CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Nepal is predominately 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 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 consequences.

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 2011 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. Manu 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 evidences from past and current studies that both men and women contribute significantly to farming system of Nepal. Poor rural women play important roles as unpaid family workers, hired labourers, income earners, savers of expenditure, 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 Rational of the Study

The one of the main objective of Nepal agriculture perspective plan (APP) is to transform the subsistence into a commercial one through diversification and widespread realization of comparative advantage. Thus, there is considerable need for research that deliberately involves women in every aspect of research that deliberately by relating to their specific socio-economic condition. Women play a vital role in the production of all high value commodities, most notably in Seri-culture, vegetables, ginger and vegetable seeds. Prior to assessing gender impact of APP, this section has assessed how the APP viewed the gender. For this, the study has first brought together gender concerns of inputs and outputs.

The gender issues have became an interest and hot cake to the sociologist, politicians, planners, social workers, feminist and even everyone in the world as well as Nepal in order to balance and integrate women and men in development.

This study is focus on Nepalese women's condition within commercial vegetable cultivation. Nowadays awareness and motive towards cash crop cultivation and economic activities among the farmers have remarkably increased. Many farmers have also commercialized their subsistence farming like vegetable production. It helps rural women in utilization the local resources and spare cash income. Thus, it is necessary to investigate. Whether it empowered the social and economic status of women. Farmers in the urban-fringes are respondent by shifting their crops to vegetables that have higher

market value. For example, in the past study area, Potato and cucumber were cultivated for home consumption only. Now-a-days potato and cucumber fields are expanding. So that some of the crop can be sold. Production of tomato, cauliflower, cabbage, radish, leafs etc are also increasing. In the same, the workloads of women also have been increasing day by day. Nepalese economy is largely characterized by disguised un-employment and substance farming with limited prospects for modernization and commercialization of agriculture, Nepal's (2004) entry into WTO marked as important event of change and is likely accelerate the trends.

This study provides the evidence of women's participation in commercial vegetable farming and also able to portrait real figure of the study area. It is expected that this study may also be useful for future research and researcher to carry out of sociological studies on the issues concerned with gender perspective.

1.3Statement 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 agriculture 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 to 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 sectors are several and often require hard physical labour. However, farming women in the third world are often regarded as "invisible" or as mere "housewife" 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 walfare 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 Dakshinkali, Municipality of Kathmandu 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 decision making role?
(iii) What are the problems and prospects of commercial vegetable farming in the study area?

1.4 Objectives of the Study

The main objective of this study is to analyze women's participation in commercial vegetable farming in Dakshinkali, Municipality of Kathmandu 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 decision making role.
(iii) To explore the problem and prospects of commercial vegetable farming in the study area.

1.5 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 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 condition 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 Dakshinkali, Municipality district. It will also suggest some specific strategies for improving the participation of women at Dakshinkali, Municipality. 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.

1.6 Limitations of the Study

- This study has been focused on the role of women in farm management, especially in the agricultural sectors; 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 has been 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 study is divided into five chapters. The first chapter deal with the introduction of the study including background, rational of the study, statement of the problem, objectives of the study, significance of the study and limitation of the study. The chapter two deals with the literature review, historical review, theoretical review, review of previous studies and conceptual framework of the study. The chapter three concerns with research design, methodology and tools used for data collection. The chapter four concerns with data presentation and interpretation. The last chapter five deals with summary, conclusion and recommendation.

CHAPTER II

LITERATURE REVIEW

In Nepal, the economy is dominated by agriculture. In the late 1980s, it was the livelihood for more than 90 percent of the population, although only approximately 20 percent of the total land area was cultivable, it accounted for, on average, about 60 percent of the GDP and approximately 75 percent of exports. Since the formulation of the Fifth Five- Year Plan (1975–80), agriculture has been the highest priority because economic growth was dependent on both increasing the productivity of existing crops and diversifying the agricultural base for use as industrial inputs.

The purpose of literature review is to find out what research studies have been conducted in one's chosen field of study and what remains to do. The primary purpose of literature review is to learn not to accumulate. It enables the researcher to know, what research has been done in the subject? what others have been done in the study? what theories have been advanced? The approach taken by the other researchers, area of agreement of disagreement and whether there are gaps that can fill through the proposed research?

2.1 Historical Review

Women In Agriculture:

"Women play a significant role in agriculture, the world over. About 70% of the agriculture workers, 80% of food producers and 10% of those who process basic food stuffs are women and they also undertake 60 to 90% of the rural marketing, thus making up more than two third of the work force in agricultural production (FAO, 1985). In West Africa, up to 80% of the labour force in all trade is female. Yet, the role of women in these activities, so important economically, has remained obscure for long because women seldom played and major roles in political activities or decision making processes. Despite the fact that women produce much of the food in the developing world, they also remain more malnourished than most men are. In many rural

societies, women eat less food than men do, especially when the food is scarce, such as just before the harvest, or when the workload increases without a corresponding increase in the food intake.

Women provide one half of the labour in rice cultivation in India. In the plantation sector women are the crucial labourers. Depending on the region and crops, women's contributions vary but the provide pivotal labour from planting to harvesting and post-harvest operations. In rural India, agriculture and allied industrial sectors employ as much as 89.5% of the total female labour. (Weinberer and Lumpkin, 2007)

Women Participation In Work:

According to a study by Acharya and Bennett on the status of women in Nepal (1979-81) women spend on the average of 9.91 hours per day in domestic farm labour as opposed to 5.68 hours per day for men. Rural women generate more of the total household income the men 50% of the total income is contributed by women as compared to 44% by men and 6% children.

The aggregate data from this study depict women's contribution to the heavily focused on farm and domestic activities: 86% of all domestic work and 57% in subsistence agricultural activities. Their total contribution to the household income remains at 50% as opposed to only 44% for males and 6% for children between the ages of 10 to 14 (UNICEF 1992:91-92). The socio-economic status of women in Nepal is very poor. While 81.3% of the total population are dependent on agriculture women constitute 45.2% of the country's total economically active population. Labor participation of Nepalese women is the highest among SAARC countries (61:04%), despite their significant contribution to the economy, women constitute the major group of disadvantaged people in Nepal (UNICEF, 1995:2).

Women have always been given a secondary position on that of man in our traditional society. She is seen as a good housekeeper, and a good mother this shows that women had a very limited role to perform in the traditional

society. However, in the modern times, especially in the urban areas, women have to perform dual role i.e. to take care of the whole household activities and to work outside the home for extra income to support the family (Upreti, 1988:13).

More and more Nepalese women are entering into job market today either because economic necessity or in search of new career if one looks into the occupational distribution of families from 1971 to 1991 census, one would find a considerable increase in the proportion of women employed in services, professional and technical and sales services.

For majority of population in pre-industrial societies (many people in the developing world) productive activities of household were not separate. Production was carried on either in the home or nearby all the members of the family participated in work. Women often had considerable influences within the household as a result of their importance of economic processes, even if they were excluded from the male realm of politics and warfare. Wives of craftsmen and farmers often kept business accounts and windows quite commonly owned and managed businesses.

Much of this changed with the separation of the workplace from the home has brought about by the development of modern industry. The movement of production in mechanized factories was probably the largest single factor. Individuals hired specifically for the tasks did work at the machine's pace, so employers gradually began to contract workers as individuals rather than families.

2.2 Theoretical Review

Nepal is composed of diverse geography, climate, caste, ethnicity, linguistics etc. It is small in the world geography, yet varying diversity of climate and others that's supporting various types of vegetables growth within the national climate. The major part of vegetable farming in Nepal is executed by female population which demands consistent labour in the field. Yet the role of women in vegetables farming is shadowed in the Nepalese economy. The

female population of the Nepal is higher than male. It's 51.50 percent in compare to 48.50 percent of male population (CBS, 2011). The supply labour force in vegetable farm covers more than males. Yet, the commercial values and commitment of women in national vegetable production is unsatisfactory.

Now day's commercial farming is popular between male and female in rural and urban areas in Nepal to generate income to run their livelihoods. NGOs and INGPOs are helping in their commercial farming and also micro finances are help through flowing capital.

Status of women is an important factor, which affects the socio-economic development of a country. As we know that status is not a fixed rigid concept, it changes with time. So the status of women also changes with time. Status has been defined in different ways. As cited by the population monograph- the United Nations has given the definition of women's status as "The conjunction of position a women occupies as a worker, students, wife, mother of the power and prestige attached to these positions and of the rights and duties she is expected to exercise" (Paris, 2012).

The situation of women in developing country like Nepal is much worst than in the developed ones. Still at the beginning of 21st century, due to conservatism, tradition, illiteracy, ignorance, poverty and superstitions, women have been treated as second-class citizens. They have less prestige, power and privileges than their male counterparts in the society (Upreti, 1988).

