

## CHAPTER V

### ASSESSMENT OF ECONOMIC CHARACTERISTICS OF STUDIED

#### SAMPLE

This chapter discusses economic security situation of the study area in general of the studied sample. Here a general overview of the economic security situation of studied sample in terms of livelihood pattern and associated vulnerability and coping strategies, resource profile pattern, gender differences in relation to livelihoods and resource and the relationship among them are discussed. Since a livelihood system is made up of different interacting elements. Resource availability determines economic behaviour of individual household. Therefore, the assessment of household resource is important for understanding economic security.

#### 5.1 The livelihood pattern

Types of livelihood strategies adopted by the studied sample in this study were categorized under 6 main types: These six types were identified as primary and secondary occupations for each household. Primary and secondary occupation levels were defined based on the importance (perception of household head) of each livelihood strategy for their household. Table 1 details the sub livelihood strategies included under each main category: The first three categories are agriculture related and other three categories are non agriculture related.

Table 5.1 Details on type of livelihood strategies

Types of livelihood main strategies	Sub livelihood strategies
Crop production	Paddy production, vegetable production
Livestock production	Rearing of cows, keeping bullock cart, raise chickens, raise pigeon
Farm wage employment	Working in the paddy field: preparing bed canals, sowing weeding ( specially mentioned by women wage employers) Ploughing paddy fields using four wheel tractor Collecting waste spikelet paddy from the field after harvesting (specially mentioned by women wage employers)
Non-farm wage employment <sup>2</sup>	Fishery <sup>1</sup> Masonry Carpentry Bricks making Road reconstruction works <sup>3</sup> Electricity cables connection repairing works Machine driving carrying materials for construction works
Self employment	Shops <sup>4</sup> Sewing Other bonded labour services

(Source: Survey data, 2008)

Notes:

<sup>1</sup>Few owners also included in this category.

<sup>2</sup>Few owners also included in this category.

<sup>3</sup>Reconstruction strategies related to masonry (building structures) and carpentry was in their highest level to contribute to the society aftermath of Tsunami up to the end of year 2007 and people said it will be quite difficult for them to find job opportunities in these sectors in coming months or in the future.

<sup>4</sup>Most of the time females were handling shops successfully as their full time strategy in a day.

### 5.1.1 Contribution of each major livelihood strategy to the studied sample

Table 5.2 and Figure 5.1 shows the income and frequency (in percentage of number of participating households) distribution among the different types of strategies in the studied sample. Fifty-one percent of households carrying out non-farm wage employment as their primary economic strategy. The percentage of income contribution by non-farm wage employment was higher than other type of strategies (Figure 1). Crop and livestock production participation were 11.0 percent and 3.6 percent respectively. Higher average income of 12,828 Sri Lankan Rupees was received through non-farm wage employment.

Table 5.2 Average income and percentage of contribution in each strategy

	Type of strategies					
	Crop production	Livestock production	Farm wage employment	Non-farm wage employment	Self employment	Other non-specified
Average income (LKR)	10,776	8,875	7,973	12,828	7,101	10,000
Percentage of households adopted such strategy (%)	11.0	3.6	17.1	51.0	15.2	2.0
Percentage of income contribution	8.8	2.9	33.9	40.6	12.1	1.6

Number of observations: 97

Average income for the sample: 10,100 LKR/household (1US \$ = 106 LKR)

The following Figure 5.1 compares the difference among each type of livelihood strategies respective to their income contribution and/vs frequency of adoption/participation frequency (for the last two rows data of Table 5.2).

