 73% of the households. This figure is also higher than that for the district, where 51% were tribal in 1997-98[2]. Most of the remaining 27% belong to the Scheduled Castes, with a small number of Other Backward Castes comprising the rest.

Table 2: Number of children in households

Number of children	% Households
0	27.5
1	19.1
2	20.4
3	19.1
4	9.9
5	3.0
6	0.7
7	0.2
Total	**100**

Literacy levels are abysmal. A majority (66.6%) cannot read or write. Only 14.6% could read and write. However, many of these had not had any formal schooling, suggesting that they may have been exposed to an adult literacy programme. A small number (4.1%) had learnt only to write their own names. However, with almost 70% of children of school going age not enrolled in any school, this situation is unlikely to improve in the near future.

Occupation

While 41.1% gave farming as their primary occupation, 13.3% said it was casual labour. Farming includes cultivating own land or bandha land and share cropping. Local labour is usually agricultural, road work or forest related. Some people go to the border areas of

Table 3a: Profile of age and productive occupation for men and women

Age	None		Single Occupation		Two Occupations	
	% Men	% Women	% Men	% Women	% Men	% Women
5-10	41.5	34.8	5.3	1.9	0.2	0.6
10-15	14.9	9.7	16.5	12.1	4.8	8.7
15-20	0.9	1.8	14.7	18.4	15.7	14.4
20-25	0	1.4	9.4	12.1	15.5	17.5
25-30	0	1.0	12.9	11.7	23.5	21.6
30-35	0	1.0	8.8	13.1	14.6	13.6
35-40	0.7	0.6	9.4	8.3	12.4	11.1
40-45	0.5	1.6	5.9	7.8	5.9	5.6
45-50	0.7	3.6	8.2	8.3	3.1	2.9
50-60	0.9	3.4	8.2	4.9	2.4	3.7
Above 60	0.5	1.2	0.6	1.5	1.8	0.2
Total	**100**	**100**	**100**	**100**	**100**	**100**

Andhra Pradesh in the lean season for agriculture to work in quarries or on construction sites. Of the children in the 5 to 15 age group only 32.4% were in school, 47% had no occupation, 5.6% are engaged in paid labour of some sort, and 14% assist in farming. Table 3 gives a profile of age and number of occupations during the year for all those above 5 years of age.

It is clear, that men and women begin productive work at an early age, around 12-13 years. Intensity of occupation peaks during the 20 to 30 age period and declines steadily after that. Women who are not engaged in any productive occupation in age groups 15 to 30 are those with small children. This basic age-work profile is reflected in the age groups of the SHG members. Table 3b gives the break up. Women in the 20 to 35 age group are the dominant contributors. There are a few small girls who claim to be members of SHG's. Prayas advocates the policy that unmarried girls should not be allowed to be SHG members. However, some seem to have slipped past. There were also a few households which contributed more than one member to the same SHG.

Table 3b: Age profile of SHG members in programme villages

Age	% SHG Members
5-10	1.3
10-15	2.6
15-20	10.1
20-25	19.7
25-30	27.6
30-35	15.4
35-40	11.0
40-45	5.7
45-50	4.4
55-60	1.8
Above 60	0.4
Total	**100**

Most men and women work most of their lives. The prevailing labour wage rate in the area is 20 rupees per day for men and 10 rupees for women.

Occupations other than farming and labour included blacksmiths, forestry, cowherding and minor trading. In villages with a large number of cattle, there was a designated cowherd who grazed all the cows in the village and received payment in cash and kind. Cattle are mostly sold as meat in the local markets. However, the tribals themselves do not eat beef or even milk their cows. Bullocks are used for ploughing. Apart from these occupations, all women do housework such as cooking, cleaning, fetching water and child rearing, and this sets them apart from all men.

Agricultural Activity

Land holdings in the area are mainly marginal and small in size. Table 4 gives a breakup of the type of holding by percentage of households. About 20% of all households are landless. Among SHG households 16.8% are landless, while among control households 22.2% have no land. The dominant crops are rice and ragi, along with some local pulses. The area is also rich in mango, tamarind, mahula and jackfruit. All fruit bearing trees are owned and the produce sold in local markets. Vegetables are grown in very small quantities in plots surrounding the house, and this is a recent phenomenon.

Land ownership is a complicated issue. Most people have no ownership papers. Some even have cases registered against them for illegal forest clearing, which have been going on for the past 25-30 years. Division of land among siblings is done on the basis of mutual understanding.