Agriculture 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 greenhouse 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 experiences, this kind of experimentation was vital for the development of such crops as grapes, citurs and almonds. Arab agriculture revolved primarily around dry farming, with barely, chickpeas, sesame and olives predominating. The few German Templer 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 percent of food production in developing countries, yet female farmers are often underestimated and 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 predominately agricultural; there are two major immediate factors of human-induces environmental degradation. On the one hand there 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 economics independence. Agribusiness sectors in which women dominate include sericulture, dry ginger processing, cardamom drying, fruit processing, tea and coffee processing, angora wool, diary products, meat and fish processing, cut flowers and saffron (Sharma, 2005).

The Thirteen National Development Plan had target of reducing the poverty head count ratio (HCR) below 18% with the annual economic growth sustained

at 6% (agriculture: 4.5, non-agriculture:6.7) and employment growth at 3.2% (NPC 2014). To realize these objectives, high-value crops including vegetables are identified as the priority areas. Indeed, vegetables play an important role in reducing hunger and malnutrition for billions of people around the world (AVRDC 2010), and offer great opportunities for the poverty reduction through employment and income generation (Weinberer and Lumpkin 2007; Tiwari et al,2008)

So, the role of vegetable farming is directly connected with improving the prevailing poverty in pre-urban and rural areas where women participation is higher. It supports in improving the rural life if commercially motivated and excited. From vegetable farming, women are supporting the income of household to maintain the needs of social, cultural and human values.

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 obstacle to women's participation in agricultural development. The eight five years plan (1992-1997) also recognized the need for increasing women's participation at each decision making level in government and semi-government set ups. 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 program, 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 (Sharma, 2005).

2. 3 Review of Previous Studies

Rao and Lata (2005) synthesized that women play vital role in the production of all high-value commodities, most notably in sericulture (where they account for 70% of labour), vegetables (67%), vegetables seeds (58%) and ginger (64%). Women play significant role in the market of agricultural products. In

many cases this involves carrying heavy loads over long distances. Little has been done to improves 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) also said that 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.

Kawamura (2000) pointed out that vegetable farmers derive their livelihoods mostly from NR-based activities with a narrower range of income sources, specializing in vegetables farming. They do not only operate large-scale farming of marketable vegetables such as tomato and on higher income from it, but are also able to utilize land more profitably. They use higher proportions of their land for vegetable farming, but they still maintain larger food crop areas and grater food crop areas and greater food crop production and sufficiency. These strategies are considered to have been possible due to their higher status of assets and more advantaged access to them.

Uphadaya (2004) stated that majority of activities pertaining to vegetable farming under drip irrigation areas (Three village of Palpa District of western

Nepal) is carried out by women. Men's involve in relatively limited. Data show that a total of 186 hours of labor is required for vegetable production in dry season, in which women's contribution is significantly higher (86%). The total mean hours used for irrigation in vegetable production is the highest (80hours) in comparison with other activities. Interestingly, activities like harvesting, weeding, fertilizer application and making are completely dominated by women.

Women spent a total of 328 hours per annum for vegetable farming while men spent only 44hours. Nepal remains one of the lowest ranking countries in terms of gender-related development indicator (GDI), which clearly illustrate the gender inequality prevalent in the country. It is also evident that those countries that are lower achievers in GDI are predominately represented under low-income food deficient countries (LIFDC) and so is the case of Nepal.

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. He analyzed that the vegetable farming is hugely contributed by women participation.

UNICEF (2006) stated that 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 there 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 ensures to restore soil fertility and counteract its increasing exposure to erosion.

Narko and Kikhi (2006) studied about the women vegetable vendors under the title "Strengthening Market Linkage for women vegetable vendors: Experience from kohima, Nagaland, India." Here they observed that 90 to 95 percent of the vendors were women. Women looked after the management, cultivation, harvesting and processing of the crops, although men sometimes helped to bring their products to the local markets. Although some goods are sold in bulk to regular vendors, others were sold directly to consumers on a temporary site.

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 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 economics, social and cultural condition of living not only agricultural landscape and environment.

Sapkota (2009) has studied farmer's choice and farmer's voice on the use of local versus modern inputs on peri-urban agriculture in Makwanpur 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 local farmers have been trying for long time to sustain agricultural production through using indigenous compost and farm and manner system.

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 vegetable 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.

Adhikari (2010) analyze that women play significant role in all the various stages of crop production, processing and preparing for markets, including vegetables. Rural women are responsible for 60 to 80 percent of food production in developing countries, yet female farmers are often underestimated and overlooked in agricultural policies and strategies. According to the study carries out by 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 requires heavy physical labour such as ploughing (although women all over rural Nepal can be seen carrying the 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, soyabean etc as well as vegetable farming. However, in the case 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.

However, in all three ecological regions irrespective of social and ethnic groups, both men and women contribute significantly in livestock production and management. In minor and subsistence food crops as well as vegetable farming, women participation is higher but economically shadowed.

Ashley (2015) observed that in commercial farming, women often face higher barriers to entry than men. This vulnerability of women is due to the nature of their employment within the system. Men tend to occupy higher status higher pay positions, whereas women are generally found doing work for wages and are often the first to be let go during times of market fluctuations. They have less access to information related to commercialization namely starting a business, technologies and market related information. Within the household, even if a women were in the lead position in the business she could very well have access to the resources yet still face a barrier when

engaging in market transactions. Men are often in those positions of trader and buyers which essentially the gateway to the market.

The Kathmandu Post (2015) published news stating that according to the statistics of the Ministry of Agricultural Development garlic yields the highest profit margin compared to other vegetables and cereal crops. The figures show that growing garlic is 70 times more profitable than paddy and 17 times more profitable than potato. A farmer in the hills earns Rs 1.39 million per hectare from garlic, while in the Terai region, the profit is Rs 1.04 million per hectare. In contrast, a farmer in Terai makes a net profit of Rs 18,273 per hectare from paddy. In the hills, the net profit from paddy is Rs 14,603 per hectare. The total cost of production of garlic in the Hills and Terai is Rs 284,332 and Rs 255,188 per hectare respectively. Likewise, the productivity of garlic in the Hills and Terai is 18,637 and 17,214 kg per hectare respectively.

Garlic fetches Rs 140-150 per kg in the wholesale market. According to him, despite such huge profits, there is no commercial farming of garlic in the country. It is used mainly as a flavoring for food and as a health food. After garlic, ginger and tomato among vegetable and spice crops yield the highest rate of return to farmers. The stats show that the net profit from ginger and tomato comes to Rs 327,929 and Rs 302,521 per hectare respectively.

Metodika (2015) stated that during the past 50 years, agricultural development has been successful emphasizing external inputs as the means to increase food production. The use of pesticides, chemical fertilizer, farm machinery and animal feed stuffs are increasing agricultural products and their global consumption. The organic fertilizer like livestock manure, compost and nitrogen fixing cropping are gradually replaced by modern pesticides, chemical fertilizer, farm machinery and mechanical method of controlling pest weeds and diseases. The information for management decision of such modern techniques comes from input suppliers, researcher and extension rather than from local sources. Similarly, fossil fuel has substituted for locally generated energy sources. In USSR, before the October revolution of 1917, 85 percent of vegetable growing was subsistent or semi-subsistent in character. Vegetables were cultivated primarily in the garden of peasant farmers. In 1913, the total area under

vegetable cultivation was 648,000 hectares and only about 15 percent of the harvest was for trade in cash or kind. Vegetable growing developed unsystematically on sites chosen at random. Some of the truck gardens were located near large cities.

So, the vegetable growing does not only depend upon women efforts. It is a collective effort from different sectors. The women need technical knowledge to execute profitable vegetable farming. This knowledge comes from the various technical departments of government and the supplier too. The women do not have sufficient knowledge regarding the appropriate use of pesticide. Generally, women are less literate. Chemical fertilizers are vice in many ways, if not used properly in fields. Therefore, such knowledge should be made approachable and available to the women at ease. Actually, with the modernization, the commercial vegetable farming seems to have come into existence, because there it develops the market. In 1972 the amount of inorganic fertilizer used on vegetable plantings was 1 ton or greater per hectare. The square and square-nest methods are used for sowing the seed, as well as for planting cabbage and tomato seedlings. The tending of vegetable plants involve inter row tilling, weeding, hilling, thinning out, top-dressing, irrigating, pinching off runners and removing lateral shoots.

