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Factors affecting income generation and livelihood diversification strategies of the very poor.

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Annex G

Factors Affecting Income Generation And Livelihood Diversification Strategies Of The Very Poor

P A Gregory

Summary

A short study conducted in June and July 2003 investigated factors affecting household income generation strategies and livelihood diversity under peri urban conditions and considered the effect of different styles of development intervention strategy introduced by a project.

Thirty four households were surveyed using a purposive sampling design. Both husband and wife were included in semi structured interviews in order to elucidate factors affecting income generating activity, diversity of livelihood portfolios, experience of self help groups, contribution of diverse family members to household income, family perceptions of wellbeing and people's hopes for the future.

The study concluded that the majority of people had a strong natural resource based component in their livelihood activity. Proximity to the urban centre was a key factor in livelihood diversity and this was strongly gender based. Belonging to a self help group (SHG) had positive effects on income generating strategies, livelihood diversity and savings, most especially for women. In addition, SHG membership gave women access to credit and encouraged confidence. The study found that SHG membership was less successful for men and that SHGs could inadvertently act to institutionalize exclusion. Livelihood diversity did not show any relationship with the new intervention strategies but it may be too early to draw final conclusions. This study did not show children's incomes to be a major feature of household livelihoods. Parents were making sacrifices in order to educate their children as an investment in the future. Lack of access to financial capital and information inhibited people's ability to take full advantage of peri urban opportunities. Existing patterns of inequality were being perpetuated. Women were less able than men to take advantage of changes occurring as a result of urbanization and more likely than men to be disadvantaged by them. Men and wealthier people were more able to make investment in social capital to cushion shocks and stresses. Land ownership could impede people's efforts to diversify livelihoods locking them into agricultural activity seen as secure in an insecure environment but reducing their capacity to take advantage of alternative opportunities. Continuing drought may force the pace of change for many people engaged in farm based activity.

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1.0 Introduction

The focus of the study was to investigate income generating activity and livelihood diversity among the very poor in order to identify: -

- factors that contribute towards maintaining people in poverty,
- the potential people have for changing their means of income generation,
- indications of how people are adapting to changing trends within the PUI.

The research questions addressed in this report are shown in Figure 1.

Figure 1 *Research questions*

1	What income generation activities are being carried out by very poor households
2	What factors affect livelihood diversity within the peri urban interface?
3	Are the intervention strategies being used by the NGOs showing any discernable effects on livelihood choices being made by the very poor?
4	What changes have been made to income generating activities over time?
5	Are livelihoods changing in response to peri urban processes?

The analysis of livelihood strategies used by very poor people in selected peri-urban villages around Hubli Dharwad considers whether people's choices are limited thus increasing household vulnerability, or whether peri-urban opportunity can offer very poor people a drive for positive change.

2.0 Background

2.1 PUI villages studied

Households from four peri-urban villages were surveyed (characteristics tabulated in Figure 2). Two villages, Kelageri and Gabbur, fell within the city boundary limits. Two villages, Channapur and Mugad, had a more rural situation. General information about all the PUI villages in the project has been collected previously using an array of participatory techniques and is described and tabulated in Annex B of R7867 Final Technical Report Appendix B3.

Kelageri.

Kelageri is located 6km from Dharwad centre under the administration of the HDMC. This village has a significant inward migration of population due to its proximity to the city centre and is considered by IDS to be a difficult village to work in so no interventions have been made here. Hillyer et al (2001: B10) pointed out the weakness of the PRA wealth ranking exercise there. However, at the time of the survey two (non IDS) SHGs had recently been formed and I met members of a women's wholesale buying group established for just 15 weeks who were excited and ambitious for the future.

Gabbur

Gabbur is located 8km from Hubli centre under the administration of the HDMC. This small village has been divided into Old Gabbur and New Gabbur by the main road into Hubli. Old Gabbur is the most impoverished village in terms of infrastructure following an attempt to relocate people to New Gabbur in the 1960's. Some farmers in Gabbur have taken advantage of waste sewage water irrigation in order to grow summer vegetables for the city market (Bradford et al 2001).

Channapur

Channapur is located 12km from Hubli centre under the administration of the Zilla Panchayat¹. This village is visibly poorer, more untidy and neglected than any of the other three villages. The access road is unsurfaced for the last 7 km and it feels more remote and more rural than the other villages studied.

Mugad

Mugad is located 10km from Dharwad centre under the administration of the Zilla Panchayat. It is a large village and many studies have been carried out there. A number of IDS staff live in this village and people were very familiar with the NGO staff. Whether this has any effect on the quality of data collection is not clear.

¹ The district level governing body responsible for rural areas only

Figure 2 *Comparison of physical characteristics of four peri –urban villages studied in Hubli Dharwad*

Village name	Distance from city centre	No. People	No. HH	No HHs classified very poor	Literacy rate	Soils ¹	Crops/ agric production
Kelageri	6 km <i>from Dharwad</i>	6035	1013	37%	15%	75% sub humid entisols and inceptisols	Rice, mango, buffalo milk, uncultivated grass
Gabbur	8 km <i>from Hubli</i>	899	85	19%	9%	80% sub humid vertisols	Irrigated vegetables, groundnut, chilies, cotton, buffalo
Channapur	12 km <i>from Hubli</i>	1700 <i>approx</i>	245	50%	No data	100% sub humid entisols and inceptisols	Rice, cotton, sorghum, buffalo
Mugad	10 km <i>from Dharwad</i>	3851	718	44%	No data	100% sub humid entisols and inceptisols	Rice, pulses, cotton, mangoes

Source: Brook 2002

¹ Soil classification after American Soil Survey 1975

3.0 Methodology

The study activities included semi structured interviews (SSIs), free listing of domestic and paid work and methods to rank these. However, given the limitations of time available, it was decided not to analyse the free listing and scoring activities in depth. Only the SSI information was analysed in detail with the free listing data used to cross check reported income generation activities data.

Household members in four villages at different distances from the city perimeter were included in the study. 17 men and women were interviewed in 17 households giving 34 respondents in total. In addition, 3 people were interviewed in error. 1 woman was interviewed before it emerged she was not the intended interviewee. A husband and wife from one richer household were also interviewed. These respondents have been included in the analysis where it offers additional insight. People were participating in three different types of NGO intervention plus a control group where no interventions were being made.

3.1 Sampling strategy

A randomly based household study should include households from each of the different socio-economic groups present within a community (Bernard 1994). However, since the main focus of this study were the poorest groups, and because of the limitations imposed by the available time and resources, an alternative sampling strategy was employed. Pre stratification, i.e. identifying groups or 'strata' present from which to draw a sample, ensures that the sample population will be more homogenous and thus less likely to obscure the dependant variables under examination (Bernard 1994). It had been intended to construct the sampling frame using the five socio-economic groups already identified by participatory wealth ranking techniques (IDS personal communication and R8084) and other socio-economic information already collected and incorporated into a household database covering the project's PUI villages. The sample would then be chosen using random number tables to select households from the single socio-economic division identified as very poor and conforming to the following criteria:

- 1 of the same religion
- 2 of the same caste
- 3 from the 'very poor' category already identified by previous research and designated wealth ranking (WR) 5. (R8084 - Ambrose-Oji and Hillyer 2002)
- 4 have no regular salaried employment/ established business interest (e.g. shop, quarry)
- 5 landless (or < 1ha land)

Hillyer et al (2001) identified the last two criteria (4 and 5) as characteristic of very poor socio-economic groups. The criteria for selecting very poor families were taken from the wealth characterisation work carried out by the PUI team (Hillyer et al 2001 and Ambrose Oji and Hillyer 2002). This summarised perceived characteristics for very poor families in three of the four villages studied.

The structure of each family was expected to be equivalent e.g. 1 husband, 1 wife, number and age of children the same/equivalent. It was intended that families would be nuclear families with both husband and wife and between 2 and 6 children of school age. Families with complex linked structures were avoided as they were considered outside the scope of this study. It was hoped to be as close as possible to any measured norm for the region.

This data was triangulated as far as possible from the project database and other records.

3.2 Types of intervention strategy

The effect of intervention types on livelihood diversity was tested by selecting households where one member belonged to one of the intervention self help groups being investigated. The NGO that was working in the village determined the intervention type. The intervention groups are shown below. A summary of the methodological details is shown in figure 3. A summary of the participants is detailed in figure 4.

Intervention strategy groups

One of the research questions examines whether different types of intervention being tried in the PUI can affect livelihood choices. Self help groups (SHGs) are seen as one of the major means by which development progress will be made in India. SHGs are supported by Indian government policy and development money is often channelled to communities by this route. There are many SHGs with different formats and origins but BAIF Development Research Foundation and India Development Service (IDS) have particular expertise in this field. Households belonging to SHGs experiencing three different intervention styles were included in the study. A fourth group of households had no SHG involvement.

Group 1 Conventional self help group

One member of the household belongs to a conventional self help group. SHGs are autonomous, village based groups that act as savings and credit unions (IDS 2003a). They are also used as a vehicle for delivering training, educational visits or information. Many groups operate bulk buying schemes as an income generation strategy. SHG formation can be facilitated by various agencies including government with the consequence that SHGs may be of variable effectiveness for their members.

Group 2 Women's marketing group.

The woman of the household belongs to the marketing training group. This group of 30 women from **Mugad** village was receiving specialised marketing training in order to understand rapidly changing markets, how to correctly cost produce, how to identify suitable products to sell and how to carry out market research etc. The focus was on training these especially disadvantaged and unmotivated women to understand and analyse the

market place. Once trained, the group will choose what products they will produce or sell after their own analysis of the market. It is intended that this group should act in the manner of a small company with each person contributing skills according to their ability in order that even the least capable can be involved.

Group 3 Individual natural resource based interventions

One member of the household belongs to a BAIF natural resource based intervention group. These BAIF interventions use natural resources in novel ways to generate income. The choice of intervention was based on village participatory rural appraisal (PRA) activity carried out by the larger organisation. In the villages of **Gabbur** and **Channapur** three different activities were being tried; mango tree planting, tree nursery work and vermicomposting. People could take advantage of all three activities if they wished. These interventions are subsidised by the NGO who also act as end consumers. BAIF supplies all the inputs required and then purchases the output from the tree nurseries and the vermicomposting.

Group 4 No SHG involvement

Households that had experienced no interventions were sampled as a control. In general these households were located in Kelageri where no IDS self help group interventions have been made.

Figure 3 *Summary of groups and sampling in selected peri-urban villages*

	Mugad	Channapur	Gabbur	Kelageri
Intervention strategies in sample	Marketing group training Conventional SHG No SHG	Natural resource based intervention No SHG	Natural resource based intervention Conventional SHG No SHG	Conventional SHG No SHG Other group memberships
NGO present	IDS	BAIF	BAIF	IDS ²
Sampling strategy	Random	Purposive	Purposive	Purposive

² IDS is present in this village implementing a watershed project not related to this PUI research.

Figure 4 Summary of people in each intervention category

	Conventional SHG		Non SHG		Marketing group		NR based interventions	
	Men	Women	Men	Women	Men	Women	Men	Women
Kelageri		1	5	4				
Mugad		1	5	1		4		
Channapur	2		1					3
Gabbur	3	3	1					1
Total	5	5	12	5		4		4
Ave age	43.4	35.2	47.3	40.8	Women only	34.8		36.8
Totals	Sample total 35		Men 17		Women 18			
Mean age men	46.6				Mean age women 37.4			
2 men had bad experiences with SHGs in past; 1 man is on the register but his son goes to the meetings								

Households were selected using random number sampling within the predetermined group where this was possible. Purposive sampling was undertaken where information was missing, guided by the COs, according to the criteria listed above.

3.3 Semi structured interviews

Semi structured interviews were carried out as described by Bernard (1994). This method was used to explore people's livelihood activities and choices in more detail. The interviews were kept as simple as possible with not too many questions but the issues that arose were explored at some length sometimes giving rise to new lines of enquiry. Where possible, directly measurable criteria were included in order to give a quantitative element to the study. The answers were written on to a pre prepared sheet as literally as possible from the interpretation given by the translator. Some interviews were taped for check translations.

Questions about the following areas were included in the interviews

- Household details and relationships
- Education of both adults and children
- Access to natural resources
- Details of income generating (IG) activity and livelihood diversity
- Savings and debt
- Changes in income generation activity and plans for the future
- Choices and information sources available
- Feelings about self help group (SHG) membership

Limitations of the study

It was intended that as many variables as possible should be held constant so that small differences were less likely to be obscured. In practice it was not possible to keep these factors constant and the sample population was more heterogeneous than planned. Both Muslim and Hindu households were surveyed. It was difficult to keep age of children and household type constant while interviewing families from the specific intervention groups required. The younger families were nuclear families but two joint families and some families with adult children were included as a result of problems arising with the sampling procedure.

There was no baseline data or social data available for Kelageri as it is not part of the PUI project and the data for the villages of Gabbur and Channapur was incomplete. This meant that random sampling as originally planned was not possible in these places. A purposive sampling technique was used instead. Using their local knowledge and written records, the project officers selected households according to the wealth characterisation criteria previously described.

The people interviewed as part of the special NGO interventions reflected any inherent selection bias within those interventions. Since one of specific interventions applied primarily to women this leaves the possibility that this study could have a gender bias. It was not entirely clear how people came to be part of the special interventions but it appeared self selection was an important factor.

It was intended to target only people in the very poor (WR 5) category. This proved more difficult than expected perhaps as a consequence of the purposive sampling technique used. In Kelageri, the sample selected this way was biased by selection of households that were long-term residents of the village. One landowning household interviewed was clearly much too rich to be considered in the wealth ranking 5 category being studied so the data collected from this family was not included. This problem was rectified by moving to a visibly poorer part of the community (Anjanaya) and calling at the most run down houses - inability to maintain the house being cited as one criterion for recognising very poor people (Brook 2002 Annex B). Many people migrate into this area to find work in Dharwad. There appeared to be some reluctance by the COs to engage with migratory people who are often the most disadvantaged people in a community. *"These are migratory people and won't be here long. Do you want to interview them?"* (Pushuram 7/6/03 pers comm.)

In Gabbur, the wealth characterisation exercise (R8084) showed landlessness to be an indicator of poverty. However, the criteria of landlessness or < 1ha land is not a clear cut indicator of poverty in peri-urban areas and this led to one further household (of successful small traders) being included that did not belong to the appropriate socio economic group. Since these people were part of one of the intervention groups they were kept in the analysis although it was recognised that this

has added some specific bias especially to the savings figures. However, their interviews added some insight into successful livelihood strategies.

Other sources of bias may be:

- Visiting during the day. People working in the city may not be present giving a potential overrepresentation of agricultural labour. To avoid this visits were made at varying times of day and on varying days to fit in with holidays, festivals, or prearranged availability of one or more household members.
- Respondent honesty. Additional income derived dishonestly in one household meant that the WR 5 category might not be the correct classification although other disadvantages meant that this household remained vulnerable. This was the only interviewee from the sample thought to be dishonest.
- Translator filtering. The use of a translator has its own inherent bias since answers are relayed through the translator's own linguistic and cultural understanding.
- The public nature of the interviews. This meant that outsiders sometimes added details or reminders. Occasionally, stronger members of the household tried to hijack the process. This was a particular problem where members of joint households were being interviewed. For the same reason, it was felt better that husbands and wives were not present during each other's interviews. This was especially important for women. In general however, people made it clear that they had few secrets.