Table 4: Land holding size by percentage of households

Type of land holding	% Households
None	20.1
Marginal (0-1 acres)	16.5
Small (1-2 acres)	18.2
Semi-medium (2-4 acres)	19.0
Medium (4-10 acres)	19.5
Large (10+ acres)	6.7
Total	**100**

The major crops in the area are rice and ragi, and a local pulse called kolatha. There are two broad categories of cultivable land in the area: irrigated low land and unirrigated upland. The irrigation comes dominantly from perennial streams. Paddy is grown in the stream bed for two seasons. Some of the adjoining land can be irrigated if the geography of the land around the stream allows for it. However, in most cases this is not done, since the gradients of the stream banks are steep. This rain fed upland is used for growing ragi, and a small quantity of pulses. Table 5 gives the breakup of low paddy land availability by households in the programme and control groups.

Table 5: Household distribution of low lying paddy land

Low lying paddy	%Households		
	SHG	Control	Total
None	27.6	40.7	35.5
Upto 1 acre	42.5	34.9	37.9
1-2 acres	14.5	13.0	13.6
2-4 acres	7.9	7.4	7.6
More than 4 acres	7.5	4.0	5.4
Total	**100**	**100**	**100**

Both complete landlessness (22.2%) and lack of low paddy land (40.7%) are higher among control households than among SHG households (16.8% and 27.6% respectively).

Data shows that despite having perennial irrigation, paddy productivity per acre is very low, about 652 kg/acre, which is less than even the Boipariguda block average for the year 1997-98 at a yield rate of about 900 kg/acre. Despite this, however, access to low paddy land (in whatever quantity) for cultivation is a major indicator of relative wealth in the area, and the SHG households are clearly better off in this respect.

There is no planned horticulture in the area. With the exception of a few households, there was no sign of even common fruits like banana, papaya and melons. Managed forestry, for timber, firewood and bamboo, can be a potential use of the available uncultivated land, in spite of the complete, unchecked, and apparently unmourned, annihilation of the once famed Dandakaranya forests.

Nutrition and Food Security

The average per capita per day intake of rice is about 430 gms and that of ragi about 100 gms. This leads to an average calorific intake figure from cereals of about 1750 kcal. Cereals make up the dominant food in household meals. There is very little consumption of cooking oil, pulses, meat/fish/eggs, and no milk products are eaten at all. Vegetables grown in the backyard are cooked with small amounts of the local pulse. However, all this is subject to availability. Vegetable patches were usually badly tended. The mainstay of the diet is rice and ragi, accompanied by salt, green chillies and some tamarind juice. All groceries are bought usually on a weekly basis from nearby marketplaces.

So 1750 kcal is a good approximation of the per capita per day total calorie intake in the area. Given that the poverty line norm for rural areas is supposed to be 2400 kcal of per capita per day consumption, it gives an estimate of the level of nutritional deprivation and resultant poverty levels in real terms.

The non-availability of productive work starts intensifying from the beginning of March, peaks in May/June and is really alleviated only from August. The survey asked a question in February about the availability of household food stocks in number of days. Table 6 gives the picture.

Table 6: Household food stocks in number of days

Food stock in days	%Households		
	SHG	Control	Total
None	7.6	14.6	11.8
1-8 days	13.7	20.7	18.0
9-15 days	4.7	8.4	7.1
15-30 days	13.7	10.8	12.0
30-60 days	17.1	18.0	17.6
60-120 days	27.5	18.3	21.9
120-180 days	13.7	7.1	9.7
More than 180 days	1.9	1.9	1.9
Total	**100**	**100**	**100**

A large proportion of households (11.8%) have no food stocks at all. It is easy to understand why this distribution of available food stocks is strongly correlated to the availability of low paddy land for cultivation. The SHG group, which has more paddy land, has food stocks for a longer period of time. However, it is found that per capita per day food intake is not correlated to a statistically significant degree to either the level of food stocks or to cultivation of low paddy land. This could be due to the fact that the survey was done at a time of the year when there was still work available in the area and some agriculture was also going on. At the time of the survey there was no significant reported scarcity of food. However, food intake levels even in this time of relative plenty are so low, that it is unrealistic for them to be any lower for people who do not have paddy land. It is almost certain, though, that spot checks in the low months of April to June will show a steadily declining intake of food and food stocks. In this period a correlation between marginally better levels of food intake and low paddy cultivation leading to larger food stocks might become apparent.