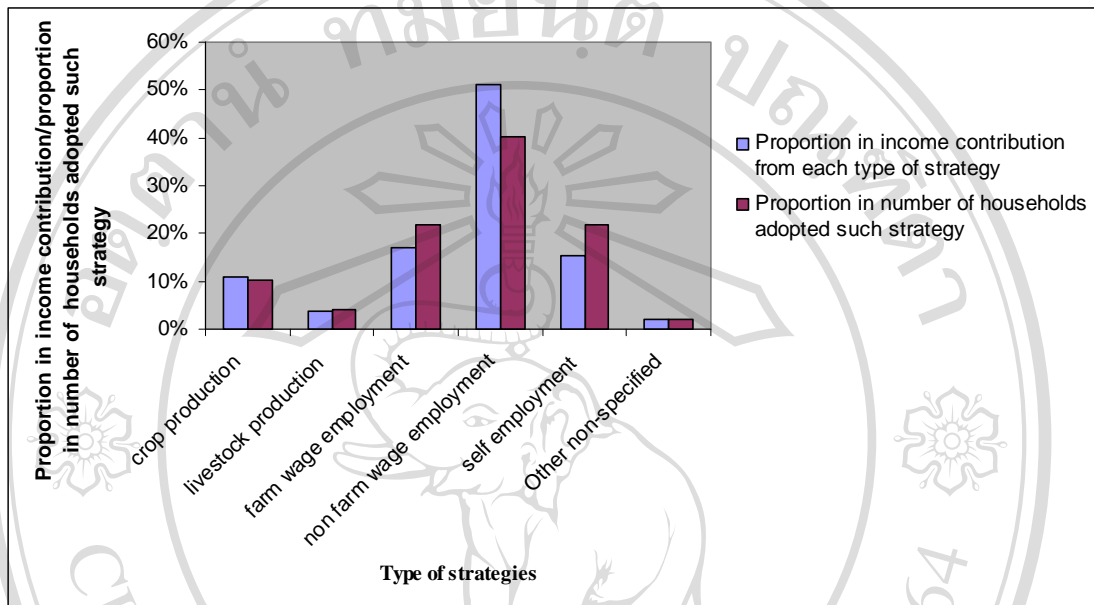


Figure 5.1 Proportions in income contribution vs number of households adopted such strategy

## 5.2 Resource profile: Surveyed sample characteristics on selected asset components

### 5.2.1 Human assets

Household head education and health condition were taken into evaluation under human assets. Household head education is ranging between the values of 0 to 13 in schooling years. It means that some household heads were uneducated. In case of health condition, the average number of days a person unable to attend to work from the survey period response was 49 days. Among the identified illness problems of diarrhoea, cholera, virus fever, chicken kunia and other unspecified, like scarcity caused by accidents, surgery and permanent body pains make them to long day

absenteeism from their livelihood strategies. In this condition, contribution from other household members becomes important to these families (from spouse or children). Among the surveyed sample, only 2 percent of the population shows this situation. Chicken kunia is the first most illness identified as serious condition made people away from working and 29 percent of the households affected by this illness. No any cholera incidence was reported during this period.

### **5.2.2 Physical assets**

Asset score and money value of job related equipments were used to represent the physical assets. The information on these components were easily received. The value of job related equipments reflected the real status or position of respective livelihood strategy adopted by them. The distribution of these components for the studied sample is shown in Table 5.3.

### **5.2.3 Natural assets**

Total land in operation is used as representing natural assets. The average land size per household is 0.63 acre. This size is less than 1 acre. This condition is due to only few of the households have land ownership for operation and crop production as primary livelihood strategy. In the case of paddy land ownership, most of the rice growing farmers have the operation ownership in rent in form. Land gets its main importance for farm wage earners because farm wage earning is mainly depend on paddy farming to this studied sample.

### **5.2.4 Financial assets**

In terms of financial assets, the indicator used were amount of debt (LKR), additive borrowing capacity (LKR) and money value of livestock (LKR).

Eighty percent of the households are in debt condition. People borrowed for various reasons. Job loss, investment in a livelihood strategy or buying land/building house and other non-specified expenses (borrowed for medical expenses or wedding expenses) were some of the reasons. In this studied sample 15 percent of the households which borrowed money did it because of food need, 36 percent of the households borrowed to initiate or invest in livelihood need. 33 percent did borrow for buying land or building house and 16 percent borrowed for un-specified expenses. Most of the time people use personal trustworthy (trustiness) and jewellery to borrow from money lenders or from government banks.

#### 5.2.5 Social assets

In this study social asset was examined in terms of participation in social organization and by developing kinship score based on the different attributes of kinship. For the purpose of kinship score index, following questions were asked and a value was given for each answer in each question (values given were shown in superscript beside the each answer<sup>1</sup>). These values were summated to depict the final kinship score.