Despite the shortcomings deriving from the differences between practical reality and theoretical nicety in sample selection, in practice all the people interviewed, even the two richer households, were vulnerable to the changes happening in the PUI.

The results of this study are considered to be reliable within the parameters of seasonality and drought and valid and replicable despite the limitations of the heterogeneity of the population introduced by the sampling.

3.4 Summary characteristics of the sample

Figure 5 Educational attainment in sample

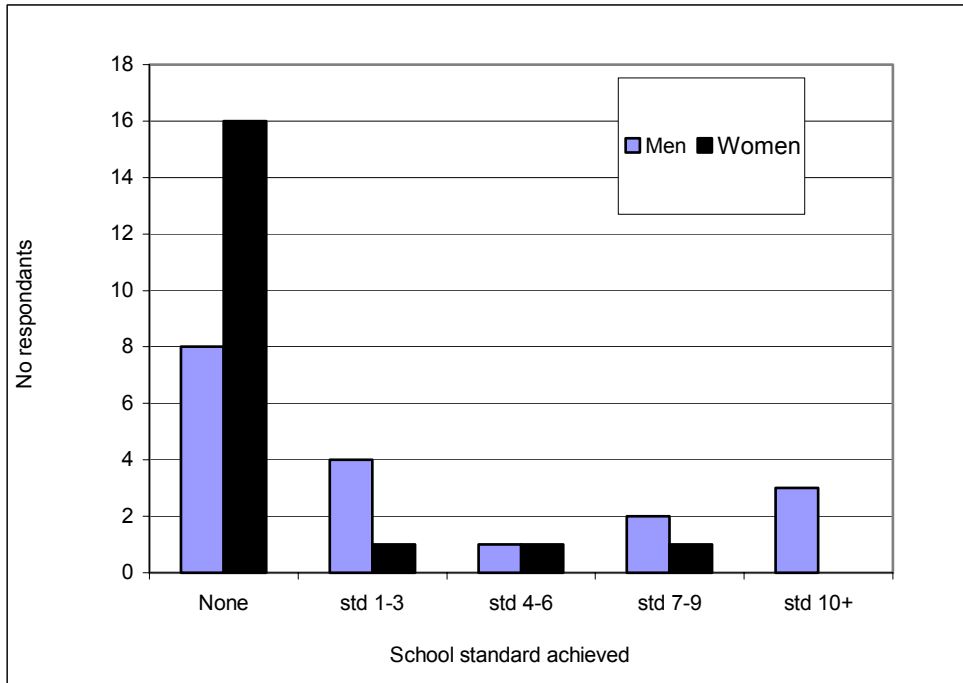


Figure 6 Educational levels between groups

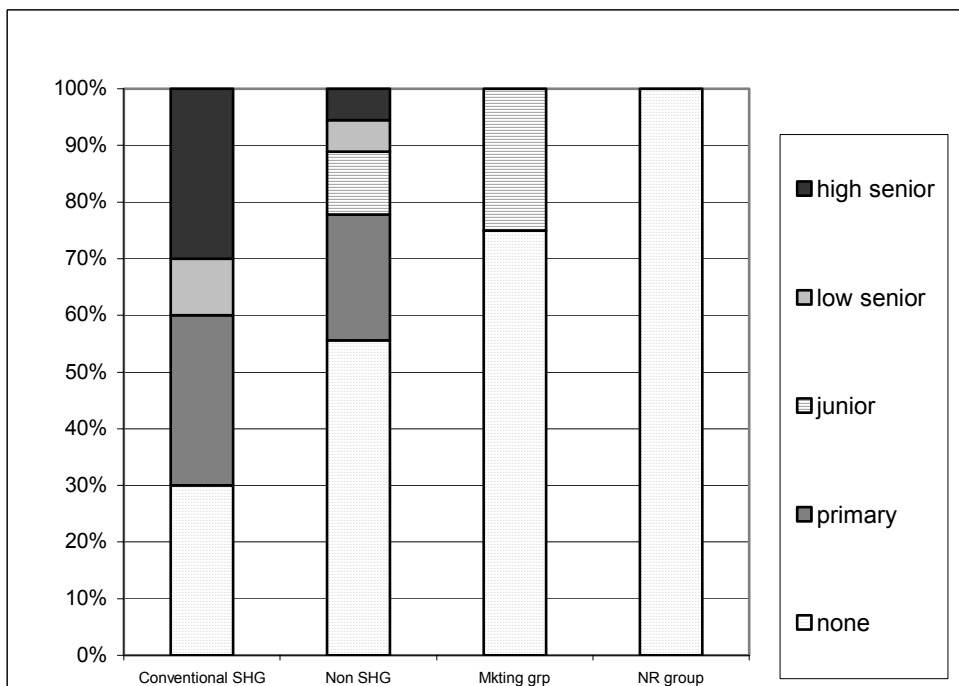


Figure 7 Patterns of household land ownership and agricultural production

	No households owning land	No with leased land	No with animals - no land	No households making no land use	No people working as agric labour on others land	No selling cotton (cash crop)	No people selling milk /fruit	No people selling mangos	No people selling cereals	No households reporting sufficient for own use	No households reporting some surplus sold
Totals	5	2	3	7	18	4	8	4	3	2	3
Mean farm acreage0.7											

Figure 8 Categorisation of income generating activity used in this study

Refers to the nature of the activity		Refers to the location of the activity		Refers to the sector of the activity		Refers to the employment function of the activity	
Agricultural	Includes agricultural production, agricultural labour and sales of own crops	At home (on farm)	Includes agricultural and other home based production and includes adult dependants	Primary	Agriculture/ mining and extractive	Domestic	Adults dependant on other members of the family but working within the home
Natural resource based	In this context includes only biologically based activity and excludes trading quarrying and brick making	Local village based off farm labour	For the purpose of this study includes all off farm activity other than agricultural labour	Secondary	Manufacturing	Employed	All income strands clearly fall into this category of waged employment
Petty trading	Refers to small scale trading activity	Nearby urban centre	All activity not related to farm production and carried out off farm including factory based food processing	Tertiary	Services including trading	Self employed	All income strands fall clearly within the category of self employment
Non agricultural	Includes services, factory work, quarry work and brick making ³	Mixed	Includes elements of two or more of the above categories	Mixed categories	Income strands do not fall within a single category	Mixed	Income strands may fall into two or more of the above categories

³ Which in this context were considered to be mining and extractive after Barret et al 2001 but could also be classified as non renewable natural resources after Scoones 1998.

3.5 Data analysis

Data collected fell into both qualitative and quantitative data types. This mixing of qualitative and quantitative data commonly arises from semi structured interviews.

Qualitative data was used to illustrate and expand the more interesting aspects of the study. It also gave an indication of the things that people cared deeply about. People's feelings, hopes, fears and aspirations cannot be meaningfully quantified. Nonetheless, some topics of discussion had a quantitative element since many people reported the same or similar reasons or feelings. This information was used to develop some of the categories for quantitative data analysis.

Quantitative data was tabulated into both EXCEL and SPSS computer programs with all responses being recorded using the questions from the semi structured interviews to form the basis of the table. To simplify the data for analysis suitable categories had to be chosen. The numbers of respondents falling into the chosen categories were recorded. This data was analysed either as total number of respondents or as a percentage of the whole sample. The most interesting data was expressed as tables or graphs.

Figures that appeared to show a relationship were tested against a null hypothesis to see if this was a chance observation or a real effect. Data was analysed to see if proximity to the urban centre had any effect on income generating activity and thus on livelihood diversity and if this was affected by gender. The impact of SHG membership and specific intervention types on livelihood diversity were also tested.

Difficulties encountered analysing the data

Categorising data

Categorising income generating activities is problematic and the classification of activities can strongly affect the level of livelihood diversity found. Non cash based activities and ration cards were not considered within the livelihood analysis although it is recognised that they are an important component of household survival strategies. The categories used to analyse income generating (IG) activity in this study is summarised in figure 8.

The complexity of people's lives is rarely easily tabulated and categorising the IG data was found to be particularly difficult. The different income generating activities comprising a person's livelihood often overlapped categories, for example, those who traded agricultural produce. In addition, this could be their own agricultural production, food items purchased wholesale for resale or a mixture of both. This meant proposing some categories of mixed activity.

When looking at natural resource elements of IG activity problems of classification became more acute due to the wide interpretation possible for what constitutes a natural resource. For this study, food factory work, brick making and stone quarrying were not classified as natural resource based

activities while agriculture is analysed as a separate category. Remittances are usually included in livelihoods analysis. However, not enough data was collected to include them in this study.

Looking solely at the primary income stream does not give a complete picture of the nature of the IG activity, its natural resource base, the industrial sector, or whether people were employed or self employed.

Finally, the decision whether to analyse data as households or on an individual basis was also important. Subtle effects, especially those with a gender dimension, can be lost when household income generating activity is combined. It was concluded that income generating activity could only be analysed on an individual basis which can then be combined to gain a household picture.

4.0 What income generation activities are being carried out by very poor households?

Figure 9 *Livelihood activities reported*

Occupations reported	
Occupations reported by men	Occupations reported by women
Agricultural labour	Agricultural labour
Dairy farming and milk sales	Dairy farming and milk sales
Fodder sales	
<i>Milk Secretary</i>	
Crop sales	
Shop	Shop
Mango growing and sales	
Fruit selling	<i>Vegetable selling</i>
<i>Chickpea and groundnut sales</i>	<i>Chickpea and groundnut sales</i>
Flower sales	
<i>Wood sales</i>	Charcoal making and sale
Puffed rice sales	
<i>Ice cream sales</i>	Bread sales
<i>Bottle collection and returns</i>	
Cooking for functions	<i>Cooking for others</i>
	<i>School cook</i>
Road construction labouring	Building construction work
Brick making	<i>Brick making</i>
<i>Quarry work</i>	
Tractor business	
Watchman	Employed cleaning vessels
Puffed rice factory	Tailoring
Picture framing	
<i>Vermicomposting</i>	<i>Tree nursery</i>
	<i>Leaf plate making</i>
23 occupations	15 occupations

Each of these income generating activities was considered by respondents as an individual income strand. Men often noted selling crops and agricultural work as two separate kinds of activity. Dairying was also noted as a separate activity especially where people were landless.

4.1 Income generating activity

Occupations fell broadly, but not very neatly, into four categories shown in Figure 10. Typical occupations after agriculture were petty trading and casual non-agricultural employment such as brick making, stone quarry or building construction work.

Figure 10 *Livelihood activity categories*

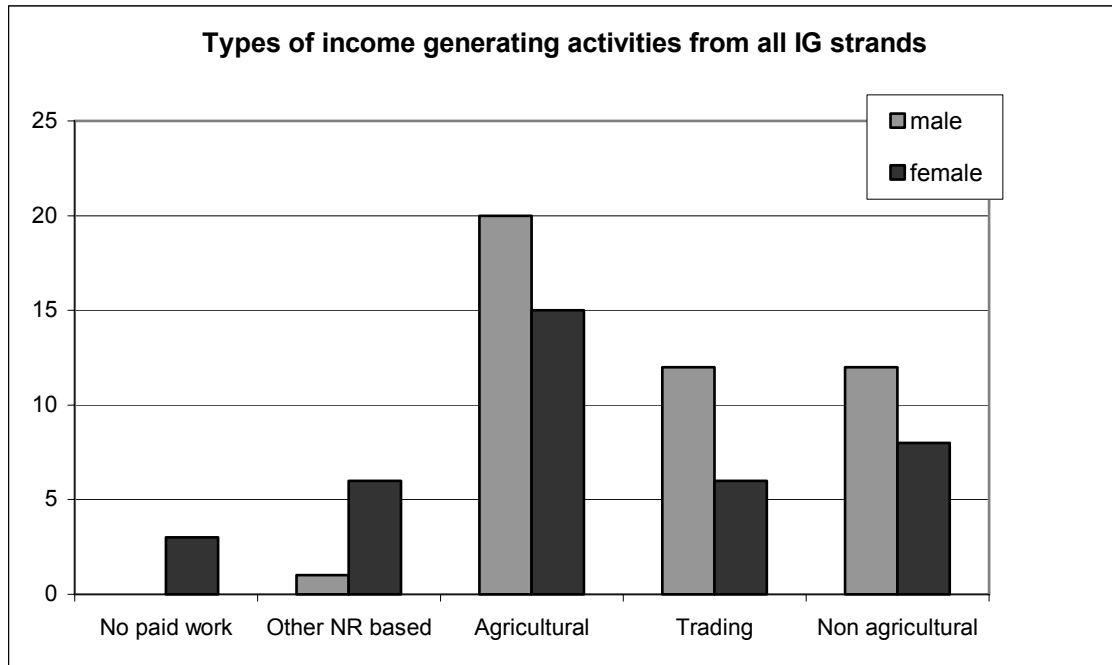


Figure 11 *Summary of income generating activity types*

	Male		Female	
	Number of responses	Percentage of total income generating activity	Number of responses	Percentage of total income generating activity
No paid work	0	0	3	6
NR based	1	2	6	17
Agriculture	20	44	15	42
Trading	12	27	6	17
Non agricultural	12	27	7	19
	N = 18 male		N= 17 female	

Women's income generating activity

The majority of women reported at least some dependency on agriculture for their cash income. Of all the respondents 73% of women were engaged in some kind of agricultural work most usually agricultural labour either on the home farm (15%) or as paid labour on other people's farms (58%).20% of

women were engaged in dairy farming or wholesale milk selling. Taken over all the women in the sample, agriculture made up 42% of female income generating activity (figure 11). The only other activity cited by more than one respondent was tailoring which women are able to carry out at home. Three women stated they did not work and were solely dependant on their husbands although one of these was engaged in agriculture on the home farm. Two women were in regular (part time) employment. Non agricultural and trading activity made up 36% of female activity (figure 11) with 26% of women not engaging in agriculture at all.

A small number (10%) of women were skilled traders while a further 25% of the women included trading in their portfolio of activities overall comprising 17% of female income generating activity. One woman who earned a regular cash amount from the bulk buying activities of the SHG didn't consider this to be income exemplifying how difficult it is to get a complete picture of livelihood diversity.

Men's income generating activity

Men had a wider portfolio of income generating activities than women and travelled further to carry them out. The greatest number of respondents cited some kind of natural resource based income generating activity. 70% were employed, wholly or partly, in agriculture either on their own land or as agricultural labour, 24% quoted dairy farming, 30% made sales of their own cash crops or surplus food crops and 29% were involved in mango growing and selling. In total, agricultural activity comprised 44% of men's income generating activity.

Other activities included regular trading, an established shop and grocery round (jointly run by husband and wife), petty trading of purchased (rather than self grown) commodities and daily rate employment in quarry, brick making or construction work. Two men were night watchmen. Of these, one older man was unable to continue his previous factory work because of poor health. The other was a migrant worker who also worked as an agricultural labourer during the day. One man was employed in a factory in Dharwad. Men especially valued the security of regular work opportunities although these opportunities were not usual in the sample group. Non agricultural and trading activity made up 54% of male income generation with 28% of all men not engaging in any agricultural activity at all (figure 11).

