WOMEN PARTICIPATION IN COMMERCIAL PINEAPPLE FARMING OF BHARATPUR METROPOLITAN CHITWAN DISTRICT

Submitted To

Faculty of Humanities and Social Sciences,

Department of Rural Development, Saptagandaki Multiple Campus,

in Partial Fulfillment of the Requirements for the Master's Degree of Arts

in Rural Development

Submitted By

Sukriti Sharma

T.U. Regd. No. 6-2-240-95-2014

Exam Roll No. 2402735

June, 2024

DECLARATION

I hereby declare that the thesis entitled **Women Participation in Commercial Pineapple Farming of Bharatpur Metropolitan Chitwan District** which has been submitted to the Department of Rural Development, Saptagandaki Multiple Campus Bharatpur Chitwan, s entirely my original work prepared under the guidance and supervision of my supervisor. While writing this thesis, have acknowledged all deas and nformation borrowed from different sources. The results of this thesis have not been presented or submitted anywhere else for the award of any degree or any other purposes; assure that no part of the content of this thesis has been published n any form before.

……..

Sukriti Sharma

Date:

विश्वविद्यालय अनुदान आयोगबाट गुणस्तर प्रत्यायनकृत (वि.सं. २०७४)
सप्तगण्डकी बहुमुखी क्याम्पस
SAPTAGANDAKI MULTIPLE CAMPUS
Estd. 2045 B.S. (1988 A.D.)
(Affiliated to Tribhuvan University, Nepal)
Accredited by University Grants Commission Nepal, (2017 A.D.)
भरतपुर, चितवन, नेपाल
Bharatpur, Chitwan, Nepal

च.नं./Ref.No.

RECOMMENDATION LETTER

Sukriti Sharma prepared this thesis entitled **Women Participation in Commercial Pineapple Farming of Bharatpur Metropolitan Chitwan District** under my supervision. hereby recommend that this thesis be evaluated by the thesis committee as a partial fulfillment of the requirements for the Master of Arts n Rural Development degree.

Date:

.....

Mr. Krishna Prasad Gyawali

Supervisor

विश्वविद्यालय अनुदान आयोगबाट गुणस्तर प्रत्यायनकृत (वि.सं. २०७४)
सप्तगण्डकी बहुमुखी क्याम्पस
SAPTAGANDAKI MULTIPLE CAMPUS
Estd. 2045 B.S. (1988 A.D.)
(Affiliated to Tribhuvan University, Nepal)
भरतपुर, चितवन, नेपाल
Bharatpur, Chitwan, Nepal
Accredited by University Grants Commission Nepal, (2017 A.D.)

च.नं./Ref.No.

APPROVAL - SHEET

This s to confirm that Mr. Sukriti Sharma's thesis **Women Participation in Commercial Pineapple Farming of Bharatpur Metropolitan Chitwan District** has been nvestigated. t has been deemed successful for completing the academic requirements for the Master of Arts n Rural Development at the Saptagandaki Multiple Campus of the Faculty of Humanities and Social Sciences n Bharatpur. This thesis has been forwarded for final review and approval.

THESIS COMMITTEE

विश्वविद्यालय अनुदान आयोगबाट गुणस्तर प्रत्यायनकृत (वि.सं. २०७४)
सप्तगण्डकी बहुमुखी क्याम्पस
SAPTAGANDAKI MULTIPLE CAMPUS
Estd. 2045 B.S. (1988 A.D.)
(Affiliated to Tribhuvan University, Nepal)
Accredited by University Grants Commission Nepal, (2017 A.D.)
भरतपुर, चितवन, नेपाल
Bharatpur, Chitwan, Nepal

Signature:

च.नं. / Ref.No.

PLAGIARISM TEST REPORT

The MA Thesis titled **Women Participation in Commercial Pineapple Farming of Bharatpur Metropolitan Chitwan District**, submitted by **Ms. Sukriti Sharma** for a plagiarism test on 2024-07-10 has been checked by the iThenticate plagiarism checker software. The software found an overall **Similarity Index of 5%** based on the following criteria.

Criteria:

Phrases	Excluded
Quotes	Excluded
Bibliography	Excluded
Small Sources	Percentage (<1%)
Small Match	Word Count (<10 words)
Abstract	Included
Methods and Materials Included	Included

Note. Kindly be advised that the similarity index produced by software may not comprehensively reflect the calibre and criteria of the document. Consequently, it is highly advisable for the appropriate authority to manually assess the examined file to ascertain its adherence to the essential benchmarks of being articulate, well-investigated, and upholding academic integrity.

_____

Padam Lal Bharati

Assistant Campus Chief

ACKNOWLEDGEMENTS

This entitled **Women Participation n Commercial Pineapple Farming of Bharatpur Metropolitan Chitwan District** s prepared n partial fulfillment of the requirements for Master's Degree of Arts n Rural Department, Tribhuvan University, Saptagandaki Multiple Campus, Bharatpur Chitwan. First, would like to express my sincere gratitude and heartily thanks to my thesis supervisor, Mr. Krishna Prasad Gyawali, lecture and a faculty member of the department of Rural Development Saptagandaki Multiple Campus, Bharatpur, for his valuable guidance, nspiration, and supervision.

I am enormously grateful to Mr. Jagadishwar Baral, Head of the Department of Rural Department, for his kind cooperation, valuable suggestions, encouragement, and constructive comments during the thesis writing period.

I would like to thank Mr. Krishna Prasad Gyawali, lecture of Saptagandaki Multiple Campus faculty of Rural Development.

I would like to thank my family members and friends who helped me to complete this thesis.

Sukriti Sharma

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

Pineapple belongs to the family Bromeliaceae. t s known as the queen of fruits because of ts excellent flavour and taste. According to Ubi et al. (2005), the pineapple plants are drought tolerant and well adapted to the tropical sandy soils with pH ranging from 4.5 to 6.5. The plants are propagated from suckers or from the crowns, which grow on top of the fruit. t s one of the most mportant commercial fruit crops n the world available throughout the year. Pineapple production n 2011 constituted more than 19 million MT (metric tons) (FAOSTAT 2013). Thailand s the largest producer of pineapple, accounting for 13% of global output, followed by Brazil and Costa Rica. Production of pineapple n Nigeria accounted 1.4 million MT n 2011 (about 7% of the world production), which placed t n the seventh position (FAOSTAT 2013). The fruits are used mainly for fresh consumption and fruit juice, while n some parts of the world the fermented juice s used to make vinegar and alcoholic spirit. Leaves can be used n three forms: fresh, dried and n silage (Geocoppens 2001). Centrifuge sludge left over from juice production may be used as pork feed (FAO 2004), while fruit core s used for preparing candy. The leaves yield a silky fibre, which s used for making a fine fabric popularly known as piña cloth n the Philippines and Taiwan. Pineapple fibres n some countries are exploited for paper production. Pineapple s also used as ornamentals symbolizing welcome, high living and opulence.

Nepal s situated n the lap of great Himalayas and has favourable agro ecological diversity for agricultural production, especially n the horticulture sector. Different ecological belts are endowed with different types of climates due to ts geographical locations and physiographic setting. Most of the mportant fruits of the world can be grown n Nepal with comparative advantages for producing temperate to tropical fruits and value chain development for apple, mango, litchi, banana, avocado, citrus (mandarin, lime, lemon) for mport substitution; and mandarin, kiwi, hog-plum and berries, chestnut, pecan-nut and walnut for export promotion; and production of avocado, persimmon, pear, kiwi and different nut fruits for fulfilling the demand of tourism sector. Fruit demand s ncreasing as a result of rise n middle class population and knowledge on health consciousness and nutritional benefits, ncreased tourist flow

and other behavioural change about fruit consumption, and ncreased purchasing capacity of the consumers. However, local production of fruits s not meeting the ncreased demand and Nepal s mporting fruits accounting to annual Rs. 6 billion from ndia,China and other countries.

