CHAPTER THREE

RESEARCH METHODOLOGY

The chapter has described about the data collection and analysis process. The research approach, research design, sampling design, data collection strategies and data analysis are also described in details.

3.1 Research Approach

The study is based on the deductive approach following the ideas of 'Diffusion Model'. It is also known as the reductionist approach because the study had adopted the theoretical guideline of existing theory and the ideas were deducted into operational variable to test the theory. It is also the process of theory testing. The nature of data was dominated by the quantitative approach because the larger population of small holders was sampled for the structured survey. The data are in nominal and ordinal scale and which are converted into numbers by using the SPSS (statistical software). The research hypotheses were tested by quantitative data.

3.2 Research Design

The study was descriptive and analytic since it had aimed to describe the dynamics of organic agriculture in Nepalese context and the socio-economic status of organic farmers. The study had been conducted under the frame work of descriptive as well as exploratory research design. This research design needed to result in a data repository sufficient to answer three research questions posed by the study:

1. How Organic Agriculture effects in the changes of socio-economic status of farmers who are involved in organic farming?
2. What are the opportunities and challenges of Organic farming to the small farmers in developing countries like Nepal?

3. How does organic farming sustain for long run in Nepal?

Two facets characterize the research design: Mixed method (quantitative - household survey & qualitative - key informants’ interview & observation) and model building. The following sections discuss these facets in more detail.

3.2.1 Mixed method

The study was based on the mixed method. As mixed method research has grown in practice and recognition, the combination of quantitative and qualitative strategies has required new thinking about the theoretical basis for integrative research. Greene and Caracelli (1997) have highlighted a number of purposes or justifications for mixing methods. These include the following: to test the consistency of findings obtained through different instruments, to clarify and build on the results of one method with another, and to show how the results from one method shape subsequent methods or research decisions (Wheeldon, 2010, p. 88).

According to the Creswell & Plano Clark, there are six major types of mixed method designs; i) The convergent parallel design, ii) explanatory sequential design, iii) exploratory sequential design, iv) The embedded design, v) The transformative design and f) The multiphase design (2011, pp. 69-70).

The study had adopted the convergent parallel design. Creswell & Plano Clark explained that the convergent parallel design occurs when the researchers' uses concurrent timing to implement the quantitative and qualitative strands during the same phase of the research process, prioritizes the methods equally, and keeps the strands independent during analysis and then mixes the results during the overall...
interpretation. Because of the limitation of time and budget, the study had administered both types of data collection instruments in the same time following the argument of Creswell and Plano Clark.

3.2.2 Model building

The second facet of the research design was that of model building – sustainability of organic farming in Nepalese context. The systems–theoretic preliminary conceptual framework introduced in Chapter 1 guided the initial stages of the research by identifying a framework for what was in scope of the case as well as reflecting the researcher’s previous experience and knowledge, theoretical backing and sources of primary data to develop the standards of sustainable model of organic farming. To reiterate from Chapter 1, a model is an “explicit interpretation of one’s understanding of a situation, or merely of one’s ideas about that situation” and a “description of entities and the relationships between them” (Wilson, 1984, p. 8).

The model provided a strategic framework for developing the sustainability model of organic farming. The framework was developed on the basis of collection of primary data from the structured household survey, key informant’s interview and participant observation adopting the deductive research. The model comprised the concepts such as inputs, processes and outputs that the researcher explored in data collection. The model oriented the researcher, at least initially, towards inclusion and openness to discovering what data to collect rather than setting out limits and exclusions on what to attend or collect. Patton (1990, p. 218) points out, however, that the researcher “does not enter the field with a completely blank slate” and that “some way of organizing the complexity of reality is necessary.” He suggests that sensitizing concepts serve such a purpose by providing a “basic framework
highlighting the importance of certain kinds of events, activities, and behaviors” (Patton, 1990, p. 216).