Comparative Poverty Analysis

The main aim of this study is to draw some conclusions about the relative poverty levels between SHG and control households. After careful scrutiny the following variables measuring various quantities at the household level were identified as being the ones that show a more than 95% probability that the differences in the mean values of the two groups are statistically significant. Standard t-tests were followed in this procedure. Table 7 gives the independent sample two-tailed t-test significance level for these variables assuming equal variances. In all these cases the calculated t-value was larger than the critical t-value.

Table 7: Significance levels for differences between SHG and control households

Variable Description	Significance (2-tailed)	Computed t-value
1. Per capita rice wage	0.021	2.312
2. Number of cattle	0.004	2.878
3. Number of sheep/pig/goats	0.000	4.048
4. Number of rooms in house	0.010	2.570
5. Per capita value of assets	0.031	2.164
6. Cultivated low paddy	0.012	2.512
7. Per capita food stock	0.016	2.408
8. Type of house wall	0.010	2.576
9. Type of house roof	0.047	1.990
10. # Who can read &write	0.000	5.549
11. # Who can write	0.000	6.813
12. # Household members	0.022	2.293
13. Per capita per day meals	0.039	2.074

Rice wage includes both, homegrown and obtained as payment in kind for labour. Assets are all of the material kind (gold and brass ornaments, radios, bicycles, carts, etc.). The total asset value for a household does not include the value of any land holding or animals owned. Values were taken as stated by respondents.

For all these variables the SHG group was relatively wealthier than the non-SHG control group. There were no significant differences between the wealth status of tribal and non-tribal groups. However, the overall wealth status of the households in the Doraguda panchayat is higher than that of the Baligao panchayat. Given the fact that the total amount of irrigated low paddy land available for cultivation is higher in the Doraguda than in the Baligao panchayat area, this difference is clarified.

Following the procedure outlined in the CGAP manual, with these variables as the basis vectors, a principal component model was built for the control group of 324 households in order to explain the maximum level of variance possible. Table 8 gives the results of the first model. Four variables from the earlier set were found to be contributing relatively low component values to the analysis and so were dropped. These are, number who can read and write, number who can read only, total number of household members and number of per capita per day meals consumed.

The Kaiser-Meyer-Olkin test of sampling adequacy should give a value of at least 0.6 for the sample to be considered adequate for fitting a principle component model. The value computed is an index of comparison between observed and fitted correlation coefficients of the model. A value exceeding 0.7 is considered ‘good’.

By further removing two variables, type of roof and type of wall from this model, the percentage of variance explained could be improved to 40%. However, in the interest of the maximum degree of completeness of description, it was decided to retain this model with a larger set of variables. It has been checked that the final results do not change in any significant fashion if the smaller set is used.

Table 8: Control principal component model details

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.725
Percentage of variance explained = 34.327

Variable Description	Component Value from PCA
1. Per capita rice wage	0.760
2. Number of cattle	0.744
3. Number of sheep/pig/goats	0.597
4. Number of rooms in house	0.617
5. Per capita value of assets	0.595
6. Cultivated low paddy	0.469
7. Per capita food stock	0.487
8. Type of house wall	0.430
9. Type of house roof	0.472

When this model was applied to the complete population of 538 households, the results obtained are given in Table 9.

Table 9: Population principal component model details

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.717
Percentage of variance explained = 30.346

Variable Description	Component Value from PCA
1. Per capita rice wage	0.683
2. Number of cattle	0.724
3. Number of sheep/pig/goats	0.598
4. Number of rooms in house	0.642
5. Per capita value of assets	0.460
6. Cultivated low paddy	0.460
7. Per capita food stocks	0.441
8. Type of house wall	0.374
9. Type of house roof	0.462

The resultant factor regression score is used as the poverty index to rank the population households. The control households are now divided into equal terciles in ascending order of the poverty index. Having defined three levels of poverty ranks in this fashion, the SHG households are categorised into three groups based on their values of the poverty index. In the case of the present analysis, Table 10 gives the relevant values for the three rankings of the poverty index for SHG and Control households.

It is clear that the SHG households fall in the relatively wealthy category compared to the control households. A majority of them, 55.6%, are actually in the Higher rank in poverty index value, while only 17.8% fall in the Lower rank.