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

Mainly, the plants cultivation, animal husbandry, vegetable production and horticultural are the major agricultural forms in the contest of Nepal . Citrus is on of the most important fruit crops of Nepal that converse about 25 percent of the area under fruit cultivation. PinePineapple is the highly commercial fruit crops of Nepal . It is widely cultivated in the highly area range from 600-1400 miles as an eastern to western Nepal (Shrestha and Paudyal,2005).

The present research focuses on the changing role, status, position of commercial pineapple cultivation and its sustainability. It attempts to measure commercial Pineapple cultivation and its sustainability in rural development. cultivation is an informal sector of economy where farmer of even low education and low skills can easily manage their profession and improve their living condition. This dissertation basically focuses on how previously economically marginalized land and arable crops of Pineapple farmers improve their capabilities.

Commercial fruit growing, especially the deciduous type is not traditional in Nepal. Therefore, it is limited largely to homestead gardens and fruits are used mainly for domestic consumption. The local peach, pear, plum and walnut are grown in scattered locations, they are of inferior quality and have very little commercial value. This however, indicates the potential for growing temperate fruits in Nepal. For the first time in Nepal a Department of Agriculture was established in 1925. After this, a number of

different fruit species, mostly temperate fruits were introduced to Balaju and Godavari orchards in Kathmandu. Only after 1950 several promotional activities on fruit development were undertaken in Nepal. For the first time a Horticulture Development Section was established under the Department of Agriculture in 1955. Several improved cultivars of Asian pear, peach, plum, persimmon, cherry and apple were introduced to Singh Durbar and Kakani farms and cultivar performance studies and propagation activities were started with bilateral assistance from USAID until 1963. From this time the Government of Nepal placed special emphasis on fruit development in the hills. The period from 1960 to 1973 was a very crucial period because this is the time when six temperate horticultural stations were established at different locations of the country with support from the Indian Cooperation Mission (ICM). Many new cultivars of deciduous fruits were introduced into these stations from India. In these stations a number of activities were started including cultivar performance studies, planting material production and distribution, training of farmers etc. As a result, the area under deciduous fruits increased dramatically. A number of new temperate fruits and additional new cultivars were introduced and key horticultural stations were strengthened during 1977 to 1980 under the Hill Agriculture Development Project assisted by FAO.

1.2 Statement of the Problem

In the framework of agriculture in a developing country like Nepal, rural agriculture is mainly managed by women. It can also be alternatively put forward that agricultural activities in rural Nepal are feminized as the women smallholder farmers outnumber the men engaged in agricultural activities. As per the latest statistics of the World Bank, around 74 percent of the women are employed in agriculture in Nepal which is almost two times higher than the average women working workforce in South Asia (39 percent). If we refer to the numbers of women workforce participation in developed countries like the USA or the EU, the agriculture manpower accounts for mid 30's average. The higher participation of women in agriculture is an axiomatic reference that conveys the gravity of supporting rural women for improving agricultural productivity in the country.

The mass exodus of manpower (men) to other economically lucrative markets can be ascribed to result in such striking disparity in the number of workforces dedicated to

agriculture in Nepal. Due to the lack of enough incentives in the domestic market, most men's population from the rural areas migrates to thriving markets, keeping women at the helm of managing and organizing farm activities and feeding their tight knits. The recent census of 2021, demonstrated the mass migration of Nepali rural men as it depicts 81 percent of the men population constitutes 2.2 million Nepal is relocated for a better quality of life. Such social-economic disruptions have effectuated a larger share of the women population engaged in rural agriculture in life.

Nepal, being primarily an agrarian economy, is reliant on agricultural activities in supplementing its economic growth. As the mass departure of men for better income opportunities abroad has reached its peak, it keeps food security, and the rural economy in a precarious situation. However, there are occurrences where due to conservative and traditionalistic norms in the rural parts, women are mostly stigmatized for participating in agriculture. In this situation, as women have been on the frontline feeding the communities, they deserve promising support from local government, INGOs, and NGOs working on issues related to agriculture and food security, the provincial government, and the national government to empower them. Relevant policies, training, legislative acts on parity on farm payment, land ownership distribution, input availability, and transfer of modern innovation and technology need to be made assured to encourage more female uptake on conducting agriculture in a rural area of the country.

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

Women contribute more labour to Nepalese agriculture than do men. Women generally work from sunrise till the evening. The tasks which women perform in the farming sector are several and often require hard physical labour. However, farming women in

the third world are often regarded as "invisible" or as mere "housewives" or "economically non-active", in spite of the fact that they have to perform a "dual role" in agriculture as well as household work. Despite the major contribution of women in agriculture, they are considered as the second grade citizens and their role and contribution in the development process is always ignored (Sapkota, 2009).

It was recommended by the International Labour Organization that women's work in the household be also recognized and respected as a productive activity. Women should no longer be treated as recipients of welfare but as partners in the arming sectors of the development process. Hence, this study has aim at highlighting the participation of women in farm management, especially in the agricultural sector of Syangja district and shed light on the crucial contributions of women in agriculture. From the above mentioned discussion following research questions have been posed: In Nepal 25.2 percent population are under the poverty line while 80 percent people depend on agriculture. Nepal, being rich in natural resources, Is still poor in the economic aspects and facing so many problems. The existing problem in rural hills is how to generate income for subsistence, which may be mystery of poverty in these contexts, cash crops, vegetable farming and fruit farming where prioritized in many development plants aimed to reduce the rural poverty. However the out pumps of such efforts of poverty reduction are not effective. Fluctuation has been found in the trend of Pineapple production due to transportation problem, lack of cold storage, lack of labor, lack of scientific knowledge, lack of finance, agricultural instruments, existence of different kinds of diseases and government facilitations etc. From the above mentioned discussion following research questions have been posed.

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

1.3 Objectives of the Study

The general objective of this study is to assess the women's participation in commercial Pineapple farming in Bharatpur Metroplitan 6 Chitwan district. The specific objectives are as follows:

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

1.4 Significance of the Study

It has been already mentioned women's role in agriculture and agricultural activities is very crucial as they play a "dual role" in the agricultural sector as well as the household sector. But their roles in household activities are in many ways taken for granted and regarded as insignificant and also role in agriculture has often been disregarded. Many say it is composed of only uneconomical, wifely duties, but recent studies have shown that women not only participate in major tasks of agricultural production but also take significant part in agricultural decision making. Since the dawn of history, women in Nepal have been engaging in different aspects of agricultural activities. The role of women in agriculture is very crucial in various activities in agricultural production in terms of high share of invisible labours. They perform most all activities required for growing food grains and vegetable cultivation. Hence, the contribution of women in agriculture is not less than or equal to the contribution made by men. Therefore, women's vital role in the agricultural sector cannot be ignored. Finally, this study will be some help for National Development Planning as well as rural development planners in formulating and implementing agricultural innovations especially directed towards women for uplifting and upgrading their participation in agriculture.

