

**PARTICIPATION IN AGRICULTURE AND WELL-BEING
AMONG WOMEN IN UKHRUL DISTRICT, MANIPUR.**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

R. YAONGAM

MZU REGN. No.: 1505639

Ph.D. REGN. No.: MZU/Ph.D./1155 of 03.10.2018



**DEPARTMENT OF SOCIAL WORK
SCHOOL OF SOCIAL SCIENCES**

MAY 2023

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By

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Department of Social Work

Supervisor

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Submitted

**In partial fulfillment of the requirement of the Degree of Doctor of
Philosophy in Social Work of Mizoram University, Aizawl.**

MIZORAM UNIVERSITY

May 2023

CERTIFICATE

This is to certify that the thesis *Participation in Agriculture and Well-being among Women in Ukhrul District, Manipur*. submitted by Mr. R.Yaongam for the award of Doctor of Philosophy in Social Work is carried out under my guidance and incorporates the student's bonafide research and this has not been submitted for award of any degree in this or any other university or institute of learning.

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DECLARATION

I, Mr. R.Yaongam, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

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List of Abbreviations

ABD	:	Agri-Business Development
AMI	:	Agriculture Marketing Infrastructure
AMIGS	:	Agriculture Marketing, Infrastructure, Grading and Standardization
APHRC	:	African Population and Research Center
AWB	:	Affective Well-Being
CAVs	:	Commercialized Agriculture Villages
CDB	:	Coconut Development Board
CIH	:	Central Institute for Horticulture
CWB	:	Cognitive Well-Being
DA & FW	:	Department of Agriculture Cooperation & Farmers' Welfare
DTC	:	Dry Terraced Cultivation
EPC	:	Export Promotion Council
EWB	:	Eudaimonic Well-Being
FAO	:	Food and Agriculture Organization
GBY	:	Grameen Bhandaran Yojana
GDP	:	Gross Domestic Product
GOI	:	Government of India
HMNEH	:	Horticulture Mission for North East & Himalayan States
HWB	:	Hedonic Well-Being
ISAM	:	Integrated Scheme of Agriculture Marketing
ILO	:	International Labour Organization
MIDH	:	Mission for Integrated Development of Horticulture
MRIN	:	Marketing Research and Information Network
NER	:	North Eastern Region
NHB	:	National Horticulture Board
NHM	:	National Horticulture Mission
NIAM	:	National Institute of Agriculture Marketing
PDF	:	Project Development Facility
PPVFRA	:	Protection of Plant Varieties and Farmers' Rights Authority
SAGF	:	Strengthening of Agmark Grading Facilities
SAVs	:	Subsistence Agriculture Villages
SDT	:	Self-Determination Theory
SMAM	:	Sub-Mission on Agricultural Mechanization
SMSP	:	Sub-Mission for Seed and Planting Material
SWB	:	Subjective Well-Being
VCA	:	Venture Capital Assistance
WPR	:	Work Participation Rate
WTC	:	Wet Terraced Cultivation
WTO	:	World Trade Organisation

CHAPTER I

INTRODUCTION

The study embarks upon the examination of the changing patterns of agriculture practices from subsistence agriculture to commercialization of agriculture in tandem with the women's participation in agricultural sector and its relation to socio-cultural and gender roles. It also aims to explore the caused ramifications implied upon the life of women farmers and their well-being. Attempt has been made to unearth significant challenges and opportunities faced by women due to change in the patterns of agricultural practices; it further draws suggestions to contextual relevance of social work intervention and research towards enhancement of women's well-being and development.

This chapter covers different subjects categorized in separate sections. In the first section, the agricultural situation and women are highlighted on the basis of four different contexts such as the Global context, the Indian context, the North east context and the Local context. The Second section, related concepts and theoretical perspectives are discussed, followed by overview of literature and problem statement in the third and fourth sections respectively. The last section deals with the presentation of thesis chapter schemes.

1.1. Agriculture and workforce participation: Global context

Agriculture, Forestry and Fishing around the globe is one of the major sources of livelihood. The population engaging in agriculture cultivation, forestry, fishing and hunting for their livelihoods be categorized under the purview of agricultural population. It comprises of all those people who are economically active in agriculture and also their non-working dependents. It is not necessarily to be confined or lived exclusively in rural areas to be dependent on agriculture for ones' livelihood (FAO, 2013). In a significant observation, FAO noted that agriculture is a significant engine for economic growth especially for the developing countries. In as much as approximately 3/4 of the world's agriculture value added products are generated by the developing