<sup>1</sup> 1. How many times did you go to your relative home to sit together during last month?  
Did not go ( 0), 2-3 times (1), 4-5 times ( 2), 5-10 times ( 3), very frequently ( 4)

2. How many of your relatives visited in your home during last month?  
No one (0), 2-3 times (1), 4-5 times ( 2), 5-10 times (3), very frequently (4)

3. If you suddenly needed a small amount of money how many of your relatives would be willing to provide this money?  
No one (0), one or two people (1), three or four people (2), five or more (3)

4. If you suddenly need a help from others what is your perception on it?  
You can find easily (2), have to take more effort (1), difficult to find (0)

### **a. Participation in social organization**

Participation in social organization is a common phenomenon in this area. In most cases the female spouse has membership in these organizations. They mainly make use of their participation to receive loans at low interest rate apart from that to receive inputs for vegetable cultivation and some training courses on local hand loom. Various local civil NGOs provide services on such mentioned forms. Those were SEDO, SWORD, WOMEN SOCIETIES and SARVODAYA. Some of these organizations are specific to some divisions of study area. It means that those households in selected divisions only show participation in selected organizations. This is a spatial variation related to the functioning of these organizations. There are more households who did not have the participation in these social organizations. Twenty five percent of the households did not participate in any social organization. The mean value for participation in social organization (units in number) was found to be one for this studied sample. This participation enabled the people to save some small amount each month or twice in a month in the range of 50 to hundred rupees in their membership account.

### **b. Peoples' vignettes on their kinship**

It was found that the score for questions 3 and 4 in footnote 3 was very low. This out come is justified by the following quote: “My relatives are supportive to visit my homes frequently but they are not in a position to help me in monetary terms because they are also in the same marginal economic situation of me”. These vignettes situation was common among the households in division 11 and 12. These two divisions are also represented by the higher number of poor households.

Descriptive values for some selected components under each category of assets are shown in Table 5.3.

Table 5.3 Surveyed sample characteristics on selected asset components

Asset type	Minimum	Maximum	Mean	Std. Deviation
<b>Human assets</b>				
Household head education ( schooling years)	0	13	7.30	3.20
<b>Physical assets</b>				
Asset score out of 7( count) ( Electricity, Telephone, Radio, Television, Bicycle, Motor bike Newspaper at weekend)	0	7.00	3.70	1.80
Money value of job related equipments (LKR)	0	300,000	26,476	44,679.20
<b>Natural assets</b>				
Total land in operation (acre)	0	16.50	.603	2.10
<b>Social assets</b>				
Kinship score	0	13.00	5.80	3.30
<b>Financial assets</b>				
Amount of debt (LKR)	0	600,000	81,200	113,073.20
Additive borrowing capacity (LKR)	0	400,000	48,900	71,170.40
Money value of livestock ( LKR)	0	155,000	7354.1	22,941.2

(Source: Survey data, 2008)

Note:

Units of measurements are shown in parenthesis.

### 5.3 Vulnerability context of the studied sample

Vulnerability context means risky situations faced by each household depending on the nature of livelihood strategy and resource ownership. Resource poor households are drastically affected in these situations.



### **5.3.1 Observed vulnerabilities faced by the households under each category/sub categories of livelihood**

#### **a. Paddy farming**

Flooding during the grain filling stage just before harvesting season caused severe loss to the farmers and a few of them suffered from debt due to their input investment in terms of jewellery, loan etc. Farm wage earning groups were also directly affected by this situation along with other groups were indirectly affected.

#### **b. Livestock production**

Diseases to the animals (Pneumonia fever during rainy season to cows) and increased rice bran prices are some of the risk factors surrounding the livestock production. The households near paddy field face the small animals' attack to the chickens as their cages is not safe as disease attack to the chicken. Even if information was available related to disease management but it may not be available to the needed persons or it may not be used by them. Most of the people did not contact available relevant agencies/resource persons to receive information and guidance related to livestock production and management. Some of these problems are directly associated with existing institutional capacities.

#### **c. Fishing**

In case of fishing in the sea, normally they use traditional fishing boats, wood made craft called as "Thony" in local terms used to fishing with the help of additional workers, fishing carrying out in the morning and also in the evening. In the morning fishing in local terms called as "Karaivalai", in the evening fishing they called as "Mayavalai". Depending on the amount of fish caught per time, the money was shared among the workers and the owner. If the fish caught was not enough for

selling then each person received a bunch of fish to take to their home. The risky situations affecting this livelihood included the break down of the net, windy climate making insecurity for their life during night time fishing, hurting by fish thorns, increase in diesel and kerosene prices specifically affecting, the fishing by engine boats. Coastal people's livelihood was mainly supported by the location near to sea. It means that the main livelihood strategy of the household near to sea was fishing. This situation was clearly observed in division 8 which is the bedside of sea coast.