The study did not have a goal of developing a generalizable or predictive model of sustainability framework of organic farming in other cultural context than Nepal. The study was an exercise in developing a descriptive model that would adequately represent situation of organic farming and its need of sustainability in Nepal. Wilson suggests that a model may be prescriptive or illustrative, “but above all, it must be useful” (p. 8). For this study, the sustainable model presented in Chapters 4 is a conceptual step forward in gaining a holistic understanding of sustainability of organic agriculture. The model is grounded in the study’s data and improves upon the descriptive power as a preliminary model.

Throughout this study, the goals of exploration and description took precedence over hypothesis testing and model building. The results of the model building, however, lay the groundwork for subsequent research in development of standards of sustainability framework. The framework discussed in Chapters 4 highlights the roles and responsibilities of all concerned stakeholders to sustain the organic agriculture and support to develop the Government policy of sustainability framework.

### 3.3 Sampling design

This study adopted the Mixed Method so it had applied multiphase sampling design. In the first phase, total districts were identified where farmers were involved in the organic farming. From that list, purposively four districts namely Kathmandu, Lalitpur, Bhaktpur and Dhading were selected because Kathmandu Valley (Kathmandu, Lalaitpur & Bhaktpur) districts come under the capital city of Nepal
where demand is high and Dhading district is closer to the capital city which supplies agricultural products to the capital city. In the second phase, purposively, farmers were identified from the selected districts on the basis of name list provided by the respective District Agricultural Development Office.

### 3.3.1 Universe and Sample Size

The study was carried out in Kathmandu valley (Kathmandu, Bhaktapur and Lalitpur) and Dhading district. It was assumed that the selected respondents had represented most of the organic producers and belonging to different socio-economic background.

Sample size was calculated according to the below sample calculation formula:

For questionnaires survey, sample size is drawn by using the following sampling formula:

\[ n_0 = \frac{Z^2pq}{e^2} \]

**Equation 1**

\( n_0 \) = is the sample size,

\( Z^2 \) = desired confidence level which is 95% confidence level (the value is 1.96),

\( e \) = is the desired level of precision or the proportion of error the study has taken ±5% precision or proportion of error,

\( p \) = is the estimated proportion of an attribute that presents in the population/prevalence/variability which is assumed p=.5 (maximum variability).

\( q = 1 - p \).
The resulting sample size is demonstrated in Equation 2.

\[ n_o = \frac{Z^2 pq}{e^2} = \frac{(1.96)^2 \times (0.5) \times (0.5)}{(0.05)^2} = 385 \]

Basic sample size = 385*1.5 design effect = 578

The basic sample size = 578.

The data was collected from the different geographic setting of organic farmers which may have different language and culture that may effect on the face validity of research instruments. The study has collected the data from 600 farmers to manage the non-response and error-response. Out of 600 questions, 586 question was returned with complete response which was tested its internal consistency and reliability through the SPSS (statistical software). The Cronbach’s Alpha test was done to ensure the reliability of data which is found 96% reliability value. So considering the quality of data, the study took the 586 farmers as the final sample size for further analysis of data.

### 3.3.2 Geographic coverage of sample

The social characteristics of study areas are seen heterogeneous because of the inclusion of all types of caste and ethnicities. As the census 2011 data published by the Central Bureau of Statistics of Nepal, Brahmin, Chhetri, Newar and Tamang were seen as the major top four castes in study areas. The Social Characteristics of population in study areas was shown as below:

<table>
<thead>
<tr>
<th>District wise top 3 castes</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kathmandu – Total</td>
<td>1744240</td>
<td>913,001</td>
<td>831,239</td>
</tr>
<tr>
<td>Brahmin</td>
<td>410,126</td>
<td>218,215</td>
<td>191,911</td>
</tr>
<tr>
<td>Chhetri</td>
<td>347,754</td>
<td>181,778</td>
<td>165,976</td>
</tr>
</tbody>
</table>
The study had considered the social characteristics of population during the distribution of sample. As the objective of study, a main criterion of sample distribution was to identify the persons involved in organic agriculture. So, the total sample size of this study was distributed among Vegetable farming, Coffee farming and others (e.g. fruits, spices). The sample was collected from the 4 districts on the basis of distribution of organic farming practices. Similarly, maximum coffee farming and other types of organic farming practice is found in Central development region. Besides that, qualitative data were collected through key informants' interviews with agricultural researcher & scientist, farmers & entrepreneurs of organic farming, agro activists & agro-politicians, government authorities and policy makers.

