

**PARTICIPATION OF WOMEN IN COMMERCIAL VEGETABLE  
FARMING:  
A Case Study of Bhimphedi VDC of Makawanpur District**

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# CHAPTER- I

## INTRODUCTION

### 1.1 Background of the Study

Nepal is predominantly an agricultural country where 78 percent population is still engaged on agriculture with 0.61 hectares of average land holding per family. The share of GDP of this sector till 2010/11 was 38.34 percent. Census of 2011 revealed that 48.50 percent of the total population was male, while the female comprised 51.50 percent of the population. Men owned 90 percent and women owned 10 percent of the private land in Nepal (CBS, 2012).

Agriculture (including forestry) in Nepal provides direct employment to six and a half million of the labour force which is four-fifths of total economically active population. Four and a half million labourers are self employed, and over two million work as wage laborers. Almost half of the wage workers are part-time workers, coming from marginal and small holdings. Another one million labourers are full time farm wage workers. These workers are landless and subsist on wage income. Out of every 10 full time wage workers, 7 work as casual workers, and 3 work under a permanent labour relationship generally interlinked with credit and land relationships (Sharma, 2010).

Over two-thirds of Nepal's labor force is engaged in agriculture. However, for many, with 80 percent of those below the poverty line depend on this sector for their living. Moreover the conflict is having a profound impact on the agricultural sector, as land owner are displaced to urban areas and agricultural production falls as consequence,

The National Living Standards Survey 2010/11 found that landholdings are becoming smaller having reduced from an average size of 1.1 hectares in 2003/04 to 0.8 hectares in 2010/11. Moreover, the quality of agricultural land, water and forest resources is diminishing, thus reducing food security. About 28 percent of Nepal's area is classified as cultivated land (Including grass land). The national cultivated landholding per capita in 2001 was 0.175 hectares. In the Terai, which has the greatest proportion of the population, the average per capita landholding in 2010 was 0.167

hectares. Average per capita landholding in the hills was 0.162 hectares, and in the mountain was 0.301 hectares (CBS, 2012). The 2011 National census of Agriculture found that about 75 percent of Nepal's cropped area is planted mainly with legumes, oilseeds and vegetables. Cash crops make up an extremely small proportion. Rice is the most important crop, with 92 percent of holding growing it. This is followed by wheat and maize. Agricultural land is either flat or terraced, and may be irrigated or rain fed, although the latter is more common (CBS, 2012).

Women make substantial contribution in agriculture sector. According to MOAC 2009, 72.8% of economically active (age 10 and over) women are engaged in agricultural work compared to men's 60.2%. The percentage share of women to agriculture sector is 12.6% higher than that of men. This is one of the major evidences for poor performance in HDI and GDI. Many of the poorest countries have an agriculture-based economy. About three fifth of the world's poor are women, scores of whom depend on agriculture for survival (CBS, 2012).

There is much evidence from past and current studies that both men and women contribute significantly to farming systems of Nepal. Poor rural women play important roles as unpaid family workers, hired labourers, income earners, savers of expenditures, and major caretakers of family health and nutrition. In Asia, the prevailing rice cultivation practices demand heavy manual labour inputs and drudgery, particularly on women. However, gender roles in Asia vary by region, agro-ecological system, type of farming systems, crops grown, interlinks with livestock and fish production, and opportunities for off-farm occupation for family members. According to a recent study conducted by IRRI in 2009, female participation increases with poverty and unfavourable environment. World Food Program revealed, "Gender inequality is a major cause and effect of hunger and poverty" (Sharma, 2010).

Gender analysis helps in understanding nature and extent of men and women's participation in various sector of agriculture such as crop, livestock, fisheries, and other related components. It also explains different roles and responsibilities of men and women such as who does what, where and when do they work, and for how long. Due to gender division in labour, differentiation in gender's work is obvious. The differentiation in allocation of labour, nature of labour, and extent of their use is

influenced broadly by religion, culture, social, economic, agro-ecological, and political situation of the country. However, a multiple factors are responsible for gender variation in participation in agriculture activities within each region and socio-culture parameters (Sharma, 2010).

## **1.2 Statement of the Problem**

The proportions to which women engage in farming varies among and within developing countries but available studies make it clear that their participation is generally considerable even crucial as regards food supply. In many countries women account far between 40-60 percent of the agricultural labour force. Since from 75 to 90 percent of the total population often depends on agriculture , this means that in most cases a high proportion of the female population as a whole is strictly involved in farming. Besides being directly responsible for the production of all or most of the food for domestic consumption, women usually have to do considerable work on cash crops which are generally under the exclusive control of men.

Women contribute more labour to Nepalese agriculture than do men. Women generally work from sunrise till the evening. The tasks which women perform in the farming sector are several and often require hard physical labour. However, farming women in the third world are often regarded as "invisible" or as mere "housewives" or "economically non-active", in spite of the fact that they have to perform a "dual role" in agriculture as well as household work. Despite the major contribution of women in agriculture, they are considered as the second grade citizens and their role and contribution in the development process is always ignored (Sapkota, 2009).

It was recommended by the International Labour Organization that women's work in the household be also recognized and respected as a productive activity. Women should no longer be treated as recipients of welfare but as partners in the arming sectors of the development process. Hence, this study has aim at highlighting the participation of women in farm management, especially in the agricultural sector at Bhimphedi, VDC of Makawanpur district and shed light on the crucial contributions of women in agriculture. From the above mentioned discussion following research questions have been posed:

- (i) What is the socio-economic status of the women involved in commercial farming?
- (ii) What is the participation of women in production, marketing and benefit sharing?
- (iii) What are the challenges and prospects of women participation in commercial vegetable farming?

### **1.3 Objectives of the Study**

The main objective of this study is to analyze women's participation in commercial vegetable farming in Bhimphedi VDC of Makawanpur district. The specific objectives of the study are as follows:

- (i) To examine the socio-economic status of the women involved in commercial farming.
- (ii) To analyze the participation of women in production, marketing and benefit sharing
- (iii) To explore the challenges and prospects of women participation in commercial vegetable farming.

### **1.4 Significance of the Study**

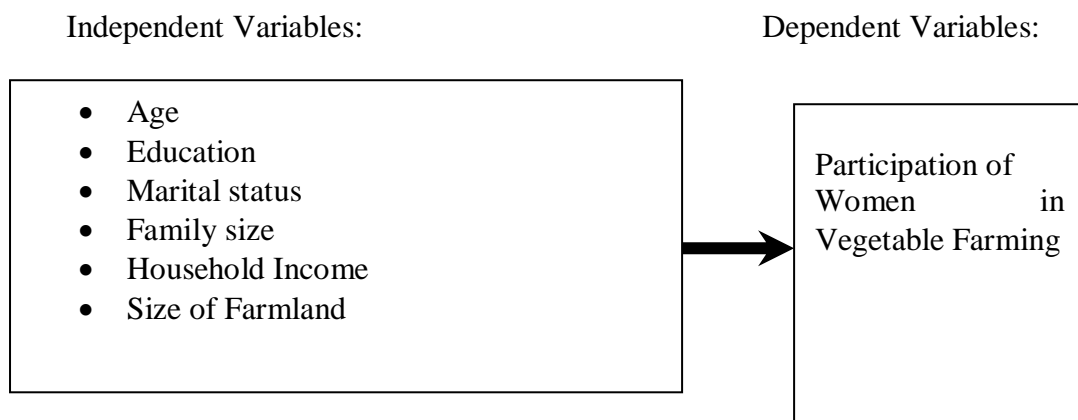
It has been already mentioned women's role in agriculture and agricultural activities is very crucial as they play a "dual role" in the agricultural sector as well as the household sector. But their roles in household activities are in many ways taken for granted and regarded as insignificant and also role in agriculture has often been disregarded. Many say it is composed of only uneconomical, wifely duties, but recent studies have shown that women not only participate in major tasks of agricultural production but also take significant part in agricultural decision making.

