

CHAPTER - III

DATA SOURCES AND METHODOLOGY

Methodology is a systematic analysis of the methods applied to a field of study, or a theoretical analysis of the body of methods and principles associated with a branch of knowledge. It typically encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques (Ishak and Alias 2005). In this chapter, an attempt has been made to evaluate and explain the various methods, procedures and concepts used in the present study in order to answer the research problem in question. The data for the study were collected for the year 2011-2012 from Nawanshahr and Gurdaspur district of Punjab state. The main focus of this exploration has been to examine the household decision making pattern of rural, urban, working and non-working women. Detailed depictions of methods, procedures and concepts followed in carrying out the research have been furnished under the following heads:

3.1 SELECTION OF STUDY AREA

The present study has been carried out in Nawanshahr and Gurdaspur district of Punjab. These districts were selected on the basis of female work participation rate (FWPR) as shown by the 2001 census, as Nawanshahr district had highest female work participation rate i.e. 33.2 per cent and Gurdaspur district had the lowest female work participation rate i.e. 13.1 per cent. Further, Balachor tehsil (FWPR 37.8 per cent) from Nawanshahr district and Dera Baba Nanak tehsil (FWPR 14.5 per cent) from Gurdaspur district were chosen as female work participation was highest in these two tehsils when compared to other tehsils of these two districts.

3.2 SAMPLING PROCEDURE

Random sampling and multi-stage sampling techniques were adopted for selecting villages, towns and respondents. The details are
3.2.1 Selection of Villages and Towns

Two villages and one town from each selected tehsil were chosen for the present study. Bhaddi village, Garhi Kanungoan village and Balachor town were selected from Balachor tehsil. Whereas, Shahpurjajan village, Talwandirama village and Dera Baba Nanak town were selected from Dera Baba Nanak tehsil.

3.2.2 Selection of Respondents

A total of 300 married respondents including 50 respondents from each chosen village and town were selected. These 50 respondents include 25 working and 25 non-working women. On the basis of rural-urban divide 200 rural and 100 urban respondents were selected, and on the basis of working and non-working criteria, 150 working and 150 non-working respondents were selected.

3.3 INSTRUMENTS FOR DATA COLLECTION

The data were collected with the help of interview schedule. The method of forming and administering the interview schedule or questionnaire is explained below.

3.3.1 Formation of Interview Schedule or Questionnaire

An interview schedule or questionnaire was formed by referring to the relevant literature in consultation with the experts in the field. The schedule was divided in two parts. First part was designed to study the socio-economic condition of the respondents. Second part was designed to know the decision making pattern of the respondents in household activities.

3.3.2 Administration of Interview Schedule or Questionnaire

Required data were collected by adopting personal interview method using the final interview schedule. The respondents were contacted individually at their home or work place.
3.4 ENUMERATION OF VARIABLES

3.4.1 Dependent Variable

Decision making pattern of respondents has been considered as dependent variable. In the study to identify the decision making role, 15 areas of women's involvement in household decision making have been considered. These decisions are broadly divided into economic, social and political decision. These are grouped as follows:

**Economic Decisions**
1. Control Over Own Earnings
2. Use Pattern of Husband Income
3. Monthly Expenditure
   a. Purchase of Food Items
      i. Purchase of cereals and pulses
      ii. Purchase of vegetables and fruits
      iii. Purchase of milk and milk products
      iv. Purchase of confectionery and packed food
   b. Purchase of Non-Food Items
      i. Purchase of soap and detergents
      ii. Purchase of cosmetics
   c. Expenditure on domestic servants
4. Seasonal Expenditure
   i. Purchase of clothes and shoes
   ii. Purchase of curtains and home decorations
   iii. Repair and maintenance of house
   iv. Trips and vacations
5. Expenditure on Expensive Consumer Items (T.V, vehicles etc.)
6. Decision About Saving, Investment and Borrowing
7. Decision About Sale and Purchase of Land