<table>
<thead>
<tr>
<th>Districts</th>
<th>Types of Respondents</th>
<th>Gender</th>
<th>Caste/ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Kathmandu</td>
<td>Farmers</td>
<td>29</td>
<td>21</td>
</tr>
</tbody>
</table>

**Source:** (Central Bureau of Statistics, February, 2014)
### Sample distribution for Key informants Interview (5% of total sample) = 28

<table>
<thead>
<tr>
<th>Kathmandu, Lalitpur, Bhaktpur and Dhading</th>
<th>Types of Respondents</th>
<th>No. of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agricultural Researcher / Scientists</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Farmers / Entrepreneurs of organic farming</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Agro Activists / Agro-Politicians</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Government Authorities</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Policy Makers</td>
<td>3</td>
</tr>
</tbody>
</table>

The sample distribution was 25% from each district; it means 147 farmers from each of the four Districts. In the process of sample collection, farmers were contacted by mobile phone and through the farmer to farmer and requested to participate in the study. Ethically, participation of farmer was voluntary and there was no provision of incentives, as well as there was sampling filter criteria that Organic farmers should have at least 3 years of experiences of organic agriculture. Considering these ethical aspects and sampling criteria, study could not make the participation of proposed sample (25%) from Kathmandu and Bhaktpur Districts. So, to meet the required total sample size, the study increased the number of farmers from Lalitpur and Dhading districts because the numbers of organic farmers were higher in Lalitpur and Dhading districts in comparison to Kathmandu and Bhaktpur. Many farmers of Kathmandu and Bhaktpur districts had not come in contact as the number given by the respective District Agriculture Office. Some of farmers were found in the phase of conversion from inorganic to organic through the IMP system. Some of the farmers were found severely affected from the great earthquake of 25
April, 2015 who were busy for their re-settlement. So, these were the reasons that affect in the equal participation of farmers from the selected districts.

3.3.3 Sampling Process

Purposive sampling technique was applied to select the respondents because the practice of organic farming is found very less so study should explore the proper respondents very purposively. The household head that regularly involved in farming and took decision about its farming/production, marketing and selling were asked the questions.

The researcher visited the field to know the situation of organic agriculture then visited District Agriculture Development Offices, Non-governmental organizations and organic farming certification center to know the number of farmers involved in organic agriculture. After collecting the name list of farmers, they were called by phone and took their time and permission to collect the information. Voluntarily, farmers were requested to participate in the study. As far as possible, gender balanced was also considered in study. Nepalese society is male-dominated so most of the household heads were male while females were not encouraged to participate in interview. As a research ethics, the study could not force female for their active participation in study without permission of their family. Caste and ethnicity was also considered to know the involvement of different caste and their experiences of organic farming.

3.3.4 Sampling Filters

These areas are some of the major organic products consuming and growing districts of Nepal. Moreover, these districts have a unique blend of land, soil and climate for organic production. Agricultural products in these districts are produced
by individual farmers as well as by a group of farmers by forming cooperative. The sampling unit consists of both individual farmer and cooperative. The sampling was carried out by following certain criteria. The respondents were selected by following:

- Year of experiences of doing organic farming, a minimum of 3 years of experience was considered for the study
- The study had selected only those farmers who had taken the organic farming training from private organizations, non-government and government sectors as well as those who had taken the informal orientation or practical training from the trained organic framers.
- Household head was selected for the interview that had good knowledge of costs and benefits of organic farming.

3.4 Sampling Strategy

A series of social survey methods was used. By applying participatory methods, opinion of local people regarding the impact of organic farming in socio-economic life of farmers was collected. Both the primary and secondary data were used for the study.