1.5 Delimitations of the Study

1. This study has been focused on the role of women in pineapple farming , especially in the agricultural sector; hence, other areas apart from the agriculture sector were not included.
2. As this study is especially directed towards women's role in pineapple farming, only female respondents will be selected in the study. There are a wide range of socio-economic characteristics which affect women's participation in pineapple farming, but only a few such variables will be included in the study,

3. These various limitations of the study may bring about some problems in making generalizations on women's participation in pineapple farming . Hence the findings of the study generally conclusive.
4. The study was covered only ward no 6 of Bharatpur Metropolitan of Chitwan District.

CHAPTER II

LITERATURE REVIEW

2.1. Conceptual Review

2.1.1 The Review of concepts and theories

The theoretical review helps any researcher to frame his study with sound theoretical foundation. Different theories are existed in the field of rural development, sociology, anthropology and in other areas of social science. Among the models of developmental theories, World System theory is very popular and realistic one. The present study is theoretically related to world system theory. It is because Pineapple is produced in periphery and it is highly consumed and industrialized in core area. The exploitation of core to periphery can be seen in its commercialization process as well.

2.1.2. Human Ecology

Human ecology, in general, is the study of relationship between human beings and their environment in different cultural context. It investigates how human beings interact with specific natural environment through their culture and social organization. Human ecological studies enable us to understand human life and activity in different eco-systems and culture not only in the present but also in the past. This leads to a better understanding of the factors influencing human environmental interaction. Anthropologists make use of human beings with their environmental components including cultural organizations and patterns originated in the course of this interaction.

2.1.3. Cultural Ecology

As studies of human environment interaction started getting serious attention in 1950's, American anthropologist J. Steward proposed the concept of cultural ecology. It can be defined as the interaction analysis of environment and cultural relationship. It centrally focuses on how cultures are adopted to the environment.

This concept became very popular and significant till 1970's. Many anthropologists used it to study human environmental interaction in different settings. For example, American anthropologist Clifferd Geertz (1968) applied this concept to explain the great demographic disparity that existed between Java and the outer island of Indonesia. Another American anthropologist Marvin Hairs (1966) used it to the study of India's

sacred cattle and in 1970's A.P. Vedya and R.A. Rap developed ecosystem based model in relation to cultural ecology.

In my view, the people of this study area are also attached with the environment of Pineapple farming. The trend of farming has been influenced from the cultural ecology of the study area.

2.1.4. Agro-Ecological System

Agriculture is the main stream of national economy and a major occupation for different countries and their peoples. Any agricultural form requires appropriate ecological environment for its production and sustainability. Environment and agriculture are interdependent though there are too many variables which affect their relationship (Acharya, 2002).

Climate is one of the basic components of any agro-ecosystem potentiality of an area. For the development of agricultural forms in sustainable way to a large extent, the production is determined by its agro-climatic congenial condition. Any given climate provides congenial condition and at the same time, it may act as limiting factor for cultivation of certain plants/animal species. Agriculture in Nepal is weather dependent and goes hand in hand with the variations in the climatic conditions. This is obvious from the variations in crops, cropping system and patterns in different parts of the country. For example, the warm and subhumid conditions of the Terai favor cultivation of three crops in a year where as the cold and dry climate in the high altitude areas allow only one crop in a year.

Agro-ecological system can be characterized using data on physical factors as cropping systems, culture technology, market options and information linkages (Lunberg, 2000).

2.1.5 Pineapple as a commercial Horticultural Production

Horticultural development is the most important agricultural development because it has high commercial value. Horticulture requires market before production. As an example, by initial supply demand analysis and estimation of marketing potential, citrus fruits may appear to be a viable crop capable of bringing significant returns to the farmer in a particular planning unit (Carson, 2000).

Pineapple is one of the most important and highly commercial horticultural productions. In the 16th century, horticulture was greatly developed and contributed to the so-called agricultural revolution. Explorations and intercontinental trade as well as, scientific investigation led to the development of horticulture knowledge of various crops and the exchange of farming method and product (www.farming co.uk).

By flagging the subtropical zone pockets within a day walls of the road head, the land areas that most suited for citrus production were then indicated. An initial estimate of potential horticultural land for developing target areas can thus, be made (Carson, 2000).

2.1.6 Pineapple as a high value crops.

Undoubtedly, Pineapple is a high value crop. It has economic, commercial, economic and productive importance. However, it requires a number of inputs such as fertilizers, irrigation, roads, pests and technology. The hills and mountains of Nepal have comparative advantages for fruits and vegetable production. The income from high value crops is expected to be tripled by using irrigation and fertilizers. The annual growth rates of these crops will accelerate from 4.8 to 5.7 percent with focus on expert, their growth rates are likely to go even higher. It is ironic that Nepal imports 67% of its vegetable consumption and 85% of its fruits consumption. This pitiable situation is largely due to the underdeveloped marketing system of Nepalese products rather than the lack of high value commodities and this has a favorable conditions and natural resource base to produce a wide variety of high value crops at low cost. However in view of limited capacities in the fields of research, extension market development and support services are to be decided to restrict the number of commodities. Apart from Pineapple ,someother high value products are;

i. Citrus - Throughout the mid hills.
ii. Apple - in the inner Himalayan zone.
iii. Off season vegetables - In the hills and Terai.
iv. Vegetable and Flower seed - In the hills and mountains.
v. Bee keeping- In the hills and mountain.
vi. Raw silk - In the hills.

This is the current priority list but the decisions can be gradually modified overtime as changing comparative advantages reduces the potential of some commodities and

increases that of others. At the end, the market must determine their priorities for the marketing in home and abroad.

2.1.7 Role of Agriculture in Development

2.7.1 Agriculture, Growth and Poverty Reduction

Having been a key preoccupation of developing country governments, donors and the international community during the 1960s and 1970s, agriculture disappeared from the development agenda in the 1980s and 1990s, only to reappear in the first decade of the 21st century because of neglect and underinvestment . There is now renewed interest in the problems of the sector not to a small extent, thanks to the 2008 World Development Report. For example, the G8 countries promised $22 billion for investment in agriculture during their meeting in Aquila, Italy in 2009 (de Janvry 2010).

Developing economies have generally been described as dual economies with a traditional agricultural sector and a modern capitalist sector. Productivity is assumed to be lower in agriculture than in the modern sector. The canonical model was put forward by Lewis (1954) and subsequently extended by Ranis and Fei (1961). Lewis‘ model rests on the idea of surplus labor existing in the agricultural sector. With lower productivity in agriculture, wages will be higher in the modern sector, which induces labor to move out of agriculture and into the modern sector, which in turn generates economic growth. Other precursors, such as Schultz (1953), also point out the importance of food supply by the agricultural sector. In Schultz‘s view, agriculture is important for economic growth in the sense that it guarantees subsistence for society without which growth is not possible in the first place. This early view on the role of agriculture in economics also matched the empirical observation made by Kuznets (1966) that the importance of the agricultural sector declines with economic development. In this view, agriculture‘s role in economic development is to supply cheap food and low wage labor to the modern sector. Otherwise, both sectors have few interconnections. Growth and higher productivity in the agricultural sector can contribute to overall economic growth by releasing labor as well as capital to other sectors in the economy. However, industrialization is seen as the ultimate driving force behind a country‘s development and agriculture as a traditional, low productivity sector.