Shared household income generating activities

A few women quoted activities that were shared between household members. Some home based activities can have different elements that may have a gender dimension. For instance, one wife collected animal fodder, while her son cleaned the cattle out and her husband sold the milk in the city. However, the outcome may only be a single shared income strand again indicating the difficulties in analysing livelihood diversity.

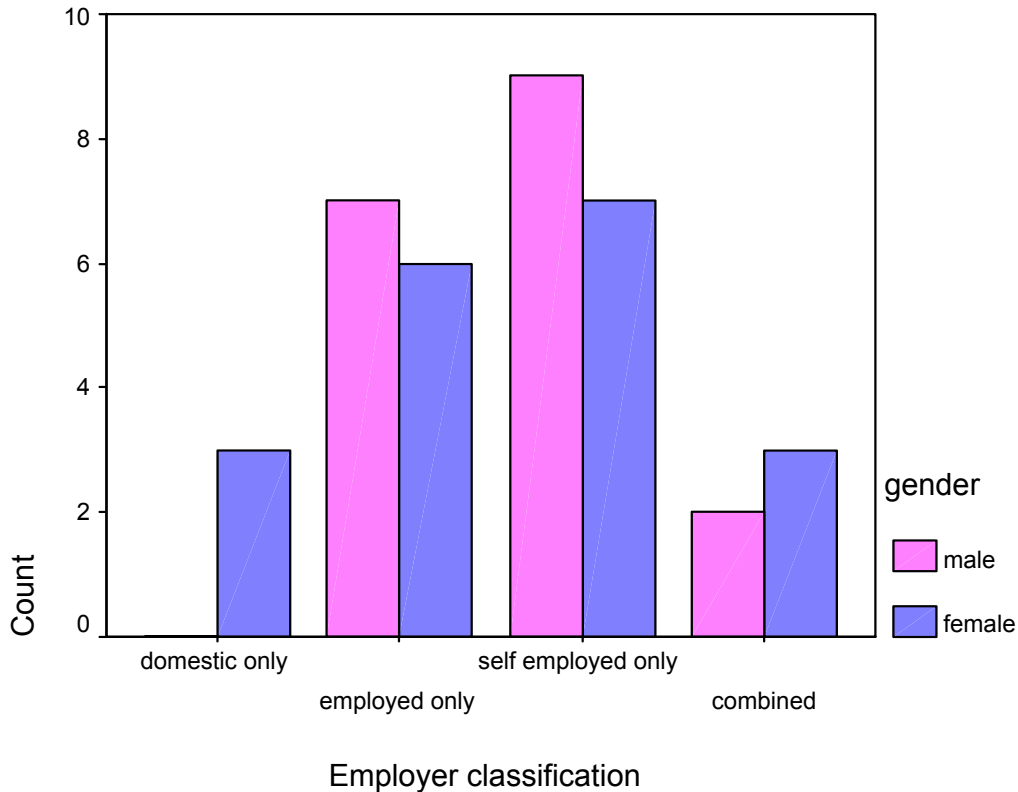
The shopkeepers shared the shop responsibility. The husband collected wholesale from the city and traded goods further afield while the wife looked after the shop. This illustrates how women normally carry out the home based aspects of the work while men work further afield.

Construction work outside of the city was relatively well paid but irregular and short term in nature.

Analysis of Income generating (IG) activity

People generated cash income either from paid employment or self-employment or a mixture of the two.

Figure 11 *Nature of employment in primary IG activity*

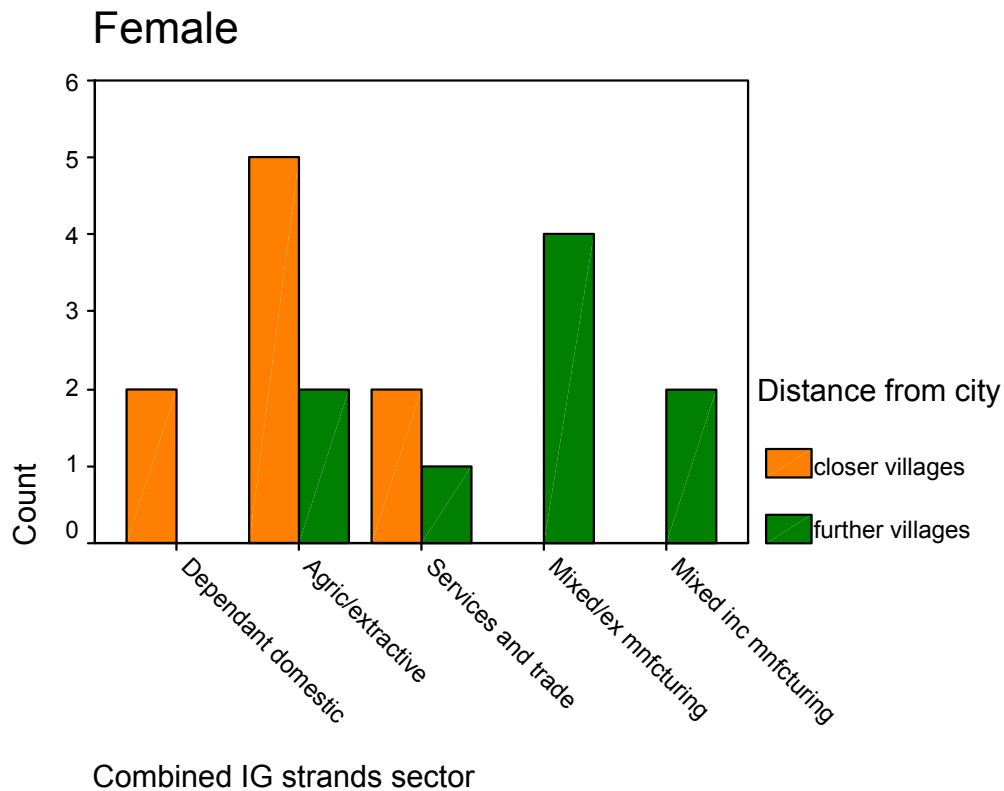


Overall, people were slightly more often self employed than employed by others. The combined category most often represented landowners who also supplemented their incomes from working for others. The others were either clearly employed by another person or were entirely self employed. Only six people reported regular paid employment and only two people had regular full time work that was not paid on a daily basis – one in the puffed rice factory in Dharwad and the other as a weekly paid agricultural worker. Where regular work was full time it was the only income generating activity for that person. One man worked full time as a tractor driver in a quarry but was paid on a daily basis. The three other regular jobs were only for a few hours per week. Paid employment was primarily agricultural labour. A few people were engaged in brick making or construction work when it was available.

Sector analysis shows that the only people in the manufacturing sector are women leaf plate makers. These are only located in the villages further from urban centres and leaf plate making was always combined with other IG activities. No men were employed in manufacturing. Men show no significant difference in employment sector in either more rural or more urban villages. However, there were significant differences in women's employment with women in villages closer to the city being much more likely to be engaged in

agricultural work only while women in more rural villages have a greater (sectoral) diversity of income generating activities (n= 17 p= 0.47) (figure 12).

Figure 12 *Sectoral diversity of female IG activity in peri urban villages showing proximity to city.*



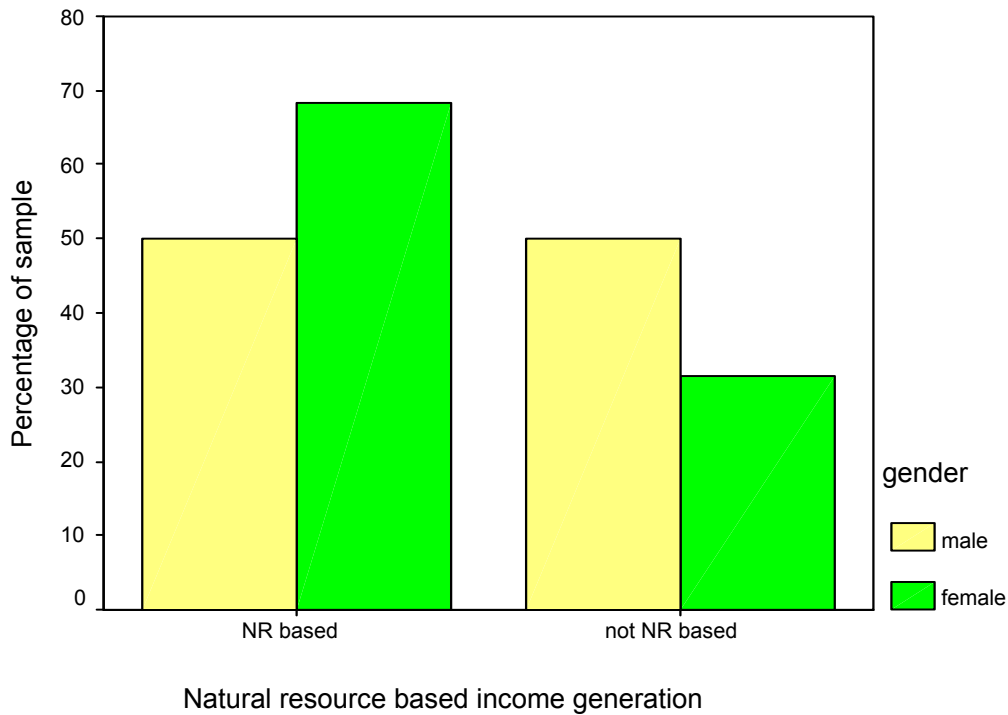
This pattern is also reflected in the NR basis of women's income generating activities

Natural resource (NR) fraction of livelihood portfolios

The data showed that natural resources within the peri urban area were still a major component of people's income generating activity (figure 13). Of this natural resource based IG activity, agriculture was the most significant component. A significant number of people were also engaged in trading agricultural products either their own production or purchased from others. This shows that agriculture is still a major economic force and an important income generating activity for the very poor. In addition many people depended on free firewood collection as their main cooking fuel source.

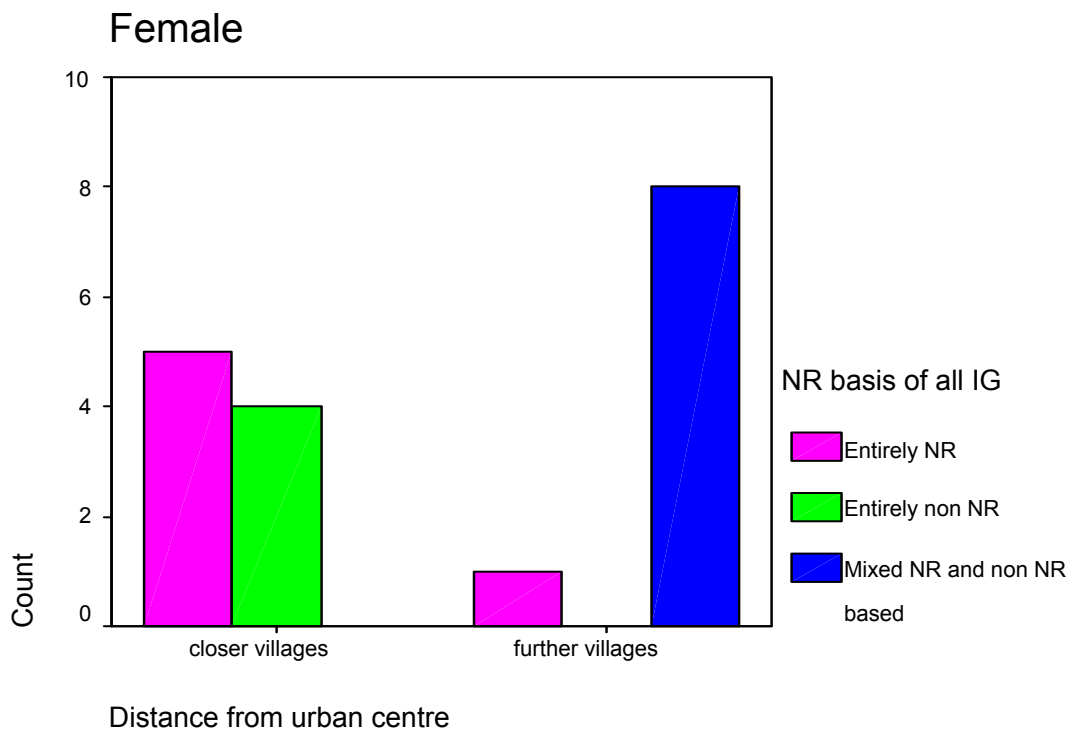
Figure 13 shows that 70% of women and 50% of men were dependant on the natural resource base for their primary income generating activity demonstrating the natural resource base is very important for people's livelihoods. Women are more dependant than men on the NR base for their primary income generating activity and this fits in with the other data showing that their livelihoods are more likely to be home based, in agriculture or in other NR based activity. Since the data for women in villages in nearer to the urban centre show they are significantly more likely to be restricted to home and village based income sources and more likely to be employed as agricultural labourers than other groups the NR base is more essential to their livelihoods than all other groups.

Figure 13 *Natural resources as a component of primary income generating activity in peri-urban villages*



Chi square tests for NR basis of IG activity against location and gender (all income strands) showed a significant difference in the use of natural resources by women which was dependant on where they lived. There were no significant differences for men (male n=17 p= .752; female n=18 p=.001).

Figure 14 *Female use of natural resources for income generation*



The graph at figure 14 shows that women in further villages are dependant either solely or in part on the natural resource base around them. Women in villages closer to the urban centre show a significantly more marked division of activity either entirely natural resource based or entirely non natural resource based activity no mixture of livelihood activities (n=17 p=.001). This is consistent with the reduced number of IG strands (livelihood diversity) of women in urban villages.

Agricultural livelihoods

The majority of people in the sample still earned all or part of their living from agriculture in some form. 71% of respondents included some kind of agricultural activity as part of their income portfolio – (73% of women and 70% of men) with 4 of the remaining 5 men stating they had worked as agricultural labour in the past until they found better paid or more regular work.

Figure 7 showed that 29% of households owned land with an average farm size of 0.7 acres. The majority of these had to supplement the income from their own holding with additional work from outside. Milk, mangos and cotton were the main cash crops sold. Some people sold staple cereals such as rice, maize or millet speculatively if they were surplus to household requirements. The main crops reported were rice, millet, sorghum, maize, green gram, black gram, white dhal and chilli usually for home consumption.