3.4.1 Nature and types of sample sources

The sample of this study was both qualitative and quantitative because the study design was based on mixed method. Quantitative data had given the numerical figure and qualitative information had provided the logic and reasons.

Sample was collected from the both primary and secondary sources. To define the ontology (nature of reality of this study) and epistemology (knowledge of this study), the study had used the secondary sources to collect the information. The
previous literatures were reviewed thoroughly and were cited properly by following the APA style. Similarly, the methodological design had ensured the tools, techniques and process to collect the data from the primary sources. Main findings of this study were based on the primary data. The following sub-headings define the tools for primary and secondary data.

3.4.2 Collection of primary data

The main effort of every research is to collect the primary data to justify the specific objectives. In this study, primary data were collected by using both quantitative and qualitative methods. There are various tools used to collect the primary data but because of the time limitation, nature of objectives and budget constraint the study was limited only in following tools:

**Structured questionnaires for household survey**

The main objective of this tool was to collect the practical and perceptual data from the small holders (farmers) who were involved in the organic farming. The data collected in this study focused to examine the effects of organic farming in the social, economic and the environment of farmers' community. It had generated the quantitative types of data thorough questionnaire survey. The survey questionnaires were close-ended which was converted into quantitative values and analyzed from the statistical software.

**Key-informant interview**

The study had administered open-ended questions to collect the opinion of key informants of organic farming. The checklist was prepared covering open-ended questions. Organic farmers, policy makers, government authorities, owners and staffs of organic farming industries were the main informants of key-informants’ interview.
The key informants' interviews allowed the researcher to “interact” with the data sources. The interviews allowed the researcher to hear from participants in the standards work and gain their understanding and interpretation of organic farming development. The researcher used the interviews to explore issues surrounding the development as well as gain a more complete understanding of some of the events documented in the primary source material.

The study had adopted the judgmental sampling technique to select the key informants for interview. The study had collected the name of potential key informants by consulting with concerned stakeholders of organic agriculture before selecting the respondents. From the list, study judged the most appropriate person who had detail knowledge and experiences of organic agriculture.

**Observation**

Observation is another key method that was applied for this study. Observation of all the study areas was carried out thoroughly during the survey and interview. Observation checklist was used for observation. The physical and institutional setting, working behavior, emotional reactions of respondents were observed during the observation. Cross-sectional participant's observation was done during the time of survey and key informants’ interviews.

From the experiences of field observation, it is felt that findings of participants' observation of physical setting became the most valuable information than the findings of survey and interview. The study physically observed the quality and process of production, market situation of products; storing, trademarks and transportation facilities from agricultural land to market. All these physical observation gave the valuable information of organic agriculture to draw the conclusion.
3.4.3 Collection of secondary data

Various literatures relevant to the Nepalese organic agriculture system published or unpublished in Nepal and elsewhere were reviewed for the collection of secondary data. The study collected and reviewed the literature of related organic production system and its management. The researcher visited libraries, e-library, online journals, and met concerned authorities to collect the research articles, reports, policies and other relevant documents.

The study has used thematic analysis and content analysis tools for the analysis of qualitative data. Content analysis has been used to analyze the content of printed documents; book, report, policies, newspapers etc. As the objective of this study, review of existing organic agriculture policies of Nepal Government was the most important. The study had collected the relevant policies and done the content analysis to come up with the conclusion of gap between the policies and practices.

The main objective of doing the content analysis of policies and thematic analysis of key informant was to collect the meaningful information to develop the sustainable model of organic agriculture in Nepalese context.

3.5 Formation of data collection instruments

Development of a valid and reliable questionnaire involves several steps taking considerable time. The study considered the sequential steps involved in the development and testing of questionnaires used for data collection. The study had taken the five sequential steps in questionnaire development and testing.

Step 1-Background

In this initial step, the research objectives, research questions, and hypotheses of the research were examined. Types of instruments were determined on the basis of
nature of respondents, their background, their educational/readability levels, access. Background information supported to prepare the variables and numbers of questions.