2.7.2 Agriculture and the Urban Bias

Probably the most important contribution to development made by the agricultural sector in poor countries in the past has been to provide the savings, i.e., the surplus extracted through various means over and above what is required for the reproduction of agricultural producers, which allowed industrialization to take place. The tax and price policies that are necessary to bring about surplus extraction have been extensively discussed in the literature. They were made famous by the policy discussions between Preobazhensky and Bukharin during the 1920s about the so-called primitive‖ forms of socialist accumulation in the Soviet Union where farmers faced artificially low prices for their output and punitive taxation throughout the 1920s and 1930s (Conquest 1987). Consistent with these early models of agriculture as a sector generating a surplus that can be extracted for the benefit of industry, in the recent past, governments in developing countries have imposed a heavy burden on agriculture by implementing urban-biased policies.

2.7.3 The Foundations of Agricultural Growth

Having reviewed the role that agriculture can play in economic development, we now look at the performance of the agricultural sector in different regions of the world, the foundations of agricultural growth and the challenges faced by farmers in developing countries today that might diminish the returns to agricultural technologies. These include the structure of agricultural production, environmental factors, and barriers to technology adoption.

2.7.4 Green Revolution and Technology Adoption

Between 1980 and 2004, the agricultural sector grew at an average rate of 2.6 percent worldwide, with two-thirds of this growth contributed by Asian economies. Agricultural yields in Asia increased at an average rate of 2.8 percent between 1961 and 2004, an outcome largely explained by the adoption of high-yielding varieties and the intensive use of fertilizer. In Sub-Saharan Africa, the average rate of agricultural growth was 3 percent over the same period but growth per capita of the agricultural population (a broad measure of agricultural income) was 0.9 percent, less than half the growth rate in other regions. Moreover, whereas agricultural growth during the Green Revolution in Asia was driven by intensification, agriculture in Sub-Saharan Africa has been growing mostly as a response to land expansion and yields have been stagnant. Since the potential for land expansion will soon be exhausted, further agricultural growth will have to come from increased yields.

2.2 Theoretical Review

2.2.1. Schultz' theory

Schultz' theory is a theory about traditional agriculture. By the latter term is meant a kind of farming 'based wholly on the kinds of factors of production that have been used by farmers for generations," This kind of agriculture often, but not always, displays depressing results in that the incomes generated by it are very low. The problem that Schultz sets out to solve is how traditional agriculture can be transformed into a highly productive type of farming. This problem Schultz regards as an investment problem. Its solution, however, does not lies imply in the injection of capital into the agricultural sector, but what farms agricultural investments should take must be determined. Schultz advances the thesis that the traditional agricultural sector cannot grow with the aid of the traditional production factors only, except at a very high cost. New, totally different production factors are necessary. Schultz' theory is thus a theory of modernization. To come to grips with this overriding problem, Schultz poses three additonal questions which he thereafter sets out to discuss:

1. Can low income agricultural communities increase their output by a more efficient allocation of production factors?
2. Which factors of production are mainly responsible for the differences in growth rates between agricultural sectors in different countries?
3. Under what circumstances does it pay to invest in agriculture?

Schultz contends that the resource allocation in traditional agriculture is by and large efficient. There is not very much to be gained by reallocating factors. As far as the second question is concerned, he discerns a hierarchy of importance. Differences in quality of land are the least important ones. Differences in physical capital stocks, quantitatively and qualitatively, are fairly important. However, the real substantial differences - the crucial ones for the growth rate in agriculture - have to do with differences in the capabilities of those performing the labor and decision making on the farms. Finally, it does not pay to invest in the type of farming capital that is already in existence on traditional farms. Modern factors have to be adopted, but this will not take place unless farmers have an incentive to do so. It is the farmers and their abilities that form the central element in Schultz' theory.

2.1.7 Boserup Theory of Agricultural Development

Boserup occupies the place of pride in the task of discussing the problems and processes of agricultural development. It is so not because she attributed agricultural development to the factor which so far has been described as irrelevant but as she has demolished a theory propounded by classical economist. i.e. Malthus.

Boserup in her attempt tried to probe into the causes of agricultural development. She maintained the view that agricultural development is due to some kind of compulsion. This compulsion relates to rising trend of population.It means the basic force behind agricultural development is the pressure of population. The development of patterns and techniques of cultivation is governed by the population growth. She supported this contention through an examination of agricultural development of some African and Latin American countries.According to Malthusian theory of population if at any time food supply increases population will increase and new equilibrium will be established between population and food supply. In a sense, if population is less than the existing food supply, population will increase and wipe out the excess food supply. But, if population is already beyond the means of subsistence, it itself will come down to reach an equilibrium through the positive checks.

Boserup has tried to refute both these aspects of Malthusian theory. She criticised first part of the theory on the ground that few observers would like to suggest that the tremendous increase in the rates of population growth witnessed throughout the under developed world in the two postwar decades could be explained as a result of changes in the conditions for food production.It is reasonably clear that the population explosion is a change in basic conditions which must be regarded as autonomous in the sense that the explanation is to be sought not in the improved conditions of food production but in medical inventions and some other factors which the student of agricultural development would regard as independent variables.

2.2 Empirical Review

According to Sapkota (2009), has studied farmer's choice and farmer's voice on the use of local versus modern inputs on peri-urban agriculture in Makawanpur valley. This study has taken 20 vegetable growers as samples. In this study he has attempted to explore some contradictions. During this study, he has found that the local farmers have

been trying for long time to sustain agricultural production through using indigenous compost and farm and manner system.

Kashem (2010) focused on determining the extent of the use of mobile phones by farmers when receiving agricultural information from input dealers, a survey was conducted the and data was obtained from 76 farmers who are mobile phone users in 8 selected villages of two unions under Sadar Upazila of Mymensingh district in Bangladesh during 12 September to 15 October 2009. To ascertain the extent of the usage of mobile phones by the farmers in receiving agricultural information a questionnaire was used in 4 major aspects, such as the quality of the inputs, availability of inputs, market price of the inputs, and also the appropriate amounts of the inputs were covered. Among the questions asked to the Farmers were whether their contacts with the input dealers were regular, occasional or not at all (based on the number of times per season). More than half (54 percent) of the farmers had medium use of mobile phones in receiving agricultural information while 14 and 32 percent of them had low and high use of mobile phones, respectively.

Mittal et.al (2010), conducted a research on the impact of mobile phones in Indian Agriculture, the research looked into the impact of mobile phones on the crop sector and particularly on small farmers. According to the paper infrastructure, availability of agricultural inputs and poor access to agricultural information are some of the major constraints on the growth of agricultural productivity in India and the rapid growth of mobile phones and mobile enabled information services provides a means to overcome existing information asymmetry, it also partially bridges the gap between the delivery and availability of agricultural inputs and infrastructure. The methodology of the research involved field investigations conducted in Uttar Pradesh, Rajastan, Maharashtra, New Delhi and Pondicherry. The field investigations involved focused group discussions, individual interviews with fishermen, farmers, labourers, traders and other businesses involved in agricultural sector. The team conducted 46 individual interviews in 11 districts and also 20 villages and 14 focus group discussions. About 187 farmers were interviewed in which 152 were small scale farmers with less than 6 acres of land. The key finding of this research is that mobile phones can act as a catalyst to rejuvenate the collapsing extension services in the country. However, this does not in any way dilute the need for urgent and significant improvements in supporting

infrastructure and capacity building to realise much needed productivity gains in agriculture.

In a study in Maharashtra, Kale (2011), found that low productivity, low annual income, existence of income liability gap, indebtedness and availing of non-institutional credit were proved as important causes of suicide in Maharashtra. Recognizing the need for increased institutional credit for agriculture, the Government of India initiated a series of policy measures since independence of the country. As a result the institutional credit structure in the country has shown a significant growth both in volume and complexity over the past few decades. At present there is an extensive banking infrastructure comprising 33,411 rural and semi urban branches of commercial banks, 14501 branches of Regional Rural Banks, around 12000 branches of District Central Cooperative Banks and nearly 1,00,000 cooperative credit societies at the village level which translates into at least one credit outlet for about 5000 rural people or 1000 households. This is remarkable and extensive network. (Puhazhendhi, 2011).