#### **d. Masonry and carpentry**

In masonry and carpentry, there were also different stages identified. Some labourers cannot make building structure but they can just join for mixing works. Labour in masonry and carpentry differ in skill stages related to those specific strategies. Some labourers have adequate skill to carry out a construction in terms of masonry and carpentry. Others were just joined to do those works as a low skilled labour. It explains the situation of low income received per hour of their working and more time had to work to receive enough income.

#### **5.3.2 People's different experiences/tactics related to their livelihood strategies**

Some of the households have different strategies related to their livelihood strategies. For example, the persons who sold rice (mainly the female headed households) said if they milled the paddy before rainy season starts, then they could keep those sacks and could sell for good price after the rain started. During rainy season, stream fish brought from nearby catching places could make (could provide) earning for traditional fish sellers. Some of the households only specifically went through these like events. Its depended on their past experiences. The common

opinion among the people was that rainy season was difficult period for most of the households as it led to the dampening of most of the livelihood activities which had to be stopped or slowed down.

### **5.3.3 Commonly identified shocks faced by the people at household level**

The shocks faced and identified by the households were examined under following conditions: flooding, loss in job/unemployment, inflation/price increase, school fees of children, death in the family, long illness and electricity and water bill. Among those the frequency of occurrence was high for long illness. Next flooding, loss in job/unemployment, school fees of children and electricity and water bill were identified by of the households 16 percent respectively. Inflation/price increase and death in the family were occurred at 6 and 8 percent. 90 percent of the households were gone through any of these conditions in the surveyed sample.

### **5.3.4 Peoples' vignettes on their own coping strategies**

Some people/households specifically mentioned their own coping strategies that they followed in the recent past and or going to follow in the near future: They were summarized and quoted below:

#### **a. Expenditure related coping strategies**

Due to high cost of electricity, instead of using electric stove, some households used other local forms of hearth. The one wife from division 2 mentioned 'as I always stay in my home, I prepare the morning food myself before the children and my husband going to school and job. This is instead of buying breakfast in outside shops which is not so good for health of my family. Nowadays I kept away my electric Stover and use the wood scarp waste stover for cooking to reduce the

expense on Electricity bill”, her education level is up to ordinary level that is year 11 in Sri Lankan education system.

Most of the time the wives keep away the electric cooker and go for hearth using locally available materials like sticks, wood, coconut tree’s wastes wood shavings, saw dust and rice husk, etc.

To reduce the high price effect, some households used substitute items. One wife mentioned she bought tooth powder instead of tooth paste (signal), used the less cost branded powder instead of high cost branded and bought for less cost vegetables such as pumpkin, ash banana.

#### **b. Searching for income generating strategies**

In one house from Division 12, a women mentioned on how her husband found jobs with the changing seasonality. When the period of paddy season finished he would go the sea, if the fishing season finished, he would go to work for rice mills in the nearby village and everything became difficult to them during heavy rainy time because during that time everything closed off since his husband was an wage earning laborer. During the rainy season “we just prepare the coconut sambol to eat with rice or prepare the roddy from wheat flour mixed with coconut but nowadays wheat flour and rice also show high price to buy in enough amount to feed the hungry”.

This situation is most common from the people in Division 11 and 12.

#### **c. Future plans and ideas**

One advanced level educated daughter in an female headed household from division 12 mentioned “they will have the idea to create a home garden with vegetables and fruits” using their cow dung wastes that they have owned and most of

the time they kept enough cow milk without selling all, for drinking in their whole family to reduce unwanted health expenses in a year”.

Both husband and wife from division number 2 sat together during interview time mentioned in coming days they would replace their flower pods with vegetables and would find some paddy land to rent to do paddy cultivation, apart from the sole whole year occupation of tailoring, of the husband. Both of them were educated up to year nine. In some families, even though they have an idea of establishing small scale vegetable gardening, they did not have enough space in their home stead. This was the main constraint on their idea.

One household’s wife from Division 2, her education level was year 4 mentioned “they have an idea to buy a cow in the future”.

All the poor households went through any type of positive and negative vulnerability situation depending on their type of livelihood strategies

#### 5.4 Other economic characteristics of surveyed sample

Gini-coefficient was calculated using the income data respect to persons. For this purpose income data was arranged in descending order. According to this arrangement, the richest person received the rank of one and the poorest received the last rank. After that, the order of operation was followed using the Deaton (2007) formula in Microsoft excel. The calculation of gini-coefficient within the population for the sampled households of this study revealed a value of 0.44 indicating the trend of a rather high inequality in income distribution. It meant there is un-equality in income share.