**Step 2--Questionnaire Conceptualization**

After developing a thorough understanding of the research, the next step was to generate statements/questions for the questionnaire. In this step, content (from literature/theoretical framework) was transformed into statements/questions. In addition, a link among the objectives of the study and their translation into content was established. The study had specified the unit of measurement that was knowledge, attitudes, perceptions, opinions, recalling facts, behaviour change, etc. Major variables (independent, dependent, and moderator variables) were also identified and defined in this step.

**Step 3--Format and Data Analysis**

In Step 3, the focus was on writing statements/questions, selection of appropriate scales of measurement, questionnaire layout, format, question ordering, font size, front and back cover, and proposed data analysis. Scales are devices used to quantify a subject's response on a particular variable. Understanding the relationship between the level of measurement and the appropriateness of data analysis is important. Nominal, ordinal and ration scales were used to develop the instruments.

**Step 4--Establishing Validity**

As a result of Steps 1-3, a draft questionnaire was ready for establishing validity. Validity is established using a panel of experts and a field test. The study had considered the content validity, construct validity, criterion validity, and face
validity to support the objectives of the study. The following questions were addressed in Step 4:

I. Is the questionnaire valid? In other words, is the questionnaire measuring what it is intended to measure?

II. Does it represent the content?

III. Is it appropriate for the sample/population?

IV. Is the questionnaire comprehensive enough to collect all the information needed to address the purpose and goals of the study?

V. Does the instrument look like a questionnaire?

Step 5--Establishing Reliability

In this final step, reliability of the questionnaire using a pilot test was carried out. The pilot test seeks to answer the question; does the questionnaire consistently measure whatever it measures?

3.6 Reliability and validity test of research instruments

Reliability and validity are two concepts that are important for defining and measuring bias and distortion of data collection instruments and collected data. It is known that research instruments should be valid and reliable to get the valid and reliable data or result. The study has tested the validity and reliability of research instruments to ensure the quality of data. Expert discussion, pre-testing of instruments and Cronbach’s Alpha Test are the major test done to ensure the quality.

3.6.1 Validity Test

Validity tests the quality of formation of instruments; whether it can measure the same thing which study intends to measure. The following process was adopted to test the validity and reliability of the research.
3.6.1.1 Panel of experts

Idea collection from the content expert and process export is the key process of ensuring the validity of instruments. Every academic research is guided by the research supervisor who is expert in content and process of research problem. So, the study first consults with the research supervisor to take advice to select the appropriate variable and statement for instruments. Experts provide the feedback on statement, variables and scales of instruments. The study had also consulted with expert for their opinion on preparation of research instruments. Field instruments were finalized following the process of validity test.

3.6.1.2 Translation-back-translation

Before visiting the field for piloting of instruments, the study checked the appropriateness of language. Language should be readable and understandable for the respondents. It is the understanding of research that the language of instruments should be in local language of respondents. So, the study had translated the instruments into local language and re-translated into English language. Consistency of words was checked between the initial English languages and re-translated English language of instruments. If there is similarity between the before and after translation then it is understood that the translation of local language is correct. In this study, language translation was done by language experts.

During the language translation, consideration was given to the local language and cultural practices.

3.6.2 Reliability Test

Research requires dependable measurement. Measurements are reliable to the extent that they are repeatable and that any random influence which tends to make measurements different from occasion to occasion or circumstance to
circumstance is a source of measurement error. According to Gay, reliability is the degree to which a test consistently measures whatever it measures. Errors of measurement that affect reliability are random errors and errors of measurement that affect validity are systematic or constant errors (Gay, 1987). Reliability indicates the accuracy or precision of the measuring instrument (Norland-Tilburg, 1990). Clarity test was used as a test for reliability. The pilot test of the questionnaires was carried out so as to assess the reliability of the questionnaires.