countries and the countries' 30 percent of Gross Domestic Product (GDP) derives from agriculture sector. It acts as a resilient force against any global economic and financial crisis. The operations of agriculture, forestry and fishing thus constitute as the basic economic backbone of the many developing countries (FAO, 2013; Doss et al., 2011). In 2021, agriculture is accounted for about 4.3 percent of the entire global gross domestic product (GDP) whereas in the developing countries it is accounting up to more than 25 percent gross domestic product (GDP). The contribution of agriculture, fishing and forestry in global economy witnessed increased in value added by 78 percent at \$ 3.6 trillion in 2020 from \$ 1.6 trillion in 2000. The increase value added in Africa crossed over more than 147 percent at \$ 167 billion from \$ 413 billion. In Asia the agriculture, forestry and fishing value added grew by 91 percent that showed the jumped from \$ 1.2 trillion to \$ 2.3 trillion in between 2000-2020. The increase 56 percent in value added was made in Americas during the period of 2000-2020. Whereas, Europe and Oceania had the growth of agriculture value added by 19 percent and 18 percent respectively in the 2000-2020 period. Amongst these regions, Asia held the highest 64 percent contribution to the world total agriculture value added in 2020. Moreover, countries such as China, India and the United States of America had the largest agriculture, forestry and fishing value added in 2020. Despite declined in the value added from industry and service sector during the pandemic, the share of agriculture sector value added continued to increase in 2020 (FAO, 2022).

According to World Bank agriculture land covered about 36.5 percent of the gross land area available in the world. The total global land areas of 4.74 billion hectares (ha) were accounted for agriculture land areas in 2020. Of which the permanent meadows and pastures comprised for about two-third (3.18 billion ha) of the total agriculture land areas whereas one-third (1.56 billion ha) of the agriculture land were accounted for cropland. The area distribution of agriculture crop land differed across regions. As in 2020, Asia composed (38 percent) the largest portion of the total global agriculture cropland area, with 24 percent from Americas, 18 percent from Europe, 18 percent from Africa and 2 percent from Oceania. Moreover, the concentration of

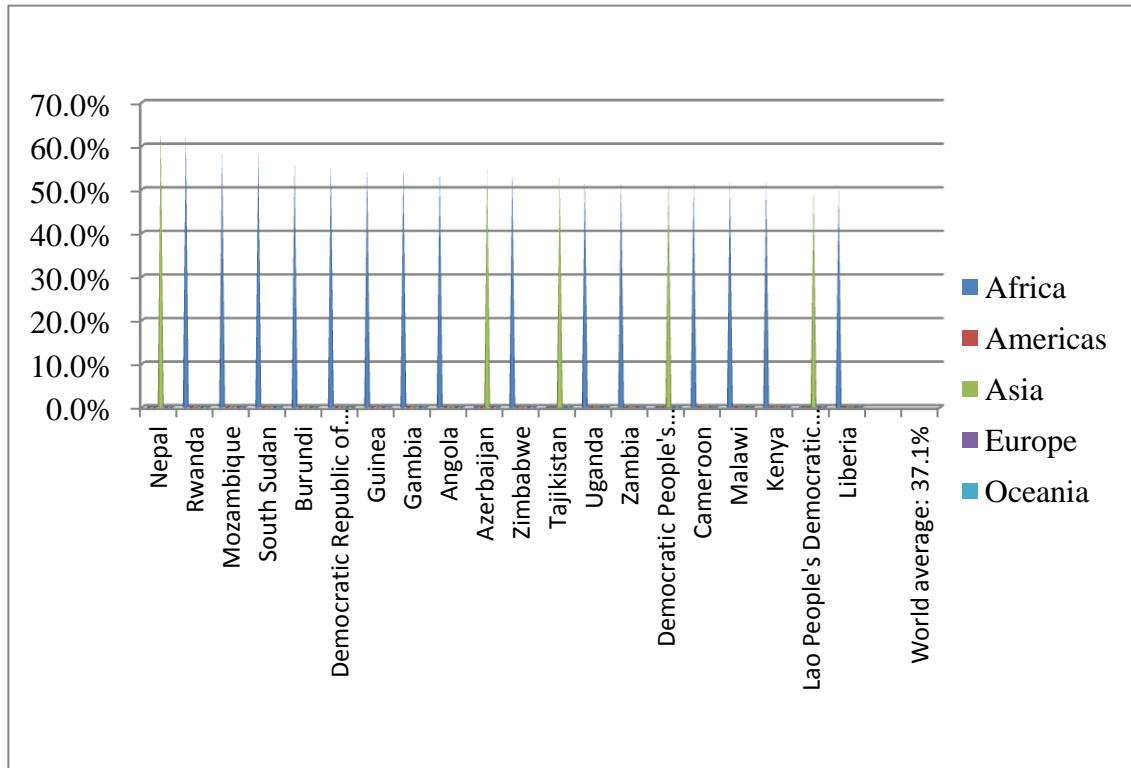
cropland area as per the country-wise for the same year accounted India with 11 percent having the largest portion of the global cropland which was followed by United States of America with 10 percent share and China with 9 percent share. On the other hand, of the global permanent meadows and pastures China had the largest share of 12 percent followed by Australia with 10 percent and United States of America with 8 percent of permanent meadows and pastures (FAO, 2013, 2021a, 2022).

