

Chapter 3

Research Methods

3.1 Selection of study area

The district as a study area was selected purposively. The district comprises 47 Village Development Committees and three Municipalities. Consultation with District Agricultural Development Office first, five Village Development Committees i.e. Chakchaki, Anarmani, Charpane, Garamani and Dangibari were selected purposively to ensure the equal representation of samples. Each village development committee consists of nine *wards*. Then, random sampling method was used to select the *ward* and households.

There are two major population types in the district i.e., hill migrated and local communities. The hill migrated community was originally from the eastern hill of the country and migrated in the district before 15-20 years. The people of this community include both Indo-Nepalese (*Brahmans* and *Chhetris*) and Tibeto-Nepalese (*Rai*, *Limbu*, *Gurung*, *Magar*, *Tamang* etc). The people of local community are the original dwellers of the district and have been living since ancient time. The indigenous Nepalese, which comprises of tribal communities, such as the *Dhimal*, *Meche* and *Rajbanshmni* fall in this category. These two communities do not differ from each other in term of farming practices i.e. they grow same types of crops and keep animals. Though, both the communities are from the same religion, socially and culturally they differ greatly. The hill migrated people are thought to be more progressive in term of education, technology adoption, participation in social and political activities. The status of women of hill migrated community is thought relatively better than that of local community women.

3.2 Conceptual Framework

The gender analysis framework has three parts and was carried out in two main steps. First, information was collected for the Activity Profile and the Access and Control Profile. Then this information was used in the analysis of factors and trends influencing activities and access and control of the production resources.

3.2.1 Activity profile

The workload of the target group at all stages of the farming process was assessed. For assessing the workload of men and women following questions were asked.

- Who does what?
- Where do men and women work?
- When do men and women work and for how long?

3.2.2. Access and control profile

The situation of access and control of the production resources, decision making in utilizing these resources, causes that constraints the access and control of production resources and benefits and incentives in the household, was assessed by asking different related questions.

Resources and Constraints

- Who has access to and control over production resources, such as land, capital, and extension services?
- What are the causes of lack of control over or access to productive resources?
- Which decisions in the agricultural household do men and women typically make?

Benefits and Incentives

- Who controls production in the agricultural household?
- Who receives wages and benefits from production?
- Who markets farm and household produce?
- Who controls income from different sources-who decides who gets what in the agricultural household, and who receives the income?

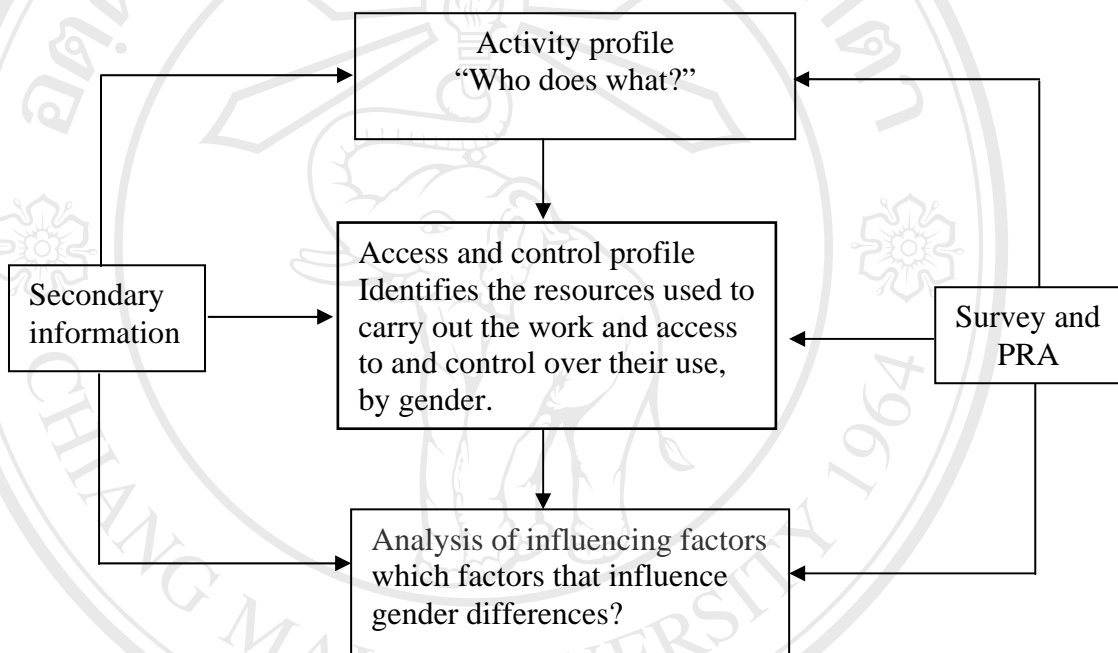


Figure 3.1: Conceptual framework for gender analysis.

3.3 Data collection

3.3.1 Primary Data

Participatory rural appraisal (PRA)

Participatory Rural Appraisal (PRA) method was employed to collect the information with the help of DADO, Jhapa staff. PRA is an exercise in communication and transfer of knowledge. The following PRA tools were used to gather the information.

Seasonal calendar: A sub-group of six people (three male and three female) was asked to make seasonality of workload of women and men and gender division of labor.