### 3.6.2.1 Pilot Study

Reliability test is done by doing the pilot testing of instruments. The result of pilot study had ensured the internal consistency of data. The study had conducted pilot test of instruments among the 10% of total sample size. The total sample size of study was 578 so around 60 households were selected for pilot study. The response given during the study and statistical analysis of data was considered for the revision of instruments. On the basis of feedback of pilot study, the final instrument was administered in the field.

### 3.6.2.2 Cronbach’s Alpha Test

Cronbach’s alpha was tested after collecting the data to ensure the reliability of instruments and internal consistency of data as the rules of Cronbach’s alpha test, if value of Cronbach’s alpha test is less than 0.6 (60%) then questionnaire should be reedited.

Regarding the Cronbach’s alpha value of the data of this study was as follow:

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>0.70</td>
</tr>
</tbody>
</table>
3.7 Data Management and Preparation for Analysis

Data collection resulted in the accumulation of a large amount of data from the quantitative and qualitative approaches. Both approaches were administered simultaneously so huge number of information was collected which was the challenges for study to manage in proper manner also. Quantitative data were collected through the structured survey from the larger numbers of organic farmers so initially all the questionnaires were re-visited to remove the incomplete and unreliable data. Then the questionnaires were coded in number to enter into SPSS (statistical software). More than 100 variables were developed in variable view of SPSS then original data was entered into the software. Before analysis of data, data were cleaned and reliability test was run to know the internal consistency of data by applying the Cronbach Alpha value. Finally, statistical tools were used to generate the data and test the hypothesis.

Similarly, the study had collected the qualitative data from the in-depth interviews. Managing the qualitative data was one of the challenges of study. A lot of information was generated in narrative form. Comparatively, qualitative data seems more complex than the quantitative data to manage and analyze. There are some major tasks to manage the qualitative data. Data collected during the research took a number of forms: transcripts of interviews, documents, summaries/abstracts of documents, and researcher memos. The majority of data was in machine-readable format (e.g., interviews will be tape recorded and then transcribed). Prior to formal analysis of the data, the researcher put in place several data management procedures to organize and stabilize the various types of data. For the key-informants interviews, the study recorded the majority of interviews and then transcribed the tape of each
interview. Although this was a time consuming process, the richness of many of the interviews warranted such an effort. For research such as undertaken in this study, (Lofland & Lofland, 1995, p. 88) suggest that “it is generally not necessary for you to transcribe every word, exclamation, or pause that occurs in an interview.... You do not need a verbatim transcription of everything the interviewee said...” The primary rule for transcription in this study was: transcribe and/or summarize the portions of the interview that are relevant to the research. The rule allowed the researcher flexibility in transcribing verbatim or summarizing sections of the interview. Verbatim transcription was essential to get the interviewees exact statement related to the situation of organic farming, its contribution, challenges and opportunity and need of sustainable model. The general rule allowed the researcher to determine the level of effort in the transcription based on a sense of what data would be useful in subsequent analysis. In some cases where interviewees did not want the conversation recorded, the researcher wrote up detailed notes of the interviewers as soon as possible after the interview was conducted. After the researcher transcribed the interviews, he stored these in database for subsequent analysis.

The secondary information was gathered from the various archival repositories consisted of journal articles, books, reports, policies, website documents prepared by various organizations and individuals. To the extent possible, the researcher made copies (electronic or paper) of relevant documents for study. If physical or e-copy was not allowed to copy then, the researcher summarized salient points from the document. The researcher created document inventory records in personal computer. These records contained a unique document identifier, date of the document, archival source, author of document, a short summary, and an
indication whether the research file contained a copy of the document. Content analysis was done to draw the conclusion of secondary literatures.