Since the dawn of history, women in Nepal have been engaging in different aspects of agricultural activities. The role of women in agriculture is very crucial in various activities in agricultural production in terms of high share of invisible labours. They perform most all activities required for growing food grains and vegetable cultivation. Hence, the contribution of women in agriculture is not less than or equal to the

contribution made by men. Therefore, women's vital role in the agricultural sector cannot be ignored. For the purpose, this study intends to assess the level of contribution of women in agriculture at Bhimphedi, VDC of Makawanpur district. It will also suggest some specific strategies for improving the participation of women at Bhimphedi, VDC. Finally, this study will be some help for National Development Planning as well as Rural Development Planners in formulating and implementing agricultural innovations especially directed towards women for uplifting and upgrading their participation in agriculture.

### 1.5 Conceptual Framework

Following figure shows the relationship between the independent and dependent variables, which is taken into consideration.



Different researches have indicated the impacts of socio-economic factors on the participation of women in agriculture. Though it may seem that the individual's interest, skill, time, family structure and background are general factors that determine participation, these factors are not absolute in themselves to determine participation. Though an individual may have the interest and skill to start certain job, s/he may not be able to work or participate in that job due to various socio-economic factors. Hence, in this case the rate of participation of women is to a great extent determined by the socio-economic factors like age, education, marital status, family size, household income and size of farmland.

## **1.6 Limitations of the Study**

- This study has been focused on the role of women in farm management, especially in the agricultural sector; hence, other areas apart from the agriculture sector were not included.
- As this study is especially directed towards women's role in agriculture, only female respondents will be selected in the study. There are a wide range of socio-economic characteristics which affect women's participation in agriculture, but only a few such variables will be included in the study,
- These various limitations of the study may bring about some problems in making generalizations on women's participation in agriculture. Hence the findings of the study will not be generally conclusive.

## **1.7 Organization of the Study**

This thesis is divided into five chapters. The first chapter deals with the introduction of the study including background, statement of the problem, objectives of the study, significance and limitation of the study. The chapter two includes the review of literature including theoretical review and review of previous studies. The chapter three concerns with methodology and tools used for data collection. The chapter four deals with data presentation, analysis and interpretation which included data findings and analysis. Finally, Chapter five concerns with summary, conclusion and recommendations.

## CHAPTER- II

### REVIEW OF LITERATURE

#### 2.1 Theoretical Review

Agricultural research in Israel is based on close cooperation and interaction between scientists, consultants, farmers and agriculture-related industries. Israel's semi-arid to arid climate and shortage of high quality water are major constraints facing Israeli agriculture. Through extensive greenhouses production, vegetables, fruits and flowers are grown for export to the European markets during the winter off-season (Paris, 2012).

Dry farming on a subsistence level was practiced in the Land of Israel for over 2000 years. The forerunners of agricultural research in Palestine were the teachers and instructors of the Mikveh Israel agricultural school, established in 1870. The pioneers of many of the early farming settlements cultivated experimental plots supervised by an agronomist. Arriving in the country with little or no previous agricultural experience, this kind of experimentation was vital for the development of such crops as grapes, citrus and almonds. Arab agriculture revolved primarily around dry farming, with barley, chickpeas, sesame and olives predominating. The few German Templar villages were based on relatively large farms of dry farming of wheat and barley (Paris, 2012).

Women play a significant role in all the various stages of crop production, processing and preparing for markets. Rural women are responsible for 60 to 80 per cent of food production in developing countries, yet female farmers are often underestimated and overlooked in agricultural policies and strategies. According to the study carried out by Food and Agriculture Organization (FAO) in 2005, women in the high mountain areas contribute more in agricultural work than men, more or equal work in the middle hills, and slightly less work in the Terai (low foothills and plains). However, in all agro-ecological zones, men generally perform tasks that require heavy physical labour such as ploughing (although women all over rural Nepal can be seen carrying heavy loads of fuel-wood, water, and fodder). Women, on the other hand, chiefly perform tedious and time-consuming work such as weeding, harvesting, threshing,



and milling. Studies have shown that women involvement is greater in the case of minor and subsistence food crops production such as millet, maize, soybean etc. However, in the case of cash crop and commercial production men involvement has been observed significantly. For example, rice is a staple food crop of Nepal and grown in larger scale in Terai region, where involvement of men is observed to be more as compared to that of women. In general, women in Terai participate less in farm activities as compared to women in hill and mountain regions due to socio-cultural restrictions particularly in the case of higher caste such as Bhramins and Chhetris (Adhikari, 2010).

Livestock, cow, bull, oxen buffaloes, sheep, goat, and pigs farming on small scale in the backyard is widely prevalent in Nepalese farming system. Besides livestock, poultry and fish play a subsidiary role to crops and contribute in meeting human needs both to consumption and sell for income. The socio-cultural, economic, and agro-climatic condition influences the number of holdings and pattern of livestock. In mountains where food production is difficult due to poor geographical condition, raising of livestock head is more as compared to Hills and Terai (Adhikari, 2010).

However, in all the three ecological regions irrespective of social and ethnic groups, both men and women contribute significantly in livestock production and management.

In developing countries, at least 50 percent of the population depends on agriculture for a living. A study of 38 Sub-Saharan African countries found that population pressure tended to increase cropping frequency and land degradation. Population is growing fastest in the regions of the world with the least efficient of food production and distribution system. The rural livelihood systems in the developing countries are predominantly agricultural; there are two major immediate factors of human-induced environmental degradation. On the one hand three are the traditional agricultural activities that pushed to unsustainable intensities, such as expansion of cropland in forests, unto steep slopes or in dry areas. On the other hand environment are made in those traditional activities which are harmful for the environment, such as the shortening of the fallow periods which measures to restore soil fertility and counteract its increasing exposure to erosion (UNICEF, 2006).

More than 95 percent of economically active women are engaged in agriculture and have little or no access to alternative means of earning income to feed their families. Meanwhile, family growth is reducing farm size. In situation such as these, the agribusiness sector provides opportunities for women farmers to achieve some degree of economic independence. Agribusiness sectors in which women dominate include sericulture, sutho/dry ginger processing, cardamom drying, fruit processing, tea and coffee processing, angora wool, dairy products, meat and fish processing, cut flowers and saffron (Sharma, 2005)

In recent years, the government has devoted considerable energy to integrating women into its agricultural development efforts. A national policy in effect since the sixth five years plan period (1980-85) is dedicated to eliminating the obstacles to women's participation in agricultural development. The eighth five years plan (1992-97) also recognized the need for increasing women's participation at each decision making level in government and semi-.government set ups (Sharma, 2005).

The objective of the tenth plan has also been set up to increase agricultural production productivity and income for food security and poverty reduction. It has incorporated sustainable strategies, agricultural extension programme, new methods and techniques in agricultural input supply, filtration in the use of modern inputs like chemical fertilizer, pesticides and promotion in the diversification of organic fertilizer regional and potential base farming and environmental conservation and pollution control especially in the agriculture sector.

Women play a vital role in the production of all high-value commodities, most notably in sericulture (where they account for 79% of labour), vegetables (67%), vegetables seeds (58%), and ginger (64%). Women play a significant role in the market of agricultural products. In many cases this involves carrying heavy loads over long distances. Little has been done to improve the working conditions of women.

Women's access to paid work is crucial to achieving self-reliance and the well-being of dependent family members. But a large part of women's work is in low-paid or unpaid occupations. In agriculture, family enterprises and the informal sector, women have little possibility for saving, credit or investment, and limited security. The work they do in these areas is of tremendous importance to the well-being of families,

communities and nations but it is poorly measured in official statistics (Rao and Lata 2005).

Whether in industry, services or agriculture, women and men have different responsibilities and activities. For most women, family and work are constantly tied together. For most men, work means an income-producing job with a fixed schedule outside the house. In poor agricultural societies women work in the field as well as tend to the daily needs of their families. Such traditional female activities as growing and processing the food consumed by their families, gathering fuel wood, collecting water and cooking are unpaid. Men more often engaged in producing and marketing cash crops. In the more developed areas a larger and increasing proportion of women are in paid employment but still maintain household and family responsibilities (Rao and Lata, 2005).