By 2021, it is estimated that almost half of 7.8 billion (comprises of 3.92 billion (49.7 percent) female and 3.97 billion (50percent) male) of the total world's populations which is more than 3.43 billion (44 percent) people are living in rural areas. Of these, approximately 2.5 billion of the rural people depend on agriculture for their livelihood. While more than 1/3 of the world's population derives their livelihood from agriculture, with the largest concentration of agricultural population in Asia. The populations of 3.46 billion were accounted for global total workforce where 866 million of people were engaged in agriculture, forestry and fishing work in 2021. It was observed that the employment in agriculture had declined during the period from 2000 to 2021 by 17 percent amounting to 177 million people lesser than in 2000. The imposed restriction on human activity due to COVID pandemic had greatly impacted on the pattern of agriculture employment amongst other factors. In the region of Asia, the workforce decline between the periods of 2000 to 2021 was estimated from 800 million to approximately 580 million people. This indicated that the agriculture workers of more than one out of every four left for other sectors employment. Europe had faced a drop in agriculture employment by 49 percent that represented from about 35 million to 17 million people lesser while Africa had witnessed an increased to 226 million people in 2021. In Asia, the number of 190 million people working in agriculture in India and China accounted for two-third of agricultural employment and contributed to 44 percent of global agricultural employment in 2021 despite 27 million people moved out from agriculture sector in India and 173 million people left agriculture sector in China during the period of 2000 -2021. Although, the global share of employment in Agriculture sector witnessed certain declination from 13 percent to 26.6 percent during 2000 to

2021, Agriculture holds the second largest employment contributing sector next to Services sector across the globe. Amongst the regions Europe had the lowest share of agriculture employment with 5.1 percent who were employed in agriculture in 2021. Moreover, Africa had the highest share of agricultural employment with 48.4 percent who were engaged in agriculture job (FAO, 2013, 2022; ILO modelled estimates, 2022).

As per the ILO (2022) the total global workforce engaged in agriculture sector is accounted to 59 percent with the segregate figure of male to 72.3 percent and female to 47.4 percent in 2021. However, this figure are seen contradictory to the FAO statistical report of 2022 where the composition of women workforce in agriculture was accounted to 37.1 percent in 2021 and the ratio is even more in developing countries or low income countries that stood up to 50 percent. Moreover, the share of women in agriculture employment could be found higher than global average in as many as 20 countries (see. Fig.1). The differences between men and women in agriculture employment status could be attributed to the nature of general notion of women engagement in agriculture as contributing family workers instead accounting as a worker for income generation as in the case of men (FAO, 2018, 2022). The accounted number of more than 60 percent of women workforces comprised of agricultural workforce in several South East Asian and Sub-Saharan African Countries (ILO, 2017, 2022). It would be of no exaggeration attributing women as the backbone of agriculture workforce (National Research Centre for Women in Agriculture, 2004; Singh, Kushwah, Singh, & Daipuria, 2015). Apart from agriculture responsibilities and workloads, women extensively spend more time as compared to men in food processing and preparation for the household, child and elder care service, collection of water and fuel, cleaning, washing and other many more unpaid chores. In addition to this, lack of gender equality undermining the rights and opportunities of women despite their significant contribution to rural economy exacerbate the overall development of the country (FAO, 2013).

Figure: 1.1. Share of women employment in Agriculture sector at a Glance (2021)



Source: FAO, 2022. <https://doi.org/10.4060/cc2211en-fig12>

1.2. Agriculture and workforce participation: Indian Context

Agriculture is the main backbone of Indian economy; her economic stability is highly dependent upon agriculture resources. Of the total geographical area of 328.7 million hectares of the country, the covered area of 139.4 million hectares is accounted as net sown area in 2016-2017. Moreover, the area of 200.2 million hectares is accounted for gross cropped area at the cropping intensity of 143.6 percent and an area of 68.6 million hectares was under net irrigated area. The contribution of agriculture and allied sector to Gross Domestic Product (GDP) at a declining pace of 16.5 percent attributed to structural transformation that impacted on the agriculture performance which led to increase in the share of other non-agriculture sector in the country. During the period of 2019-2020, the contribution of agriculture sector to India's gross value added recorded at 17.8 percent. The major crops produced during the year 2019-2020