Another major innovation was the introduction of the Kisan Credit Card (KCC) scheme in August1998 to provide credit to farmers in flexible manner. Now it has emerged as a major mechanism for purveying credit to agriculture. Up to September 2010 about 970.64 lakh KCCs have been issued (Government of India, 2011).

Financial Inclusion is another important initiative of Government of India and Reserve Bank of India, through which poor and financially excluded people, like small and marginal farmers and oral lessees, are to be mainstreamed in the banking system thereby reducing dependence on money lenders and other informal sources of credit. For this purpose Committee on Financial Inclusion recommended setting up of two funds, namely, Financial Inclusion Fund and Financial Inclusion Technology Fund, each of Rs 500 crore. Through these efforts are being made for providing credit facilities to the 'financially excluded' population, majority of whom are small and marginal farmers and land less (NABARD, 2011).

According to Phulara (2011), has studied about changing livelihood patterns of vegetable farmers Charghare settlement of Kirtipur municipality. In this study, he has attempted to analyzed land use pattern, impacts of vegetables on livelihood and socio-economic condition of vegetable farmers of the study area. He has taken 55 household

as samples. From this study, he has found that fresh vegetable is perishable product which can't store long time after harvesting.

Mohan Rakesh (2014) while reviewing performance of agricultural credit in India indicated that though the overall flow of institutional credit has increased over the years, there are several gaps in the system like inadequate provision of credit to small and marginal farmers, paucity of medium and long-term lending, etc. These have major implications for agricultural development as also the well being of the farming community. He, therefore, suggested that efforts are required to address and rectify these issues.

According to Gurung (2015), has studied about vegetable farming is a base of livelihood in Basantapur VDC of Tehrathum district. For this study he has taken 91 household as samples. In this study, he has attempted to analyze the socio-economic condition of farmers, role of women in vegetable farming and access of farmers in markets. He has found out the improvement of farmers living standard, improvement of women such as rate of wage, role of women in house management, number of girls student and so on.

According to Chapagain (2016), has studied about changes in farming system of eastern Nepal. In this study, he has attempted to analyze the farmer's farming practices from the subsistence production to the commercial production. For this study, three small villages were selected. During his study, he has found that the farmers of Yolma and mixed village adopted the cash crops farming immediately after the construction of the road and getting easy access to the marketing opportunities but the Yakha farmers were not adopted immediately impact of their economic, social and cultural condition of living not only agricultural landscape and environment.

Satish (2016) reviewed the distress in agriculture in punjab. He observed that since the nationalisation of banks and the green revolution, institutional credit for agriculture has grown in Punjab. But the growth had not been uniform and in line with the demand for such credit. Indebtedness has also increased in the state, but a large part of the debt has been for non-productive purposes. The incidence of suicides in Punjab has not been higher than the all India average and studies reveal that while indebtedness is indeed one of the major causes of suicides, it is neither the only cause nor the main one. There

is thus no direct causal relationship between institutional credit, indebtedness and suicides in rural Punjab.

The National Commission on Farmers (NCF) under the chairmanship of Prof. M.S. Swaminathan submitted its final report in October 2017. It has stated that 'Improvement in the outreach and efficiency of the rural banking system is the need of the hour. Towards this end, the financial services would be galvanised for timely, adequate and easy reach to the farmers at reasonable interest rates. The banking system would end eavour to meet the large credit potential needed to raise agriculture to higher thresholds and for the growth of rural and agribusiness enterprises and employment'. (Government of India , 2017).

2.4 Policy Review

2.4.1 The National Agriculture Policy, 2061

The National Agriculture Policy, 2061 follows an objective of creating enabling environment for agriculture-led rural development. It emphasizes competitiveness of agriculture sector encouraging farmers to go for commercial production. The policy divides farmers into two groups – small and big ones and aims to provide more resources to the small farmers. Those owning less than four hectares of land are labeled as resource poor farmers. They enjoy government assistance provision to boost their productivity. The policy aims at increasing productivity and promoting natural resources to utilize them in the interest of farmers.

The long-term vision of the agriculture sector s to bring mprovement n the living standards through sustainable agricultural development by transforming subsistence agricultural system nto a commercial and competitive agricultural system. The policy aims at achieving high and sustainable economic growth through commercial agriculture system contributing to food security and poverty reduction. t emphasizes:

1. increased agricultural production and productivity,
2. making agriculture competitive n regional and world markets with commercial agriculture system,
3. conserving, promoting and utilizing natural resources, environment.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

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

3.2 Nature and Sources of Data

The research was accomplished quantitative as well as qualitative nature of data. Primary and secondary sources of data was used in the study. Among them, the farm household survey, observation checklist, field visit and key information interview were the main sources of primary data. Besides these, the primary information was collected from mandarin businessman, knowledgeable person, member of the co-operatives, technicians working at agriculture development offices. A secondary data were collected from the various publication of municipality, annual report of fruits and vegetable Co-operatives, about books and report related to citrus and Pineapple farming was as the secondary sources of data.

3.3 Rational of the Study Area

Pineapple cultivation is the major occupation of the study area. At present, are motivating to increase the Pineapple cultivation for their socio-economic development. The ward number 6 of Bharatpur Metropolitan of Chitwan District has been selected as the study area in this study.

3.4 Universe, Sample and Sampling Procedure

There are 29 wards in the study area . Ward no 6 is purposely selected . There are 80 commercial farmers in study area who are considered as the universe of the study and 60 respondents was chosen through simple random sampling method. In the sampling process random sampling method was adopted.

3.5 Data Collection Tools and Techniques

A structured and semi-structured questionnaire set was used at the most convenient time of each respondent. The following tools has been used for data collection.

3.5.1 Questionnaire Survey

Questionnaire survey is one of the effective data collection instrument. On the basis of pre-selected objectives, an appropriate and fully fledged questionnaire has been prepared to survey the method of cultivation, trend of production, marketing system, commercial effort and attempts for sustainability.

3.5.2 Key Informant Interview (KII)

Informal and open interview with the key informants was taken. While interviewing, the professional Pineapple growers, Pineapple technicians and agriculture Officer, horticulture officer and local people who have had long experience on the production and promotion of Pineapple was interviewed.

CHAPTER IV

RESULTS AND DISCUSSIONS

4.1 General Characteristics of Study Area

Bharatpur is a city in south central Nepal. It is the third most populous city of Nepal after Kathmandu and Pokhara with 369,377 inhabitants in 2021. It is also the second largest metropolitan city in Nepal by area. It is the district headquarter of the Chitwan District.

Bharatpur is one of the fastest-growing cities in Nepal. It lies on the western bank of the Narayani River and serves as a commercial center of the Chitwan district and the central region of Nepal. Most of the shopping area lies in the area of Narayangadh, while government offices, hospitals and colleges are situated in other parts of the city, including Nepal's premier cancer hospital, B.P Koirala Memorial Cancer Hospital. In March 2017, Bharatpur was declared a metropolitan city after Narayani Municipality, Chitrawan Municipality and Kabilas Village were merged into it.