Table 10: Poverty index values for the higher, middle and lower ranks

Rank 1 (Lower): Poverty Index < -0.63175

Rank 2 (Middle): -0.63175 < Poverty Index < -0.03595

Rank 3 (Higher): -0.03595 < Poverty Index

Poverty Group	SHG Households		Control Households		All Households	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Lower	38	17.8	109	33.6	147	27.3
Middle	57	26.6	107	33.0	164	30.5
Higher	119	55.6	108	33.3	227	42.2
Total	**214**	**100.0**	**324**	**100.0**	**538**	**100.0**

A detailed, village by village picture of the spread of households in each category becomes clear from Tables 11a and 11b. There are two interesting aspects of these tables that need to be mentioned. The first is the fact that even in the programme villages, the households which are not contributing a member to the SHG are overwhelmingly in the Lower and Middle levels of poverty rank. In Baligao Panchayat, the control households in pragramme villages in the lower two ranks form 83.34% of all such households (12 in number). The same is the case with Doraguda Panchayat. Out of 20 control households from programme villages, 75% are in the lower two ranks.

Table 11a: Village-wise break up of SHG and control poverty ranks for Baligao panchayat

Village	Number of households								
	Total	SHG	Lower	Middle	Higher	Control	Lower	Middle	Higher
Panchayat Baligao									
Sisiaguda	15	6	3	3		9	4	3	2
Mauliguda	9	8	2	5	1	1		1	
Sindhiaguda	15	15	2	6	7	0			
Kandha Andajodi	18	16	2	5	9	2	1	1	
Kharsaliguda	11	11	2	3	6	0			
Dumuriguda	10	10	3	3	4	0			
SHG Village Total	**78**	**66**	**14**	**25**	**27**	**12**	**5**	**5**	**2**
% SHG Households			**21.21**	**37.88**	**40.91**		**41.67**	**41.67**	**16.67**
Matikhalguda	19						13	5	1
Chandrapadiaguda	14						4	10	
Badraguda	15						7	4	4
Bhumia Andajodi	38						12	12	14
NonSHG Village Total	**86**						**36**	**31**	**19**
% NonSHG Households							**41.86**	**36.05**	**22.09**

The Doraguda Panchayat has an over-all better profile than the Baligao Panchayat in terms of the poverty indicators used in this analysis, both in programme and control villages, mainly due to the fact that Doraguda Panchayat has a greater availability of low irrigated paddy land. However, the skewness in village selection towards the relatively better off is seen to be persistent. While 62.16% of the SHG households are in the higher rank, only 39.81% of the control group, fall in this category.

Table 11b: Village-wise break up of SHG and control poverty ranks for Doraguda panchayat

Village	Number of households								
	Total	SHG	Lower	Middle	Higher	Control	Lower	Middle	Higher
Panchayat Doraguda									
Majhiguda	29	27	5	8	14	2		1	1
Godaguda	25	20	8	6	6	5	2	2	1
Mundaguda	18	12	.	2	10	6	1	2	3
Sapaguda	12	12	3	1	8	0			
Khangarpar	29	26	2	4	20	3	1	2	
Dadhiapadar	30	28	2	5	21	2	2		
Kasamguda	25	23	4	6	13	2	1	1	
SHG Village Total	**168**	**148**	**24**	**32**	**92**	**20**	**7**	**8**	**5**
% SHG Households			**16.22**	**21.62**	**62.16**		**35**	**40**	**25**
Kenduguda	21						14	4	3
Banuaguda	42						16	15	11
Minarbali Kenduguda	16						3	7	6
Pandriguda	17						3	2	12
Kumatiguda	7						1	1	5
Gumma	18						4	5	9
Gatanguda	18						3	8	7
Bhejaguda	11						3	4	4
Udulguda	21						3	8	10
Berga Kenduguda	17						3	5	9
Bendraguda	18						8	4	6
Control Village Total	**206**						**61**	**63**	**82**
% Control Households							**29.61**	**30.58**	**39.81**

Summary and Suggestions

The relative poverty assessment of the survey area shows that the indicators of wealth are the following:

1. Availability of low lying irrigated paddy land for cultivation
2. Possession of cattle/sheep/pigs/goats
3. Per capita rice wage, including homegrown and earned as wage in kind
4. Per capita food stocks of main cereals
5. Number of rooms in the house
6. Type of wall
7. Type of roof
8. Per capita value of material movable assets such as gold ornaments, radios, bicycles, etc.

A series of statistical tests of significance and application of principal component analysis shows that the households that have contributed members to new Prayas SHGs in the Baligao and Doraguda panchayats of Boipariguda block in Koraput district belong to the relatively higher category in poverty rank as defined by the analysis for the survey population.