includes rice, wheat, nutri/coarse cereals, pulses, food grains, oilseeds, sugarcane and cotton. The production of food grain during the year 2019-2020 is observed to have been increased by 26.87 million tons as compared to the last five years with the total food grain production of 296.65 million tons. Rice production is estimated to the total output of 118.43 million tons which shows 8.67 million tons higher comparing to the sum production of the last five years. The total wheat production is recorded at 107.59 million tons which indicates 11.43 million tons higher to that of 96.16 million tons in the previous years. The output of nutri/coarse cereal is recorded at 47.48 million tons with 4.42 million tons higher to that of 43.06 million tons produced 2018-2019, which indicates higher rate at 4.44 million tons compares to its average rate of output. In the case of pulses, the calculated amount of 23.15 million tons is produced in 2019-2020, that is higher by 2.33 million tons to that of 20.82 million tons of its five years sum output. The oilseeds output of the country in the year 2019-2020 amounted to 33.42 million tons which is comparatively higher by 1.90 million tons to that of 31.52 million tons in 2018-2019. This indicates that the output in 2019-2020 is higher by 4.02 million tons to its average production. The estimate rate of 355.70 million tons of sugarcane out is accounted during the period of 2019-2020. Regarding cotton, it is recorded at 35.49 million bales (each bale is equivalent to 170 kg) with 7.45 million bales higher than 28.04 million bales. Further, the rate of production of jute & mesta is accounted for 9.91 million bales (equivalent to 180 kg each) during the year 2019-2020. Rich in agri-resources and high output render farmers opportunity to dispatch their products at the international market, which in return encourage them to expand their course of production. This has factored in expanding the production area as well an increased in amount of output. In a significant development, India has become one of the biggest exporters of agriculture commodities that include “rice, spices, cotton, oil meal cake, castor oil, coffee, cashew, tea, fresh vegetable and sugar across” many countries of the world. Notably, the contribution of India’s agriculture export and import to the world agriculture trade accounted for 2.15 percent and 1.54 percent respectively in 2018 whereas 2.4 percent export and 1.7 percent import in 2021. Of the India’s total

merchandise export during (April-Nov) 2019-2020 and 2020-2021, the share of agricultural export increased from 10.9 percent to 14.4 percent respectively. Moreover, during (April-Nov) 2020-2021 the portion of agriculture and allied exports increased by 15.87 percent equivalent to Rs. 1,87,874.42 crores. The increased in agriculture and allied exports attributed to the mounted exports scenario of certain merchandise such as raw cotton (140 percent), rice excluding basmati (118 percent), sugar (72 percent), oil meals (32 percent), basmati rice (13 percent), fresh vegetables (12 percent) and spices (8 percent) during 2020-2021. The India's agriculture and allied goods exports recipient countries are the United States of America, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom. In case of imports, the agriculture and allied commodities import in India during the year 2020-2021 (April-Nov) reduced by -3.55 percent to Rs 97267.66 crore. This is due to the declined value of agriculture and allied goods imports such as raw cotton including waste (-79 percent), Spices (-33.6 percent), Cashew (-15.7 percent) and Pulses (-6.5 percent). Thus, agriculture and allied share in total merchandise reduced imports rate improved from 4.4 percent in 2019-2020 (April-Nov) to 5.9 percent in 2020-2021 (April-Nov). Majority of the imported agriculture and allied commodities come from the countries such as Indonesia, Ukraine, the United States of America, Argentina, Malaysia, Brazil, Singapore, Afghanistan, China, Thailand, Vietnam, the United Arab Emirates, Cote d'Ivoire, Australia and Myanmar. Thus, agriculture in India plays a significant role in maintaining economic stability and development. India is also one of the leading producers of various agriculture crops in the world such as sugarcane, wheat, rice, paddy, potatoes, etc. More importantly, it is worth mentioning that when other sectors failed the agriculture sector progressed and sustained the economy during the Covid-19 pandemic. Thus, it is evidently recorded the significant essence of agriculture in sustaining livelihood (Department of Agriculture, 2021; FAO, 2022; Nanda, 2022; World Trade Organization, 2022).