**Social Decisions**
8. Decision About Agricultural Activities.
9. Decision About Cattle Rearing Activities
10. Decision About Children's Education
11. Decision About Children’s Marriage
12. Decision About Social and Religious Activities
13. Decision About Family Health
14. Decision About Own Marriage

**Political Decision**
15. Decision About Casting of Vote.

### 3.4.2 Independent Variables

Independent variables are those variables which influence the dependent variables. Several independent variables in the study were identified by review of literature and discussion with knowledgeable people. The 12 selected variables are:

1. **Age of respondent**
   
   Age is a period or state of human life (Collins dictionary). The age of respondents, i.e. number of years completed at the time of interview, was considered and basis of age the respondents have been divided into five groups: 18-25 years, 26-35 years, 36-45 years, 46-55 years, 55+ years.

2. **Education level of respondent**
   
   Education is the wealth of knowledge acquired by an individual after studying particular subject matters or experiencing life lessons that provide an understanding of something (Business Dictionary). According to education, respondents have been grouped into six categories: Illiterate, Primary, Matric, Higher Secondary, Graduation, and Post Graduation.

3. **Religion of respondent**
   
   Religion is human beings’ relation to that which they regard as holy, sacred, spiritual, or divine (Encyclopedia Britannica, 2006). The respondents have been grouped into three classes: Hindu, Sikh and Christian.

4. **Caste of respondent**
   
   Caste is any social class or system based on such distinctions as heredity, rank, wealth, profession etc. (Collins dictionary). The
respondents have been grouped into three classes on the basis of caste: General, Scheduled Caste/Scheduled Tribes (SC/ST), Backward Caste/Other Backward Caste (BC/OBC).

5. **Occupation of respondent**

   Occupation is an activity that serves as one's regular source of livelihood (The American Heritage Dictionary of the English Language, 2006). On the basis of occupation, the respondents have been grouped into four classes: I- Service, II- Self-employed, III- Labour, IV- Others (pensioners, wood collectors etc.).

6. **Income of respondent**

   Income is the monetary payment received for goods or services, or from other sources, as rents or investments (TheFreeDictionary.com). The respondents have been grouped into four classes on the basis of income they earned: 0- 2000, 2001-5000, 5001-15000, 15001+.

7. **Family type**

   Basically, family is a group of people who share a legal bond or a blood bond. The respondents have been categorized based on the type of family they belonged i.e. the joint family or the nuclear family.

   **Nuclear family:** Also called a conjugal family, in such a family parents and their children live in the same residence and share the closest bonds.

   **Joint family:** This type of family includes all relatives in close proximity, such as grandparents, aunts, uncles and cousins. In a family household that is extended, these relatives typically live together and all share daily household duties (familylovetoknow.com).

8. **Relation to head of family**

   An individual in one family setting who provides actual support and maintenance to one or more individuals who are related to him or her through adoption, blood, or marriage is the head of family (TheFreeDictionary.com). On the basis of relationship with the head of
family, respondents have been grouped into three classes: Wife, Daughter-in-law, and Mother.

9. **Education of husband**

   According to education level of respondent’s husband, the respondents have been divided into six classes: Illiterate, Primary, Matric, Higher Secondary, Graduation, and Post Graduation.

10. **Occupation of husband**

   According to the work or occupation of the respondents’ husbands, respondents have been grouped into five classes: I-Agriculture, II-Service (Govt. & Pvt.), III-Self-employed (Carpenter, Mason, Businessman, Shopkeeper), IV-Labour, V-Others (Pensioner, NRI etc.).

11. **Income of husband**

   Respondents have been grouped into four classes based on the income earned by their husbands. These are 0 - 5000, 5001-15000, 15001-25000, 25001+.

12. **Per capita household monthly income**

   Per capita household monthly income is the total gross monthly household income divided by the total number of family members in the household. Respondents have been divided into four classes on the basis of per capita monthly income: 0-500, 501-1500, 1501-3000, 3001+.