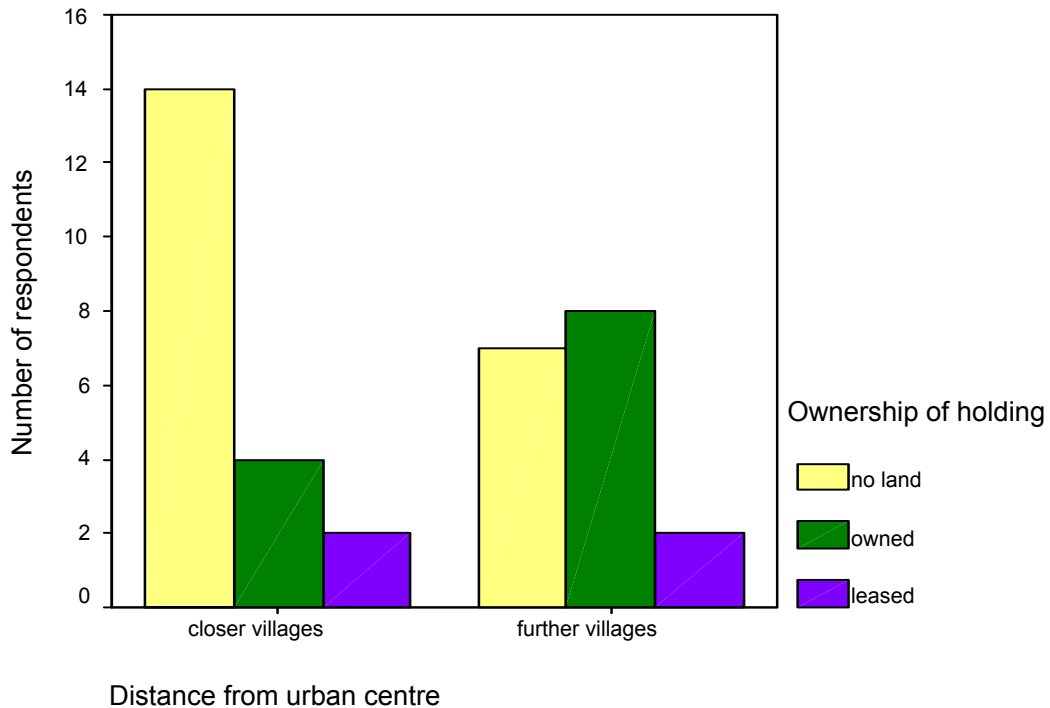
The remainder of households in the sample had a range of agricultural options. 45% of the households had members engaged in paid agricultural labour for local landlords with women more likely than men to be agricultural labour. Other people engaged in agricultural production without owning any land. This was achieved either by leasing in land (11%) or by using a cut and carry fodder system of animal rearing (17%) with animals having free access to whatever grazing they could find when crops were not in the fields.

However, agricultural wages were low. The range quoted was between 25 and 40 rupees per day for women and 35 – 50 rupees per day for men. This concurs with previous studies undertaken by the project (Hillyer et al 2001). No-one reported earning additional money for specialist skills - working oxen, agricultural rope work or basket making or for taking additional responsibility, such as looking after the labouring gang.

People may work regularly for the same landlord if they like them or they are treated well. Others report working for up to fifteen different people in order to spread risk and the seasonality of their labour. All respondents said that they enjoyed agricultural work, citing reasons such as their skill and knowledge of the work, their enjoyment of the fresh air, being close to nature or being part of a social working group. People often explained that they 'knew all the works of agriculture' from childhood. Many also felt that this was easy work although what exactly was meant by easy was not explored.

People owning small parcels of land in the two villages furthest from the urban centres more often worked as agricultural labour for others as well as working their own land than those in the villages closer to the city (N=35 p=.034.). People in the two villages closest to the urban centres appeared more likely to be landless although this was not found to be statistically significant and may have been a function of the selection process (n= 37 p=0.174).

Figure 15 *Household patterns of land tenure at four different peri urban locations*



The traditional agricultural livelihoods on which the majority of people in this survey still depended for their living, left them earning very low wages. Agricultural wages gave the smallest returns of any income generating activity reported in the four peri-urban villages studied. Women's lower wage rates and their greater dependence on casual and occasional agricultural labour was an indicator of the lack of alternative opportunities for women already indicated by Brook 2002 and the lack of power that women hold over many aspects of their own lives. While recognising that cash income is only one element of livelihood, low wages are considered to be one of the prime determinants of poverty (Shepherd 1999 cited in Brook 2002).

5.0 What factors are affecting livelihood diversity within the peri urban interface??

5.1 Livelihood diversity

Livelihood diversity refers to the many different strands combined to make a living. Ellis 2000 defines livelihood diversification as

*'the process by which households construct a diverse portfolio of activities and social support capabilities for survival and to improve their standard of living'.
(p231)*

The experience of poverty is very personal and so is the response to it. This study showed that people were making multi-faceted choices about their income generating strategies according to the options that were open to them and the assets they controlled.

Livelihoods analysis helps to identify how policies and programmes can affect marginalized households in practise. The weight of detail collected can sometimes make it difficult to see general patterns or how the factors identified can be fed onto development practise. However, within the multitude of individual decisions and choices recorded in this study some patterns have emerged.

Each of the households in the four peri-urban villages studied combined a unique set of cash and non cash based assets and income to achieve livelihood diversity. People combined income generating activities in order to smooth out seasonality factors or give greater security of cash income. A varied portfolio of income generating activity can increase household security by allocating resources across several (non co-varying) activities in order to spread risk and manage uncertainty leading to a more predictable income. Alderman (1996) and Carter and Malluccio (2003) demonstrated the necessity for people to manage covariant risk while Ashley (2000) suggested that livelihood diversity can be indicative of insecure or seasonal incomes. This study found that people had developed diverse livelihoods within the peri-urban interface in order to smooth seasonal deficits and manage consumption flows.

5.2 Factors affecting livelihood diversity

The results showed that both men and women have a diverse portfolio of livelihood activities. The most significant factors found to affect livelihood diversity were gender, village location and membership of a self help group. Educational level had no significant relationship with livelihood diversity although people clearly recognised it as a factor in their diminished life chances.

5.2.1 Gender and location of livelihood activities

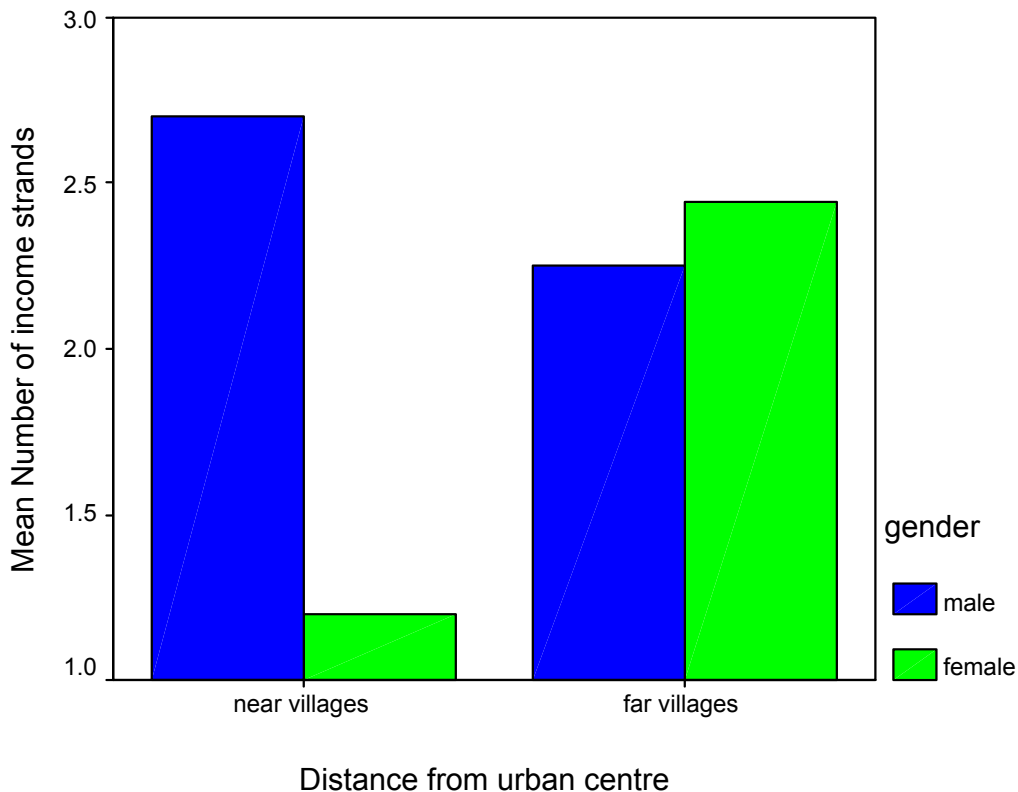
Figure 16 shows that on average men have 2.3 to 2.6 separate income generating activities while women have greater variability in livelihood diversity with between 0.8 and 3.0 income strands. Women in areas close to the city had only half of the livelihood diversity of any men or women in more rural areas. There was little difference in livelihood diversity between men and women in rural areas. Women in SHGs have higher livelihood diversity than those not in SHGs. SHG membership had no effect on male livelihood diversity.

Figure 16 *Livelihood diversity by gender, village location and intervention type.*

Mean number of IG activities		
	Men	Women
Total by gender	2.4	1.6
Closer to urban centre	2.6	1.2
Further from urban centre	2.3	2.4
All SHGs	2.8	2.2
All non SHG	2.3	0.8
NR based intervention	2.3	2.3
Marketing group	2.3	3.0
Conventional SHG	2.6	1.6
Non SHG*	2.5	0.8

* No one in the household belongs to a self help group (SHG)

Figure 17 *Effect of distance from urban centre on livelihood diversity*



The consequence of this for households closer to the urban centre is that household income generation becomes increasingly vested in the men of the household and that overall household livelihood diversity is slightly reduced. Ellis et al (2003) shows that livelihood diversity for the very poor is a response to income insecurity and that diversification of the means used to create a livelihood can spread risk or smooth seasonal income reducing the effects of seasonal variation and shocks. Diminution of the number of livelihood strands for very poor households in peri-urban villages has the potential to render a

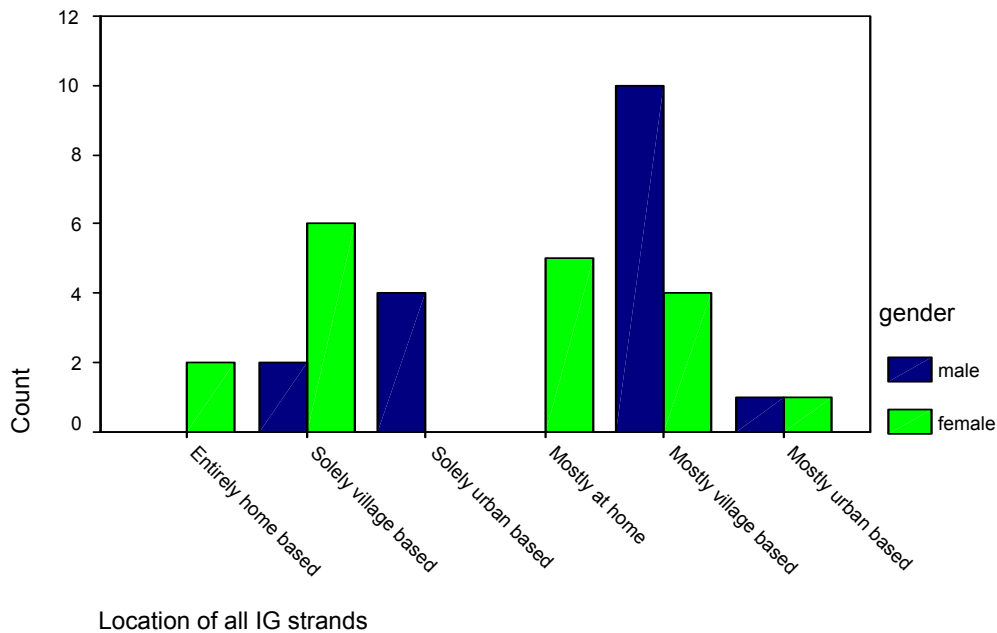
household more vulnerable to changes in male work availability and women especially vulnerable to changes in marital status.

Anova analysis of distance from urban centre against female livelihood diversity shows that women in the villages closer to the urban centre have significantly fewer IG strands than women in more rural villages (n=18; p=.017). No difference in livelihood diversity was found between men in any of the villages (n=17 p=.319).

Analysing livelihood diversity against gender showed that men in villages closer to the urban centre have a significantly more diverse livelihood than women in the same villages (n=19, p= .002). No significant differences were found between male and female livelihood diversity in villages further from the urban centre (n=16,p=.701).

The reasons for this merit further investigation. Although some have been suggested by the local NGOs.

Figure 18 *Location of all IG strands –all villages*



Men were more likely to have a mixed portfolio of places where they could earn their income than women in all villages (n=35 p= .008). Figure 18 shows the largest number of women entirely or mostly at home or village based while men, while still being mostly village based for their work will still have some income generating activity in the city.

Figure 19 *Location of all IG strands for women in villages closer to or further from the urban centre*

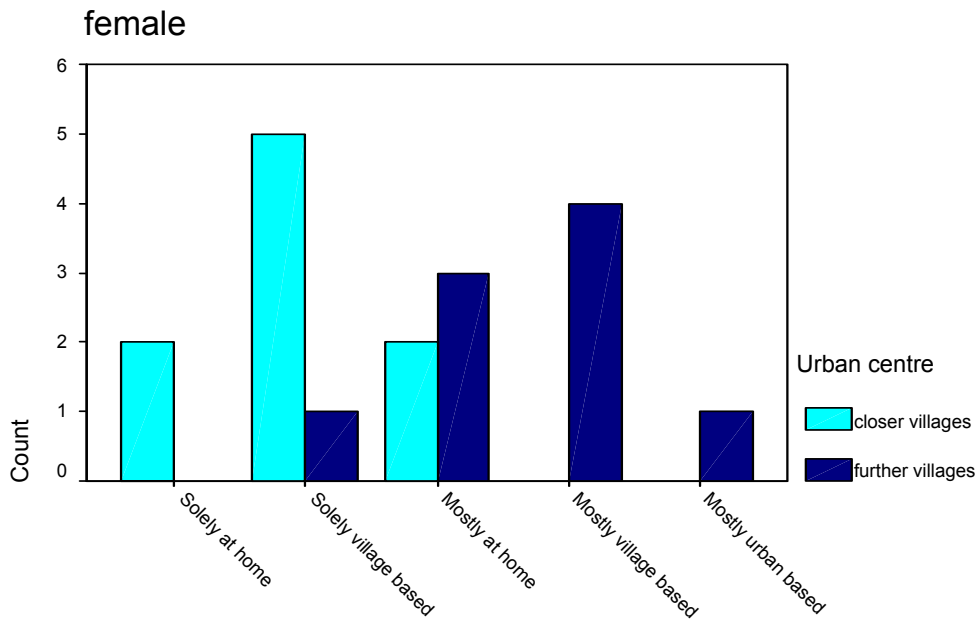


Figure 19 shows that, while women in all villages are relatively restricted in the location of their work, women are significantly more likely to be entirely home or entirely village based in the closer villages than in further villages ($n=18$, $p=.043$)