The economy of Bharatpur is traditionally based on agriculture. The city also holds a small-scale processing industry that mostly processes the food surpluses of the Chitwan district. Their products are sold to major cities of Nepal, Kathmandu and Pokhara. The poultry industry is expanding in the municipality, producing a significant amount of poultry products for the country, and is one of the main employment sources in the Chitwan District. Other products from the city include honey, mushrooms, and flowers. A significant part of its economy is derived from education and health services.

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

4.2.1 Age and Sex Structure of the respondents

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

are 60 households. The age and sex structure of population of sampled vegetable farming household are given below:

Table 4.1: Age and Sex Structure of Sample respondents

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

Source: Field Survey, 2024

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

4.2.2 Household Sizes

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

Table 4.2: Household Size in the Study Area

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

Source: Field Survey, 2024

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

4.2.3 Caste/Ethnic Composition of the respondents

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

Table 4.3: Caste/Ethnic Composition of Study Area

Caste/Ethnic	No. of Respondents	Percent
Chhetri	28	46.6
Brahmin	18	30.0
Gurung	7	11.7
Pariyar	7	11.7
Total	**60**	**100**

Source: Field Survey, 2024

The table 4.3 shows that maximum farmers are Chhetri caste (46.6%) because the study is dominated by them. Brahmin is in second position (30.0%). Gurung and Pariyar are

in third position (11.7%). It concluded that there is higher number household dominated Chhetri and Brahmin caste in study area and they have been using more land for agriculture purposes as compare to other caste.

4.2.4 Agricultural Land Ownership by Women in Sample Area

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

Table 4.4: Agricultural Land Ownership by Women

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

Source: Field Survey, 2024

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

4.2.5 Level of Education of Sample Households

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

Table 4.5: Literacy Based Distribution of Women in Agricultural Work

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

Source: Field Survey, 2024

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

4.2.6 Type of Labour Work in Farming

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

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

Table 4.6: Type of Labour Work in Farming

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

Source: Field Survey, 2024.

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

4.2.7 House Types

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

Table 4.7: House Types

Types of Houses	No. of Households	Percent
Cemented	37	61.70
Mud	23	38.30
Total	**60**	**100**

Source: Field Survey, 2024

The table 4.7 shows that 61.70 percent are cemented house and only 38.30 are mud house.

4.2.8 Landholding of Farmers

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

Table 4.8: Landholding Size of Vegetable Farmers

Land in Kathha	No. of Households	Percent
Below 3	36	60.00
4-6	10	16.7
7-9	9	15.00
10 above	5	8.3
Total	**60**	**100**

Source: Field Survey, 2024

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

4.2.9 Occupational Structure of Sample Households

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

Table 4.9: Occupational Status of Respondents

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

Source: Field Survey, 2024

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

4.2.10 ncome Structure

Pineapple 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 pineapple for 5 to 8 years for selling purpose. Economic status of the farmers has been increasing. Income level of sampled households by growing vegetable has been shown in the table.

Table 4.10: Income Structure of Farmers

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

Source: Field Survey, 2024

The table 4.10 shows that out of total sampled households 23 households are earning less than Rs. 10,000, 19 households are earning from Rs. 10,000 to 20,000,7 households are earning from Rs. 20,000 to 30,000, 6 households are earning from Rs. 30,000 to

40,000 and 5 households are earning from Rs. 40,000 above. Low income households are in more number and high income households are in less number.

4.3 Participation of Women in Production, Marketing and Benefit Sharing

4.3.1 Participation of Women in Production

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

Table 4.11: Participation of Women in Production of Vegetable Farming

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

Source: Field Survey, 2024.

The table 4.11 shows the women participation in pineapple farming. Women participation is 25.7 percent on plantation, 16.5 percent on weeding, 10.1 percent on collection and 18.3 percent on transportation. Only 25.7 percent on land preparation women participation is more, however it very low as compare to male counter part because women is weak as physically compared to men. Land preparation is hard work for women. They cannot hard work compared to men so they need help of men. Therefore, women participation is low on land preparation. Cause of more women participation in vegetable plantation is as unemployment, source of income, easy to work, suited farming for women etc.

4.3.2 Types of Manure for Production

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

Table 4.12: Types of Manure Used

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

Source: Field Survey, 2024.

The table 4.12 shows that farmers use compost and chemical fertilizer among them both users are the highest i.e. 4000 kg. of the study area. Similarly only compost users are 10 households and only chemical users are 9 households. However, farmers use too much pesticides and it would be economically beneficial for them to reduce the amount they use. Chemical pesticides play an important role in pineapple by combating pests. It has negative impact on human health and the environment and also it affects soil also.

4.3.3 Marketing of Vegetable

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

Table 4.13: Daily Marketing Hours

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

Source: Field Survey, 2024

Table 4.13 shows that highest number of farmers i.e. 45 percent work up to 2 hours a day for marketing their vegetable production. Only 10 percent respondents work more than 5 hours for marketing. Similarly 26.67 percent of respondents work 2-3 hour a day and only 6.67 percent respondents work 4-5 hours a day in pineapple marketing.

4.3.4 Fruits Marketing Training

Training is an essential for farmers. It helps for systematic marketing of produced fruits. Without marketing production of fruits cannot be meaningful. So, marketing training of marketing is essential for commercial pineapple farmers in study area.

Table 4.14: Marketing of Vegetable Training

Training	No. of respondents	Percent
Yes	5	8.3
No	55	91.7
Total	**60**	**100**

Source: Field Survey, 2024

Table 4.14 shows that only member of 5 households get training on fruits marketing. But majority of the respondents i.e. 55 do not get training at all for marketing of produced fruits and they are conducting marketing activities on their own experience and knowledge.

4.3.5 Benefit Sharing of Pineapple Income

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

Table 4.15: Utilization of Pineapple Income

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

Source: Field Survey, 2024

Note. The answer is given in multiple type

Table 4.15 shows that every family utilizes the income in food, cloth, and daily use and education activities. 78.33 percent farmers utilize the income in education of children, 28.33 percent of the farmers maintain bank balance. These activities indicate the pineapple farming is being a profitable and income generating enterprises among the farmers group in commercial pineapple farming.

4.3.6 Change in Life Style of Women in Society after Farming

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

Table 4.16: Change in Life Style of Women in Society after Farming

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

Source: Field Survey, 2024

The table 4.16 shows that utilization of income shows the area of the expenditure. Women are utilizing income primarily make expenditure on household activities like food, cloths, children education and daily required goods. These expenditure has been increased after pineapple farming Similarly level of income (savings) also increased after pineapple farming. They earn more by investigating into production sectors like business & saving in bank. These activities indicate the pineapple farming is being improved in life style of women in society.

4.3.7 Source of Information to Cultivation

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

Table 4.17: Source of Information

Source of Information	No. of respondents	Percent
Self	12	20.63
From family	35	57.14
Representative	13	22.23
Total	**60**	**100**

Source: Field Survey, 2024

The table 4.17 shows that farmers of the study area get idea for pineapple farming from different sources. Majority of the respondents i.e. 57.14 percent respondents get information from their own family members which are followed by JT, JTA and NGO 22.23 percent and 20.63 percent get information themselves.

4.3.8 Decision Making Role of Women in Farming

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

Table 4.18: Role of Women in Decision Making before and after pineapple Farming

	Themselves	Husband	Both	Total
Before vegetable Farming	8	16	36	60
After vegetable Farming	20	4	36	60

Source: Field Survey, 2024

The table 4.18 shows that, women of 8 households decide themselves in the sector of food and daily use expenditure, house construction and social functions before pineapple farming and 36 households decide both before pineapple cultivation. At present women of 20 households decide themselves and 36 households involved both in decision making. Husband of 16 households decide himself before pineapple farming, at present only 4 household decided. The table shows women role is more than men because of men are job holder and all house activities are under women.