3.5 **ANALYTICAL FRAMEWORK**

   To meet the set objectives of the present study, tabular techniques have been employed to analyze the data. These tabular techniques were used to further workout averages, percentages etc. to figure out women involvement in household decision making.

3.5.1 **Decision Making Index**

   In order to get clear view of women's involvement in decision making, an index has been constructed assigning a higher weightage
where women involvement was more and lower weightage where women involvement was less. Two types of scales have been used, one is 3 points scale and other is 4 points scale. For decisions like control over own income and decision about own marriage 3 point scale has been used and for the rest 13 decisions 4 point scale has been used.

(a) **For 3 point scale scoring has been done as follows:**
- Decision by respondent- No or Marginal involvement- Score 0 has been assigned
- Decision by respondent- Partial or Joint involvement- Score .5 has been assigned
- Decision by respondent- Independently- Score 1 has been assigned

(b) **For 4 point scale scoring has been done as follows:**
- Decision by respondent- No or Marginal involvement- Score 0-25 has been assigned
- Decision by respondent- Partial involvement- Score .25-.50 has been assigned
- Decision by respondent- Effective involvement- Score .50-.75 has been assigned
- Decision by respondent- Highly effective involvement- Score .75-1 has been assigned

### 3.5.2 Women Empowerment Index (WEI)

Women Empowerment Index (WEI) is a composite index reflecting the mean score of women decision making power in household matters. For fulfilling the requirements of Women Empowerment Index (WEI), mean scores of each group of respondents in case of each decisions have been calculated and from these mean scores weighted mean scores have been calculated. Finally, these weighted mean scores have been treated as Women Empowerment Index (WEI).
3.6 STATISTICAL TOOLS USED IN THE STUDY

The collected data have been scored and tabulated, and for getting better results several statistical techniques were used. These techniques helped in interpreting the findings pertaining to constraints of working, non-working, rural and urban women in household decision making.

3.6.1 Percentages

Percentages have been calculated and used in comparing socio-economic and demographic profile of rural, urban, working, non-working respondents.

3.6.2 Test of Significance

To test the statistical significance of the results, two statistical tests have been used:

(a) The t-test: The t-test was developed by a statistician, W.S. Gossett (1878-1937) who worked in a brewery in Dublin, Ireland. The t-test is a statistical tool used to infer differences between small samples based on means and standard deviation (Wikipedia). This can be calculated manually and on computer using SPSS program. For manual purpose following formula is used

\[ t = \frac{\bar{x}_1 - \bar{x}_2}{\text{S.E.}} \]

\[ \text{S.E.} = \sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}} \]

Where: \( \bar{x}_1 \) is mean of first sample, \( \bar{x}_2 \) is mean of second sample, S.E. is standard error, \( \sigma_1 \) is standard deviation of first sample, \( \sigma_2 \) is standard deviation of the second sample, \( N_1 \) is number of elements in the first sample, \( N_2 \) is number of elements in the second sample.

For calculating t-test on computer using SPSS program, firstly data were arranged in specified manner then analysis
option was chosen and further t-test assuming equal variances was opted.

After the calculation, t-values of rural and urban as well as working and non-working respondents were compared with t-table values, at 5 per cent level of significance. When the calculated t-value was found to be smaller than the table value then no statistical significance was attributed to the difference observed in the mean values. Further, if the calculated t-value was found to be greater than the table value, than the difference observed in the mean values for the various groups was statistically significant.

(b) The F-test (ANOVA): The name was coined by George W. Snedecor, in honor of Sir Ronald A. Fisher. Fisher initially developed the statistic as the variance ratio in the 1920s. ANOVA is used to compare differences of means among more than 2 groups. It does this by looking at variation in the data and where that variation is found (hence its name). Specifically, ANOVA compares the amount of variation between groups with the amount of variation within groups. It can be used for both observational and experimental studies. The formula for the one-way ANOVA F-test statistic manually is:

\[ F = \frac{\text{explained variance}}{\text{unexplained variance}}. \]

or

\[ F = \frac{\text{between-group variability}}{\text{within-group variability}}. \]

The "explained variance", or "between-group variability" is

\[ \sum_i n_i (\bar{Y}_i - \bar{Y})^2 / (K - 1) \]

where \( \bar{Y}_i \) denotes the sample mean in the \( i \)th group, \( n_i \) is the number of observations in the \( i \)th group, \( \bar{Y} \) denotes the overall mean of the data, and \( K \) denotes the number of groups.