Godswill et.al (2015) studied and the results indicates that in Cameroon, and in the Bamenda Municipality in particular, vegetables cultivation in the urban and peri-urban wetlands is assuming an increasingly important commercial role, especially for the low income households living near these centers. A greater portion of these wetlands are increasingly seasonally reclaimed for vegetable cultivation in defiance of government regulations prohibiting wetland reclamation. A variety of vegetables like berry (Solanium scarbrium), green (Amaranthus spp), bitter leaves (Vernonia amygdalina), tomato (Lycopersicon esculentum), pepper (Capsicum chinensis L), eggplant (Solanum melongena), cabbage (Brassica oleracea), pumpkins (C. moschata, Duch) are cultivated in the study area in multiple cropping systems. They are often associated with other crops such as maize (Zea mays), beans (Phaseolus vulgaris) and cocoyams (Colocasia spp), without any specific pattern. The most commonly

grown vegetables are also the most perishable (leafy) ones, which have to be produced in proximity to markets given that very little refrigeration of vegetables is practiced. Most urban vegetable farming sites are on lands belonging to private developers who have not yet started constructing houses on them. Preferably, farming is done in reserve areas along streams and other water sources such as artificial ponds. The vegetable farmers normally rent such land from the owner on a yearly basis with no written agreement and as such have no security as regards the length of tenancy rights. The production of vegetables is labor intensive requiring several inputs. Land has to be cleared, followed by the raising of beds, sowing of seeds by broadcasting, weeding, watering etc. Due to the high labor requirements, farmers with bigger land areas have to hire labor or rent water pumps.. However, the farmers mostly use buckets and watering cans to convey water from streams to their farms, which are often farther away from water sources.

Mahaliyanaarachchi (2015) stated that traditional farming was conceived as subsistence agriculture in developing countries. The major purpose of farming was for home consumption. Later, with the development of markets, it gradually converted to commercial production. The trends are now emerging in the agriculture sector where farming is practiced as a business. The production are largely market oriented. In fact, the government policy in Sri Lanka envisages a marked transformation of subsistence agriculture into a profitable venture with the ultimate objective of creating a rural peasantry as an effective partner venture with the ultimate objective of creating a rural peasantry as an effective partner in the overall process of development. Special attention is paid to processing and value addition rather than disposal of the primary produce by the farmer in the unprocessed form. The policy is so designed to ensure that the rural farmers could co-exist with the rapidly transforming open economic environment.

Therefore, commercial agricultural production is necessity of changing demands. It has positive impacts for developing countries. It supports on transforming the rural livelihood pattern. It assists in shifting the unproductive rural areas into more productive sectors and proper utilization of rural resources. In fact,

the farmers can be the effective partners in national development goals by gaining commercial productivity in agriculture. It will address the various prevailing problems. Actually, much of the national development challenges prevail in rural parts in developing nations. Therefore, commercial agricultural production in high valued products like vegetables will be the winning situation to all interested groups.

Bhutta (2015) stated that the vegetables are a rich source of vitamins, proteins, salts and carbohydrates. With increased health awareness in the general public and changing dietary patterns, vegetables are now becoming an integral part of average households daily meals. Therefore, year-round demand for vegetables is increasing particularly in major centers. The increasing population growth, health awareness, changing dietary in affluent middle classes and availability of packaged vegetables has generated year-round market demand for vegetable products. However, the supply side of vegetable is pitiful due to lack of off-season farming, storage and processing facilities. In natural seasons, the market remain flooded with vegetables irrespective of demand, substantially bringing down their prices. On the other hand, during the off season, there is only a limited supply of these vegetables available in the market with higher prices.

Off-season farming assures the producers as well as consumers. With the availability of storage infrastructure and processing facilities, off-season farming is viable. It will increase the income of the farmers and equally ensures the availability of fresh vegetables to the consumers throughout the year at affordable prices. It will have better impact on various national sectors like agriculture, employment, health etc. Cucumber, chilies, tomatoes, sweet pepper, brinjal and squashes are some of the popular vegetables that can provide substantial return to farmers in the off-season.

Singh et al. (2016) have stated that the cultivation of vegetable mainly done for economic gain or for marketing purpose is known as Commercial Vegetable farming. Such commercial farming has great scope for improving socio-economic status of small and marginalized farmers as it yields high economic returns in compared to food grains. Growing of vegetables is 4 to 8 times more remunerative than cereals and it generate employment in the rural

areas. Apart from this, it is an indispensable part of balanced diet. According to Indian Council of Medical Research recommendation, average person should consume nearly 300g of vegetable daily. The study also showed that the vegetable cultivation is not getting as popular as it should be among the growers because of high input costs, lack of irrigation facilities and difficulties in their marketing and storage. However, the demand for vegetable is rising, which is estimated to be around 135 million tons by 2010. Thus, there is an urgent need to increase the vegetable productivity in India to suffice the nutritional security for increasing population.

Shrestha et al. (2016) studied the knowledge, practice and use of pesticides among commercial vegetable farmers of Dhading District, Nepal. The study showed that fresh vegetables are essential part of a healthy diet as it is an important source of vitamins and minerals. However, to control objectionable moulds, insects and weeds, the use of pesticides have also resulted in poisonous source in vegetables. Out of thirty household surveyed, 86.6 percent apply pesticides to vegetables. They stated that the use of pesticides in vegetables has been in rising trend.

Commercial vegetable farming should be a long term phenomenon. Although, the growth of vegetable products is seasonal, the growing process is continuing. The proper planning is required for long term basis. To increase the short term productivity, we cannot apply haphazard means. The consequence effect may be hazardous. Therefore, the use of pesticide and other chemical means must be observed carefully. It may have effect on health, soil, environment and the product itself. Hence, the women should be kept aware regarding the knowledge, practice and use of pesticides during commercial vegetable farming.

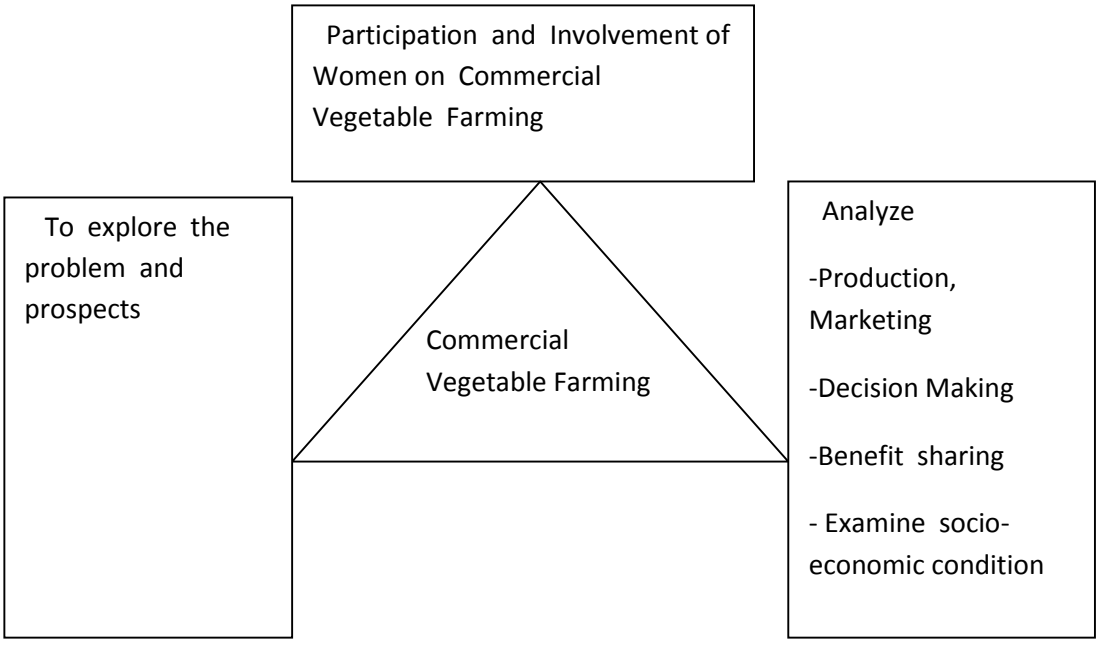
Aryal (2016) studied about the participation and involvement of women on commercial vegetable farming, how it enhance and changed women's lifestyle in positive way. Experience from Bhimphedi, Makawanpur District where 60 households respondents was selected to meet the objective on 51 households head were male and 35 households head were female. Due to the commercialization of vegetable farm nowadays women also participate on

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 school seventy six percent girls and seventy nine percent boys have found.

The main problem 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. Though there are high prospects of land availability, suitable physical condition, cash income, demand of vegetable, growing urbanization etc.

2.4 Conceptual Framework

The main focus is to analyze the women's involvement and participation in commercial vegetable farming and its impact on socio-economic status of women. To fulfill this study is concentrated on the following variables, in short the conceptual framework of this study.