The Gini-index for Sri Lanka, from the report of UNDP for 2007/2008 was recorded as 0.402 with the HDI rank of 99. The gini-index for sample is slightly higher than the national index. Gini-index is normally calculated for country basis. Finally it was found that both of them reflecting nearly the same trend. The Lorenz curve graphed for this condition is shown in Figure 5.2. The graph shows how far the Lorenz curve from the 45° straight line.

Based on the national official poverty line, 66 percent of the households were income insecure. This can be due to higher inflation rate and effects of bad weather on paddy farming and related strategies in the recent past. Based on the food sufficiency score, it was found that 28 percent of the households were food insecure. 62 percent of the households were found to depend on rice from outside. 48 percent of the households were found to carry out more than one income earning strategy. Ninety percent of the households were found to adopt coping strategies in any form. Among the four major categories of coping strategies defined during survey, the adoption rates of those were as follows: expenditure strategies of 41 percent,

consumption strategies of 33 percent, income strategies of 23 percent and strategies on future plans and ideas of 4 percent. Table 5.4 displays these details.

Table 5.4 Surveyed sample characteristics on selected indicators on the basis of economic security

Definition	Score/frequency
Gini co-efficient	0.44
Households below national official line	66%
Food insecure households (based on food sufficiency score)	28%
Households which bought rice from outside	62%
Households which carried out more than one income strategy	48%
Households which adopted certain coping strategies	90%
-expenditure related	41%
-consumption related	33%
-income related	23%
-future plans and ideas related	4%

(Source: Survey data, 2008)

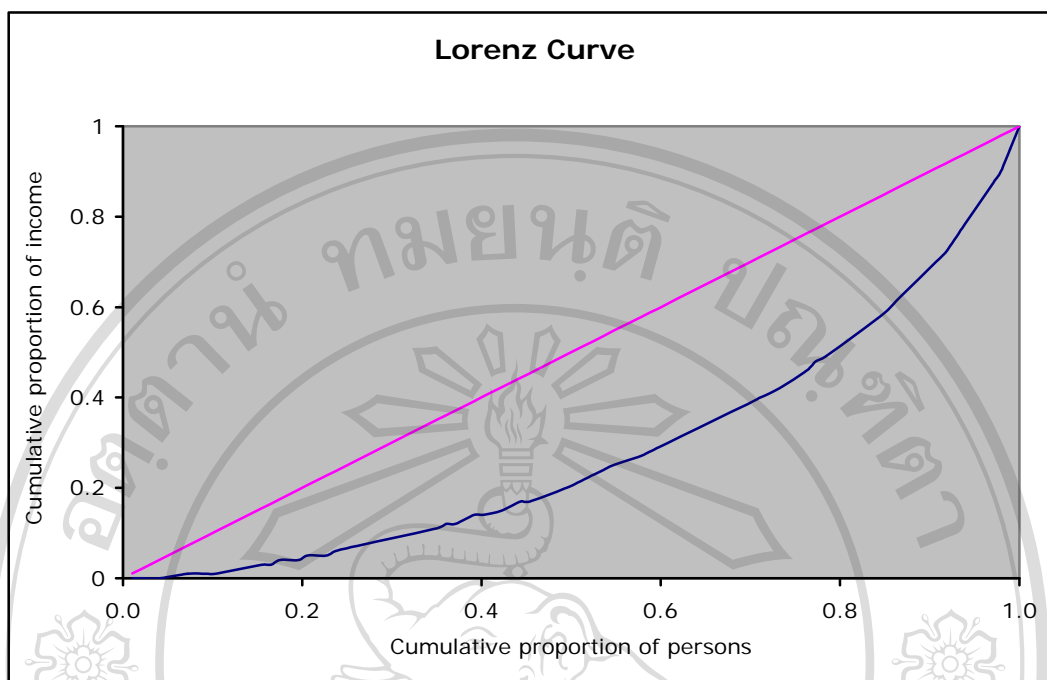


Figure 5.2 Lorenz curve on income distribution for the studied sample

#### 5.4.1 Household categories based on the value of job related equipments

The variable money value of job related equipments (LKR) was used to divide the households into six ordinal categories<sup>2</sup>. The ranges were 0 to 10,000, more than 10,000 to 20,000, more than 20,000 to 30,000, more than 30,000 to 40,000, more than 40,000 to 50,000, more than 50,000. The following graph shows the distribution of households (in number) among selected ranges (Figure 5.3). The largest group has less than 10,000 LKR. This was one of the expected results in a rural poor group. There is also group who have more than 50,000 LKR valued productive assets. These conditions in this profound productive asset status further support or explain the gini co-efficient measures for this sample in the previous discussions.