The "unexplained variance" or "within-group variability" is
\[ \sum_{ij} (Y_{ij} - \bar{Y}_i)^2 / (N - K), \]

where \( Y_{ij} \) is the \( j^{th} \) observation in the \( i^{th} \) group out of total \( K \) groups and \( N \) is the overall sample size. The statistic will be large if the between-group variability is large relative to the within-group variability, which is unlikely to happen if the population means of the groups all have the same value.

For calculating F-test on computer with help of SPSS program, firstly data were arranged in a specified manner and then data analysis option was chosen, further ANOVA: single factor option is chosen and final result is out. These values were then used for observing the significant impact of independent variables on dependent variables.

### 3.7 Some Other Concepts

**Activity status:** It is the activity situation in which a person is found during the reference period with regard to the person’s participation in economic and non-economic activities. According to this, a person could be in one or a combination of the following three broad activity statuses during a reference period:

(i) working or being engaged in economic activity (work) as defined above,

(ii) being not engaged in economic activity (work) but either making tangible efforts to seek ‘work’ or being available for ‘work’ if ‘work’ is available and

(iii) being not engaged in any economic activity (work) and also not available for ‘work’. (NSS 66th round)

**Asset:** A resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit. ([http://www.investopedia.com/terms/a/asset.asp](http://www.investopedia.com/terms/a/asset.asp))

**Physical Asset:** An item of economic, commercial or exchange value that has a tangible or material existence. For most businesses, physical assets usually refer to cash, equipment, inventory and
properties owned by the business. Physical assets are the opposite of intangible assets, which are non-physical assets such as leases, computer programs or agreements. (http://www.investopedia.com/terms/p/physicalasset.asp)

**Financial Asset:** An asset that derives value because of a contractual claim. Stocks, bonds, bank deposits, and the like are all examples of financial assets. (http://www.investopedia.com/terms/f/financialasset.asp)

**House:** Every structure, tent, shelter, etc. is a house irrespective of its use. It may be used for residential or non-residential purpose or both or even may be vacant. (NSS 61st Round)

**Pucca structure:** A pucca structure is one whose walls and roofs are made of pucca materials such as cement, concrete, oven burnt bricks, hollow cement / ash bricks, stone, stone blocks, jack boards (cement plastered reeds), iron, zinc or other metal sheets, timber, tiles, slate, corrugated iron, asbestos cement sheet, veneer, plywood, artificial wood of synthetic material and poly vinyl chloride (PVC) material. (NSS 61st Round)

**Katcha structure:** A structure which has walls and roof made of non-pucca materials is regarded as a katcha structure. Non-pucca materials include unburnt bricks, bamboo, mud, grass, leaves, reeds, thatch, etc. (NSS 61st Round)

**Household:** A group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood or marriage to one another. (NSS 66th round)

**Household income:** Household income is a measure of the combined incomes of all people sharing a particular household or place of residence. It includes every form of income, e.g., salaries and wages, retirement income, near money government transfers like food stamps, and investment gains. (http://en.wikipedia.org/wiki/Household_income)
**Self-employed:** Persons who operated their own farm or non-farm enterprises or were engaged independently in a profession or trade on own-account or with one or a few partners are deemed to be self-employed in household enterprises. The essential feature of the self-employed people is that they have autonomy (decide how, where and when to produce) and economic independence (in respect of choice of market, scale of operation and finance) for carrying out their operation. The remuneration of the self-employed consists of a non-separable combination of two parts: a reward for their labour and profit of their enterprise. The combined remuneration is wholly determined by the revenue from sales after netting out value of purchased inputs used in production (NSS 66th Round).