## **2.2 Policy Review**

The slow pace of development, particularly in rural areas has underscored the long-standing neglect of women as a key element in development policy. Governments and the international development community are reformulating policies and reallocating resources in the understanding that the low social and economic status of women translates into slower rates of economic growth. Certain vegetables have been grown in Nepal since very time immemorial; however systematic research and development started only after the establishment of governmental horticulture farms in the sixties. In 1972, the vegetable development division in the National Agriculture Research Center, now the Nepal Agricultural Research Council (NARC) was established to coordinate research, seed production and development of vegetable crops in Nepal. In 1987, NARC was given the mandate for an agricultural research, including vegetable crops in Nepal through annual plan and policy.

The Nepalese economy is fundamentally agrarian and the agriculture contributes to approximately one third of Gross Domestic Product (GDP) and the largest source of informal employment to the people. Reducing poverty, improving food security and achieving sustainable development cannot be imagined in the agrarian economy like Nepal without inclusive development of agriculture sector. Two major requirements for the development of agriculture sector in our context are adequate investment and

conducive policies.

One of the major constraints faced by the agriculture sector in Nepal is the under-investment from both public and private sectors. Ministry of Agriculture Development is receiving approximately 3% of national budget which is not sufficient to promote adequate agricultural growth and ensure food security to ever-growing population. Out of this inadequate allocation, significant amount of public expenditure is being expended to give price subsidy in agricultural inputs mainly fertilizer. It has been also criticized that larger farmers are mainly benefited by input subsidies rather than small and marginal ones. To get the best possible returns from subsidy policies, they should be subjected to a genuine cost benefit analysis and review. If allocated budget could have been invested in capacity building, rural infrastructure development and research in agriculture sector instead, it would have given far better results. It is experienced that producers are more concerned to easy access of these inputs than price.

As subsidies have usually been politically sensitive agenda, it might be difficult to completely do away with them, but they should be subjected to improved modalities and management so that small and marginal farmers also benefit.

The state is obviously not in the position to sufficiently invest in the agriculture particularly in developing countries which are in transition like Nepal. However, the government can draw other public and private sector investment by creating favorable investment climate. As agriculture is predominantly small-scale, labor intensive and subsistence in our context; small farmers are the largest investors of agriculture. Therefore, farmers should be at the center to formulate any strategy related to agricultural development. Government policies should promote those agribusiness models which are in favour of small scale producers.

Significant proportion of small scale farmers do not own the land they cultivate. Investment of these farmers to technology and farm level infrastructure to enhance production and productivity cannot be at optimum level unless there is perceived tenure security among these farmers. Marginal farmers cannot afford the risk of investing in uncertain rights of land tenure. This is inter alia one fundamental issue need to be addressed in our policy to increase private sector investment in agriculture

and thus increase production and productivity of agriculture sector.

Although private sector investment in Agriculture is mostly from scattered and unorganized small farmers, large scale corporate investment has been initiated in some sub-sectors mainly high value commodities like poultry and dairy. Favorable investment climate can attract corporate investors in other sub-sectors in future. Large scale private investment in agriculture can create employment, transfer technologies and create forward and backward linkages. Although corporate investment could be the driving force for commercialization and modernization of agriculture if properly backed up by appropriate policies, there is risk that these investments may bypass small scale producers and pose additional risk to the livelihood of local communities. This can be prevented by the policy which ensures transparency and accountability of large investment. Governance of these large scale investments should be cautiously addressed in agricultural policy.

Therefore, forthcoming agricultural development strategy should attract large investors but in the mean time interest of small farmers should be protected with due respect to the rights of small scale marginal producers. The policy should promote transparency and accountability of large investment and also ensure meaningful inclusion of local communities preventing transfer of productive capitals mainly land. Connection and relationship between large scale investors and small scale marginal producers should be a win-win model. This connection can be strengthened by mechanisms to ensure benefit sharing from large scale investment to the local communities. The strategy should promote direct involvement of local farmers in agriculture value chain. For example, contract farming regulated by appropriate and clear policy could be an option to attract large scale investment without transferring ownership of land and serving the interest of both.

Moreover, youths are not sufficiently motivated to invest their time and money in the agriculture sector resulting either the agricultural land left barren or feminization of agriculture due to emigration of young males in search of employment. Policies to attract large corporate investors in agriculture may not necessarily motivate those youths to the agriculture sector as employment in agriculture sector is usually less attractive than in other sectors. Therefore, Agriculture Development Strategy should address this issue and create policies to attract youths in the agriculture sector.

Thus, increasing investment in agriculture is a must for reducing poverty, achieving sustainable development, and enhancing food security. Increased investment in agriculture will be beneficial to the country in the real sense only if the investments can help alleviate poverty and enhance food security of vulnerable communities. As government investment is not sufficient, appropriate policy and legal and institutional framework should be in place to create a favorable climate for investment. In our context, agriculture development policy should be in favor of small scale marginal producers and suitable to specific agro-climatic realities, but in the meantime, they should not hinder large scale investments capable of bringing equitable and balanced growth to the agriculture sector.

Different divisions had been operated as separate offices, while in July 1999, they were considered assisting divisions of the department and financial transactions also were conducted by the department, narrowing down the role of the divisions. Because of this, service works were slowed down due to requirement of the longer administrative processes. Realizing the negative effect of this process on development, these divisions were re-identified as separate offices under the Ministry of Agriculture and Co-operatives' present organizational structure based on the decision of the Nepal government (Ministerial Level panel) of July 10, 2000. This time, Divisions were renamed as Directorates and they were mandated to provide administrative control over and financial guidelines to the offices under them.

Two separate offices with different staffs and program budgets; Potato Crop Development Section, presently National Potato Crop Development Program, and Ginger and Cardamom Development Section, Presently, National Spice Crops Development Program, were kept under administrative control under this Directorate from July 1992, while since 2000, this Directorate was assigned to undertake financial transactions as well. Realizing difficulties in this process, these programs were assigned to operate financial transaction themselves from 2003 based on the Nepal Government's decision.

Presently, Vegetable Development Directorate serves as a vegetable sub-sector focal point for national and international level institute of related fields. It helps Department of Agriculture and Ministry of Agricultural Development in formulating national

policy, strategy, periodic plan and annual program. It also prepares guidelines for the implementation of program. It supervises and monitors the district level vegetable program and gives technical backstops to the districts and resource centers in solving their problems especially in technical aspects. During the course of program implementation, it also coordinates in fulfilling the necessary production inputs required, especially quality planting materials i.e. vegetable seeds through government and private sectors. It also maintains the necessary information required for vegetable sub sector and also maintains national level data base of vegetable sub-sector. It prepares subject matter special technical materials in the form of pamphlet, posters, and booklets and distributes to the districts.

Of the two national programs under the directorate, Potato Crop Development Program has been developing and managing improved technologies including varietals improvement of potato crop to support enhanced income and food security of farmers and consumers thereby leading to economic development of the country. Spice Crops Development Program, the other national program under the directorate, is co-ordinating body of development and extension of spice crops such as cardamom, ginger and other spice crops; turmeric, garlic, chilli, cumin, pepper and coriander etc.

Vegetable farm stations/centers are responsible for quality breeder and foundation seed production which is technically linked with designated Nepal Agriculture Research Council's research farms/stations. Other activities performed by the vegetable farm stations/centers include vegetable seedling production, germplasm collection, maintenance and evaluation of vegetable crops, seed buffer stock maintenance. Likewise, supervision and monitoring of district level program especially in vegetable seed production pockets are equally important tasks to be performed by the vegetable farms/centers in order to maintain the quality seed production in farmers/co-operative levels. They also conduct specialized technical/practical training to JT/JTAs and leader farmers in fresh vegetable (seasonal and off-seasonal) and vegetable seed production aspects and also conduct coordinated and collaborative/adaptive type research in vegetable sub-sector. Apart from these, they are the sites for technical demonstrations, farmers' visits and technical learning place for extension agents and farmers as envisaged in agriculture policy 2014.