3.8 Analysis of Data

The analysis and interpretation of data are the most important parts of any research study. The quantitative data obtained from the field was edited, tabulated and finally analyzed through applied statistics and using an appropriate computer package, namely “Statistical Package for Social Sciences (SPSS)”, which facilitates the process of data analysis in a more precise and appropriate way. Statistical tools like Frequency table from Crosstab, mean, Chi-square and correlation test, ANOVA and Multiple comparison were used to test the research hypothesis for quantitative data. Similarly, qualitative data was analyzed by using the manual editing, transcribing and thematic analysis in narrative form. The qualitative data was used to justify the findings of quantitative data. The study was based on the mixed method dominated by the quantitative data so qualitative data were used to logically justify the quantitative data. Findings of both quantitative and qualitative were merged in conclusion of study.

3.9 Ethical consideration relevant to the study

To maintain the privacy of respondents, information, reliability and validity of data, researcher had followed the following techniques as research ethics during the study:

**Voluntary participation**

A basic principle of research is that people should not be coerced into participation, particularly when they might object to being a 'guinea pig'. So, selected organic farmers were requested for their voluntary participation in research study.
They were requested to give the detail information on the basis of their knowledge, experiences and practice of organic agriculture.

**Informed consent**

The study had collected the name list of farmers from the different concerned authorities. This is the age of communication and technology so all farmers were pre-informed through the telephone call and took their permission to visit them. They were already informed about the objectives of study and their participation. So, before starting interview with them, consent form was filled out to ensure their voluntary participation.

**Confidentiality**

The study had ensured the confidentiality of the information given by organic farmers during the time of field visit. The data collected from the field was not used in other purpose than this study and was also not shared with other stakeholders. The demographic information (basically name, address & contact no.) sheet of respondents and original data were not kept in single sheet so that nobody could recognize the personal information of farmers.

**Anonymity**

The respondents have authority to be anonymous also in study. In some cases, respondents do not want to disclose physically during or after the interview. In such situation, study collects the data through the telephone, emails or letter by post. This gives the person an even greater ability to sustain privacy, but such situation did not come during the research. All the organic farmers gave the face to face interview and shared their experiences in details.

**Chapter Summary**
This chapter has explained the various options available for the execution of the field research and the logic for the selection of the specific approach, strategy and methods applied in this research project.

In summary, the overall methodology was based on a pragmatism philosophy. It combined non-empirical and empirical approaches; is subjective rather than objective (having a high involvement by the researcher); is deductive in terms of theory testing. The study was based on deductive approach, as well as used the descriptive and exploratory design. Kathmandu, Lalitpur, Bhaktpur and Dhading districts were the study area and respondents were selected for the structure questionnaire survey from the organic agricultural farmers to generate the quantitative data. Besides that, qualitative data were collected through key informants' interview with agricultural researcher & scientist, farmers & entrepreneurs of organic farming, agro activists & agro-politicians, government authorities and policy makers. The respondents were selected by using the purposive sampling method. Sample size was drawn by using the sampling formula. Total sample size was 586 from the farmers and 28 from the key informants interview. Data and information were collected by using the concurrent mix methods when qualitative as well as quantitative methods were simultaneously used and critically finding was drawn from the both methods. Qualitative methods; employed the key informants interview and observation and quantitative method employed the survey (questionnaires). To test the reliability and validity of research instruments (questionnaires or checklist), questionnaires and checklists were sent to the expert and supervisor and on the basis of their comment, it was translated into local language and pilot study was conducted. On the basis of feedback and finding of pilot study, final instruments were prepared by necessary adjustment and correction.
Data were collected with the support of trained enumerators and collected data were analyzed by using computer software program (SPSS) for quantitative data and qualitative information was thematically analyzed and interpreted. Chi-square, ANOVA, Regression and cross tab were used to analyze to test the research hypothesis. The next chapter gives the details analysis of data and its interpretation.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

The chapter has analyzed the data on the basis of specific objective of this study. The main focus of this study was to identify the socio-economic impact of organic agriculture in the livelihood of farmers. In Nepalese context, agriculture is the backbone of development. Livelihood of general people is connected with the agriculture; it is the source of managing the basic needs. The chapter is divided into four main sections: I) demographic information of respondents, II) socio-economic changes of farmers after involvement in organic agriculture, III) Challenges and