4.3.9 Change in Life Style of Women in Society

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

4.4 Challenges and Prospects of Women Participation

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

4.4.1 Major Challenges of pineapple Farming in the StudyArea

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

Table 4.19: Major Challenges Vegetable Farmers in the Study Area

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

Source: Field Survey, 2024

4.4.1.1 Insufficient of Technical Knowledge

Insufficient of technical knowledge is the major problem for the pineapple cultivation. The technical insufficient is mainly concerned with the service of governmental office and other concerning agencies. Technical officer, assistants are not active engaged in their fieldwork and farmers could not get their suggestion, training, knowledge and instruction for the cultivation of pineapple . About 13 households have reported that the lack of technical knowledge is the major problem that they are facing. If the farmers would get enough support from technical manpower there will be drastic change in the pineapple cultivation.

4.4.1.2 Supply of Agriculture Inputs

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

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

4.4.1.3 Insufficient Supply of Irrigation

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

4.4.1.4 Economic Poverty

Most of the farmers in the study area are financially very weak. So, even those farmers who believe in improved varieties of tool, seeds and chemical measures are not able to use them. If the farmers unable to invest money for pineapple cultivation they cannot meet required objectives for production. Most of the pineapple farmersdo not have saving for investment. The credit facility provided by various institutions is still inadequate and loan distribution system is not satisfied. Thus, the economic poverty is a serious obstacle to develop pineapple farming. Out of total sample households 7 households have faced such problems.

4.4.1.5 Agricultural Equipment

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

4.4.1.6 Transportation forMarketing

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 pineapple 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 pineapple farmers of the study area. Out of total sample households 5 households have realized the transportation facility.

4.4.1.7 Insufficient Supply of Chemical Fertilizer

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

4.4.2 Prospects of pineapple Farming

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

In terms of physical condition Lanku has suitable condition for vegetable cultivation. Topographically, the study area is covered by hills. The soil is rich in organic matter. So, the soil is also good for fruits 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 pineapple cultivation of the study area.

4.4.2.1 LandAvailability

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

4.4.2.2 Suitable Physical Condition

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

4.4.2.3 Demand of Pineapple

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

4.4.2.4 Cash Income

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

Source of Employment

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

4.4.2 Problem of Pineapple Cultivation in the Study Area

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

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

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

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

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

Most of the household head were in the age group 30-40 and 51 households head were male and 35 households head were female. Chhetri, Brahmin, Gurung and low castes group were found in the study area. About 83 percent were of Hindu religion. The people live more in pakki house. The literate and illiterate percent of them was found 30 percent. Among educated groups, majorities were found to have secondary level 22 percent. Majority of the families use toilet or mostly feel itisnecessary for the health. The study area has 88.30 percent toilet facility. Most of them have land holding 1-3 Kathha which accounted for 57 percent. Around 30,000 kg Pineapple production is made in this area. Average annual income of the study area of 5

households is 41,000 kg production cauliflower more than other vegetables. Farmers use both manure compost and chemical. Six households got skilled training. Participation of women in Pineapple cultivation is more than male. Sixteen percent female and 15 percent male are engaged for weeding.

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

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

5.2 Conclusion

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

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

It was observed that the Pineapple cultivation is one of the income sources and it was started from 5 to 8 years ago in the study area. Sampled survey shows that there are improper uses of chemical pesticides for controlling vegetable from pests. There should be aware of the improper use and handling of chemical fertilizer and pesticides too. The farmers should be made aware negative impact of pesticide to all living things. After engaging in Pineapple farming, it has improved in participation of women for domestic decisionmaking.

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 Pineapple cultivation.

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

REFERENCES

Acharya H,(1992). *Population, Agricultural productivity andenvironment* NEFAS Ktm, Nepal P. 26-41.

Acharya, Babu Raj, (2002). *Citrus fruit production n Kaski district*, unpublished dissertation, t.U. Kirtipur.

APROSC (1989). *Feasibility study of citrus development for the selected midhill district of Nepal.* Vol.1.

Awale, S, (2014). Saptahik khabar patrika, Himal, 8-14 June.

Bhatta, B.D (1995). *'Orange cultivation n Gulmi district'* unpublished dissertation, T.U.

Buddhathoki, K (2004), p*roduction constrain of mandarin n western development region*. A Researcher submit to Lumle agricultural Research Center Kaski.

CBS, (2001). N*ational sample census of agriculture*, HMG, National Planning Commision Secretariat, Kathmandu, Nepal.

CBS, (2006/07) N*ational sample census of agriculture*, HMG, National Planning Commision Secretariat, Kathmandu, Nepal.

CBS, (2011). National Population Census.

Dhakal et al (2005). *'Marketing survey of acid lime and hill lemon n Nepal'*. nstitute of agriculture and aimal sciences, Rampur, Chitwan.

Economic survey 2012/013, MoF/GoN, Singh Durbar, Kathmandu, Nepal.

FAO, (1996), *'Fruit production n Kaski and Syangja'* Kathmandu.

FAO, (2006), Marketing Fruit and vegetables Guide Book No. 2, FAO Head Office, Rome.

G.D, Subedi and K.P. Pandey (2008), *n Vitro Plant Regeneration of Madane Vinous Cultivar of Sweet Orange* (Citrus Sinensis L. Osbeek) National Citrus Research Program,Dhankuta.

Gurung, (2003). *'Orange production n Syangja'* unpublished dissertation, T.U.

HMG/Nepal, DFMS, (1976) *Fruit production n kaski and syangja*, Department of Food and Marketing Services, Kathmandu.

Jha, (2000). *'A study on orange marketing n Sarlahi'*, unpublished dissertation, T.U.

Karmacharya, (2063), *Nepal ma phalful kheti ra kalami garney prabidhi* (First edition)., Kathmandu.

Lumle Agriculture Research Centre (LARC), (2002). *'Production constraints of mandarin n western development region'*.

Moser C. (1998) "The asset vulnerability franewirj: reassessing urban poverty reduction strategies" n *World Development* Vol 26 No.1.

Nepal Agriculture Research Centre, (1999). Annual Report.

Paneru, S (1998). *'The production and marketing of orange n Ashrang VDC of Gorkha district'* , unpublished dissertation, T.U.

Rai,S.K (1998). *'A study of orange cultivation n the eastern hill'*- unpublished dissertation, T.U.

Rajbanshi,Ashok (1997). *'A study of mandarin farming n Manakamana VDC of Gorkha district'*, Research Division, T.U.

Ritzler, (1996). *'Sociological Theory'*, Mc Graw Hill, 5th edition.

Shrestha and Poudyal, (2062). *'Evaluation of ndigenous mandarin'* (Citrus Reticulata Blanco).

Shrestha, Rudra (2001). *'A diagnostic study o sweet orange marketing n Ramechhap'*, unpublished dissertation, T.U.

Thapa, Bed B. (2005). *'A study of orange cultivation n western hill region.'* Unpublished dissertation, T.U.

www. farming co.UK, (2004). *'The fate of family'* United Kingdom

APPENDIX I

1. Personal background:-

   Name:-…….. Address:-……..

   Age/Sex:-……/…….. Occupation:-……..