### **2.3 Review of Previous Studies**

According to Gurung (2005), has studied about vegetable farming is a base of livelihood in Basantapur VDC of Tehrathum district. For this study he has taken 91 household as samples. In this study, he has attempted to analyze the socio-economic condition of farmers, role of women in vegetable farming and access of farmers in markets. He has found out the improvement of farmers living standard, improvement of women such as rate of wage, role of women in house management, number of girls student and so on.

According to Chapagain (2006), has studied about changes in farming system of eastern Nepal. In this study, he has attempted to analyze the farmer's farming practices from the subsistence production to the commercial production. For this study, three small villages were selected. During his study, he has found that the farmers of Yolma and mixed village adopted the cash crops farming immediately after the construction of the road and getting easy access to the marketing opportunities but the Yakha farmers were not adopted immediately impact of their economic, social and cultural condition of living not only agricultural landscape and environment.

According to Sapkota (2009), has studied farmer's choice and farmer's voice on the use of local versus modern inputs on peri-urban agriculture in Makawanpur valley. This study has taken 20 vegetable growers as samples. In this study he has attempted to explore some contradictions. During this study, he has found that the local farmers have been trying for long time to sustain agricultural production through using indigenous compost and farm and manner system.

According to Phulara (2010), has studied about changing livelihood patterns of vegetable farmers Charghare settlement of Kirtipur municipality. In this study, he has attempted to analyzed land use pattern, impacts of vegetables on livelihood and socio-economic condition of vegetable farmers of the study area. He has taken 55 household as samples. From this study, he has found that fresh vegetable is perishable product which can't store long time after harvesting.



## **CHAPTER- III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The research design adopted for this study is descriptive in nature. It describes the present socio-economic condition of commercial vegetable farming of the study area and challenges and prospects of women participation in agricultural farming. The main objective of this research is to find out the vegetable farmers and especially the women's participations in this process. Age, education, marital status, family size, household income, size of farmland, decision making in farm management and customs and traditions are independent variables which affect participation of women in vegetable farming.

#### **3.2 Rationale for the Selection of the Study Area**

Bhimphedi is selected for this study. It is one of the vegetable farming area, where most of the people depend on agriculture resources. It is highly occupied by the vegetable farmers and they have been taking benefits from vegetable farming. First, economic source increase day by day, life style change and second employment of people.

The issues related to women involvement in development activities have not been addressed well. Various development activities also not have given adequate attention to uplift women. Especially, women of our country belonging to rural areas are confined within their household activities. Both men and women have equal responsibility, so, there is a need to empower women regarding their social and economic condition, women should be in mainstream for equal development, so the main purpose of women's involvement in vegetable farming in Bhimphedi VDC.

#### **3.3 Nature and Sources of Data**

The nature of the data for this study is both qualitative and quantitative in nature. Both primary and secondary data have been used to fulfill the objectives of the study. Secondary data has been collected from VDC profile, documents, operational plan

etc.

### 3.4 Universe, Sample and Sampling Procedure

There are nine wards in the study VDC out of which three wards namely 3, 4, and 5 have been listed as a sampling frame. From VDC profile the total number of commercial farmers in 3, 4, and 5 wards are 47, 49, and 54 respectively. There are 150 commercial farmers in study area who are considered as the universe of the study and 60 (20 each from three wards) respondents are chosen through simple random sampling method. In the sampling process random sampling method has been adopted. Female only are the respondents in sampled household. The sample size is 40% of the universe which given as follows

**Table 3.1: Universe and Sample of the Study**

Ward No.	Total commercial farmers	Sample farmers
3	47	20
4	49	20
5	54	20
Total	150	60

Source: Bhimphedi. VDC Profile, 2015

### 3.5 Techniques and Tools of Data Collection

In order to obtain the mentioned techniques following tools have been used. The following techniques have been applied for the collection of data from the field:

- i) Household Survey
- ii) Key informant interview
- iii) Field observation

#### 3.5.1 Household Survey

A set of questionnaires have been prepared and in depth interviews have been carried out. The respondents are made to understand the question first and then answer. Most of the questions are close ended while some which asked for respondents' views and ideas are left open for respondents to express their ideas freely. The format of household survey is in annex-1

### **3.5.2 Key Informant Interview**

Interview schedule for key informant interview persons have been identified as key informants. They are secretary of the ward office, Leader of farmers, JTA, district Agriculture officer and community council (Cooperative, wholesalers and dealers). The interview schedule is prepared for the interview and the data so collected has been copied with the information of key informant. The format of key informant interview guidelines is given in annex-2.

### **3.5.3 Field Observation**

Checklist for observation: The researcher has been constantly observing the field to derive out conclusions. With the checklist, group discussions on the issue of the role of women in agriculture is helpful for the conclusions which increased the reliability of the data. Through the observation, the participation and the role of the respondents is known. Cultivation and plantation of vegetable is observed. The things to observe include household condition, clothing. The format of field observation is given in annex-3.

### **3.6 Methods of Data Analysis and Presentation**

The collected primary data are classified, tabulated, and interpreted according to the requirement. Simple statistical tool has been used for analyzing the quantitative data and the qualitative data are described, explained and logically analyzed.

## **CHAPTER – IV**

### **DATA PRESENTATION AND INTERPRETATION**

The data collected from field study was edited, coded and clarified and tabulated in the presentable form for the purpose of data interpretation. This chapter has been organized as follows:

#### **4.1 General Characteristics of Study Area**

Phimphedi is one VDC out of 43 of the Makawanpur district. This village lies in about 12 K.M. north of district headquarter of Hetauda. There is motorable road from Hetauda to Phimphedi chock. This VDC is located 650 to 850 meters altitude from sea level.

##### **4.1.1 Geographical Features**

Phimphedi is lies in the northern part of Hetauda Municipality. Nibuwater VDC lies in the east part, Kulekhani VDC lies in the west, Sisneri VDC lies in the south part and Kogate VDC lies in north part of Phimphedi VDC.

##### **4.1.2 Demographic Feature**

According to VDC profile 2015, total household was listed 2139, total population 12687 of which males were 6503 and female were 6184. Based on VDC profile, Hindu are dominant in the VDC covering 84% whereas Buddhist covers 14% and others are 2%. The main language of the VDC is Nepali, national language, although the other mother tongues Tamang, Newar, Praja are also dialect language in their own society. The dress, food habit and culture of this VDC is similar to other Hindu and Buddhist religious people of Nepalese society. 34.31% people are literate, 36.33% and 32.19 % out of literate are male and female respectively.

##### **4.1.3 Language, Caste and Religion**

The caste/ethnic composition of this VDC comprises Tamang, Magar, Praja, Chetri, Bramin, Newar, Danuwar, Gurung, Kami, Damai, Sarki, Limbu, Gharti, Sanyasi. Due

to multi caste/ethnic composition, different languages are used depending on their groups. They respect and celebrate both festivals of Hindu and Buddha religion. (VDC Profile, 2015).

#### **4.1.4 Major Crops Production in Study Area**

Major crops productions in study area are vegetable, maize, paddy and wheat. Among vegetable major vegetable production in Phimphedi VDC area cabbage, cauliflower, raddish white, bakula, leaf of mustard, spinach leaf and cress leaf.

In general land, forest and water are the important natural resources of the village. Brief account of these resources is as follows:

#### **4.1.5 Land and Forest**

Land is one the most exploited and utilized natural in the study area. Most of the people are involved in agriculture. On the basis of availability of irrigation facilities, land is classified as Bari (dry cultivated land) and Khet ( Paddy cultivated land). The distribution of land area is 1743 Bigha (2542 ropani) occupied by farming, which is covers 35%of the total land. But in forest resources, this VDC is rich, 3415 Bigha (44395) which cover 65% of total land. According to District Forest Office, Ten years before, there was very low growing stock of forest. Lack of effective protection of forest by government during that time was one of the major caused for inappropriate use of forest resources. Since 1989, District Forest Office has extended its community forestry office has extended its community forestry programme in the study area. Since 1995, Leasehold Forestry programme has also been implemented for the protection, development as well as well being of rural people.