<sup>2</sup> These ordinal categories were utilized in subsequent analysis (such that in two step cluster) to represent productive assets. This representation was continued into the regression analysis in the chapter VI by including the household types (stratas) which resulted from two step cluster analysis.



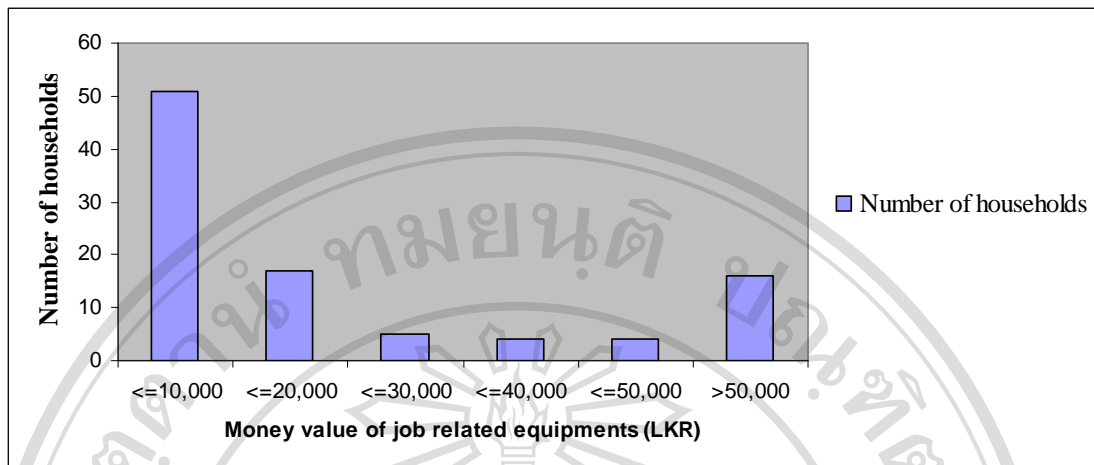


Figure 5.3 Household types based on money value of job related equipments in the sample

#### 5.4.2 Household types

Using two-step cluster analysis, two types of households were identified. For this purpose categorical (ordinal: money value of job related equipments and nominal: main working season) and continuous (borrowing capacity) variables were used. Therefore log-likelihood distance<sup>3</sup> measure was selected in SPSS. The continuous variable was standardized using the option in SPSS. The program was allowed to itself determine the optimum number of groups/clusters. The resulted household type 1 and 2 represented partially commercialized and subsistence nature of households respectively. Household type 1 has higher mean borrowing capacity and higher money value for job related equipments. All households which had continuous employment pattern were included in household type 1. Table 5.5 displays such different characteristics.

<sup>3</sup> Euclidean distance measure is selected when all variables are continuous types.

Table 5.5 Characteristics of household types resulted from two step cluster analysis

	Household type 1 (partially commercialized)	Household type 2 (subsistence)
Number of households grouped under each household type ( in percentage)	54.6%	45.4%
Characteristics of household type		
• Mean borrowing capacity (LKR)	73,235.85	19,530.11
• Money value of job related equipment (LKR)	Higher amount of money value	Lower amount of money value
• Main working season		
Employment during paddy season	34.8%	65.2%
Employment during fishing season	37.5%	62.5%
Employment during special festivals in a year	100.0%	.0%
Employment during dry season (from February to October)	32.4%	67.6%
Continuous employment	100.0%	.0%

(Source: Survey data, 2008)

### 5.5 Mean value of selected variables by distributed between household types

The following table shows mean value of selected variables between the two identified household types. The significantly different ( $p < 0.05$ ), highest level of household head education, asset score, food sufficiency and household income were observed in household type 1 compared to household type 2. The land (in acre units) was also high in household type 1. The diversity index value was high in household

type 2. It was not significant between these two groups at 5% significant level, even though the value says household type 1 is more economic specialized than household type 2.