Of the India's total population of 1.41 billion about 64.6 percent of the people comprising 41.4 percent of female and 52 percent of male belongs to rural areas in 2021 that are depending on agriculture for their livelihood (World Bank, 2022). While, in terms of workforce participation is concern the estimated workers composition of around 45.6 percent (23.2 million workers of rural and urban combined in 2019-2020) of the country's workforce is concentrated in agriculture sector (Chand & Singh, 2022); that it employs the largest workforce in India (Gulati & Juneja, 2022). Of this the total workforce distribution of men consists of 40 percent against the 60 percent of women in agriculture in both rural and urban combined. This indicates the pivotal role played by women in agriculture sector. In 2019-20, the workforce contribution of women in agriculture in rural areas remains higher at 75.7 percent against the 55.4 percent of the men's workforce contribution. Likewise, the urban agriculture workforce contribution of women affirms higher with 8.2 percent to that of men at 5.0 percent. Furthermore, the composition of agriculture workers indicates that 76.55 percent of men and 70.34 percent of women workers are cultivators whereas 21.63 percent of men and 28.0 percent of women engages in agriculture labour (Chand & Singh, 2022; ILO, 2020). It is undeniable that women are the backbone of the agriculture workforces (P. Kaur & Mavi, 2015; National Research Centre for Women in Agriculture, 2004; Sharma et al., 2012; S. Singh et al., 2015). Majority of its agriculture workforce are dominated by women. They contribute not only the physical output but also maintain quality and efficiency (Hussain et al., 2011; Sharma et al., 2012). Women performed majority of households' chores as well as the work related to farming and agriculture. In spite of their overwhelming contribution of workforces unfortunately go unrecognized and under estimated or suppress under gender subjugation and undermines their well-being (Hussain et al., 2011; Singh, Swanson, & Meena, 2015). Agriculture not only meet food and nutritional requirement but it also provides significant production, employment and demand generation. It plays pivotal role to ensure poverty alleviation, to sustainable growth and development for the Indian economy (Sharma et al., 2012). The government of India adopted a new approach to further improve the agriculture and allied sector in which the

priority is given to the welfare and sustainability of farmers' socio-economic, social security and well-being (Department of Agriculture, Cooperation and Farmers welfare, GOI, 2016).

1.3. Agriculture and workforce participation: Northeast Context

The North Eastern Region (NER) is a part of India comprises of the states of Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura. It covers the geographical area of 26.2 million hectare; that is about 8 percent of the total area of India. This region has about 72 percent of the entire area characterized by the hilly ecosystem. The NER composes of diverse types of vegetation ranging from subtropical, submontanne, montanne, sub-alpine to alpine system. It is endowed with rich natural resources, dense forest vegetations; high diversity of species and endemism became a global biodiversity hotspot. The native of this region belongs to the total of 225 diverse tribal ethnic groups out of the total 427 tribal communities settling in all over India (M. Kaur et al., 2018). Majority of which is more than 85 percent of these people in north-east India living in rural area adopted agriculture as the main source of livelihood (Birthal, 2010). The commonly practices agricultural patterns or types can be broadly classified into two such as: (i) Settled cultivation are prevalent in plains and valleys as well as foothills and terraced slopes (ii) Shifting cultivation are commonly practices in all the hilly areas of this region excepting Sikkim relied on settled terraced cultivation. Approximately 12 percent of the total sown area falls under shifting cultivation and as high as about 400,000 families in this region still depends on such cultivation People here predominantly cultivated rice as their main crop except for Sikkim maize is dominant in their cropping system. The agriculture farming is mostly concentrated on food grain production with more than 80 percent of the aggregate crop area falls under food grain of which 89.8 percent of the total crop area is under rice cultivation. Moreover, of the total food grain production 93.2 percent of the food grain production consisted of rice. Agriculture farming practices is mainly purposed for subsistence in this region (A. Das et al., 2009; I. Das, 2013; Dikshit & Dikshit, 2014). Apart from marginal agriculture practices small scale livestock and poultry can be

observed as an alternative source of income amongst the farmers in this region (Indo-Global Social Service Society (IGSSS), 2016). Thus, agriculture act as the main thriving force for economic growth and poverty eradication to further overall socio-economic progress of the rural North Eastern Region (NER) (Bordoloi, 2021).

As per the 2011 census, the total population of North Eastern Region (NER) estimated to 45 million which comprised of 23 million male and 22 million female. The majority of 37.0 million people in NER with 18.9 million male and 18.1 million female are residing in rural areas whose livelihood depends on agriculture. The urban total population estimated to 8.4 million people that consisted of 4.2 million male and 4.1 million female. In such a scenario, the workforce participation of women in agriculture varies from country to country and region to region in respect to the availability of resources, nature of work and socio-cultural practices (Bordoloi, 2021; Mawkhlieng & Algur, 2021; Pegu, 2015). Therefore, the work participation rate of women in NER varies from state to state. The summary of all the eight states work participation rate are highlighted below:-

(1) Arunachal Pradesh has the work participation rate (WPR) of 42.5 percent in total person that inclusive of 49.5 percent of male and 35.4 percent female. The classification of rural and urban status of WPR revealed that the total person of work participation in rural area estimated to 44.1 percent with 48.5 percent of male and 39.5 percent. Whereas, the urban total WPR estimated to 37.0 percent with 50.9 percent of male and 21.3 percent of female.