#### **4.1.6 Infrastructure Development.**

Phimphedi VDC is linked with 12 Km. road from Hetauda Municipality. Puplic bus leave in every hour from Hetauda. Available one high school, three lower secondary school, and six primary school are providing education to people of Phimphedi VDC. In communication, there is a post office, one VHF telephone service and 80% Households are enjoying electricity facilities. Ward no 1,2,4,5 are joined by gravel

road. There is livestock and agriculture sub-centers are providing livestock and agriculture service to people.

## 4.2 Socio-Economic Status of Women Involved in Commercial Farming

### 4.2.1 Age and Sex Structure of Vegetable Farmers

Age and sex structure provide information of people in different groups in a particular period. Age and sex structure are the most important variable in the study of mortality, fertility, migration and other social; phenomena. Age and sex composition of population is important both socially and economically. Age composition is the most important variable influence of the productive capacity in the economy. It helps to me assure potential population as potential school population, potential voting population and potential manpower. In demographic analysis the age and sex structure of population is the subject of major importance. The total respondents for the study area are 60 households. The age and sex structure of population of sampled vegetable farming household are given below:

**Table 4.1: Age and Sex Structure of Sample Households**

<b>Age Group</b>	<b>No. of Respondents</b>	<b>Percent</b>
15-20	2	3.33
20-30	12	20.00
30-40	20	33.33
40-50	17	28.33
50-60	7	11.68
60 above	2	3.33
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2015

The table 4.1 shows that the age of 30-40 years is higher than other age groups, 15-20 group and above 60 age respondents is less than other age groups and below 60 years are generally known as economically active and they are higher in the sample respondents. It concluded that majority respondents are age group 20-50 years in study area.

#### 4.2.2 Household Sizes

Household size refers to the number of family of any household. Family size is one of the important factors for the determining way of living, livelihood strategies and living condition. The household sizes of the study area are given below:

**Table 4.2: Household Size in the Study Area**

<b>No. of Households Members</b>	<b>No. of Respondents</b>	<b>Percent</b>
1-2	2	3.33
3-4	12	20.00
5-6	20	33.33
7-8	17	28.33
9-10	7	11.68
Above 10	2	3.33
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.2 shows that household with 5-6 family members was found the highest i.e. 33.33 percent in the study area. The household size in the study area above 10 members is 3.33 percent. The data shows that most of the respondents have 3-8 members. It means that majority of the respondents belong to nuclear family. It concluded that maximum number of member in one household is 5-6 members in study area.

#### 4.2.3 Caste/Ethnic Composition of Vegetable Farmers

Ethnicity is social component of population. It reflects socio cultural characteristics of population. Chhetri and Brahmin are mostly found in the study area. Caste/ethnic composition of vegetable farmers are given in the table 4.3

**Table 4.3: Caste/Ethnic Composition of Study Area**

<b>Caste/Ethnic</b>	<b>No. of Respondents</b>	<b>Percent</b>
Chhetri	28	46.6
Brahmin	18	30.0
Tamang	7	11.7
Pariyar	7	11.7
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.3 shows that maximum vegetable farmers are Chhetri caste (46.6%) because the study is dominated by them. Brahmin is in second position (30.0%). Tamang and Pariyar are in third position (11.7%). It concluded that there is higher number household dominated Chhetri and Brahmin caste in study area and they have been using more land for agriculture purposes as compare to other caste.

#### 4.2.4 Agricultural Land Ownership by Women in Sample Area

Generally land ownership among farmers is found to be transferred from their previous generations. However, respondents are found to be executing buy/sale of land. Land ownership distribution among men and women is given in table 4.4

**Table 4.4: Agricultural Land Ownership by Women**

<b>Owners</b>	<b>No. of Respondents</b>	<b>Percent</b>
Men	44	83.2
Women	11	11.3
Jointly (with men and women)	5	5.5
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016.

The table 4.4 shows that 83.5 percent land in Bhimphedi is owned by men. Women owned 11.3 percent singly and 5.5 percent of land is owned jointly with men member in their family. The study found that most of land is owned by men therefore it is concluded that there is male dominated society in study area.

#### 4.2.5 Level of Education of Sample Households

Education is one of the prime factors which cover all aspects of human life. Education is important for development. All of the development depends on it. It has got an important role or relationship with human socio-economic, cultural and demographic behaviour.



**Table 4.5: Literacy Based Distribution of Women in Agricultural Work**

<b>Literate</b>	<b>No. of respondents</b>	<b>Percent</b>
Yes	27	45.0
No	33	55.0
Total	60	100
<b>Level of education</b>		
Primary	10	37.0
Secondary	6	22.3
Higher Secondary	6	22.3
Bachelor	3	11.2
Master	2	7.2
Total	<b>27</b>	<b>100</b>

Source: Field Survey, 2016

The overall education status of the people of the study area seems in good condition. There are one government schools and two private boarding schools in this study area. The general education status of this study area is given in the table 4.5. The table shows that literate respondents in the study area are 45.0 percent and 55.0 percent were illiterate. However, 37.0 percent have attained primary level school and 22.3 percent have attained secondary and higher secondary education. 11.2 percent attained Bachelors and 7.2 percent attained Masters level education. The study concluded that most of educated respondents had below the higher secondary level of education. The reasons behind these were drop out of respondents after married.

#### **4.2.6 Type of Labour Work in Vegetable Farming**

Vegetable is land intensive crop; the scarcity of labour constrains extension of vegetable cultivation to the additional land. Labours are few required. Male labour rate five hundred and females labour rate three hundred. Household labour refers to the household members that are available in farmers own house and involved in vegetable farming activities. Household labour has an important role in farming. Mostly traditional goods like kuto, kodalo, hasiya etc. are used for cultivator and land leveling. Only a few of them used tractor. Most of the cultivation in the study area are digging their field by themselves own their land and hiring the labour.

Palung is the nearest market center from study area which is local level of market. It is the main market center for them to sell their product. Farmers are used to supply their product bamboo basket carry themselves reach market. Females are involved for marketing in the study area.

**Table 4.6: Type of Labour Work in Vegetable Farming**

<b>Type of work</b>	<b>No. of Respondents</b>	<b>Percent</b>
Soil preparation	13	21.7
Harvesting	40	66.7
Marketing	7	11.6
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016.

The table 4.6 shows that the 21.7 percent of women are involved in soil preparation for commercial farming. Similarly 66.7 percent of women are involved in harvesting the vegetable and only 11.6 percent are involved in marketing of vegetable product. The study concluded majority of the respondents are involved in harvesting of vegetable. The main reason for lower number of women involved in soil preparation and marketing is that these tasks are done by male and it is hard for women and they performed these work on hiring of labour.

#### **4.2.7 House Types**

House is a building for people live in usually for one family. Everyone wishes to have their own home and live together with family.

**Table 4.7: House Types**

<b>Types of Houses</b>	<b>No. of Households</b>	<b>Percent</b>
Pakki	37	61.70
Kacchi	23	38.30
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.7 shows that in Bhimphedi, out of total houses 61.70 percent are pakki (cemented) house and only 38.30 are kacchi (mud) house. This table indicates that in

Bhimphedi large number of people live in pakki household.

#### 4.2.8 Landholding of Vegetable Farmers

Being an agriculture country land is the most important factor for Nepalese people. The people who have enough land are considered as a Jamindar and treated as Kisan and given good position in rural society. Traditionally land is the principle form of wealth, the principle source of economic and political power. Ownership of land has meant control over a vital factor of production and therefore a position of prestige, affluence and power. People having no land considered as sukumbasi and treated as labours. So, they feel themselves as poor and standing as low position in society.