5.2.2 The effect of Self Help Groups (*Sanghas* or *SHGs*)

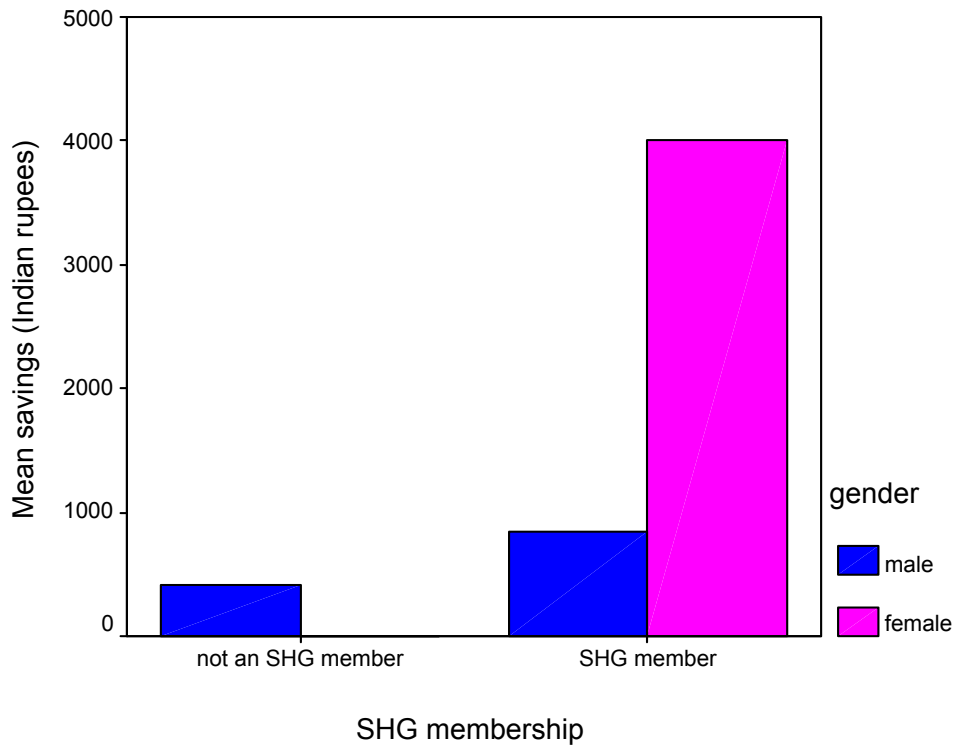
Half of the people in the sample belonged to a self help group (SHG) of some kind. Twice as many women as men in this sample belonged to SHGs (figure 4). BAIF villages showed a higher proportion of male involvement in SHGs. Where people were not members of self help groups the study showed that people trusted SHGs.

Effect on savings

SHGs are seen mainly as savings and credit groups and this is one of their most important functions. Several of the groups reported bulk buying activity in order to make savings on their purchase of household goods. This can be viewed as an income generation activity as it releases money for other purposes. Some groups extended this activity by selling at retail prices to members outside of the group. There was no indication that membership of an SHG generated any measurable increase in income generation activity or livelihood diversity but women not in an SHG exhibited significantly lower levels of livelihood diversity than all other groups (figures 16 and 17).

However, the effect of SHG membership on savings was profound. Figure 20 shows that men who don't belong to SHGs have almost no savings, while women who are not SHG members have no savings at all. Making savings is a requirement for SHG membership. Consequently, membership of self help groups was a significant positive factor in the acquisition of savings for both men and women but that it is especially beneficial for women (male $n = 17$, $p = .033$ female $n = 17$, $p = .002$). The figure for women's savings was distorted by two female SHG members who had saved over many years for their children. Nonetheless, there remains a stark difference between SHG and non SHG membership for women's savings.

Figure 20 The effect of self help groups on savings



Effect on confidence building

SHGs were highly valued for society and friendship. Many women were isolated in the family home and appeared to have little opportunity for building social capital. Many women reported feeling more secure and confident since joining the SHG. The access to trips was mentioned by some women, which may serve to legitimise opportunity to move outside the confines of the village. Some men whose wives are in SHGs still do not appear to have information about SHG benefits underlining the direction of information flow within the household.

'After joining the sangha my fear for the future has gone. Now I have confidence in the future.' **Mrs C-HH G2**

'BAIF NGO encouraged me to join the SHG. They explained everything, the benefits, how much to save and keeping accounts. My friends and I were influenced by this and joined. Since then I have had 5-6 loans from the SHG to manage the family and also much information.' **Mr C-HH G2**

'I meet other women and can talk boldly and be involved.' Things have improved financially and also in knowledge and confidence. Totally I have changed. **Mrs J-HH M2**

'IDS encouraged me to join to save money. I find it very enjoyable when my friends get together. I have been given a lot of information. Loans are available and we also had a trip to a nearby village.' **Mrs N-HH M6**

'I feel very good about it now and more confident. I have had leadership training in Dharwad and I am now president of the sangha. I have given some speeches and I am confident that I will give more in future.' **Mrs A-HH C3**

Effect on social capital and information sources.

Social capital is part of the complex web of obligation that provides the cohesion for many communities. A clear peri-urban effect is the erosion of social capital by the dilution or loss of kinship and other informal structures due to the impact of inward migration (Halkatti et al 2003) although the Knowledge Consolidation Project showed there to be strong community organisations in most villages.

The study showed that women's lives were more constrained than men's both by their domestic responsibilities and by the cultural expectation that they would not travel widely. Thus, women's information sources were confined to husbands, family and friends and their social networks were not powerful. The consequence of this lack of information for women was to reduce their access to opportunity in a discriminatory way. Where people had wider ranging information sources they were more likely to be able to take advantage of peri-urban opportunities e.g. they were more likely to hear about work or trading opportunities.

Figure 21 *Most important information sources used by people in peri-urban Villages*

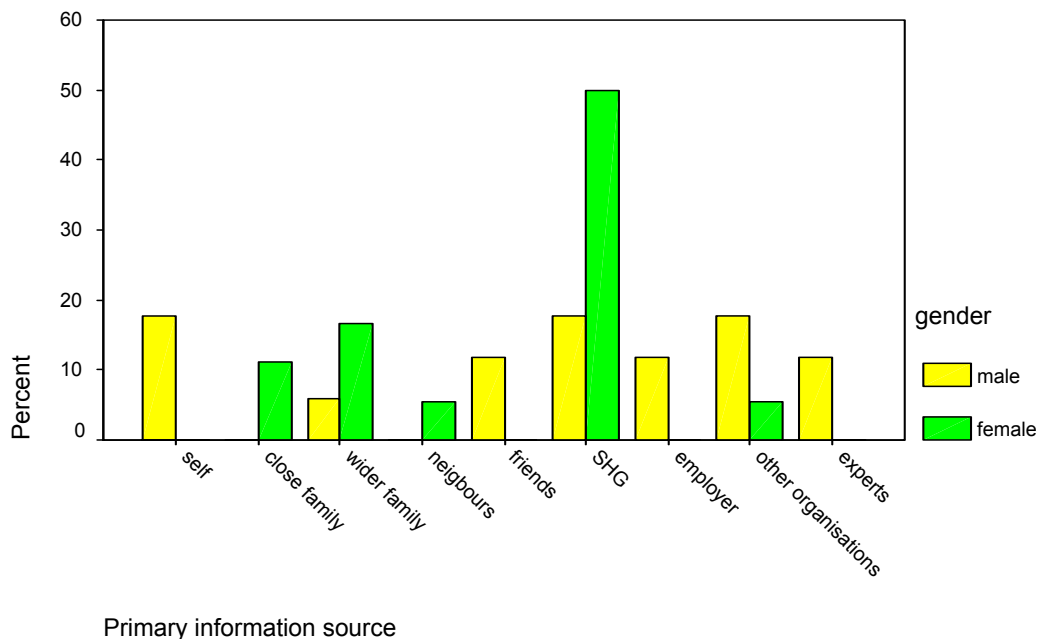


Figure 21 shows that men were more likely to rely on their own judgement or to seek information from their friends, employers, people of influence within the community and experts. They were also more likely to remark on the need to ask experts in the area that they required information during the semi structured interviews. Women were more likely to seek information from their husbands and family unless they had access to an SHG, which became their primary information source where it was available.

Thus SHGs offered women access to a wider range of information, which can help to generate new ideas and increases their potential to build social capital.

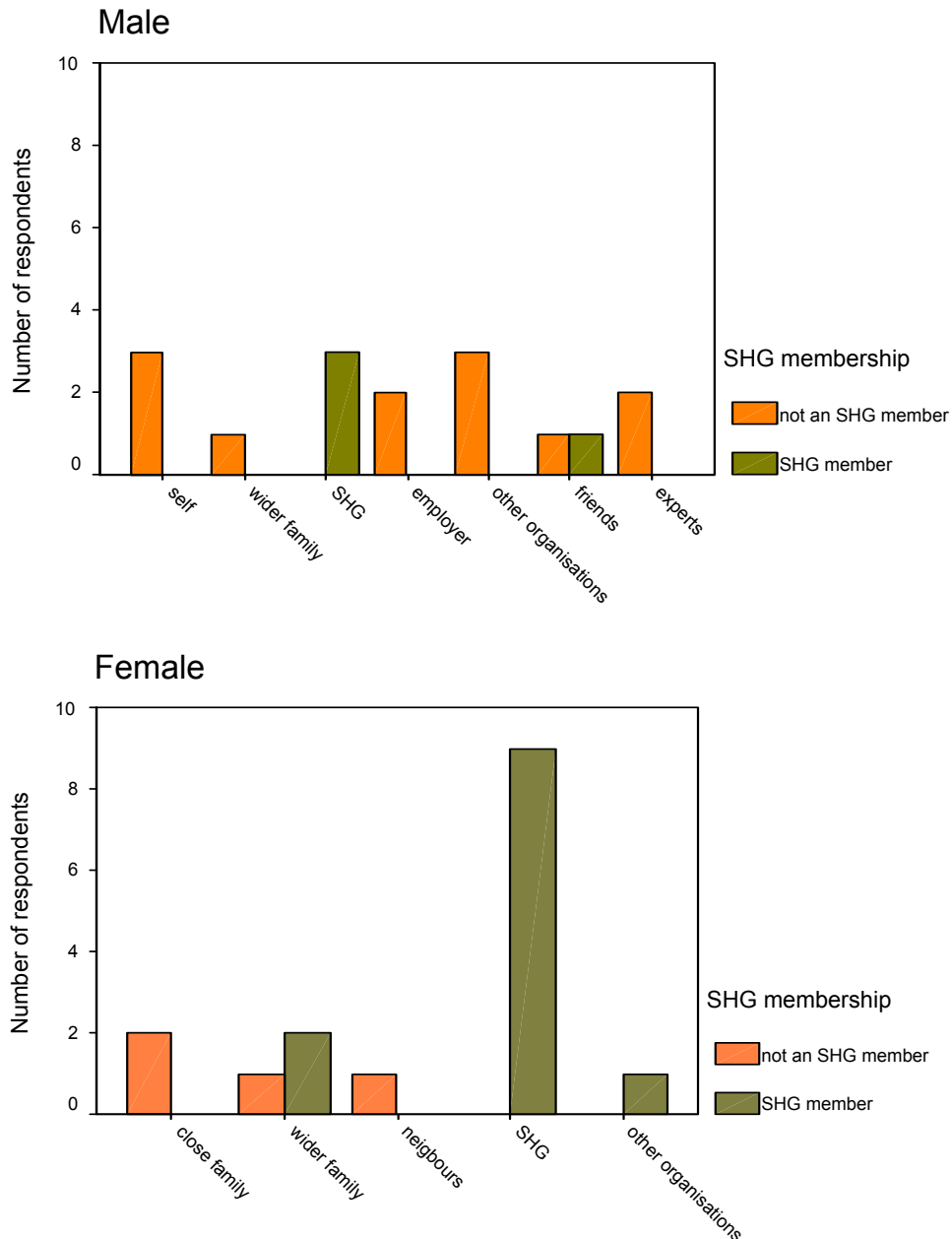
Figure 22 *Primary information sources by gender and SHG membership*

Figure 22 shows there was a significant difference between the information sources used by men and women who are members of SHGs and those who aren't. (male $n=16$, $p=0.038$; female $n=16$, $p=0.014$). These findings indicate that where both men and women have access to an SHG it becomes the most important information resource. Male non members of SHGs seek a wider range of information sources. For female SHG non members information sources do not extend far beyond the family.

5.3 *Reasons for non membership of SHGs*

Not everyone belonged to a self help group. The most important reasons given for not joining an SHG were lack of information, lack time or lack of confidence (see figure 4.13). The survey suggested that the poorest people were potentially less likely to join SHGs indicating that SHG membership could operate unintentionally to institutionalise exclusion of the poorest, least confident and most vulnerable unless proactive steps are taken to prevent this.

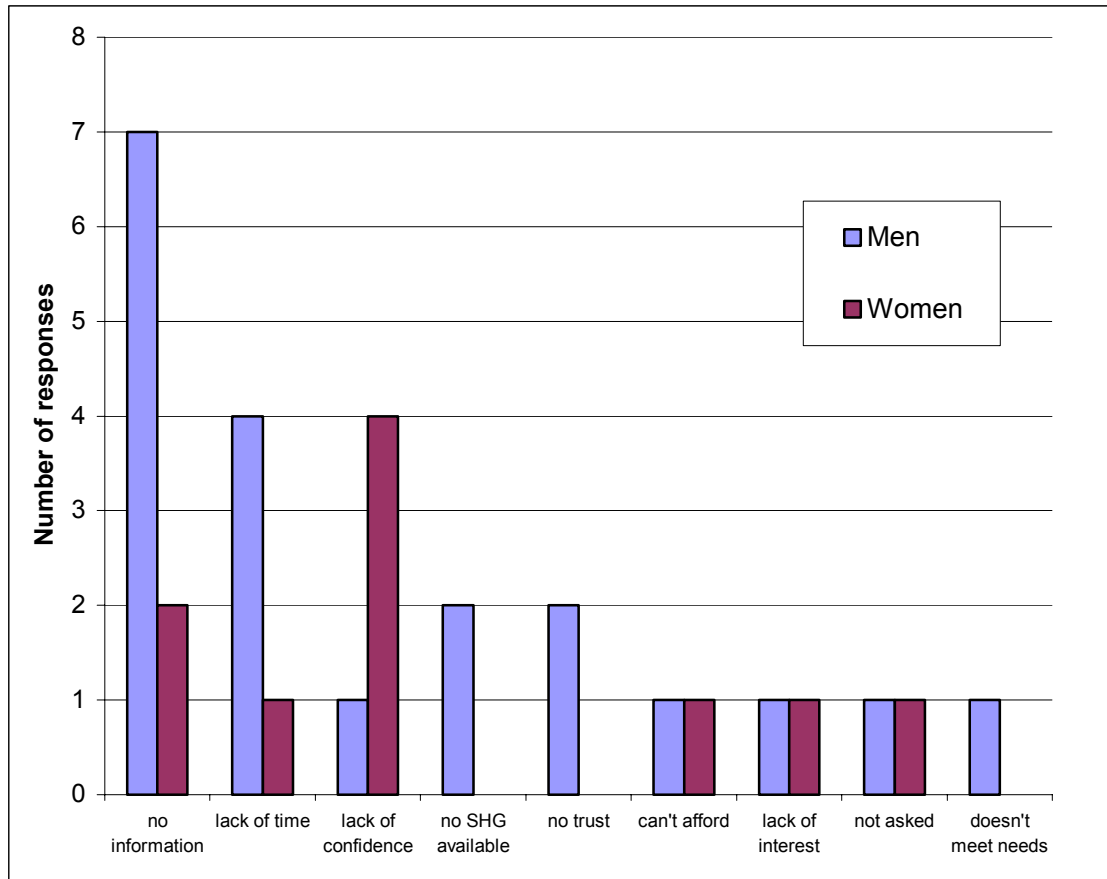
'I am not capable to enter as I cannot talk their language.' **Mr S-HH G4**