   Religion: -……

2. Age profile of the family:-

Sex/Age	Below 15 years	15-59 years	60 above	Total
Male				
Female				

3. Educational background of the family:-

Sex/level	Illiterate	Primary	Lower sec.	Sec	Inter	Bachelor	Master
Male							
Female							
Total							

4. Occupational background:-

Sex/Occupation	**Farmer**	**Student**	**Teacher**	**Business**	**Civil service**	**Other**
Male						
Female						
Total						

5. Structure of the house:-

a) Cemented b) brick ,cement ,tin c) small hut d) others

6. Land holding:-

…… Bigha …… Kattha

7. Total no. of livestock:- …… total

a) …… Cow b) ……. Buffalo c) ……Goat

8. Total annual income status:-

a) Less than 50 thousand b) 50 thousand - 1 lakh

c) 1 lakh – 1.5 lakh d)1.5 lakh- 2 lakh

d) 2 lakh -2.5 lakh e) 2.5 lakh – 3 lakh f) more then 3 lakh

9. Annual income from vegetable: -

a) Less than 50 thousand b) 50 thousand - 1 lakh

c) 1 lakh – 1.5 lakh d)1.5 lakh- 2 lakh

d) 2 lakh -2.5 lakh e) 2.5 lakh – 3 lakh f) more then 3 lakh

10. What is purpose of commercial Pineapple farming?

a) for household use b) for commercial purpose

c) both d) others

11. How much land do you use for Pineapple farming?

……. Bigha …… Kattha

12. What types of Pineapple do you grow?

…….……..…….

13. How much Pineapple do you produce per day?

Seasonal ……....

Unseasonal ……..

14. How many members are involved in Pineapple farming?

……..members

15. How much money do you spend for member per year?

…….Rs and…….total

16. What are the financial sources of doing Pineapple farming?

a) Self b) Bank c) Co-operative d) Neighbor e) Others

17. Do you have insurance your Pineapple?

a) Yes b) no

if yes then

18. how much money do you spend ?

Rs. ……

19. Do you like to expand Pineapple farming?

a) Yes b) no

if yes then why?

……

20. Do you engaged in social organization?

a) Yes b) No

if yes then where?

……

21. Where do you utilize the income earned from Pineapple selling?

a) Domestic expenses b) to buy land c) health

d) Education e) saving f) house building g) others

22. Where do your children study?

a) govt. school b) govt. college c) private school d) Private college

23. Where do family members go in time of illness for treatment?

a) Health post b) private clinic c) govt. hospital d) private hospital

24. What is the advantage of doing commercial Pineapple farming?
25. What roles do you typically perform in the pineapple farming process (e.g., planting, weeding, harvesting)?
26. How many hours per week do you dedicate to pineapple farming activities?
27. Do you have access to the necessary tools and resources for pineapple farming? If no, please specify what you lack.
28. Are you involved in the marketing and sale of pineapples? If yes, what specific tasks do you handle (e.g., negotiating prices, packaging, transportation)?
29. How do you sell your pineapples (e.g., local markets, direct to consumers, wholesalers)?
30. What challenges do you face in the marketing of pineapples?
31. How are the profits from pineapple farming distributed in your household or community?
32. Are you satisfied with the share of benefits you receive from pineapple farming? Please explain your answer.
33. Have you noticed any changes in your economic status since you started participating in pineapple farming? If yes, please describe.
34. Have you received any training or support related to pineapple farming? If yes, please specify the type of training or support received.
35. Do you feel that you need additional training or resources to improve your participation in pineapple farming? If yes, what specific areas would you like to receive training in?
36. Do you have a say in decision-making processes related to pineapple farming in your household or community?
37. How often do you participate in meetings or discussions about pineapple farming strategies and plans?
38. In your opinion, what factors influence the decision-making process in pineapple farming within your community?
39. What are the main challenges you face as a woman in pineapple farming?
40. How do these challenges impact your ability to participate in production, marketing, and benefit-sharing?

41. What solutions or support would help you overcome these challenges?
42. How has your involvement in pineapple farming affected your overall livelihood and well-being?
43. Has pineapple farming improved your access to education, healthcare, or other essential services? If yes, please elaborate.
44. What other benefits, if any, have you gained from participating in pineapple farming?
45. How does your participation in pineapple farming influence your status and role within your community?
46. Are there any community-based organizations or cooperatives that support women in pineapple farming? If yes, how do they assist you?
47. Do you collaborate with other women in pineapple farming? If yes, in what ways?
48. What are your future aspirations regarding your involvement in pineapple farming?
49. What changes or improvements would you like to see in the pineapple farming sector to enhance women's participation and benefit-sharing?
50. How do you envision your role in pineapple farming evolving over the next five years?
51. What challenges do you face during the planting and cultivation of pineapples?
52. How do weather conditions affect your pineapple farming activities?
53. What pest and disease issues do you encounter in your pineapple crops?
54. Do you have adequate access to water for irrigation? If no, please specify the challenges.
55. Are the farming tools and equipment you use sufficient for your needs? If no, please describe the limitations.
56. Do you have access to high-quality seeds and fertilizers? If no, please elaborate on the difficulties.
57. What are the main financial challenges you face in pineapple farming (e.g., access to credit, high input costs)?
58. Have you experienced difficulties in securing loans or financial support for your farming activities? If yes, please explain.
59. How do fluctuations in market prices affect your profitability?
60. Do you face any challenges related to labor availability for your pineapple farm? If yes, please describe.
61. What challenges do you face in the marketing and sale of your pineapples?
62. How do transportation and logistics affect your ability to reach markets?
63. Are you satisfied with the prices you receive for your pineapples? If no, please explain why.

64. Are there any infrastructure issues (e.g., roads, storage facilities) that hinder your pineapple farming activities?
65. How do these infrastructure challenges impact your overall productivity and profitability?
66. What improvements in infrastructure would significantly benefit your farming operations?
67. What environmental challenges (e.g., soil erosion, climate change) affect your pineapple farming?
68. How do you mitigate these environmental challenges?
69. Have you noticed any long-term changes in your farming environment? If yes, please describe.
70. Are there any regulatory or policy challenges that impact your pineapple farming activities?
71. How do these regulations affect your ability to farm effectively?
72. What changes in policies or regulations would help improve your farming experience?
73. Do you receive any support or training from government or non-governmental organizations? If yes, please specify.
74. What additional support or training do you need to overcome the challenges you face?
75. How do you think improved support and training could enhance your pineapple farming operations?
76. What do you perceive as the most significant opportunities for growth in commercial pineapple farming?
77. Are there any emerging markets or new demand trends for pineapples that you are aware of? If yes, please describe them.
78. How do you plan to expand or improve your pineapple farming operations in the next five years?
79. Have you adopted any new technologies or innovations in your pineapple farming practices? If yes, please specify which ones.
80. How do you think advancements in technology can improve productivity and profitability in pineapple farming?
81. What technological tools or resources would you like to see developed or made available to pineapple farmers?
82. How do you assess the current and future market potential for pineapples in local and international markets?
83. What strategies do you use to differentiate your pineapples from those of other producers?
84. Are there any value-added products (e.g., pineapple juice, dried pineapples) you are considering producing? If yes, please elaborate.

85. What type of support (financial, technical, advisory) would most help you to expand your pineapple farming business?
86. Are you aware of any government or private investment programs aimed at supporting pineapple farmers? If yes, have you participated in any?
87. How important do you think investment in infrastructure (e.g., roads, storage facilities) is for the future success of pineapple farming?
88. How do you incorporate sustainable practices into your pineapple farming?
89. What environmental benefits do you see from adopting sustainable farming practices?
90. Are there any emerging trends in sustainable agriculture that you think could benefit pineapple farming?