(2) Assam has the total WPR of 38.4 percent comprising of 53.6 percent male and 22.5 percent female. The rate of work participation in rural areas revealed that out of the total 38.7 percent of work participation, 53.1 percent is accounted for male and 23.7 percent of female workforce. In the urban area, the total work participation rate estimated to 36.4 percent with 56.8 percent of male and 14.9 percent of female.

(3) Manipur estimated the total work participation rate of 45.1 percent with 51.6 percent of male and 38.6 percent of female workforce. The work participation rate rural area recorded to 46.9 percent inclusive of 52.4 percent male and 41.2 percent of female.

Whereas in the case of urban work participation rate, it totaled up to 41.4 percent that is comprised of 49.9 percent male and 33.2 percent female workforce.

(4) Meghalaya has the total work participation rate of 40.0 percent that comprised of 47.2 percent of male and 32.7 percent of female. In rural area, the total WPR is recorded to 41.0 percent inclusive of 47.0 percent of male and 35.0 percent of female while in urban area the total WPR accounted to 35.6 percent consisted of 47.7 percent of male and 23.6 percent of female.

(5) Mizoram is recorded with the total WPR of 44.4 percent with 52.4 percent of male and 36.2 percent of female workforce. The rural situation of participation in work estimated at the total rate of 48.0 percent that comprises of 53.9 percent of male and 36.2 percent of female whereas, in urban area the total WPR considered at 41.0 percent with 50.9 percent of male and 31.1 percent of female.

(6) Nagaland reflected with the total WPR of 49.2 percent that comprises of 53.4 percent male and 44.7 percent of female. In rural areas, the total WPR accounted for 54.0 percent with 55.7 percent of male and 52.3 percent of female while in the case of urban, the total WPR recorded at 37.4 percent inclusive of 47.9 percent of male and 25.9 percent of female.

(7) Sikkim has the total WPR of 50.5 percent, having the highest work participation rate amongst the North Eastern states inclusive of 60.2 percent of male workers and 39.6 percent of female workers. In the rural area the total WPR accounted for 53.3 percent with 61.0 percent of male and 44.6 percent of female workers while in the urban area the total WPR is estimate at 41.9 percent with 57.5 percent male and 24.8 percent of female.

(8) Tripura has an estimated amount of total WPR at 40.0 percent consisting of 55.8 percent male and 23.6 percent of female workers. The rural area has the total WPR of 41.1 percent with 55.3 percent of male and 26.3 percent of female. On the other hand, the urban total WPR is accounted for 36.8 percent consisting of 57.0 percent of male and 16.0 percent of female workers.

Sikkim has the highest total WPR of 50.5 percent and the highest number of total male WPR at 60.2 percent while Nagaland accounted the highest total WPR of women at 44.7 percent amongst the north eastern states. In case of rural work participation, Nagaland has the highest total rate of 54.0 percent and accounted the highest female WPR at 52.3 percent while Sikkim has an estimated total male WPR of 61.0 percent amongst the entire north eastern states. On the other hand, the highest number of WPR in urban area belongs to the Sikkim state with the total rate of 41.9 percent also, having the highest male WPR with 57.5 percent while the highest female WPR belongs to the state of Manipur with 33.2 percent in the entire north eastern states. Moreover, majority of the north eastern states have more than one-third of their women work participation rate especially in the rural areas which reveals significant roles played by women in agriculture sector being their main source of livelihood (North Eastern Council Secretariat: GoI, 2015). Thus, women are at the integral part of rural economy in India at large and particularly in the North-eastern part of the country. Women continue to perform inevitable roles in agriculture and allied sector, animal husbandry and forest management, which they constitute as the backbone of agriculture workforce as well as its allied sector.