'I would like to have joined but was not accepted as I didn't have enough skills to join. I don't want to mingle with those people.' **Mrs H-HH K1**

No-one has asked me. I feel in the SHGs only richer and very knowledgeable; people are there and I feel very low in this respect.' **Mrs V-HH K3**

'Interest is not there. I am not confident. I have disqualified myself by feeling inadequate.' **Mrs D-HH M1**

Figure 21 Reasons given for not joining SHGs in four peri-urban villages



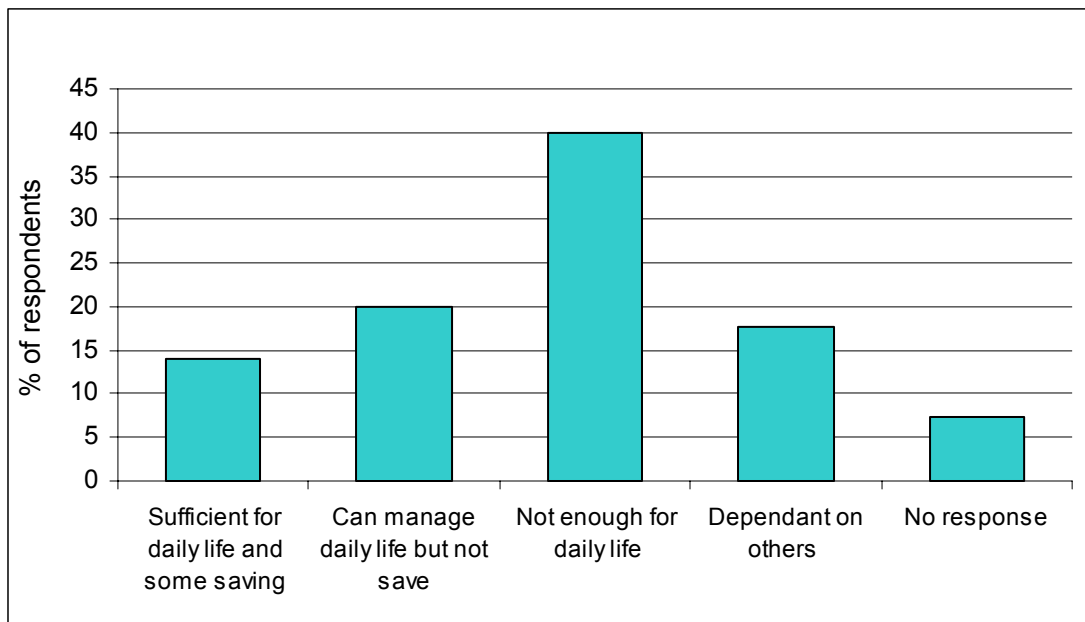
SHGs were inclined to be less attractive to men mostly due to ignorance of the role of SHGs or the constraints of working on their time. Men do not equate SHG membership and credit as a means of rescheduling debts that have very high interest rates. SHG credit was seen by male, non SHG members as insufficient for their borrowing needs.

5.4 Savings and credit

The ability to make savings and access formal credit in order to take advantage of opportunity is an important feature in helping people to escape from poverty. One of the most important findings in this survey was the way people access credit for their activities and the gender dimension of the borrowing pattern. This was closely linked to self help group membership.

Figure 22 shows how people felt about their economic circumstances. Only 14% of the respondents surveyed felt they had sufficient money for their everyday needs. 20% felt they had enough to manage but were not able to save or would experience difficulties if unexpected occurrences arose; 40% said they did not earn enough to manage their daily lives. 17% (all women) were entirely dependent on others for money and 7% didn't know or gave no response. This shows the majority of households to be vulnerable to unexpected shocks and stresses and would not be able to take advantages of opportunities presented where this required some money in advance.

Figure 22 *Perception of adequacy of household income*



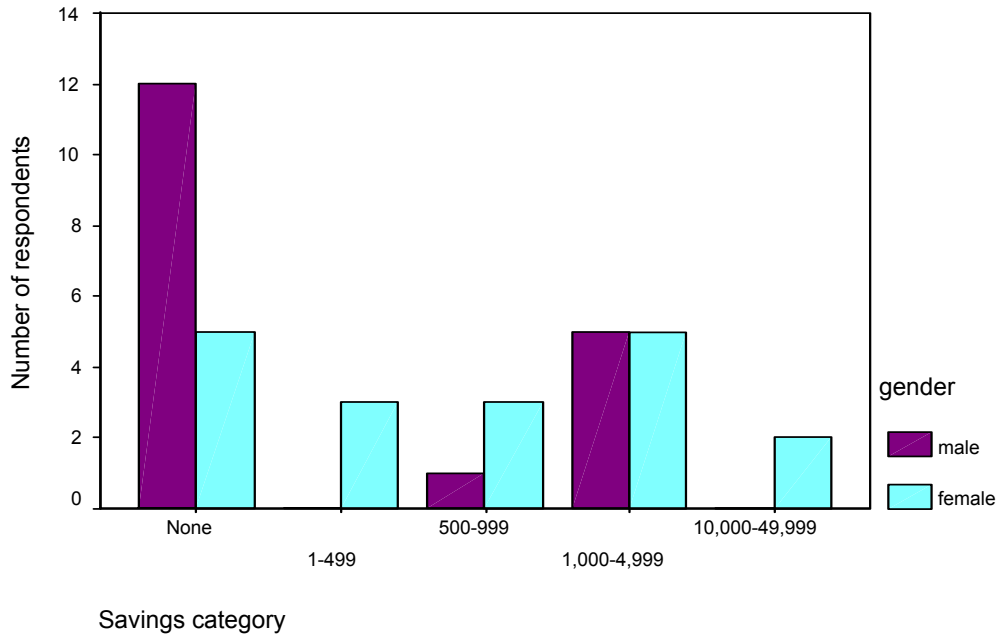
5.4.1 Savings

Only 50% of people had any savings and this was strongly linked to SHG membership as already shown. Figures 23 and 24 summarise savings made by gender. 71% of women and 35% of men had some savings. When averaged over the whole sample including the people with no savings mean savings were 2829 rupees for women and 541 rupees for men. This disguises the fact that some people are more vulnerable than others within the sample.

Figure 23 *Savings made by gender*

	N	Minimum	Maximum	Mean	Std. Deviation
Women	17	0	28040	2829.41	6942.360
Men	17	0	3000	541.18	882.510
Valid N	17				

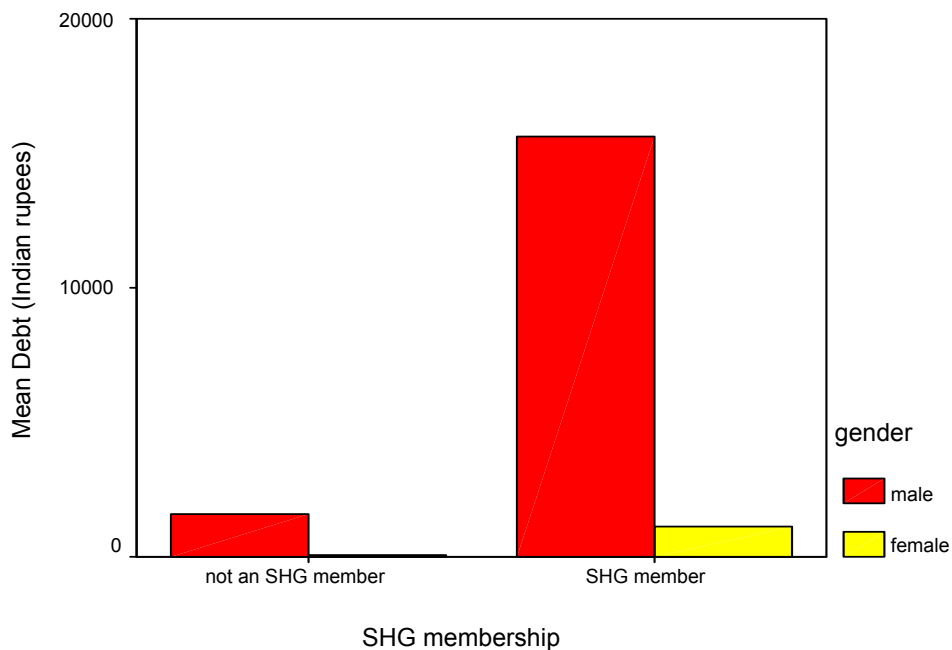
Figure 24 *Savings made by very poor people in four peri-urban villages*



5.4.2 Credit and debt

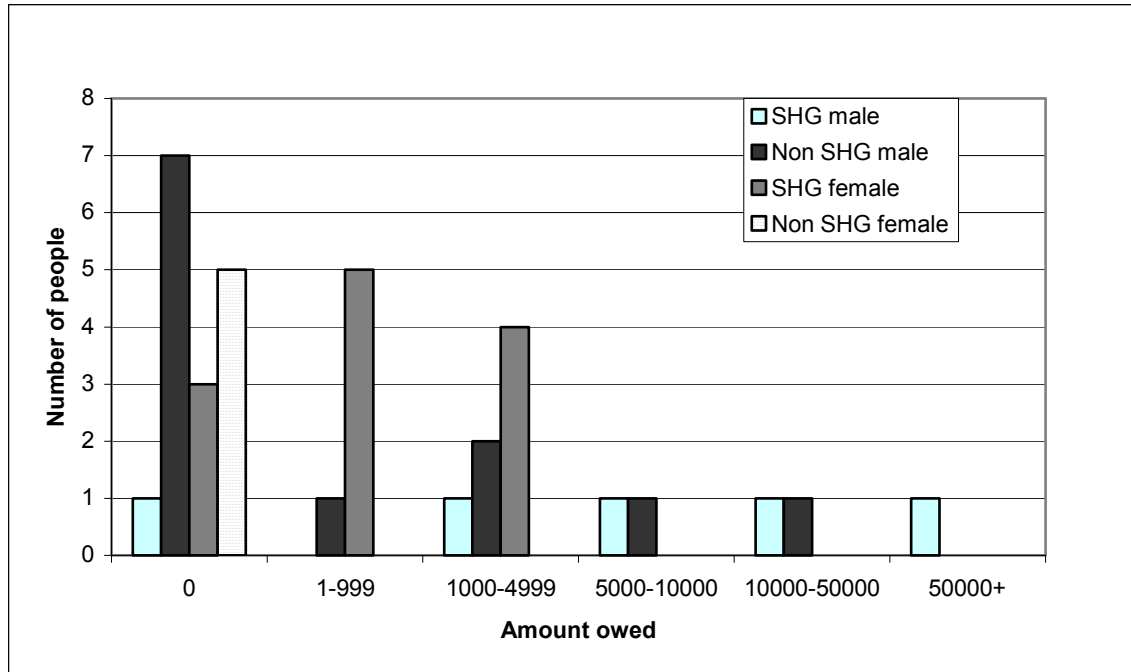
Figure 25 shows the range of borrowing and how it relates to SHG membership. Women have very poor access to any kind of formal borrowing outside of self help groups. The data showed that women who did not belong to an SHG had no debts at all probably reflecting their inability to access formal credit of any kind. All members of SHGs, both male and female, had accessed credit at least once from the SHG. Interestingly, the data also showed that SHG membership was associated with increased levels of debt (figures 4.10 and 4.8). SHG members had on average debts of 5200r.

Figure 25 *Relationship between SHG membership and borrowing*



The significant relationship between debt and SHG membership ($n = 35$, $p = 0.003$) may be a distortion in the caused by a single man with a very significant debt or it may be a real factor caused by the availability of credit to people who would otherwise not be able to get it. Women are rarely able to gain credit from formal institutions. In this sample there were no women who were not SHG members who had any debts suggesting they either had no access to credit or that this was not a time of years when credit was needed. Male debt is not related to SHG borrowing so may be indicative of more entrepreneurial or other positive attitudes by male SHG members.

Figure 26 *Relationship between gender and SHG membership with borrowing*



The survey demonstrated that men had less access to SHG lending than women and that the largest male SHG loan was 2000r. Men do not appear to consider SHG credit as a means of rescheduling burdensome debt. SHG interest rates are typically around 24% pa while interest rates of up to 132% were quoted for other loan sources.

Sources of borrowing depended on the size of the loan required and again there is a strong gender dimension. Small loans come from friends and neighbours or extended payment of bills at the village (Kirani) shop. For one respondent this extension of informal credit had forced him out of business and left him in debt himself.

Figure 27 shows the places where people have already taken credit and the places they feel they could access credit if they needed. There is some discrepancy between the two; in particular between those saying they would borrow money from friends and family and those actually doing so, and the actual and potential numbers borrowing from the SHG.