2.5.1: Figure of commercial vegetable farming

Vegetable farming as a means to earn a living. In modern day, vegetable farming is done not just for the consumption in the family but also for commercialization, income generating purposes.

This study is focus on Women Participation on Commercial Vegetable farming in Dakshinkali Municipality of Kathmandu District. To analysis the participation of women on commercial vegetable farming above three variables objectives has been addressed (i) To examine the socio-economic status of women involved in commercial farming. (ii) To analyze the participation of women in production, marketing and decision making role (iii) To explore the problem and prospects of commercial vegetable farming in the study area.

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. In other words research methodology describe the methods processes applied in the entire aspects of the study. It may be understood as a science of studying how research is done scientifically. It is necessary for the researcher to know not only the research methods but also the methodology. Research methodology refers to the various sequential steps to be adopted by researcher in studying a problem with certain objectives in view. In other words, it is a way to systematically solve the researcher's problem. Therefore, this chapter deals with the following aspects of methodology.

3.1 Research Design

The research design adopted for this study is descriptive as well as exploratory in nature. It describes the present socio-economic condition of commercial vegetables farming in the study area, problems 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 participation in this process. Age, sex, 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

Dakshinkali Municipality has been selected for this study. It is the southernmost part of Kathmandu district, enclosed by Makwanpur in the South and Lalitpur in the east. It is peri-urban area of Kathmandu metropolis. It is located about 18km in distance from Kathmandu Centre. Most of the people here are living a life of farmer. They depend heavily in agricultural farm. They have been taking benefit from vegetable farming. Many individual investors, seeing the good

prospects, have hired a land in this area to do commercial vegetable farming. The climate and land is too suitable for producing vegetable commercially. The reason for selecting the study area are:

- Bio- physically the area is one of the potential and suitable for vegetable farming
- The area is dominated by farming activity, since historic time
- The area is near to Kathmandu metropolis linked with appropriate road transport and viable for agricultural productivity markets.

3.3 Nature and Sources of Data

To meet the research objectives, the nature of the data for this study is both qualitative and quantitative. Both Primary and Secondary data are used to fulfill the objectives of the study. Primary data are collected by set of questionnaire schedule through field visits. Secondary data are collected by different documents, municipal profile, online resources etc. They are analyzed collectively to meet the research objectives.

3.4 Universe, Sample and Sampling Procedure

According to Dakshinkali Municipality profile 2016, the total population of the municipality is 26,444. There are 9 wards in Municipality. The households of two wards 5 and 7 are listed as sampling frame because there are many women participated in commercial farming. The total households in wards 5 and 7 are 381 and 462 respectively. From these two wards, there are 271 women (128 HHs from ward 5 and 143 HHs from ward 7) engaged in commercial farming of vegetables which is regarded as the population of the study. Out of which 100 households (i.e 37%) have been chosen as sample units. In the sampling process, simple random sampling has been adopted with the proportional distribution of the sample units on the basis of the ward size of population as shown in given table.

Table 3.1: Population and Household Sample

Ward No	Total HHs	Commercial Farming	Sample Size
5	381	128	47
7	462	143	53
Total	**843**	**271**	**100**

Source: Dakshinkali Municipality Profile and Bhabisya Nirman Sana Kishan Kirshi Sahakari, 2018

3.5 Techniques and Tools for Data Collection

In order to obtain the mentioned research objectives, there are various tool and techniques for data collection. The study is designed with following tools and techniques. The data collection is focused mainly on primary data. With the discussion with key informants in the field, data is collected. 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 carried out depth interview with respondent. The respondent are made to understand the question first and then answer. Most of the question 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-I

3.5.2 Key Informant Interview

Interview schedule for key informant interview persons have been identified as key informants. They are Manager of Bhabisya Nirman Sana Kishan Kirshi

Sahakari - Parbati Silwal Upreti and ex- member of Tourism Board – Kedar Ghising. The interview schedule is prepared for the interview and the data collected has been copied with the information of key informant. The format of key informant interview guidelines is given in Annex-II.

3.5.3 Field Observation

The researcher is herself was on the field visit. So, the constant observation were kept to drive out valid conclusion. With the checklist 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-III.

3.6 Methods of Data Analysis and Presentation

The collected primary data has been classified, tabulated and interpreted according to the requirement. Simple statistical tools have been used for analyzing the quantitative data. Descriptive statistical tool like mean, median mode etc were used. Qualitative data have been described, explained and logically analyzed. To support the data analysis, table, percentage etc are also used. It makes data more presentable and understandable.

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 Demographic Features of Sample Households and Respondents

The demographic features show the composition of population. It shows the various features like age and sex structure; caste/ ethic composition, land ownership, occupational structure of the sampled household, educational status, income level etc. It gives the picture of respondents household situation.

4.1.1 Age and Sex Structure

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 social phenomenon as well as mortality, fertility, migration etc. Age and sex composition of population is important both socially and economically. Age composition is the most important variable in the study as it influences the productive capacity in the economy. It helps me to assure the potential population and potential manpower that are productive in the sector. In demographic analysis the age and sex structure of population is the subject of major importance. The total population of the study area in 2011 is 4613 and there are 953 household. 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

Age Groups	Male	Percent	Female	Percent	Total	Percent
Below 10	24	10.6	23	10.5	47	10.6
10-20	47	20.6	43	20.4	90	20.5
20-30	76	34	53	24.6	129	29.4
30-40	27	12	30	14	57	13
40-50	25	11.3	28	13.3	53	12.3
50-60	11	4.6	18	8.4	29	6.5
60 above	15	6.6	18	8.4	33	7.5
Total	**225**	**100**	**213**	**100**	**438**	**100**

Source: Field Survey, 2018

The table 4.1 shows that the age of 20-30 years are higher than the others age group, 50-60 age groups population is less than other age group and over 60 years are generally known as economically dependent. The age group of 20-30 years is generally considered as the most productive group in the population. The average size of household in the study area is the 4.38 among the sampled household. The average household size in national level and in Kathmandu are 4.88 and 4.0 (CBS, 2011).

4.1.2 Family Size of Sample Households

Household size refers to the number of family members of any household. It defines the structure of household. Family size is one of the important factors for the determining way of living, livelihood strategies and living condition. It has larger influence on socio as well as economic condition of the population. The household sizes of the study area are given below:

Table 4.2: Family Members Distribution

No. of HHs Members	No. of Households	Percent
1-2	8	8
3-4	18	18
5-6	28	28
7-8	25	25
9-10	13	13
Above 10	8	8
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.2 shows the household with 5-6 family members was found to be the highest i.e. 28 percent in the study area. The household size in the study area above 10 members is 8 percent. The data shows that the most of the respondent have 3-8 members. It means that majority of the respondent belongs to nuclear family.

4.1.3 Ethic Composition

Ethnicity is a social component of population. It reflects socio cultural characteristics of population. Caste and ethnic composition highly influenced the socio-economic status of the population. It plays a dominating role in developing countries. Chhetri are mostly found in the study area. Caste/ethnic composition of vegetable farmers are given in the table 4.3:

Table 4.3: Caste/Ethic Composition of Sample Households

Caste/Ethnicity	No. of Households	Percent
Chhetri	38	38
Brahmin	28	28
Tamang	17	17
Pariyar	17	17
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.3 shows that maximum vegetables farmers are Chhetri caste. The study area is dominated by them. The study respondent are also covered by Brahmin caste. Then there are Tamang and pariyar are in same position. However, they are residing and doing agriculture in harmony by sharing ideas and supports.

4.1.4. Educational Status of Respondents

Education is one of the prime factors which cover all aspects of human life. Education is important for development, including social and economic. The national development also depends on it. It has got an important role or relationship with socio-economic, cultural and demographic behavior. 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 the study area. The general education status of this study area is given in the table 4.4

Table 4.4: Educational Status of Respondents

Level of Education	No. of Respondents	Percent
Illiterate	12	12.0
Just read and write	17	17.0
Primary	20	20.0
Secondary	17	17.0
Higher secondary	22	22.0
Bachelor	7	7.0
Master	5	5.0
Total	**100**	**100**

Source: Field Survey, 2018

The Table 4.4 shows that illiterate people in the study area are 12.0 percent. However, 20.0 percent have attend primary level school and 17.0 percent have attend secondary level school education. Only 7.0 have attend Bachelor level and 5.0 percent attend Masters. It shows that the population 17.0 percent

respondents can just read and writes in the area. It is the benefit for commercialization of vegetable farming.