1.4. Agriculture and workforce participation: Local Context

The Tangkhul Nagas are the major inhabitants of Ukhrul district situated in the eastern part of Manipur along the international frontier of India and Myanmar. Moreover, a significant portion of the Tangkhul population are living along the Somrah hill tract in Saigong sub-division of Myanmar (Shimray, 2004). The indigenous Tangkhul society is still governed by the old age traditional customary law. Ranging from socio-cultural and economic practices and governance deeply rooted to indigenous agriculture practices (Yaongam & Elizabeth, 2017). Shimrei (2016) highlighted different stages of livelihood practices amongst the Tangkhul on the basis of the characteristic of economic system. The first stage is categorized a savagery stage, in this stage people depended on flora and fauna for their livelihood and shelter. In the second stage which she termed it as primitive stage, people shifted from nomadic way of life to permanent

settlement. Their livelihood practices shifted from food gathering effort to food producing activities. The third stage is categorized as civilization stage where society is developed on the basis of agrarian culture. Further, the authors classified the agriculture practices into two different methods. The first method is termed as primitive method. In this primitive method, no system of irrigation and ploughing of land were done. It is now commonly known as shifting cultivation or temporary cultivation. Secondly, terraced cultivation with well irrigated and thorough plough is done. It can be of two types, one as wet terraced cultivation (WTC) and another one as dry terraced cultivation (DTC). Agriculture as such remains the main stay of livelihood sustenance.

According to the census (2011), Ukhru District has the total population of 183,998 persons comprising of 94718 male and 89280 female. Of these, maximum of the population of 156,811 persons with 80,801 of male and 76,010 of female resides in rural area while the population of 13917 male and 13270 female summing up to the total of 27187 persons are residing in urban area of Ukhru District. The district has as high as 87,929 (47.79 percent) total workers that are inclusive of main and marginal workers. Of the total workers, 46,533 (49.13 percent) and 41,396 (46.37 percent) workers comprises of male and female respectively. The total population of 67,724 (36.81 percent) consists as the main workers with 37,336 (39.42 percent) male and 30,388 (34.04 percent) female workers whereas 20,205 (10.98 percent) of the total population of workers consists as marginal workers with 9,197 (9.71 percent) of male and 11,008 (12.33 percent) of female. On the other hand, the total population of 96,069 (52.21 percent) persons represents the non-workers inclusive of 48,185 (50.87 percent) male and 47,884 (53.63 percent) female. Further, the classification of workers as per the economic activities the total population of 56,815 (64.61 percent) persons are categorized as cultivators with 27,277 (58.62 percent) and 29,538 (71.35 percent) persons are male and female respectively. The agriculture laborers make up the total number of 3,852 (4.38 percent) persons inclusive of 1,836 (3.95 percent) male and 2,016 (4.87 percent) female. Moreover, the total population of 2,233 (2.54 percent) persons engages as workers in household industry with 872 (1.87 percent) male and 1,361 (3.29

percent) female. While, the total population of 25,029 (28.47 percent) with 16,848 (35.56 percent) male and 8,481 (20.49 percent) female belongs to other workers.

1.5. Conceptual and Theoretical Perspectives

1.5.1. Agriculture

According to Merriam-Webster (n.d.) dictionary the term agriculture is expressed as “the science, art, or practice of cultivating the soil, producing crops and raising livestock and in varying degrees the preparation and marketing of the resulting products”. It is synonymous with the terms such as “farming, cultivation, horticulture, gardening, husbandry, agro forestry, aquaculture, pastoralism”, etc. In a similar perspective, the Oxford English Dictionary (1971, as cited in Harris & fuller, 2014) also described agriculture as “the science and art of cultivating the soil, including the allied pursuits of gathering in the crops and rearing live stock; tillage, husbandry, farming (in the wildest sense)”. Both the views perceived agriculture as those aspects of human livelihood activities engaging in soil tilling and rearing livestock for the purpose of sustenance and economy. Etymologically the term agriculture derives from the Latin word “agricultura” (field or land tillage) which is the combination of two Latin words “ager” (field) and “cultura” (cultivation). Harris and Fuller pointed out that the term agriculture is often vaguely defined and overlapping. In their study, they conceptualized agriculture as “a form of land use and economy that resulted from the combination of cultivation (a bundle of human actions focused on preparing soil and planting, tending, and harvesting plants) and domestication (a bundle of genetic and morphological changes that have increased the ability of plants to adapt to cultivation)”. Their approach in understanding the term agriculture confined within the aspects of cultivation and domestication while acknowledging the significant of other aspects (Harris & Fuller, 2014). In another significant contribution, FAO (2013) in its yearly statistical report maintained agriculture population as those who engaged in farming, forestry and animal husbandry, fishing and others for their livelihood. Thus, it deduced to the idea that agriculture is perceived as the practice of cultivating soil, forestry, rearing livestock, fisheries and others for livelihood sustenance and market economy.

Form the above highlighted views and definitions draws the study concept of agriculture as “the science or arts” of land tillage producing crops through ways of farming, animal husbandry or rearing livestock including fisheries and others and forestry for livelihood sustenance and market economy.