Table 5.6 Mean value of selected variables distributed among the type of primary livelihood strategies

Variables/assets	Household type 1 (partially commercialized)	Household type 2 (subsistence)	Sig.
Household head education	8.11	6.34	0.006*
Total household member	4.36	4.23	0.586
Age of household head	44.02	47.57	0.076
Asset score	4.43	2.86	0.00*
Total land in operation	0.828	0.332	0.241
Amount of debt	82,783.02	79,384.09	0.884
Money value of livestock	6,892.45	7,910.23	0.829
Diversity index	1.21	1.32	0.176
Food sufficiency score	18.03	24.34	0.00*
Household income	13,427	6,101.13	0.00*

(\*significantly different at 5% significant level)

### **5.6 Characteristics of partially commercialized and subsistence household types**

Altogether household types dealing with cluster analysis, one way ANOVA (to find the difference in asset based variables between them) and in the regression analysis (economic security based models) which is shown in Chapter VI. Based on these analyses, in relation to each other they differ from one another in terms of economic security. It is that household type 1 (which is partially commercialized) is more economic secure compare to the household type 2 (which is subsistence). It indirectly says that household type 1 is less vulnerable than household type 2.

### **5.7 Primary livelihood strategies by household types**

The following table describes the comparison between household types in terms of primary livelihood strategies. Both types of households (partially commercialized and subsistence) were carried out all different livelihood strategies (except livestock production). Livestock production (as the primary livelihood strategy) was only included under household type 1 which was representing the group of partially commercialized. Household types (household type 1 and household type 2) showing the partially commercialized and subsistence nature of households. Most of the households included under type 1 and type 2 carrying out non-farm wage employment. The households carrying out this type of strategy constituted about equal proportion between these identified household types. Farm wage employment households were mostly represented under type 2. Self employment households were mostly represented under type 1.

Table 5.7 Household type based distribution of livelihood activities

Type of primary occupation	Household types	
	Household type 1 (partially commercialized)	Household type 2 (subsistence)
Crop production	8%	14%
Livestock production	8%	0%
Farm wage employment	13%	32%
Nonfarm wage employment	40%	41%
Self employment	28%	14%
Other non-specified	4%	0%

(Source: Survey data, 2008)

### 5.8 Mean value of selected variables distributed among the type of primary occupation<sup>4</sup>

The following table shows mean value of selected variables among primary livelihood strategies. The highest level of total land, amount of debt and diversity index was observed among households with crop production as primary occupation. The highest level of age of household head, money value of job related equipments, asset score and money value of livestock were observed among households with livestock production as primary occupation. The highest level of total household members was observed in households with farm wage employment as primary occupation. The highest education level, additive borrowing capacity and household income was observed in households with non-farm wage employment as primary occupation.

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<sup>4</sup> The number of households representing other non-specified strategy is very low.

Therefore the asset holding for this category did not included in Table 5.7.

Table 5.8 Mean value of selected variables distributed among the type of primary livelihood strategies

Variables/assets	Crop production	Livestock production	Farm wage employment	Nonfarm wage employment	Self employment
Household head education	7.7	6.25	6.00	7.87 <sup>a</sup>	7.71
Total household member	4.7	4.25	4.81 <sup>a</sup>	4.1	3.95
Age of household head	45.8	49.00 <sup>a</sup>	46.24	44.90	46.52
Money value of job related equipments	8,280	72,500 <sup>a</sup>	38,244	25,929	17,669
Asset score	4.6	4.75 <sup>a</sup>	3.38	3.56	3.905
Total land in operation	4.1 <sup>a</sup>	0.031	0.381	0.157	0.155
Amount of debt	139,000 <sup>a</sup>	67,500	101,000	63,200	76,800
Additive borrowing capacity	50,600	60,000	35,000	60,900 <sup>a</sup>	39,800
Money value of livestock	21700	34400 <sup>a</sup>	6252.38	4308.97	2397.62
Diversity index	1.332 <sup>a</sup>	1.0262	1.3114	1.2921	1.2060
Food sufficiency score	17	21	23.0952 <sup>a</sup>	21.2308	19.9524
Household income	10,776	8,875	7,973	12,828 <sup>a</sup>	7101.2

(<sup>a</sup> the highest value observed along the row among the different type of strategies)

### 5.9 Gender-based distribution of livelihood strategies

The following table presented the occupational (type of livelihood strategies) distribution among household head sex. Among those strategies, female headed households had a higher percentage of self employment. Male headed households had higher percentage level of nonfarm wage employment. Percentage of those in farm wage employment was higher in male headed than female headed.