4.1.5 Control over Income from Commercial Farming

Majority of farmer families in the study area are dependent to agricultural income for fulfilling their basic requirements. They have good source of agricultural income for their livelihoods. Women are found to be collecting sales proceeds. Women play the major role for family management. Following table shows the distribution of control over the income from commercial farming by men and women.

Table 4.5: Control over Income from Commercial Farming

Income	No. of Household	Percent
Men	41	41.0
Women	36	36.0
Joint	23	23.0
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.5 shows that 41 percent men in the study area have control over the income from agriculture. Women also share the effective influence. There are 36 percent women having income from agriculture. However, 23 percent of population decides the use of agricultural income jointly. It shows the satisfactory status of women in sharing the agricultural income.

The Table 4.5 shows the income rights from the agriculture. There are almost same rights of women in compare to men. It shows the good situation of income right of women in agricultural productivity.

4.2 Socio-Economic Status of Women Involved in Commercial Farming

There are various socio-economic indicators showing the situation of women in commercial agriculture. It includes health and sanitation; types of assets owned; land holding by women; occupational structure; children education etc. Every productive process should uplift the socio-economic status of the involved person. Then only it is considered as beneficial. Here, by participating in commercial farming of vegetable, farmers' family has been seen to be benefitted. If supported from different sectors, the farming seems to be more rewarding.

4.2.1 Types of Labour Work in Vegetable Farming

Vegetable is land intensive crop; the scarcity of labor constraints the extension of vegetable cultivation to the additional land. In vegetable farming labors are few required. Male labor rate is five hundred rupees and females labor rate is four hundred rupees in the study area. Households labor refers to the household members that are available in farming from own house and involved in vegetable farming activities. Household labor has an important role in farming. The main source of labor in the study area is households labor. Mostly traditional tools like kutto, kodalo, hasiya etc are used for cultivator and leveling. Only few of them used tractor. Most of the cultivation in the study area are during their field by themselves own their land and hiring the labour.

4.6: Type of Labour Work in Vegetable Farming

Types of work	No. of Respondent	Percent
Soil Preparation	25	25.0
Harvesting	40	40.0
Marketing	35	35.0
Total	**100**	**100**

Source Field Survey, 2018

The table 4.6 shows that the 25 percent women are involved is soil preparation for commercial farming. Similarly 40 percent of women are involved in harvesting the vegetable and only 35 percent are involved in marketing of vegetable product. The study concluded majority of the respondent are involved in harvesting of vegetable. The main reason for lower number women involved in soil preparation and marketing is that these tasks are done by male and it is hard women and they performed these work on hiring of labour.

4.2.2 Health and Sanitation

Generally health condition is very important. Good health represents good social and economical status of the household. Health and sanitation are the basic good social life. In every good governance nation, it remains the concern of prime issue for discussion. Here, in our sampled household too, the availability of such basics are in satisfactory situation. It is shown in table below:

Table 4.7: Sanitation and Availability of Toilet

Parameter	No. of Households	Percent
Yes	73	73.0
No	27	27.0
Total	**100**	**100**

Source: Field Survey, 2018

The Table 4.6 shows that the sanitation conditions of the vegetable farmers. Most of the families use toilet or mostly feel it is necessary for the sanitation. Out of 100 households, 73 percent households have already prepared modern toilet. Among the 100 households, 27 percent do not have systematic toilet. They are using the unsafe methods of sanitation. The table 4.7 shows the availability of toilet and sanitation in the study area. It shows the respondents with positive response are comparatively large. They are using proper sanitation method and seem health conscious in this regards. It shows the better socio-situation in the study area.

4.2.3 Types of House

House is a building for people live in. Family lives within a household to share common values and norms. It is uniting place for individuals both emotionally and sociologically. Everyone wishes to have their own home and live together with family. Having a house in the society makes family much better, in the sense that they feel secure. They can invest their other resources in productive activities.

Table 4.8: Types of House

Types of House	No. of Households	Percent
Pakki	57	57.0
Kacchi	43	43.0
Total	**100**	**100**

Source: Feild Survey, 2018

The table 4.9 shows that in study area, out of total houses 57 percent are Pakki (Cemented) house and only 43 percent are Kacchi(Mud) house. This table indicates that in study area large number of people live in Pakki household. It is the indication of the improving living situation in the study area.

4.2.4 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 landlord(Jamindar) and treated the farmer as peasants (kisan). The landlords hold good position in rural society. Land is 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. Therefore holding of land determine the prominent situation in socio- economic status.

Table 4.9:Landholding Size of Vegetable Farmers

Land in Ropani	No. of Households	Percent
Below 3	50	50.0
4-6	33	33.0
7-9	11	11.0
10 above	6	6.0
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.9 shows that out of total 100 households, 50 households owned less than 3 Ropani land, covering 50.0 percent of total respondents. Similarly 33 percent respondents owned 4-6 ropani of land and only 6 percent of respondents have above 10 ropani of land for vegetable farming. Due to the geographical condition of good climate, weather, land most of the farmer are engaged in commercial vegetable farming. The production of vegetable were done by tunnel, seasonal or rainy seasonal crop. The farmers grow high value crop i.e. green vegetables, cabbage and cauliflower which require frequent irrigation facility.

4.2.5 Occupational Structure of Sample Households

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

Table 4.10: Occupational Status of Respondents

Occupation	No. of Households	Percent
Agriculture	75	75.0
Service	16	16.0
Business	4	4.0
Labor	5	5.0
Total	**100**	**100**

Source Field Survey, 2018

The table 4.10 shows that most of the respondents 75.0 percent people are engaged on agricultural activity and remaining 25.0 percent are engaged on non-agricultural activities i.e. 16.0 percent on services, 4.0 percent on business and 5.0 percent on labor. Out of total respondents, 75 respondents are actively in this area. It shows that the most of the people in the locality are depending on agricultural inputs for livelihoods.

The Table 4.10 shows the occupational status of the respondents. Most of them are involved in agriculture. They are involved in vegetable farming as well as other agricultural activity. It shows the higher dependency in agriculture in the study area. The population is also involved in service sector. However, the involvement in services sector is comparatively very low.

4.2.6 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 4.11: Annual Income Level of Farmers

Income Level Rs.	No. of Households	Percent
Below 150000	20	20.0
150000-160000	17	17.0
160000-170000	24	24.0
170000-180000	14	14.0
180000-190000	12	12.0
Above 2,00,000	13	13.0
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.11 shows that out of total sampled households 20 households are earning less than Rs. 150000, 17 households are earning from Rs. 150000-

160000, 24 households are earning from Rs. 160000-170000, 14 households are earning Rs. 170000-180000 and 12 households are earning Rs. 180000-190000 and 13 households are earning above Rs. 200000. Low income households are more in number and high income households are in less number. It shows that the commercial production of vegetable is still in weak situation. Although the productivity is high in vegetable, the modern methods are needed to apply to have greater margin and covering larger area.

4.2.7 Children Education

The education of children is very crucial. The family with better awareness and social circumstance are always top priority for children education. Generally, in Nepal parents prefer private schools over government due to the belief of better education. The quality of education may depend but within increasing social and economic situation, parents send their children in private schools. Socially it signifies better social status.

Table 4.12: Children Education

Education	No. of Respondents	Percent
Private School	46	46.0
Government School	29	29.0
Both	25	25.0
Total	**100**	**100**

Source: Field Survey, 2018

As in the Table 4.12, the number of household sending their children in private school is 46. It is the highest among the other responses. The household sending the children in both types of school is 25. Lower class of farmer send their children to government schools. As, in the table 4.12 Most of the respondents are sending their children in private schools. These families are observed to be highly cautious regarding their children future and proper education.

4.2.8 Agricultural Land Ownership of Respondents

Generally land ownership among farmers is found to be transferred from their previous generations. It has remained the practice for ages. However, respondents are found to be executing buy/sale of land. With the increasing population trends, buy and sale of land is increasing in the study area. Land ownership distribution among men and women is given in Table 4.13

Table 4.13: Agricultural Land Ownership

Owners	No. of Households	Percent
Men	47	47.0
Women	31	31.0
Joint	22	22.0
Total	**100**	**100**

Source: Field Survey, 2018

The Table 4.13 shows that 47 percent land in study area is owned by men. It shows the dominating feature of man in the society. It also generally happens as they received land as transfer from their fathers. Women owned 31 percent land and 22 percent of land is owned jointly with men member of their family. It clearly shows the men ownership of land is higher than as women.

4.3 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 the study area. Among all the crops vegetable has high yield per unit area and plays a significant role in the economic contribution. The area and production of different crops are given in the table 4.14.