It is necessary to emphasise at this point that, as pointed out in the Introduction, this is an exercise in *relative poverty assessment*. If the definition of the poverty line is taken to be the 2400 kcal norm, then almost the entire population of the survey area falls well below it, as seen from estimates of food intake. There is little in the physical appearance of the villages or households to separate the 'poorer' from the 'better off'.

The data from this survey gives some useful tools to the Prayas workers in the field, for assessing the relative wealth status of a village. Looking for the presence of perennial streams in or in the immediate vicinity of the village and identifying owners of the paddy that is being cultivated with the stream water would be the first step. It is found that this is the base line of poverty assessment in the survey area. Spot checks in the month of April to June, as suggested earlier, to find out levels of food stocks and, even more important, per capita daily intake of cereals is another indicator that can be used very effectively for planning highly focused programmes to address immediate local concerns. Prayas has already initiated the grain-bank concept in its programme villages. Its performance can be made even more effective with such data at Prayas's disposal.

Appendix

Relative Poverty Assessment of New SHG Members of Prayas in Koraput District

Centre for Budget and Policy Studies, Bangalore

Section A: Household Identification

A1: Date of interview (d/m/y):

A2: Gram Panchayat:

A3: Village name:

A4: Self Help Group (Prayas / Non-Prayas / None):

A5: Group Name:

A6: Name of respondent:

A7: Name of Interviewer:

A8: Date checked by supervisor (d/m/y):

A9: Supervisor signature:

Section B: Members of Household

Tribe / Caste:

ID	Name of household member (All members)	Marital Status	Relation to head	Sex	Age	Education	Read/ Write
1							
2							
3							
4							
5							
6							
7							
8							

If Prayas SHG member:

ID number of member:

Monthly contribution to SHG:

If loan taken, when and how much:

For what purpose:

How has it been used:

ID	Main occupation for for past year	Wage Rs, rice, ragi	Length of Employment	Secondary Occupation	Wage Rs, rice, ragi	Expense on Clothing
1						
2						
3						
4						
5						
6						
7						
8						

Section C: Food related indicators

C1: Normally how many meals do people in the household eat?

1. Men
2. Women
3. Boys (<15)
4. Girls (<15)

C2: What items are cooked in a normal meal?

C3: How much rice/ragi is cooked on a normal day?

C4: Was special food cooked in the past two days in the household? Yes/No

C5: If no, how many meals did people eat the past two days?
(If yes, use the two days before the event.)

1. Men
2. Women
3. Boys (<15)
4. Girls (<15)

C6: What items are cooked for a special meal?

C7: Were there any special events in the last 7 days? Yes/No

C8: If no, on how many days were the following items included in the meal? (If yes, use the week before the special event.)
1. Chicken
2. Meat
3. Other

C9: In the past seven days, the number of days on which no rice/ragi was cooked? If no, what was cooked?

C10: During the past month, how many days was food not enough:

C11: During the past year, in how many months was there a day when food was not enough:

C12: How often do you buy the following items (daily/ twice a week/ weekly/ fortnightly/ monthly/ less frequently than all these)?
1. Rice
2. Ragi
3. Others

C13: How long will the staples stored in your house today last you? (number of days)

Section D: Housing related indicators

D1: Who owns the land on which the house is built?

D2: Who owns the house?

D3: How many rooms in the house?

D4: What is the roof material?

D5: If thatch is used, how often do you change it?

D6: What is the wall material?

D7: What is the flooring material?

D8: Condition of house (dilapidated / weak / strong)

D9: Source of light (kerosene / electricity / other):

D10: Cooking fuel:

D11: Source of drinking/cooking water:

D12: Who fetches water?

D13: From how far? (Summer, other times)

D14: What are the toilet facilities (built / open):

Section E: Asset based indicators

E1: Owned land (acres) (Papers?):

E2: Land converted to farm from forest:

E3: How much low lying paddy (acres)?

E4: How much upland (acres)?

E5: Horticultural land (acres)?

Asset type and code	**Number owned**	**Sale price**
Livestock: 1. Cows and buffaloes 2. Adult sheep, goats, pigs 3. Adult poultry, other birds		**Purchase price**
Transportation: 4. Motorcycles 5. Bicycles 6. Carts 7. Other vehicles		
Appliances: 8. Television 9. Radios 10. Fans		
Assets: 11. Ornaments (gold / brass)		**Sale price**

E6: If you are given 1000 rupees today, what will you spend it on?