**Table 4.8: Landholding Size of Vegetable Farmers**

<b>Land in Ropani</b>	<b>No. of Households</b>	<b>Percent</b>
Below 3	36	60.00
4-6	10	16.7
7-9	9	15.00
10 above	5	8.3
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.8 shows that out of total 60 households, 36 households owned less than 3 Ropani land, covering 60.00 percent of total respondents. Similarly 16.7 percent respondents owned 4-6 ropani of land and only 8.3 percent of respondents have above 10 ropani of land for vegetable farming. Although, total land are not utilized to grow vegetable, there is not good management of irrigation even though availability of water source. Therefore, only seasonal or rainy seasonal crop can grow. The farmers grow high value crop i.e. green vegetables, cabbage, and cauliflower, which require frequent irrigation facility.

#### 4.2.9 Occupational Structure of Sample Households

The main occupation of the people in this area is agriculture. Similarly, government service, business, labour and other occupation. The people are economically actively involved in any occupation.

**Table 4.9: Occupational Status of Respondents**

<b>Occupation</b>	<b>No. of Households</b>	<b>Percent</b>
Agriculture	40	66.5
Service	17	28.4
Business	2	3.4
Labour	1	1.7
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.9 shows that most of the respondents 66.5 percent people are engaged on agricultural activity and remaining 33.5 percent are engaged on non-agricultural activities i.e. 28.4 percent on service, 3.4 percent on business, and 1.7 percent on labour. Out of total respondents, 40 respondents are involvement in agriculture in this area.

#### **4.2.10 Income Structure**

Vegetable is a cash crop. Being no more profitable than other crops trend of farmers towards vegetable cultivation is increasing. Farmers of the study area have been cultivating vegetable for 5 to 8 years for selling purpose. Economic status of the farmers has been increasing. Income level of sampled households by growing vegetable has been shown in the table.

**Table 4.10: Income Structure of Farmers**

<b>Income Level Rs.</b>	<b>No. of respondents</b>	<b>Percent</b>
Below 10,000	23	38.33
10000-20000	19	31.66
20000-30000	7	11.66
30000-40000	6	10.00
40000 above	5	8.33
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.10 shows that out of total sampled households 23 households are earning less than Rs. 10,000, 19 households are earning from Rs. 10,000 to 20,000,

7 households are earning from Rs. 20,000 to 30,000, 6 households are earning from Rs. 30,000 to 40,000 and 5 households are earning from Rs. 40,000 above. Low income households are in more number and high income households are in less number.

### 3.3 Participation of Women in Production, Marketing and Benefit Sharing

#### 4.3.1 Production of Different Crops on Sample Households

Beside vegetable other crops such as paddy, maize and wheat are grown in Bhimphedi. Among all crops vegetable has high yield per unit area and plays a significant role in economy. The productions of different crops are given in the table 4.11.

**Table 4.11: Production of Different Crops on Sample Households**

<b>Crops</b>	<b>No. of respondents</b>	<b>Percent</b>	<b>Production in kg.</b>
Vegetable	22	37.1	30,000
Paddy	14	24.0	20,000
Maize	8	13.2	20,400
Wheat	16	25.7	4,800
<b>Total</b>	<b>60</b>	<b>100</b>	<b>75,200</b>

Source: Field Survey, 2016

The table 4.11 shows that the people of Bhimphedi produce different crops in a year. Among the different crops vegetables is first position in term of production. The total production of vegetables is 30,000 kilograms which covers only 22 respondents of farmed area. The total production of paddy is 20,000 kilograms which covers 14 respondents of farmed area. Similarly, the total production of maize and wheat are 20,400 and 4,800 kilograms which covers 8 respondents and 16 respondents of farmed area.

##### 4.3.1.1 Types of Vegetable and Production

There are various types of vegetable production in study area, such as cabbage, cauli, raddish white, bakula, leaf of mustard, spinach leaf, and cress leaf. It has been showing below in table.

**Table 4.12: Types of Vegetable Production and Income**

Types of Vegetable	Vegetable Production in K.G.			
	Production in Kg.	No. of Respondents	Price/ Kg.	Amount (in Rs.)
Cabbage	6,000	25	30	1,80,000
Cauliflower	8,000	15	40	3,20,000
Raddish White	2,000	10	35	70,000
Bakula	1,000	2	30	30,000
Leaf of Mustard	5,500	3	40	2,20,000
Spinach Leaf	2,000	3	45	90,000
Cress Leaf	2,000	2	45	90,000
<b>Total</b>	<b>27,500</b>	<b>60</b>		<b>10,00,000</b>

Source: Field Survey, 2016.

Table 4.12 provides information about seven types of vegetable and its production in Kg. and income. In Bhimpheedi VDC, cauliflower belongs to 8000 Kg. which is the highest vegetable production among 60 respondents. Even though, least production can be seen of bakula. And the highest price belongs to spinach and cress leaf.

#### 4.3.1.2 Participation of Women in Production

Role of women has increased after starting vegetable cultivation. Before vegetable cultivation they used to produce vegetable only for house consumption. Women role is important for vegetable farming, plantation, collection and selling. It helps women economically for solving family problems. Women life standard is improved by vegetable cultivation.

**Table 4.13: Participation of Women in Production of Vegetable Farming**

Particulars	No. of respondents	Percent
Land Preparation	16	25.7
Plantation	17	29.4
Weeding	10	16.5
Collection	6	10.1
Transportation	11	18.3
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016.

The table 4.13 shows the women participation in vegetable farming. Women participation is 25.7 percent on plantation, 16.5 percent on weeding, 10.1 percent on collection and 18.3 percent on transportation. Only 25.7 percent on land preparation women participation is more, however it very low as compare to male counter part because women is weak as physically compared to men. Land preparation is hard work for women. They cannot hard work compared to men so they need help of men. Therefore, women participation is low on land preparation. Cause of more women participation in vegetable plantation is as unemployment, source of income, easy to work, suited farming for women etc.

#### 4.3.1.3 Types of Manure for Production

There are various types of manure in the study area such as compost, chemical and both are used for vegetable production. It is shown in the table below.

**Table 4.14: Types of Manure Used**

<b>Types of Manure</b>	<b>No. of respondents</b>	<b>Manure (in kg)</b>
Compost only	10	3,400
Chemical only	9	60
Both	41	4,000
<b>Total</b>	<b>60</b>	<b>7,460</b>

Source: Field Survey, 2016.

The table 4.14 shows that farmers use compost and chemical fertilizer among them both users are the highest i.e. 4000 kg. in Bhimphedi. Similarly in Bhimphedi only compost users are 10 households and only chemical users are 9 households. However, farmers use too much pesticides and it would be economically beneficial for them to reduce the amount they use. Chemical pesticides play an important role in vegetables by combating pests. It has negative impact on human health and the environment and also it affects soil also.

#### 4.3.2 Marketing of Vegetable

Hetauda and Kathmandu valley are the nearest market center from study area. Hetauda is local level of market. It is the main market center for them to sell their product. Farmers are used to supply their product bamboo basket carry themselves

reach market. Females are involved for marketing in the study area.

**Table 4.15: Daily Marketing Hours**

<b>Marketing Working Time</b>	<b>No. of respondents</b>	<b>Percent</b>
Up to 2 hours	27	45.00
2-3 hours	16	26.67
3-4 hours	7	11.66
4-5 hours	4	6.67
More than 5 hours	6	10.00
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

Table 4.15 shows that in Bhimphedi highest number of farmers i.e. 45 percent work up to 2 hours a day for marketing their vegetable production. Only 10 percent respondents work more than 5 hours for marketing. Similarly 26.67 percent of respondents work 2-3 hour a day and only 6.67 percent respondents work 4-5 hours a day in vegetable marketing.

#### **4.3.2.1 Vegetable Marketing Training**

Training is an essential for farmers. It helps for systematic marketing of produced vegetables. Without marketing production of vegetable can not be meaningful. So, marketing training of marketing is essential for commercial vegetable farmers in study area.

**Table 4.16: Marketing of Vegetable Training**

<b>Training</b>	<b>No. of respondents</b>	<b>Percent</b>
Yes	5	8.3
No	55	91.7
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

Table 4.16 shows that only member of 5 households get training on vegetable marketing. But majority of the respondents i.e. 55 do not get training at all for marketing of produced vegetable and they are conducting marketing activities on their



own experience and knowledge.