Daily activity schedule: Daily activity schedule exercise was executed to identify daily patterns of activity based on gender division of labor on an hourly basis to understand how busy women and men in a day, how long they work and when they have spare time for social and development activities. The list of activities and time spent in each activity was summarized and cross checked by participant observation method.

Resource analysis: In this case also a sub-group comprising three men and three women was told to make different resources owned by gender in the household to indicate access to and control over resources by gender.

Conceptual mapping: This is the diagrammatic way to present the problems Concept mapping usually emphasizes inclusion of the relationship between elements (Chambers, Robert. 1981). Each sub-group of four people (two men and two women) was involved to construct concept mapping of the factors that hinders the access on and control over the land, credit, agricultural extension and family income. This was cross checked by participant observation method.

Semi-structured interviews with key informants: This is guided interviewing and listening in which some predetermined questions and topics were prepared. The informal and conversational interviews were carried out with school teachers, women social workers and chairmen of women groups. The interviewing method was informal but it was actually controlled and structured using guide or checklist.

Group discussion: Group discussions, each from hill migrated community, local community and one from mix group representing equal number of male and female were conducted. In those group discussion different issues such as gender division of labor, workload, access and control of productive resources and benefits, decision roles, existing policies and programs regarding women, different factors that restrict

women's participation and access on resources and benefits etc. were discussed extensively. The results from the above focus group discussions were also put on the discussion forum for validation and further improvement.

Formal surveys

In addition to the PRA, formal survey was carried out to complement, and confirm PRA findings and generate some quantitative data and information, which the PRA was not likely to generate. For the formal survey, structured questionnaires were constructed. Before launching the actual survey, questionnaires were tested for accuracy with five female respondents and corrections and adjustments were made.

Sampling technique: For sampling, a two-way stratified random sampling technique (Cochran, 1977) was used to select households. As described above there are hill migrated and local communities in the study area. Based on the social settings and cultural differences, following social strata were considered.

- Hill migrated community
- Local community

The economic classes rich, medium and poor were considered as other strata. The farm family with land holding less than one hectare and food sufficient for 8-10 months, farm family with land holding 1-3 hectares and food just sufficient for one year and farm family with land holding more than 3 hectare and surplus grain for sale, were considered as poor, medium and rich farmers respectively (District Agricultural Development, Jhapa). Then, economic status was considered as other strata. Then, the households in each randomly selected ward were categorized in to six groups as

- Hill migrated-poor
- Hill migrated-medium
- Hill migrated- rich
- Local-poor
- Local-medium
- Local-rich

List of the households in each group were prepared. Then, 60 households consisting five from each of the hill migrated- rich and local-rich; 10 from each hill migrated-medium and local-medium; and 15 from each of the hill migrated-poor and local-poor were selected for the survey. The pre-tested structured questionnaires were used to collect the information about demography, workload, decision making in different activities of agricultural production and household works. The data on land and land holding, access and control of resources, both farm and off-farm income and expenditure and problem and constraints were also gathered by questionnaire survey. The interview was also carried out with male head of the family to avoid bias and to get reliable information.

3.3.2 Secondary data

To have better knowledge on study site and issues of the district, various published sources were used as information sources. The secondary data such as geographical location, climate and weather, land and land area, demography, education infrastructure and services etc. were collected from the District Agricultural Development Office, District Development Committee, District Education office Village Development Committee, and Women Development Office. Information on the agricultural credit, agricultural policies related to women were collected from the Ministry of Agriculture and Co-operatives, Agricultural Development Bank, District development committee. Different necessary statistical information was collected from related governmental and non-governmental organizations.

3.4 Data Analysis

Descriptive statistics were used to analyze and describe the data on workload, decision making, land and land holding, income and expenditures. The data on labor use in crop and vegetable and animal production, land ownership income distribution etc. were analyzed through the mean test of difference using “t-test”.

Hypothesis

$$H_0: (\mu_1 - \mu_2) = 0$$

$$H_1: (\mu_1 - \mu_2) \neq 0$$

$$t = \frac{\bar{X}_1 - \bar{X}_2}{Sp \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where,

t is calculated t-value.

\bar{X}_1 and \bar{X}_2 are two sample means

Sp is the pooled variance.

n_1 and n_2 are number of observations for first and second sample respectively.

$$\bar{X}_1 = \frac{1}{n_1} \sum_{i=1}^{n_1} X_i \quad \bar{X}_2 = \frac{1}{n_2} \sum_{i=1}^{n_2} X_i$$

$$S_1 = \sqrt{\frac{\sum_{i=1}^n (X_1 - \bar{X}_1)^2}{n_1}} \quad S_2 = \sqrt{\frac{\sum_{i=1}^n (X_2 - \bar{X}_2)^2}{n_2}}$$

$$Sp^2 = \frac{(n_1 - 1) S_1^2 + (n_2 - 1) S_2^2}{(n_1 + n_2 - 2)}$$

Where,

S_1 and S_2 are the standard deviations of the two populations.

After estimating the t-value, the tabulated t-value (t_α) was taken from the t-probability distribution table at $\alpha = 0.05$ levels and degree of freedom ($n_1 + n_2 - 2$). If critical t-value (t_α) is smaller than the calculated t-value then the H_0 is rejected and H_1 is accepted.