E7: What is your overall assessment of the general wealth level of the household (poor / average / rich) :

C B P S

The Centre for Budget and Policy Studies is a non-partisan, non-profit**,** independent society established by a group of professionals based in Bangalore and registered under the Karnataka Registration of Societies Act in February 1998. The President is Dr. D. K. Subramanian and the Secretary and Director is Dr. Vinod Vyasulu.

The objective of the Society is to contribute through research to understanding and implementing a process of long run, sustainable, equitable development in countries like India. Equity, as we understand it, extends across time - future generations must not be deprived of resources because of irresponsible use - and class and gender - all human beings have inalienable rights that society must ensure.

An area in which the CBPS has made a contribution is in the context of the ongoing process of democratisation and decentralisation following upon the 73rd and 74th amendments to the Indian Constitution. In this context, budgets of different governmental bodies are important statements of policy priority. Budget analysis at local levels is an area where much needs to be done. An example is the work of the Centre in studying the budgets of two zilla panchayats [Dharwad and Bangalore (Rural)] in Karnataka. This report was published and is being used in programmes to orient those who have been newly elected to panchayts. In order to study decentralisation in urban areas, the finances of Urban Local Bodies-city municipal councils were taken up for study The study of the finances of City Municipal Councils around Bangalore is in progress.

One way of meeting our objective is by providing inputs into ongoing debates in society on matters of policy priority. Industry is one such area. CBPS did a study and published a monograph on the functioning of different sectors of industry, its impact on employment, livelihoods, productivity and the like. Ecological and environmental sustainability is another important area of decentralised functioning. CBPS has studied the working of programmes like drinking water, watershed development and joint forest management to see how local bodies can contribute to the meeting of national objectives.

Another area of importance is an understanding of the nature of the local economy. The Centre has worked on this issue and a manual on the method to calculate District Income in India, sponsored by the Planning Commission, has been published by Macmillan India. CBPS has collaborated with a software company, Spatial Data Pvt. Ltd., to develop this as a software called 'Indical', using maps with a GIS engine. District officials of Kerala and Chhatisgarh have been trained in using this software to calculate their district income.

CBPS was a partner in a campaign called PROOF (Public Record of Operations & Finance) along with 3 other Bangalore based organisations. The PROOF campaign provided an opportunity for citizens & the corporation of Bangalore (BMP) to join hands and demonstrate that public money is being used for public good, through quarterly debates on BMP performance reports , substantiated by performance indicators & explanatory statements.

CBPS will remain a small body of professionals who will work by interacting and networking with others who share such interests. With this in view, CBPS conducted a workshop for groups of South Asia on 'Civil Society and Budget Analysis' on behalf of the International Budget Project, Washington. A report on the workshop has been published.

The results of all our work are disseminated in training workshops and in follow up programmes.

CBPS MONOGRAPHS

- ★ 'Decentralisation From Above- Panchayat Raj in the 1990s' by Vinod Vyasulu, March 2000.
- ★ 'Democracy and Decentralisation: a Study of Local Budgets in two Districts of Karnataka' by A. Indira, etal, March 2000.
- ★ 'Democracy and Decentralisation: Zilla, Taluk amd Grama Panchayats,' A. Indira et al, March 2000.
- ★ 'Small Enterprises in Karnataka- Lessons from a survey in Karnataka' A.Indira, B.P.Vani, Vinod Vyasulu, February 2001
- ★ 'Development at the District Level: Kodagu in the 1990s' A. Indira. Note submitted to the District Planning Committee, March 2001.
- ★ 'A Health Budget in Karnataka: A Preliminary Study' A. Indira, Vinod Vyasulu, April 2001
- ★ 'The Estimation of District Income and Poverty in the Indian States' A. Indira, Meenakshi Rajeev, Vinod Vyasulu, August 2001
- ★ 'The Budget for Education-A Study at the District Level in Karnataka', Vinod Vyasulu, A. Indira, November 2001
- ★ 'Civil Society and Budget Analysis- Experience of Civil Society and Budget Analysis in Nepal, Bangladesh and India' Documented by Jonna Vyasulu, June 2002
- ★ 'Budget Transparency, Accountability and Citizen Participation. The PROOF Campaign in Bangalore' Vinod Vyasulu, May 2003
- ★ 'City Government, Budget Analysis and People's Participation in India. The Experience of Bangalore' Seema Dargar, June 2003

PRODUCTIVITY AND FOOD SECURITY
A MARGINAL SITUATION CASE STUDY

SHARADINI RATH
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November 2003

Productivity and Food Security: A Marginal Situation Case Study

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November 2003