Table 4.14: Production of Different Crops on Sample Households

Crops	Area in Ropani	Production(kg)	Percent
Vegetable	12	30,000	39.9
Paddy	65	20,000	26.6
Maize	53	20,400	27.1
Wheat	45	4,800	6.4
Total	**175**	**75,200**	**100**

Source: Field Survey, 2018

The Table 4.14 shows that the people of the Dakshinkali produce different crops in a year. Among the different crops vegetable is on the first position in term of production. The total production of vegetable is 30,000 kilograms which covers 12ropani of farmed area. The total production of paddy is 20,000 kilograms which covers 65 ropani of farmed area. Similarly, the total production of maize and wheat are 20,400 and 4,800 kilograms which covers 53 ropani and 45 ropani of farmed area. It shows the vegetable farming is more beneficial in terms of productivity. The vegetable farming seems to be more rewarding.

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 4.15: Types of Vegetable Production and Income

Types of Vegetable	Production in K.g.	No. of Respondents	Price /K.g.	Income(Rs.)
Cabbage	6,000	45	30	1,80,000
Cauliflower	8,000	35	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
Total	**27,500**	**100**		**10,00,000**

Source: Field Survey, 2018

Table 4.15 provides information about seven types of vegetable and its production in kg. and income. In study area, cauliflower production is the highest among 100 respondents. It is 8000kg in Production. Then, cabbage is on the second production list. 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 hold consumption. Women role is important for vegetable farming, plantation and collection and selling. It helps women economically for solving family problems. Women life standard is improved by vegetable cultivation.

Table 4.16: Participation of Women in Production of Vegetable Farming

Particulars	Male	Percent	Female	Percent
Land Preparation	55	55.0	29	29.0
Plantation	23	23.0	26	26.0
Weeding	14	14.0	16	16.0
Collection	5	5.0	10	10.0
Transportation	3	3.0	19	19.0
Total	**100**	**100**	**100**	**100**

Source : Field Survey, 2018

The table 4.16 shows that women participation is more than men. Women participation is 26.0 percent on plantation, 16.0 percent of weeding, 10.0 percent on collection and 19.0 percent on transportation. Only on land preparation, men participation is more than women, because women is considered as being weak as physically in compared to men. Land preparation is hard work for women. They are assumed to be incapable of doing field hard work compared to men and thus need help from men. Therefore, men participation is more than on land preparation. Cause of more women participation in vegetable cultivation is as unemployment, source of income, easy to work, suited farming for women etc.

The table 4.16 shows the role of women in vegetable farming being more in compare to men. Vegetable farming requires more patience and tedious procedure than as masculine work. So, it is much more considered as a female work in traditional practices. Here, only male participation is higher in land preparation.

4.3.1.3 Types of Manure for Production

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

Table 4.17: Types of Manure Used

Types of Manure	No. of Households	Manure (in kg)
Compost	50	3,400
Chemical	9	800
Both	41	4,000
Total	**100**	**8,200**

Source: Field Survey, 2018

The Table 4.17 shows that farmers use compost and chemical fertilizer. Among them both users are the highest in study area. In Dakshinkali area compost users seem to be the highest. 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 vegetable by combating pests. It has negative impact on human health and the environment and also it affects soil.

The table 4.17 shows the use of manure by the respondents. It shows that the compost users are highest in response. However, using both compost and chemical fertilizer are also significantly high to increase the yield. But the use of chemical fertilizer is very least.

4.3.2 Marketing of Vegetables

" Balkhu", " Kalimati" and "Hetauda" are the nearest market center from study area. It is the main market center for them to sell their product. Women do supply either themselves to the market place or the middlemen come to the area to purchase. Generally, farmers supply in group by hiring the transport to the market place. Females are involved for marketing in the study area. These products then largely get distributed in the Kathmandu district. There is no international export has been observed from the locality.

4.3.2.1 Daily Working Hours

The working hours in the field varies. Occupational people must work according to the duration of available time daily. Generally, 8 hours is defined as daily working hours. But people those who engage in their own occupation do not have sufficient to work in the farm. They work with the time saved after their profession. The table below shows the working hours of farmers in the field.

Table 4.18: Daily Working Hours

Working Time	No. of Households	Percentage
Upto 2 hours	27	27.0
2-3 hours	36	36.0
3-4 hours	27	27.0
4-5 hours	4	4.0
More than 5 hours	6	6.0
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.18 shows that in the study area highest number of farmers i.e. 36 work up to 2-3 hours a day in their farm. The household with members working more than 5 hours is very few. There are 6 such respondents. Most of the farmers work upto 4 hours in maximum depending upon the demand of plantation phases.

4.3.2.2 Vegetable Farming Training

Training is very essential for farmers. It helps for systematic farming of vegetable. It will improve the agricultural process. It increases the agricultural yield. Actually, training to the farmers is necessary for increasing national output. It gives detail insight of commencing the agriculture in the field.

Table 4.19: Vegetable Farming Training

Response	No. of Households	Percent
Yes	67	67.0
No	33	33.0
Total	**100**	**100**

Source: Field Survey, 2018

Table 4.19 shows that the respondents of 67 percent households get training on vegetable farming. But 33percent do not get training at all and they are conducting farming activities on their own experience. They are doing agriculture based on traditional knowledge and from the information from

others. The lack of training is creating chaos and instability in the farming process.

4.3.2.3 Source of Information to Cultivation

Information is very crucial commercial farming. Information plays the prominent role make the farming success. The farmers need information related to farming practices and market situation of the product. Similarly, they need to know the various type of information related to increasing the productivity of the farms proceeds.

Table 4.20: Source of Information

Source of Information	No. of Households	Percent
Self	34	34.0
From Family	53	53.0
JT, JTA and NGO	13	13.0
Total	**100**	**100**

Source: Field Survey, 2018

The table 4.20 shows that farmers of the study area get idea for vegetable farming from different sources. About 53 percent respondents get information from their own family. It is followed by 34 percent on getting information by self. Very few response are there to get information from the technical person like JT, JTA and NGO.

The Table 4.20 depicts the sources of information for commercial vegetable farming. It shows that the majority of respondents are getting information from the family. They are getting various information required to get farming success from family source alone.

According to Parbati Silwal Upreti Manager of Sana Kishan Sahakari " It has been seven years establishment of Sahakari before than that the local people already had the knowledge of vegetable farming, among them are farm as commercial purpose".

4.3.3 Decision Making Role of Women in Farming

In this point, it shows the role of women in decision making before and after vegetable cultivation. Women can play important role for making successful family. Nepalese family structure is male dominated. Therefore in most of the decision the consent of the male character seems to be necessary. However, commercial production requires more rationalism than gender dominance.

Table 4.21: Role of Women in Decision Making

	Wife	Husband	Both	Total
Before	18	47	35	100
After	30	18	52	100

Source: Field Survey, 2018

The Table 4.21 shows that, the role of women in decision making is less before farming. But, after farming, the participation of women in decision making is increased. It's similar to the joint decision making.

Women of 18 households decide themselves in the sector of food and daily use expenditure, house construction and social functions and 35 households decide both before vegetable cultivation. After vegetable farming women 30 households decide themselves and 52 households involved both in decision making. Men of 47 households decide themselves before vegetable cultivation, at present men of 18 households decides. The Table shows women role is more than men because of men are job holder and all house activities are under women.

4.3.3.1 Change in Life Style of Women in Society

The changing in life style of women from commercial farming was found good condition in study area. Their economics 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 4.22: Change in Life Style of Women in Society after Farming

Change in	Before	After
Level of Expenditure in household activities	45	85
Level of Income (Savings)	30	70

Source: Field Survey, 2018

The table 4.22 shows that utilization of income shows the area of the expenditure. Women are utilizing income primarily make expenditure on household activities like food, clothes, children education and daily requires 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 and saving in bank. These activities indicate the vegetable farming is being improved in life style of women in society.

4.3.3.2 Benefit sharing of Vegetable Income

Utilization of income includes 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: improving the housing conditions and built toilet. They earn more by investing into productive sectors like expenditure in business and industry, saving in bank.

Table 4.23: Utilization of Vegetable Income

S.N	Area of Expenditure	No. of Household	Percentage
1	Food & Daily use Expenditure	100	100.0
2	House construction/ Improvement	73	73.0
3	Health and Sanitation	44	44.0
4	Children Education	54	54.0
5	Bank Balance	17	17.0
6	Business and Industry	15	15.0
7	Social Function	47	47.0

Source: Field Survey, 2018

Note: The answer is given in multiple types.

The Table 4.23 shows that every family utilizes the income in food, cloth and daily use and education activities. 54.0 percent farmers utilize the income in education of children, 17.0 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.