Figure 27 Potential and actual credit sources used in PU villages

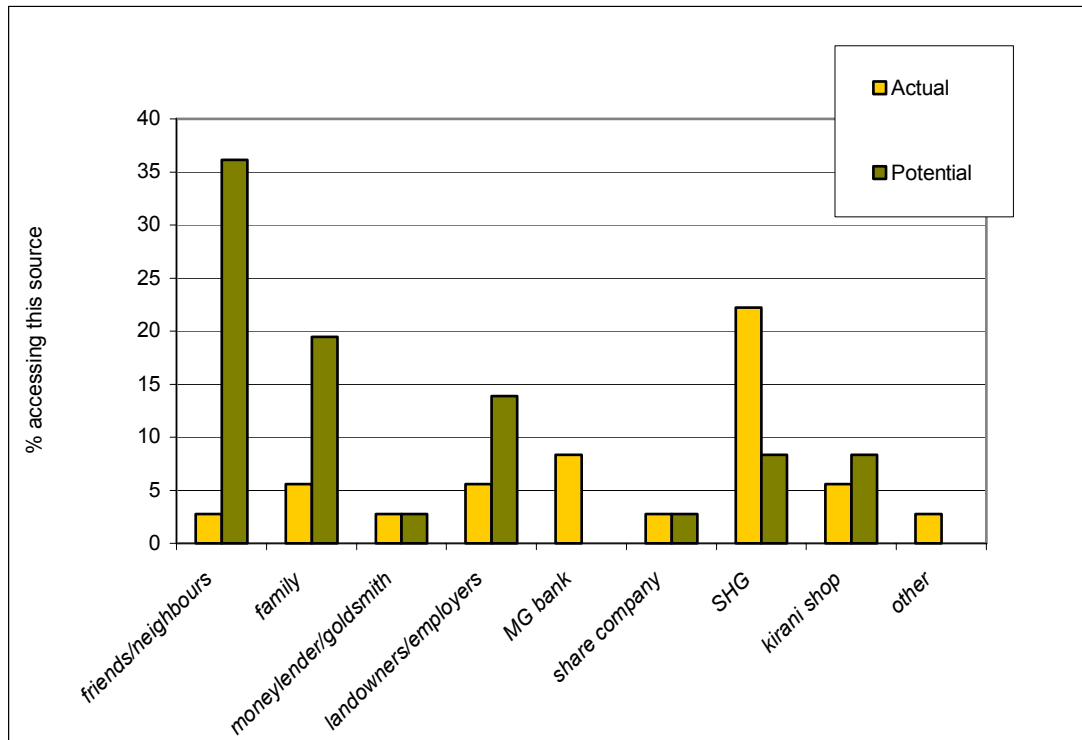


Figure 28 Reasons given for requiring credit in PU villages

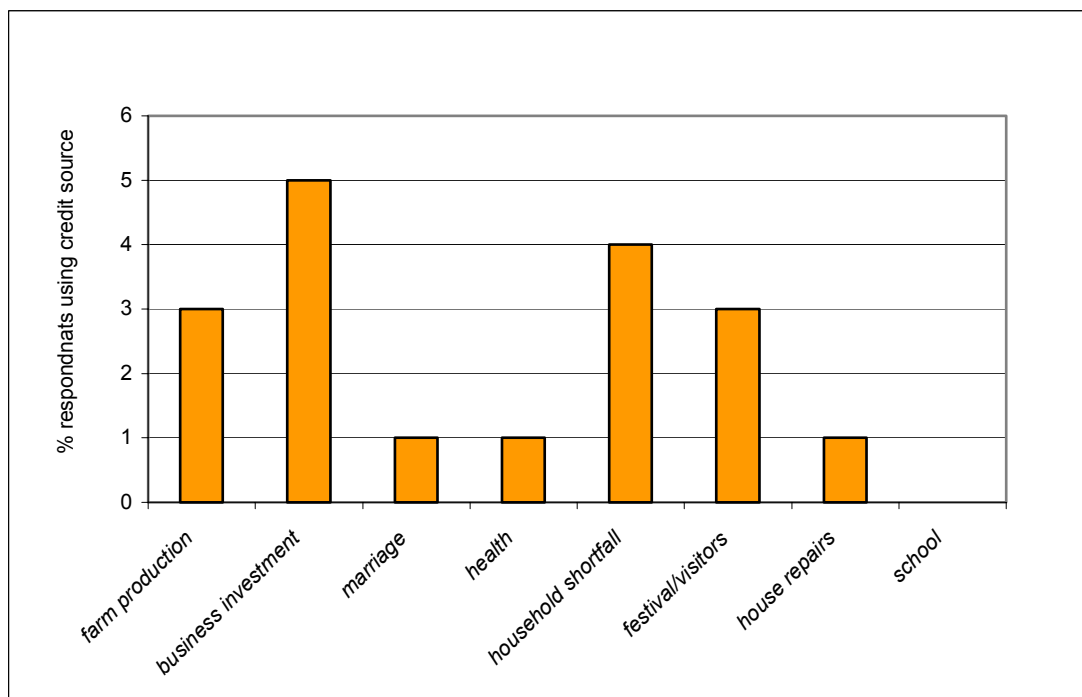


Figure 28 shows the reasons people gave for needing credit. Women borrow mostly to smooth out finances needed for household items or to make up a shortfall. Women were more likely to borrow small amounts for short periods of

time at no interest from neighbours and friends, to take credit in the form of goods from local shopkeepers or to borrow from the landlords they work for often making all or part of the repayment in labour. The largest female debt was 3000r borrowed for household business investment but this was the exception not the rule. One woman sometimes borrowed from her neighbours to pay her SHG savings.

Men took credit for a variety of reasons most usually to do with procuring inputs for their businesses or starting new businesses. Men borrowed from banks, loan/share companies, relatives, goldsmiths, moneylenders, richer people in the village, employers and wholesalers extending early payment for goods. Repayment was either in cash, labour or produce or a mixture of these. Interest rates quoted ranged from 15% up to 132% per annum. When measured against their reported incomes it was hard to see how some people would be able to repay. Where the whole loan was being repaid in labour it was difficult to see how people could live except by incurring more debt indicating a vicious circle or a downward trajectory into further poverty. Some of the farmers reporting borrowing for inputs have only just repaid by the time it is necessary to borrow for the next year meaning that the household is always in debt. The interest adds an additional cost into household finances that adds to household vulnerability.

Several people, both male and female, said they were borrowing for their children's education but no-one at the time of the survey has any outstanding debts for this. The majority of people had repaid a proportion of their loans underlining the fact that this study is a snapshot in time of a dynamic process.

Women's borrowing could be broadly interpreted as consumption credit and was especially influenced by the social obligations of providing hospitality to friends and relatives. Using credit as a means of coping with short term cycles and fluctuations in ash flow and specific stress situations may be an indicator of the households limited ability to cope with shocks. Men's borrowing may be indicative of more structural change and may be an adaptive strategy to cope with long term peri-urban change since it was normally for inputs into farm or business and could be used to take advantage of opportunities at the peri-urban interface.

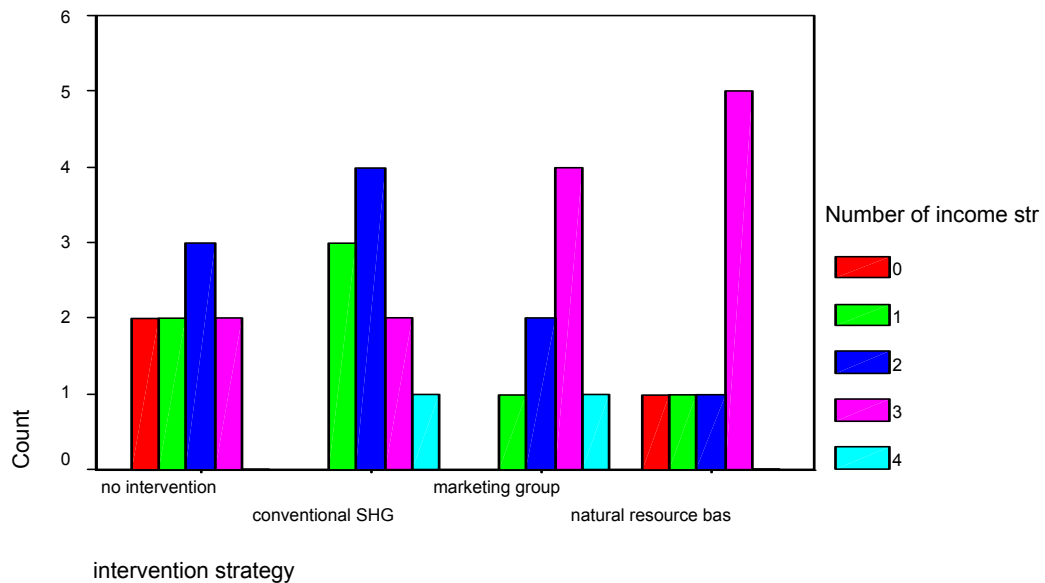
5.4.3 Social capital and credit

The discrepancy shown between places that people accessed credit in practise and the places they felt they could access credit was interesting (figure 27). The most noticeable was the number of people saying they would borrow from neighbours and friends and the number actually doing so. A similar effect was identified with SHG borrowing. This could be because people were not in need of small loans at that time of year or because there is a genuine replacement of informal borrowing from friends and family (social borrowing) with SHG loans. If this is a real effect there are several possible interpretations for it. SHG borrowing could be replacing social borrowing because it is easier and more certain – essentially a substitute insurance to manage covariant risk. Another is that borrowing from SHGs releases people from unwanted social obligation with the changing nature of borrowing interpreted as a proxy indicator of an erosion of the social capital base.

6.0 Are the intervention strategies being used by the NGOs showing any discernable effects on livelihood choices being made by the very poor?

The initial aim of this study was to determine whether there were any differences between the different intervention types being tried. The new interventions were focused towards women and had broadened their access to credit, given them training and started them in IG activity but showed no impact on income generation or livelihood diversity. New income generating activities from the special interventions had not yet started producing an income stream so people were not really able to make much comment on their effectiveness.

Figure 29 *Livelihood diversity of people in all four intervention types*



This showed that belonging to a specific intervention group made no significant difference to livelihood diversity. (male N=17 p= .896) (female n=18 p=.071)

Figure 30 *Mean individual savings and debt by intervention type*

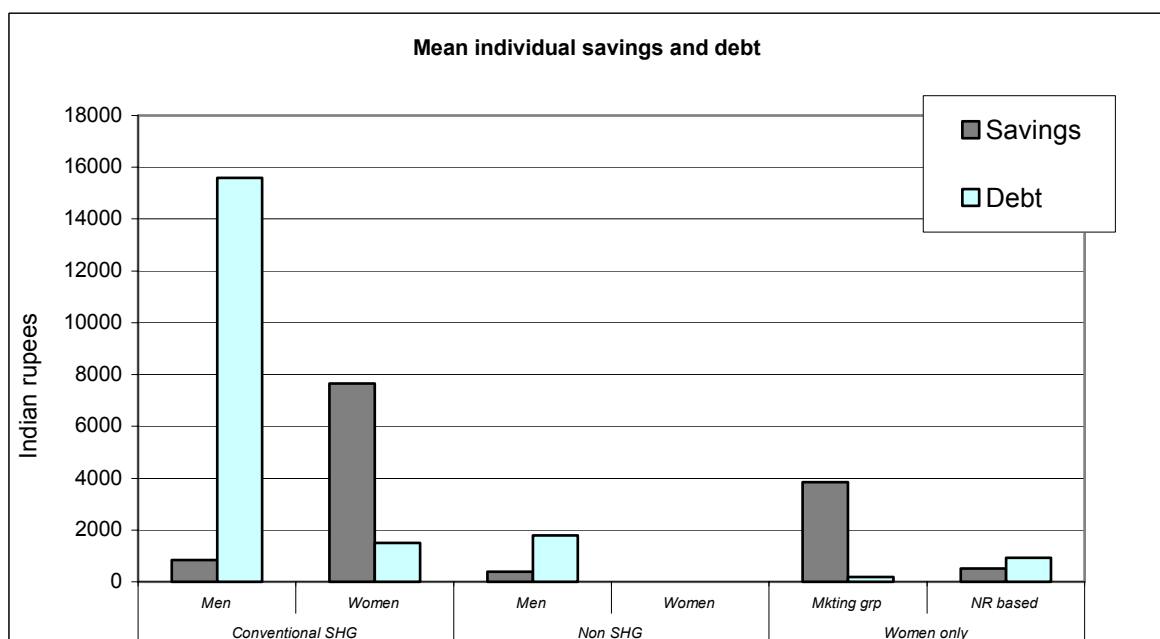


Figure 30 looks at the differences between savings of people experiencing different types of NGO interventions. This shows very clearly the effect of SHG membership on savings with SHG members all having some savings and women in the conventional SHG saving most. No significant differences were found between different intervention types. This was considered to be due to the relative newness of the interventions

However, the study did demonstrate that membership of self help groups of any type had positive impacts on livelihood diversity, credit and savings and information flows especially for women. The study showed that there were more women than men in SHGs and that they particularly appealed to women. Women who did not belong to a self help group showed lower livelihood diversity than any other group. This may be a consequence of dissociation from information flows, no access to credit, less self confidence or reduced opportunity to develop ideas. Self help groups developed women's access to several important livelihood capitals. Human capital was being enhanced by encouraging greater self confidence and self esteem, by training and expanding horizons with opportunities for educational trips and visits. Social capital was being enhanced by allowing women access to organised groups, more diverse contact with people and the power of political influence that is generated by increasing the size of the 'voice'. Financial capital was being enhanced by the provision of credit as already outlined. Taken together, all of these elements show SHG membership has an important role in reducing vulnerability and encouraging positive outcomes for peri-urban households.

7.0 What changes have been made to income generating activities over time?

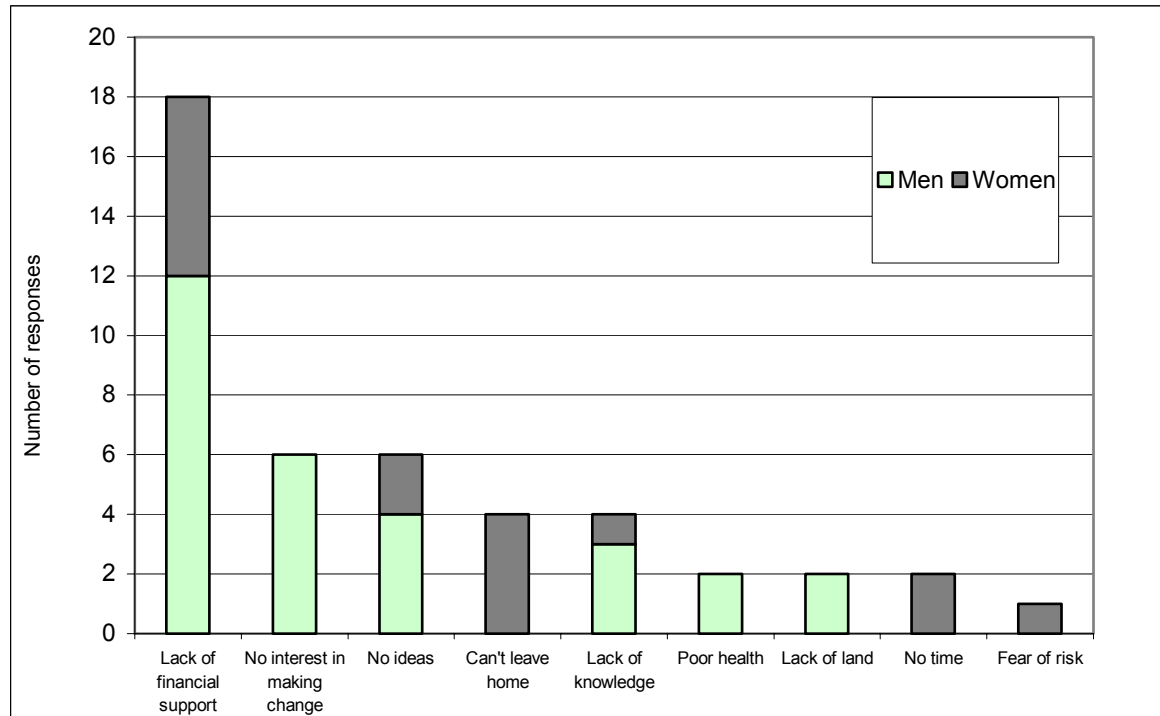
7.1 Livelihoods choices and change

The study showed that people worked hard and were very self sufficient. They enjoyed their work and took pride in their skills. In general people were satisfied feeling their lives to be successful despite the fact that the majority would face problems if they encountered any unexpected demands on their income. People were not seeking change although a fatalism, inherent in the culture, was evident in some of the responses. This complacency may have been a consequence of the traditional attitudes people expressed or a fatalistic acceptance of their place within a hierarchical society.