### 4.3.3 Benefit Sharing of Vegetable Income

Utilization of income included the expenditure in various household activities. Farmers are utilizing income primarily in food, children's education and daily required goods. As their earning increased, they utilize it in other sectors such as; improve the housing conditions, built toilet etc. They earn more by investing into productive sectors like expenditure in business & industry, saving in bank.

**Table 4.17: Utilization of Vegetable Income**

S.N.	Area of Expenditure	No. of Household	Percentage
1	Food & daily use expenditure	60	100
2	House construction/improvement	44	73.33
3	Health & sanitation	44	73.33
4	Children education	54	90.0
5	Bank balance	17	28.33
6	Business & industry	15	25.00
7	Social function	47	78.33

Source: Field Survey, 2016

Note. The answer is given in multiple type

Table 4.17 shows that every family utilizes the income in food, cloth, and daily use and education activities. 78.33 percent farmers utilize the income in education of children, 28.33 percent of the farmers maintain bank balance. These activities indicate the vegetable farming is being a profitable and income generating enterprises among the farmers group in commercial vegetable farming.

#### 4.3.3.1 Change in Life Style of Women in Society after Farming

The changing in life style of women from commercial vegetable farming was found good condition in study area. Their economic as well as social status has been improved from vegetable farming. The income and expenditure level have been increased. The level of savings and expenditure on education of their children also increased.

**Table 4.18: Change in Life Style of Women in Society after Farming**

<b>Change in</b>	<b>Increased</b>	<b>Decreased</b>	<b>Constant</b>	<b>Total</b>
Level of expenditure in household activities	55	-	5	60
Level of income (savings)	57	1	2	60

Source: Field Survey, 2016

The table 4.18 shows that utilization of income shows the area of the expenditure. Women are utilizing income primarily make expenditure on household activities like food, cloths, children education and daily required goods. These expenditure has been increased after vegetable farming Similarly level of income (savings) also increased after vegetable farming. They earn more by investigating into production sectors like business & saving in bank. These activities indicate the vegetable farming is being improved in life style of women in society.

#### **4.3.3.2 Source of Information to Cultivation**

Information is important for vegetable farmers. They need information related to farmer's livelihood and production vegetable management in local market center. The information sources are given below in table.

**Table 4.19: Source of Information**

<b>Source of Information</b>	<b>No. of respondents</b>	<b>Percent</b>
Self	12	20.63
From family	35	57.14
JT, JTA and NGO	13	22.23
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

The table 4.19 shows that farmers of the study area get idea for vegetable farming from different sources. Majority of the respondents i.e. 57.14 percent respondents get information from their own family members which are followed by JT, JTA and NGO 22.23 percent and 20.63 percent get information themselves.

#### 4.3.3.3 Decision Making Role of Women in Farming

In this point shown that the role of women in decision making before and after vegetable cultivation women can play important role for making successful family.

**Table 4.20: Role of Women in Decision Making before and after Farming  
Vegetable**

	<b>Themselves</b>	<b>Husband</b>	<b>Both</b>	<b>Total</b>
Before vegetable farming	8	16	36	60
After vegetable farming	20	4	36	60

Source: Field Survey, 2016

The table 4.20 shows that, women of 8 households decide themselves in the sector of food and daily use expenditure, house construction and social functions before vegetable farming and 36 households decide both before vegetable cultivation. At present women of 20 households decide themselves and 36 households involved both in decision making. Husband of 16 households decide himself before vegetable farming, at present only 4 household decided. The table shows women role is more than men because of men are job holder and all house activities are under women.

#### 4.3.3.4 Change in Life Style of Women in Society

Utilization of income shows the area of the expenditure. Women are utilizing income primarily in food, cloths, children education and daily required goods. They earn more by investigating into production sectors like business & saving in bank. These activities indicated that vegetable farming is being improved in life style of women in society.

#### 4.4 Challenges and Prospects of Women Participation

In the agro-based economy like that of Nepal, the economic development is connected with the agriculture development. However, the condition of agriculture is far from being satisfactory. Nepalese agriculture is still suffering from multifarious challenges and prospects.

#### 4.4.1 Major Challenges of Vegetable Farming in the Study Area

In Nepal generally, the rural people are dependent on agriculture vegetable cultivation based a part of agriculture sector plays a vital role in the economy as an extra income generating business. Bhimphedi has been also agro-based economy dominated by cash crop cultivation. Here, the satisfactory production of cash crop is hampered by the technological and other knowledge in different aspects. On the basis of interviews taken with the farmers and field observation an attempt has been made to present basic problems faced by farmers in vegetable in Bhimphedi. Out of the total sampled households the following numbers of respondents pointed out the following main problems in connection with vegetable cultivation. The highest number of respondents 21 percent told that they had problems of Lack of technical knowledge and smaller number of respondent i.e.8 percent had problems of unavailability of chemical fertilizer. Similarly 18 percent told problems of irrigation, 20 percent told problem of Agriculture inputs, 12 percent told problem of economic poverty and 10 percent told problem of unavailability of chemical fertilizer and agriculture equipment.

**Table 4.21: Major Challenges Vegetable Farmers in the Study Area**

<b>Major Problems</b>	<b>Frequency of Households</b>	<b>Percent</b>
Insufficient of technical knowledge	13	21
Supply of agriculture inputs	12	20
Insufficient supply of Irrigation	11	18
Economic poverty	7	12
Agriculture equipment	6	10
Transportation for marketing	5	8
Insufficient Supply of chemical fertilizer	6	10
<b>Total</b>	<b>60</b>	<b>100</b>

Source: Field Survey, 2016

##### 4.4.1.1 Insufficient of Technical Knowledge

Insufficient of technical knowledge is the major problem for the vegetable cultivation in Bhimphedi. The technical insufficient is mainly concerned with the service of governmental office and other concerning agencies. Technical officer, assistants are

not active engaged in their fieldwork and farmers could not get their suggestion, training, knowledge and instruction for the cultivation of vegetable. About 13 households have reported that the lack of technical knowledge is the major problem that they are facing. If the farmers would get enough support from technical manpower there will be drastic change in the vegetable cultivation.

#### **4.4.1.2 Supply of Agriculture Inputs**

A large majority of respondents have reported that the lack of technological knowledge is first important problem being faced by the farmers in the study area. Due to lack of proper knowledge they do not apply new input of cultivation like chemical fertilizer, pesticides etc.

In the study area there are many problems. Insects and diseases are the major problems of vegetable cultivation. They do not have sufficient knowledge on the pesticides and insecticides. The farmers of the study area are not getting the services of JTA. JTA, however, they need about 12 households of respondent reported that the lack of insecticide and pesticide.

#### **4.4.1.3 Insufficient Supply of Irrigation**

Irrigation is another important problem of vegetable farming in the study area. Although there are many water resources the farmers usually faced irrigation problem because of lack of proper management of irrigation facility. The irrigation management is not permanent in the study area. All of the farmers of the study area irrigate their vegetable garden by small channel and wasted water in the kitchen. So, in the lack of proper irrigation facility, farmers cannot cultivate vegetables in large area. Out of total sample households 11 households have suffered from irrigation facility.

#### **4.4.1.4 Economic Poverty**

Most of the farmers in the study area are financially very weak. So, even those farmers who believe in improved varieties of tool, seeds and chemical measures are not able to use them. If the farmers unable to invest money for vegetable cultivation they cannot meet required objectives for production. Most of the vegetable farmers do

not have saving for investment. The credit facility provided by various institutions is still inadequate and loan distribution system is not satisfied. Thus, the economic poverty is a serious obstacle to develop vegetable farming. Out of total sample households 7 households have faced such problems.

#### **4.4.1.5 Agricultural Equipment**

Unavailability of agricultural equipment is a problem for vegetable cultivation which is not available still now. They use traditional agriculture tools for vegetable cultivation. Out of total sample households 6 households have faced such problems.