Table 5.9 Gender-based distribution of livelihood activities

Type of primary occupation	Male headed household	Female headed household
Crop production	13%	4%
Livestock production	4%	4%
Farm wage employment	29%	4%
Nonfarm wage employment	41%	37% <sup>1</sup>
Self employment	11%	48%
Other non-specified	1%	4%

Total male headed sample out of total sample: 72%

Total female headed sample out of total sample: 28%

Note:

<sup>1</sup>The unusual higher percentage values in nonfarm wage employment among female headed households were due to the contribution of adult son and daughters to the family in this type of strategy.



### 5.9.1 Mean value of selected variables among Gender

The following table describes the distribution of selected variables between household sexes. One way ANOVA (analysis of variance) method was used to assess the significance difference between the two groups. According to the results, female headed households' shows significantly smaller total household members, money value of job related equipments, asset score, amount of debt, additive borrowing capacity and household income. Female headed household head shows significantly higher level of age than male headed. This means that female-headed households were poorer and had fewer assets i.e. land, financial capital than male headed households. In this sense, in order to overcome poverty difference between male and female headed households in the society, policy makers should examine levels of assets they have and lack as an important aspect of any development project.

Table 5.10 Mean value of selected variables among gender

Variables/assets	Male headed	Female headed	Sig.
Household head education	7.6	6.6	0.147
Young adult ratio	0.9	0.9	0.888
Total household member	4.6	3.6	0.0*
Age of household head	44.1	49.5	0.015*
Money value of job related equipments	31,713	12,900	0.063*
Asset score	4.1429	2.6296	0.00*
Total land in operation	0.818	0.046	0.099
Amount of debt	95,700	43,700	0.042*
Additive borrowing capacity	58,100	25,100	0.04*
Money value of livestock	6442.9	4948.1	0.532
Diversity index	1.3	1.3	0.963
Food sufficiency score	20.3	22.4	0.238
Household income	11,667	6,052.8	0.005*

(\*significantly different at 5% significant level)

### 5.10 An overview on the vulnerability context of the studied sample

The vulnerabilities surrounding these rural poor households can be examined in different circles. The big circle is the unexpected natural calamities, such that tsunami, flooding during northwest monsoon and unexpected drought were seen to be affecting at the different times.

The effects of these shocks cause various vulnerable nature in the society. Aftermath of tsunami mainly the livelihoods of the households' near to sea area temporarily or permanently stopped for one or two months since they had lost their

properties and living places. The unexpected flooding on seasonal paddy caused increased price for the rice in the local market. This affected a slightly induced famine in that area. Most of the households consume rice as the main food during their feeding times in a whole day. The same effect was observed during the times of sudden pest and diseases attacks on paddy farming. This caused burden on paddy farmers with increased cost paid on pesticides. The worldwide oil price shock also affected paddy farming with increasing fertilizer cost and fishing using engine boats. The world wide shock of bird flu also caused stress among chicken producers. Chicken rearing was the apparent livestock production activity of this studied sample.

In this study, some other views of the vulnerability context were detailed by focussing on the people's vignettes based on their livelihood experiences at household level on their various kinds of coping strategies and at the another point, where households' shocks were described.

Every type of livelihood strategies were surrounded by vulnerability context. These conditions were differing according to the type of livelihood strategy as well. There was also dependency between farm employment and non-farm employment types (e.g. after rice harvesting people start new construction activities). These conditions affected each other.

While the lower levels of asset based variable status such as gender differences and household type differences were also indicated the differences in vulnerability context between the defined stratas. According to the results, female headed households were more vulnerable than male headed. Household type two (Subsistence) is more vulnerable than household type one (partially commercialized). Households went through various coping strategies to overcome these effects.

### 5.11 Summary of this chapter

This chapter identified the economic situations of the studied sample in terms of adopted livelihood strategies, livelihood assets status, vulnerability, coping strategies, income distribution, food sufficiency, income sufficiency, subsistence and commercialized nature of households and the relationships among them and gender differences by livelihood strategies and assets owned.

The results represent stratifications based on measures of above mentioned analysis. It leads to identification of development measures for the poor one who lacked different aspects in relation to the important measures of economic security (poverty).