People reported having few livelihood options other than their current income generating activities. Where people were established in successful work or business they expressed no interest in making change. Many people had never tried anything different because they didn't know anything different. This was especially true where people were engaged in agriculture. Other people had ideas about the things they would like to do but were not able to carry them out due to a range of constraints. The most common reasons given for not exploring different income generating options were lack of knowledge, ideas, skill or finance to make change (figure 31). The most important factor cited was the problem of finance in setting up in business or the financial hiatus of making change.

Zimmerman and Carter (2003) showed how lack of capacity to take risks prevented poor people from accumulating assets. A conservative attitude towards livelihood change may dampen entrepreneurial potential diminishing ability to take advantage of peri-urban opportunity.

Figure 31 *Perceived impediments to livelihood diversification*



Where people had given up income generating activities in the past these had been abandoned for better paid work, easier options or for health reasons. One man had been forced to close his kirani⁴ shop due to the financial consequences of people taking goods on credit. The men who had moved into non farm work such as quarrying or factory work had been involved in agriculture before they found better paid work. Three women had given up paid work and were dependant on their husbands although one of these worked unpaid on the home farm.

There was an observable difference between those who were confident about their abilities to make change and those who weren't. Where people were confident about making change it was about their ability to get work of a similar type in the city. These households were taking advantage of peri urban opportunity and had the information sources to allow them to effect this change.

Over 60% of the population reported that they had not made any changes in their main income generating activity during their adult life. This was more noticeable for women than for men. People had moved out of other activities about equally although, perhaps unexpectedly, men in villages further from the urban centre were more likely to have made changes to their income generating activities. ($p=.048$, $n=17$) (figure 32).

⁴ Village general store

Figure 32 Changes made to IG activity by gender

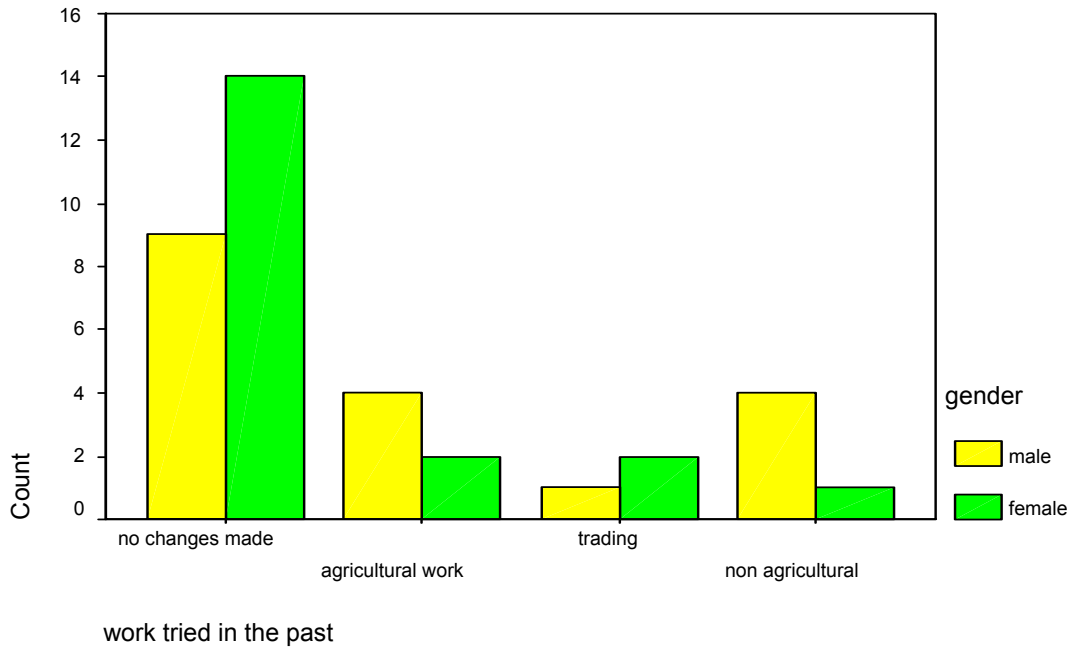


Figure 33 Location of primary IG activity

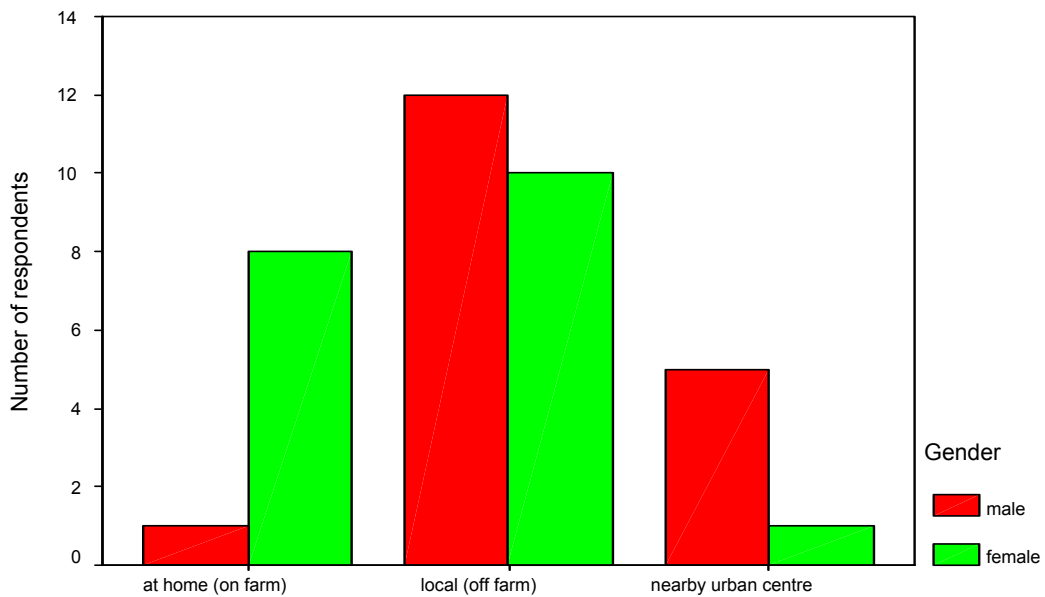


Figure 33 shows a gender based trend towards off farm activity (n=37, p=.016) The ability to diversify out of low income, low entry barrier income generating activity is recognized to be an important factor in mitigating poverty. ODI(2003) and Start (2001) identify the move from agricultural to non agricultural work and rural to urban shifts as key factors associated with positive change so the development of ‘of farm’ income generating activity represents an effective route out of poverty in this peri-urban context.

7.2 Children's education as a livelihood strategy

This study showed a trend towards children being better educated than their parents. Almost all the children who had completed their education had a higher educational level than their parents. The overwhelming majority of people were making significant financial sacrifices to ensure their children are educated so they would be able to gain better work opportunities “*so they will not be like us*”. Changing attitudes to children's education can be interpreted both an adaptive strategy (Rennie and Singh 1996) and a livelihood diversification (Ellis 2000). In effect parents were converting financial capital into human capital, forgoing immediate consumption in the expectation of being supported by their children later in life. However, while some of the comments from parents in this study support this view others sound much more altruistic. They expressed their concerns that their children should have a better future and not to experience the same privations as they had.

Where finances were limited boys received education in preference to girls. Some of the older girls had been excluded from education while younger girls in the same family attended school. This may reflect changes in family circumstances, changing attitudes or recognition of the child's interest and abilities. Despite one mother implying that girls' education was not as important as boys', all girls were receiving more education than their mothers who almost invariably had had no education at all. This indicates changing attitudes towards women's education and a recognition of the importance of literacy in being able to take advantage of opportunities in a rapidly changing and complex world. It has long term implications for the next generation as maternal education is recognised to be one of the most significant factors in increasing household well being (Datt and Jolliffe 1999).

'I want to give my children a good education and try to stand them on their feet so they don't have to beg from others.' **Mr L-HH M3**

'First I will give them a good education. Then the girls will marry and my son will go into the flourmill business. I am planning this after the 7th or 8th standard.' **Mr N-HH M6**

'Children need a good education. Then they will choose what they want to do.' **Mr F-HHC2**

'I am hoping my son (12) will have a good education to get a better job so he will not be like us.' (*Two daughters, 15 and 20, only studied to std 2*) **Mr P-HH M5**

I want to give my children a good education then they will get jobs. It depends on their interest. They can be like me or they can have a good job like my brother who studied to 12th standard and is now in the police.' **Mr J-HH M2**

'A good education is sufficient. In this generation the children are not in our hands.' **Mrs F-HH K5**

'They should not be like us. Giving them a good education, knowledge and skill will give them a bright future.' **Mrs C-HHM3**

8.0 Are livelihoods changing in response to peri urban processes?

8.1 Vulnerability, choice and the ability to cope with PU change

People differed in their ability to manage change depending on their underlying human, social and economic capital but existing patterns of inequality were being perpetuated within the peri-urban interface. Where people had been successful it was because they had access to information and financial capital and the human capacity that allowed them to adapt to new opportunities. These have also been identified as key factors for livelihood change at the meso level (ODI 2003).

Start (2001) showed how limited access to resources made it difficult for very poor people to increase livelihood diversity. The consideration of the livelihood choices that very poor people are able to make is really a consideration of the entry barriers that prevent people from taking advantage of opportunity when it is presented. High entry barriers or lack of capacity in financial, educational and information sources together with a strong element of gender disadvantage were shown to be key determinants of poverty in the very poor people interviewed in the four villages studied.

The problems of managing risk and smoothing seasonality have resulted in the development of a diverse range of activities and income sources. The experience gained in developing these may include elements from the 'off farm' and 'non farm' economy and this experience has the potential to encourage the development of more lucrative income sources especially where people have some entrepreneurial ability.

The study showed that people considered financial constraints to investment to be the most important factor in preventing them from increasing their livelihood choices. Certainly the size of loans that some men had taken and the conditions of repayment had compromised the security of a number of households in the study leaving them at risk of a downward trajectory into intractable poverty. Sometimes debt was paid back in labour further diminishing household resources and trapping people into chronic poverty.

8.2 Village location

The peri-urban interface is characterised by the intense rural/urban linkages that can offer complementary benefits to households in both rural and urban areas. These opportunities offer great potential to remove households from poverty by offering higher wages, regular employment or increased trading opportunities.

This study showed that women's access to various capital resources was constrained strengthening preexisting inequality of opportunity. Women in villages closer to the urban centres had less than half the livelihood diversity of men, or women in more rural areas and fewer opportunities to engage in off farm activity with a consequent reduction of household livelihood diversity. These results concord with anecdotal reports from IDS that attitudes of increasing suspicion towards urban influences were part of the peri-urban

process. This constraint on women's access to IG activity means that many women are likely to remain largely dependant on low agricultural wages and suggests that developing decently paid home based (or on farm) income generating activity is important in reducing poverty and vulnerability for women especially those in villages closer to the city.

8.3 Landlessness

71% of households surveyed were landless. For both landed and landless people dairy production, using either cattle or buffalo, was seen as a significant income earning option and takes advantage of peri urban milk demand. Of the landless households 25% had dairy animals. When people were asked about their ideas for increasing their income generating activity dairying was give high priority. Animals were zero grazed when crops were in the field and allowed to roam freely when they were not. There was no reported shortage of fodder but collecting it was time consuming and often left to the women. One man had taken advantage of this to build up a business in fodder sales. Respondents reported dairying and milk sales as separate enterprises from agricultural production. Producers delivering to regular urban customers ensure continuity of supply by buying in milk from other producers even if they only make a very small profit. People may also deal in milk as middlemen. Watering the milk was common.

For those trying other avenues to access land the financial entry barriers were high and entailed significant borrowing. The two families in the survey trying this had an average borrowing of 35,000 rupees. Leasing fees were paid in cash and carried significant risk if the harvest failed. The household with a mango tree leasing business reported it gave a good income but was hard work. The people who had taken on leased land for growing staple crops did so on a share cropping basis. This was one of the most enterprising livelihood strategies encountered in the study but it was not showing good returns either on the financial capital invested or in providing sufficient food for the family. The reported cash returns were estimated at 5000 rupees (£67) per annum after the family had been fed leaving the family well below the poverty level of 24,000 rupees established by the Indian government (Purushothaman 2003).

One household had been forced into a compulsory purchase land sale to railway losing 90% of their land. This offered a substantial once in a lifetime capital amount (75,000 rupees). He had not been paid yet so had not planned how to use this money.

Landlessness does not always equate to poverty and attachment to the family land was a significant feature in men's inability to take up more lucrative peri-urban opportunities. Patterns of inheritance make land fragmentation inevitable and can ultimately lead to plots that are not capable of supporting the people who need to live from it. At the same time people are reluctant to leave their land because it offers security in an insecure world. There was a recognition that once the asset was lost it was lost for ever. Some people commented on the costs of living in the city and suggested that the additional money they might earn from better paid city work would be lost by the extra costs of living there. The people most confident in their capacity to change their means of income generation were those without ties to the land.

8.4 Seasonality

Seasonality is often quoted as a major factor in maintaining poverty, increasing vulnerability and the need for access to credit to smooth consumption flows. However, the results of this study did not particularly bear this out. A substantial number of people reported being able to find some kind of agricultural work in all seasons. Only 11% of people said they had any problems finding work at any time of year. This included people who were working in agriculture. This may be a result of the shortage of agricultural labour reported by Brook 2002 and the consequent diversification into mango growing which has spread the agricultural season for those remaining. Men reported slightly more seasonal employment problems than women (17% and 5%). The remainder either found no problem in getting work (38%) or were fully occupied in slack times with their own businesses or domestic activity.

9.0 Summary of results

A number of key features emerge from these results.

- 1 Natural resource based activities, both agricultural and non agricultural, remain important for livelihoods of both men and women in peri-urban villages.
- 2 Gender is a significant determinant of livelihood diversity, the pattern of income generating activity and the capacity of people to take advantage of peri urban opportunity. Women living in peri-urban villages in close proximity to the city centre had lower livelihood diversity compared with other groups.
- 3 Belonging to a self help group (SHG) had a significant effect on women's income generating activity although the type of self help group did not appear to be of any consequence.
- 4 Women were more likely to be SHG members than men but care had to be taken to ensure SHGs do not inadvertently perpetuate exclusion.
- 5 SHGs membership had positive benefits for women both in terms of encouraging confidence and accessing information.
- 6 SHG membership was related to positive patterns of savings especially for women.
- 7 SHG membership offered people access to credit and women were taking particular advantage of this.
- 8 Men and women borrowed for different reasons. Men borrowed for business inputs for existing enterprises or to support diversification strategies while women made consumptive borrowing.
- 9 A trend towards the development of 'non farm' and 'off farm' activity was indicated for both men and women in more rural areas and for men in urban areas. Women living in villages nearest to the city were more likely to remain in low paid agricultural activity or to be entirely dependent on their husbands.
- 10 Women's experience of peri-urban change is different to men's and this has to be taken into account when shaping policy or developing intervention strategies.
- 11 Pre existing structural inequality was being perpetuated under conditions of peri-urban change with traditional and cultural patterns continuing to determine people's livelihood choices.