#### **4.4.1.6 Transportation for Marketing**

Though this area is not remote and has transport access, the means of transportation can't reach to their farms. So, the farmers themselves have to transport the vegetables using the bamboo basket from their farms to the nearby road or even to the market. This is one of the main problems faced by the vegetable farmers of the study area. Out of total sample households 5 households have realized the transportation facility.

#### **4.4.1.7 Insufficient Supply of Chemical Fertilizer**

This is another main problem for the vegetable cultivation in the study area. About 6 household of respondent reported the lack of chemical fertilizer in the time of need and no requirement quality. It is accepted that the use of chemical fertilizer is very necessary to increase the vegetable cultivation. But due to the lack of an appropriate distribution institute and loose government policy chemical fertilizer is not available in adequate quantities on time. So, farmers are being compelled to use alternative fertilizer, which may cause of the low production.

#### **4.4.2 Prospects of Vegetable Farming**

The prospect of the vegetable cultivation will basically depend upon two major factors: (1) physical condition and (2) demand. Without suitable physical condition no crop can be grown and developed successfully. So, without studying physical condition, it will be just like a day dreaming. Similarly, production is meaningless without demand. Therefore, these two major factors should be analyzed.

In terms of physical condition Bhimphedi has suitable condition for vegetable cultivation. Topographically, the study area is covered by hills. The soil is rich in organic matter. So, the soil is also good for vegetable cultivation. With economic point of view, it is also far better than other cereal crops. This is also a positive result of physical condition for further development of vegetable cultivation in Bhimphedi.

#### **4.4.2.1 Land Availability**

Bhimphedi is wet land and it has fertile soil, lots of open field area and source of irrigation. Vegetables are more profitable than other crops. In fact commercial vegetable is produced during season and off season.

#### **4.4.2.2 Suitable Physical Condition**

Vegetable production is not possible everywhere, due to different physical and social factors. Vegetables have been cultivated especially in this area where adequate physical as well as other essential factors for vegetables cultivation are available. In Bhimphedi VDC, distribution of cultivated land and their physical condition, topography and soil types, fertile soil, climate, irrigation are essential factors for vegetable production.

#### **4.4.2.3 Demand of Vegetable**

Due to rapid urbanization the proportion of urban population has increased, demand of fresh vegetable increased day by day and farmers of this area began to cultivate vegetable for cash income.

#### **4.4.2.4 Cash Income**

Vegetable is a most important cash crop. Being more profitable than other crops trend of farmers towards vegetable cultivation is increasing. Farmers of the study area have been cultivating cauliflowers and radish for commercial purpose. Economic status of the farmers has been increasing through vegetable selling.

#### **4.4.2.5 Source of Employment**

Unemployment is a most serious and burning problems of the country. Most of the people are being unemployed day by day. Vegetable cultivation has become one of the income generation activities in Bhimphedi. Vegetable farming is a labour intensive occupation and provides more employment opportunity than other farming. The study area is being one of the vegetable farming areas of the Bhimphedi. According to the field survey, 63 households of the study area have been occupying vegetable farming as economic enterprises.

#### **4.4.3 Suggestion from Farmers Vegetable Cultivation in the Study Area**

There are many possibilities for vegetable cultivation in Bhimphedi area but due to some problem, it lacks the possibilities. The problems they are facing are:

- Lack of modern technologies in farming.
- Lack of training for farming through the governmental sector.
- Problem of transportation in study area.
- Not proper management of water sources at winter season.
- Unavailability of hybrid seeds for commercial farming.
- Problem of labor availability in study area
- Insufficient supply of quality of seeds and quality control in study area
- No provision of self Decision Making in Farm Management
- No proper knowledge for uses of chemical fertilizer and pesticides
- Unavailability of New Technology for commercial farming.



**CHAPTER - V**  
**SUMMARY, CONCLUSION AND RECOMMENDATIONS**

**5.1 Summary**

Agriculture is the backbone of the Nepalese economy, which produce food and goods through farming. Agriculture in Nepal is labour intensive and it is based on family labour. From the beginning, agriculture has been the main source of people's livelihood. Vegetable farming is a traditional custom in the Nepalese community; particularly for the purpose of domestic consumption. Vegetable farming is a farming economic source and household use for consumption. Vegetable cultivation has mainly emphasized to the goal of poverty alleviation and improvements in the living standard of the people below the poverty line.

Bhimphedi is one of the agriculture farming areas of the Mawanpur district. Vegetable cultivation has been playing a significant role in farmers' economy of this area. Farmers of this area used to cultivate vegetable for household use only. But nowadays they grow vegetable for earning cash income. They have been able to uplift their economic status through it. The main objectives of this study are to determine the role of women in farm management and its impact in the agricultural sector. The specific objectives of the research are to identify the participation of women in vegetable farming and to identify the problems and prospects of vegetable farming in Bhimphedi, VDC. The Bhimphedi for sample was selected based on primary information where total of 60 respondents was selected. Both primary and secondary data has been referred in the study, which included questionnaires survey, key informants interviews are employed to generate primary data for the study. Secondary data information has been collected from different books, journals and other related literature.

Most of the household head were in the age group 30-40 and 51 households head were male and 35 households head were female. Chhetri, Brahmin, Tamang and low castes group were found in the study area. About 83 percent were of Hindu religion. Bhimphedi people live more in pakki house. The literate and illiterate percent of them was found 30 percent. Among educated groups, majorities were found to have secondary level 22 percent. Majority of the families use toilet or mostly feel it is

necessary for the health. Bhimphedi has 88.30 percent toilet facility. Most of them have land holding 1-3 ropani which accounted for 57 percent. Around 30,000 kg vegetable production is made in this area. Average annual income of Bhimphedi of 5 households is 41,000 kg production cauliflower more than other vegetables. Farmers use both manure compost and chemical. Six households got skilled training. Participation of women in vegetable cultivation is more than male. Sixteen percent female and 15 percent male are engaged for weeding.

Nowadays, women also participate in household decision making process. The attitude of farmers towards vegetable production was found positive and shows need to education for girls. They began to send boarding. Seventy six percent girls and 79 percent boys have found.

The main problems of vegetable farmers are irrigation; economic poverty, unavailability of agriculture inputs lack of technical knowledge, unavailability of agricultural equipment etc. are the major problem of the study area. There are more prospects in Bhimphedi land availability, suitable physical condition, cash income, demand of vegetable, growing urbanization etc.

## **5.2 Conclusion**

Women's participation in vegetable farming has changed women's lifestyle in positive way. Women were more involved in Plantation, Weeding, Collection and transportation than man. Women are involved in decision making post vegetable cultivation as well that helps to run the family smoothly.

The problems identified in vegetable farming in Bhimphedi are lack of irrigation, modern techniques, trainings, chemical fertilizer and marketing. If we solve the above problem, it is sure that the vegetable farming will be done successfully. As a result, it helps to raise economic condition especially of farmers and reduce unemployment problem of this area. The main reason to success of vegetable cultivation is the better utilization of available resources in the research locality.

It was observed that the vegetable cultivation is one of the income sources and it was started from 5 to 8 years ago in Bhimphedi. Sampled survey shows that there are

improper uses of chemical pesticides for controlling vegetable from pests. There should be aware of the improper use and handling of chemical fertilizer and pesticides too. The farmers should be made aware negative impact of pesticide to all living things. After engaging in vegetable farming, it has improved in participation of women for domestic decision making.

### **5.3 Recommendations**

Based on the observation made during the field visit as a result of this study some important recommendations are given to manage vegetable cultivation.

- There is high scope of vegetable cultivation but it cannot be developed as it has possibilities due to the lack of agriculture inputs such as improved seeds, fertilizer, insecticide and pesticides must be made available at a reasonable price in local small market in time.
- Vegetable farming needs irrigation than other crops. In Bhimphedi at present not proper management irrigation facility for extensive cultivation. Therefore irrigation facilities should be provided.
- Some farmers in the study area have made comment on damage of crop by diseases. So, there is a need to provide J.T.A. or agricultural specialists to provide necessary knowledge and support.
- The study covers small area because of limited time. Future researchers who have interest in the similar issues take a larger study area so that many problems can be identified.

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