4.5 Problems and Prospects of Commercial Vegetable Farming

There are various problems in commercial farming of vegetables. The majority of them are technical knowledge, agricultural inputs, irrigation, economic poverty, appropriate equipments, transportation etc. In spite of such problems, there are much rewarding prospects in vegetable farming too. The major of it is the suitable physical condition for vegetable farming. The vicinity is facilitated with quick road transport to urban area. Similarly, the demand for vegetable is growing with the increase in health awareness. It is good source of income and employment.

4.5.1 Major Problems in Vegetable Farming in the Study Area

The economic development of Nepal is connected with the agricultural development. However, Nepalese agriculture is suffering from multifarious problem and far from being satisfactory. 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. Dakshinkali area has been agro-based economy dominated by cash crop cultivation. Here, the satisfactory vegetable production is hampered by the technology and other knowledge aspects. On the basis of interview taken with the farmers and filed in commercial vegetable farming by the farmers. The Table 4.24 shows the major problems faced by the vegetable farmers in the sampled households.

Table 4.24: Major Problems of Vegetable Farmers in the Study Area

Major Problems	Frequency of Households	Percent
Lack of Technical Knowledge	52	52
Agriculture inputs	50	50
Irrigation	45	45
Economic poverty	30	30
Agriculture equipment	25	25
Transportation for Marketing	20	20
Unavailability of Chemical fertilizer	25	25

Source: Field Survey, 2018

Note: Multiple Responses

a) **Technical Knowledge**:- Lack of technical knowledge is the major problem for the vegetable cultivation in study area. The technical problem are mainly concerned with the service of governmental office and other concerning agencies. About 52 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.

b) **Agricultural Inputs**:- Majority of respondents have reported that the lack of technology 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 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.

c) **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 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.

d) **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 access 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. Thus, the economic poverty is a serious obstacle to develop vegetable farming. Out of total sample households 30 households have faced such problems

e) **Agricultural Equipments**:- 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 25 households have faced such problems. There are very few households using tractor as the modern tools and that such problems. There are very few households using tractor as the modern tools and that also for tilling purpose only. Other advance machineries are completely lagging in the area seeming traditional method of cultivation only.

f) **Transportation**:- 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 sampled households 20 households have realized the need of transportation facility.

g) **Unavailability of Chemical Fertilizer**:- This is another main problem for the vegetable cultivation in the study area. The chemical fertilizer supports in productivity of the farm land. About 25 household of respondents reported the lack of chemical fertilizer in the time of need. Even though, they get the fertilizer its lacking the required 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, the farmers are being compelled to use alternative fertilizer, which may cause of the low production.

4.5.2 Prospects of Vegetable Farming

There is a big prospects of vegetable cultivation in the study area that basically depends upon two major factors like physical conditions and demand for vegetable. Without suitable physical condition no crop can be grown and developed successfully. So, without studying physical condition, it will be just a futile effort. Similarly, production is meaningless without demand. Therefore, these two major factors should be analyzed.

According to Kedar Ghising ex-member of Tourism Board "In terms of physical condition Dakshinkali has suitable condition for vegetable cultivation. Topographically, it's 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 study area". Apart from that, the climatic condition is so suitable that there is being observed wide variety of agricultural products that are found in different climates. Besides vegetable, such diversity is observed in other planted

agricultural products too. The following prospects has been analysis by Field Visit, Questionnaire as well as KII.

a) **Land Availability**:- Dakshinkali area is wet land. It has very fertile soil for vegetable farming. There are lots of open field area and have source of irrigation. The season and climate is very suitable for vegetable farming. The urbanization has still not taken the root of development. The area is still vast and empty from construction projects. So, the area can be wisely developed to vegetable basket for the Kathmandu metropolis. Vegetable are also more profitable than other crops. In fact commercial vegetable is produced during season and off season.

b) **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 study area, distribution of cultivated land and their physical condition, topography and soil types, fertile soil, climate, irrigation are essential factors for vegetable production.

c) **Demand of Vegetable**:- Due to rapid urbanization the proportion of urban population has increased demand of fresh vegetable increased everyday and farmers of this area began to cultivate vegetable for each income. The fresh products can be transported to the final consumer as short distance and immediate interval of time.

d) **Cash Income**:- Vegetable is a most important cash crops. Being more profitable than other crops, trend of farmers towards vegetable cultivation is increasing. Farmers of the study area have been cultivating for commercial purpose. Economic status of the farmers has been increasing. Apart from that most of the population still depends on agricultural income. If they are well informed and trained regarding the vegetable farming, it will be the good income generating opportunity for the population. Upreti " For farmers members they have been provided low price rate without dharauti 2lakhs amount for each members".

e) **Source of Employment**:- Unemployment is a most serious and burning problems of the country. Most of the people are being unemployed day by day. By Upreti "Vegetable cultivation has become one of the income generation activities in study area. Vegetables farming is a labor intensive occupation and provides more employment opportunity than other farming". The study area is being one of the vegetable farming areas of the study area. According to the field survey.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Nepal is an agricultural dominant country. The majority of populations are involved in agriculture. It has been the major source of livelihood. The significant part of national GDP is contributed by this sector. However, this sector is still primitive, sustenance basis, ignored and lacking modernization resulting low productivity. Vegetable farming is a traditional custom in the Nepalese community, particularly for the purpose of domestic consumption. With the commercialization of vegetable farming, livelihood, income and employment, land and farm management, various social issues like unemployment, poverty etc, can be improved. In fact, according to this study and the previous studies, commercial farming of vegetable is very rewarding in terms of economic and social perspectives.

The main objectives of the study are to analyze women participation in commercial vegetable farming in Dakshinkali area of Kathmandu district. The specific objectives of commercial farming in the study area are a) To examine the socio-economic status of the women involved in commercial farming, b) To analyze the participation of women in production, marketing and decision making role and c) To explore the problems and prospects of commercial vegetable farming in the study area. The research design adopted for this study is descriptive as well as exploratory in nature. Both Primary and Secondary data are used to fulfill the objectives of the study. In the sampling process, simple random sampling has been adopted with proportional distribution of the sample units on the basis of the ward size of population. Out of total populations 100 HHs have been chosen as sample units.

Dakshinkali area is one of the agriculture farming areas of the Kathmandu 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 socio-economic condition status through it. The major findings of this study can be summarized as follows:

- The age group 20-30 is higher than any other age groups. The average family size is 5-6 from the sample households. The sampled area is largely dominated by Chhetri and Brahmin there. Such community seems to be migrated from different places in short history of time with many reasons, one of being the influences of existence of Hindu deity temple Dakshinkali Mata. However, in Dakshinkali municipality, there is huge community of Newars abiding from ancient time.
- For farming there is almost complete lack of modern tools and technology. The farmers are using the traditional tools and depending on human and animal power.
- In study area people live more in pakki house. There are more literate than illiterate. It shows the good situation of education and awareness. Among educated groups, majorities were found to have higher secondary level i.e. 22 percent. Even though the locality is near to the nation's top university (i.e. Tribhuvan University), the people seems to have less university education with advance technical skills.
- The area seems conscious regarding health and sanitation. Majority of families use toilet or mostly feel it necessary to health. 73 percent responses are with the availability of proper toilet.
- Most of the land holdings is below 3ropanies which accounted for 50 percent. Around 30,000 kg of vegetable production is made in the area. Although, vegetable farming is done in very less area in compare to other products like paddy, its contribution is very significant. It shows the great potential of commercial production of vegetables. Among the produced vegetables, cauliflower is on highest production amounting 8000kg per annum. And, the annual income group is highest at the level Rs. 10,000- 20,000.
- They are very conscious regarding education. All the respondents are sending their children to school. 46 percent are completely sending to

private schools and 25 percent are sending to both government and private schools. Majority of them are sending to private school which indicates the good economics scenario on present Nepalese context. The researcher has observed in some respondents that after schooling; generally education is dropped off, causing to work for support of family.

- The society is patriarchy and male dominated. 47 percent male are holding the land ownership, especially transferred from generation. Still, 31 percent female also owned the land.
- Except land preparation, women participated in field like plantation, weeding, collection and transportation are highest. So, women seem to be working in vegetable fields like with their children, in compare to men.
- They are also participating in the decision making roles like planning, selling, income management, family management etc. Their participation in decision making has increased with the farming. Before farming, only 18 households response to the wife decision independently. But it increase to 30 households after farming. 52 household response to the joint decision after commercial farming which shows the increasing role of women in decision making process.
- Farmers use both manure compost and chemical. 67 households got skilled training. 33 percent respondents response with the absence of training. It shows the ignorance of commercial farming of vegetable from different levels like government, institutional, NGOs etc. Similarly, professional source of information for farming is also pitiful which is responded by only 13 households.
- The daily time engagement in the vegetable farm is very less. Most of the respondents spend 2-3 hours on the most. Their field production varies along with vegetable farming and many respondents have other occupation for living beside agriculture too. Despite of such, the productivity of vegetable is very high.
- The income from the vegetable farming is utilized for " Food & Daily Expenditure". Also, 73 respondents are utilizing it for "House

construction/ improvement" which shows the improving social status. However, due to lack of modernization in farming, Women are still incapable to make enough saving for " Bank Balance" and "Business" and "Industry". There are very few responses in compare to others which are respectively 17 and 15 percent only. Along with the improvement in production technology and marketing the commercial production of vegetable seems to be much rewarding in the area.

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

5.2 Conclusion

Vegetables are very significant in public diet and health. It is equally rewarding for income and employment opportunities. Lots of industries in the world are based on vegetable processing that is gaining international competence. However, in Nepal it is the most neglected in terms of research and development. The cultivation methods of such as vegetable should be improved. Their nutritional value needs to be analyzed and recognized. In addition, their utilization should be promoted to improve livelihoods of Nepalese people.

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 men. Women are involved in decision making post vegetable cultivation as well that helps to run family smoothly.

The vegetables can be produced year around. Kinds of vegetable grown depend on market demand and the season. However, with the development of storage facility, the drawbacks from climate dependent can be improved. Vegetable cultivation increases the productive employment and thus generating income. Since, vegetable production is labor intensive enterprises, it could engage landless and unskilled labor force. Apart from that, most of the youth pursuing develop like South Korea and Japan are also the farm labor which

can be utilized here creatively for improving the living standard and the national output. In fact, the vegetable cultivation creates more employment opportunities. The vegetable production has not only increased the income of vegetable growers, but it has also contributed to employment generation, social change and self- sufficiency among the respondent household.

The problems identifies in vegetable farming in study area are lack of irrigation, modern techniques, trainings, chemical fertilizer and marketing. In spite of traditional farming practices with less efficient resources, vegetable farming has been playing major role for local sustenance and livelihood. If we solve the above problem, it is sure that the vegetable farming will be done successfully. The commercial production will not only uplift of women only but the whole region. So, the commercial farming of vegetables helps to raise economic condition especially of women 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.

Thus, commercial vegetable farming should be promoted in the study area to make overall development. It is beneficial to improve the socio- economic status of the farmers. It is managing the unemployed youths of the area around. So, it is giving good support to manage employment opportunities. Vegetable production has help in the effective improvement in income and employment. It will make the area self- sustained.

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.

i. There is high scope of vegetable cultivation but it cannot be developed as it has possibilities due to 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. The direct marketing transport should be made available to benefit and motivate the farmers.

ii. Vegetable farming needs more irrigation than other crops. In Dakshinkali area at present not proper management irrigation facility for extensive cultivation. Therefore irrigation facilities should be provided.

iii. Some women in the study area have made comment on damage of crop by diseases. So, there is a need of agricultural specialists to provide necessary knowledge and support.

iv. The production of high valued vegetables like cauliflower, broccoli is high demand. So, it is high recommended to promote such vegetables. It will be beneficial in both income and health basis.

v. There should be aware of the improper use and handling of chemical fertilizer and pesticides too. The women should be made aware negative impact of pesticides to all living things. If the women in study area would get enough support from technical manpower there will be change in the vegetable cultivation.

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Annex- I

Questionnaire for Household Survey

1. General Information

1. Demographic Details

Respondent…….. Caste…… Age……. Sex……..

Religion…… Education……Occupation……
Permanent Address……. District……..
Municipality/VDC…… Ward……..

2. Information of Family Members: Family Size

SN	Family Member	Relation to Respondent	Sex	Age	Education	Occupation	Religion	Land Owned By
1								
2								
3								
4								

3. What types of assets do you have in your permanent residence?

a) House: Cemented/ Wooden/ Mud
b) Toilet: Kachhi/ Pakki
c) Land: Ropani/ Anna

2. Objectives

A. Socio Economic Status

1. When did you start vegetable cultivation?

   …….

2. What is the main purpose of vegetable cultivation?

   a. Household Consumption
   b. Selling
   c. Both

3. How do you get/collect information about vegetable farming?

   a. Mass Communication
   b. From Family
   c. Neighbours
   d. Government Agencies

4. Do you get anything related to this vegetable farming?

   a. Yes
   b. No

5. Do you use manure for vegetable cultivation?

   a. Yes
   b. No

   If yes, what type of manure?

   a. Compost
   b. Chemical
   c. Both

6. How much time do you spent in a day for vegetable farming?

   a. 2-4 hours
   b. 4-6 hours
   c. More than 6 hours

7. What are the sources of labour supply for vegetable cultivation?

   a. Family Members
   b. Exchange Labours
   c. Others

8. How much land do you own (in Ropani)?

   …….

9. What types of crops do you produce?

S.N	Crops	Area in Ropani	Production quantity (K.G)
1	Vegetable		
2	Paddy		
3	Maize		
4	Wheat		
5	Other		

10. What types of vegetable do you grow?

S.N	Vegetables Types	Production in K.G	Price Per K.G
1	Cabbage		
2	Cauliflower		
3	Raddish White		
4	Bakula		
5	Leaf of Mustard		
6	Spinach Leaf		
7	Cress Leaf		

11. How much do you earn annually from vegetable?.....

12. Who collects and uses income from vegetable?

    a. Women
    b. Men
    c. Both

13. What is your approximate allocation of income from vegetable?

    a. Food and Daily Use
    b. Housing
    c. Education
    d. Health
    e. Bank Balance/ Saving
    f. Business
    g. Social Function

14. What is the means to carry vegetable into the market?

    a. Family Member
    b. Vehicle

15. What kinds of vegetable production you make?

    a. Organic
    b. Inorganic
    c. Local
    d. Hybrid

B. Participation of Women in Production, Marketing and Decision making

1. Who is involved in vegetable farming such as plantation, collection and selling crops and vegetables before five years?

    a. Women
    b. Men
    c. Both

2. Who is involved in vegetable farming such as plantation, collection and selling crops and vegetables at present?
   a. Women
   b. Men
   c. Both

3. Who solves problems relates with vegetable farming at present?

   a. Women
   b. Men
   c. Both

4. Who used to solve problems related with vegetable farming before 5 years?

   a. Women
   b. Men
   c. Both

5. Where are you sending your children for studies?

   a. Government School

      No. of Boys….

      No. of Girls…..

   b. Private/ Boarding School

      No. of Boys…

      No. of Girls…

6. Do you think that lifestyle of women has changed in society due to involvement in vegetable farming?

   a. Yes
   b. No

7. What is your main role in vegetable farming

S.N	Activity	Male is involved	Female is involved
1	Land preparation		
2	Plantation		
3	Weeding		
4	Collection		
5	Transportation		

C. Problems and Prospects of Commercial Vegetable Farming

1. Do you think commercial vegetable cultivation is problem in this area?

   a. Yes
   b. No

   If yes, what kinds of problems persist in this sector?

   a. Irrigation
   b. Agricultural Inputs
   c. Technical Knowledge
   d. Economic Poverty
   e. Chemical Fertilizer
   f. Transportation
   g. Financial Problem

2. Do you think vegetable farming has prospect in this area?

   a. Yes
   b. No

   If Yes, What is the prospect?.....

   If No, Why?.....

3. Where from you get loans (if needed)?

    a. Bank
    b. Co-operatives
    c. Local Money Lender
    d. Others

4. Are vegetable farming training and development available in this area?

    a. Yes
    b. No

    If Yes, What kind of Training?.....

    Is it benefited for you?

    a. Yes
    b. No

5. What is the market situation of vegetable in this area?

    ……
    ..

6. Do you suggest vegetable farming development in Dakshinkali area?

    ……

Thank you for Co-operation

Annex II

Guideline for Key Informants Interview Checklist

Informant:

Position:

Organization:

Date of Interview:

Interview Questions

1. What are the activities that women are involved in vegetable farming? What has been your experience with this issue?
2. How do you see the women's participation in decision making and agricultural knowledge?
3. What problems have you noticed to develop vegetable farming in this area?
4. What are the problems and prospects of agriculture vegetable farming in this area?
5. What changes in women's role in agricultural farm management you have noticed in recent years?
6. What the measures that needs to be undertaken to improve vegetable production and status of women in this area?

Annex- III

Checklist for Observation

1. Name of Respondent:
2. Address:
3. Structure of House:
4. Before commercial farming:
5. After commercial farming:
6. Daily Working Hours:
7. Utilization of Vegetable Income:
8. Types of Vegetable and Production:
9. Types of Manure:
10. Technology:
11. Farming Techniques (Skill):
12. Use of Pesticides:
13. Participation of Women in Production?