1.5.2. Participation

The academic effort in drawing the concept of participation had been long popularized way back 1960s and 1970s. Defining participation reflects ideological complexities and dimensional conflicts as it ought to answer the nature of phenomena and subject concern. The complexity and contradictory nature in grappling the concept of participation to form a definitive term has become an impossible task (Abildgaard et al., 2020; Carpentier, 2012; Heller, 2004; Oakley, 1991; Wilpert, 2004). Meanwhile, keeping in mind the differences and complexities some of the most relevant conceptual definition are incorporated within the study. In a simple view participation can be described as “a process which allows employees to exert some influence over their work and the conditions under which they work”. But further proposed a definition which is more comprehensive in its description as “the totality of forms, i.e. direct (personal) or indirect (through representatives or institutions) and of intensities, i.e. ranging from minimal to comprehensive, by which individuals, groups, collectives secure their interest or contribute to the choice process through self-determined choices among possible actions during the decision process” (Wilpert, 2004). The given later definition focuses on what is termed as “finality” in its sense refers to the end goal or the purpose of participation in realizing the interest out of the choices through programs or actions. Wilpert’s definition of participation inclines more relevant on the organized sector although it implies little scope for unorganized sector of workers participation. Yet, the definition tries to convey that the term participation imply more than mere physical involvement in activities but of control, direct, purpose oriented, decision making, etc. In a significant development Carpentier (2012) argued that the term participation has been widely used across disciplines and in every day discourse yet failed to construct a theoretical based concept and disregard the traits of democratic nature. By connecting to

democratic theory in conceptualizing participation set on vantage point and further expand democracy and participation beyond the “institutionalized politics” to the outside “realm of society”. Price and Mylius (1991, as cited in Claridge, 2004), stated that “participation means the involvement of intended beneficiaries in the planning design, implementation and subsequent maintenance of the development intervention. It means that people are mobilized, manage resources and make decisions that affect their lives”.

1.5.3. Well-being

The term well-being may be conceptualized as the state of optimal psychological functioning and experience. It involves the evaluation of everyday experiences and interpersonal transaction but more so critically delve into empirical psychological functioning and experiences. The enquiry into human well-being disposed much complexity and controversial amongst the theorists in dealing with the construct of “what defines optimal functioning and experience” and thus what imply “the good life”, points towards much theoretical and practical implications. The laden nature of complexity in defining and conceptualizing a concrete meaning of well-being shrouded the multidisciplinary attempts. It became a contentious term amongst the scholars. In much of such endeavors, some would view well-being as “happiness”, “state of contentment”, “wellness”, etc. All these terms refers to the subject matter associating to the manifold experiences of people in their lives and assess them positively. The propagated variances of parlance denoting well-being formed valid yet fragmentary in its own sense. The technical lacunas to define and measure this complexity and inter connected aspects of life of well-being construct have been evolved as a great challenge. As the subject involves great complexity; much controversial views and approaches evolved in the past however, it has been acknowledged and derived at a common consensual observation that well-being constitutes multiple aspects which cannot be expressed through single measurement (Diener, 1984; Ryan & Deci, 2001; Seligman & Csikszentmihalyi, 2000; Tov, 2018).

Nonetheless, the historical background in dealing with the subject matter of conceptualizing well-being amongst scholars popularly revolved around two approaches

such as: (1) “Hedonic well-being” and (2) “Eudaimonic well-being”. The first approach conforms to the Greek philosophy of Hedonism propounded by Aristippus during the fourth century B.C. He purported that the pursuit of pleasure and happiness ascribed the goal of life, wherein the meaning of well-being is coterminous with happiness. Other proponents of Hedonism like Hobbes, DeSade and Bentham subscribed to the principle that human derives happiness through quenching appetites and maximization of pleasure and self interest. Thus, in this context Hedonic view of well-being is referred to the experienced state of maximum realization of carnal pleasure and happiness; fulfillment of appetites and self-interest. The empirical concept of subjective well-being (SWB) associate with the hedonistic perspective of well-being often interchangeably termed as “happiness”, expresses a state of an individual achievement of pleasure over pain and the fulfillment of desired goals. In this sense, well-being is subjectively evaluated; the life experiences of positive feelings (pleasure) over negative feelings (pain) for themselves and derives at the sense of fulfillment, wellness and satisfaction. Hedonic well-being (HWB) also popularly known as Subjective well-being (SWB) concerns with people’s self scrutiny of their own life emotionally and cognitively. It includes the characteristics of “(1) “frequent pleasant feelings, (ii) infrequent unpleasant feelings, and (iii) an overall judgment that life is satisfying”. SWB have been viewed as an “experienced well-being measures” focus on the sum experienced affect of a person and an “evaluative well-being measures” concern with the evaluation of life satisfaction. Thus, conceptually SWB operates on two basic components namely Affective component and Cognitive component. The Affective (component) well-being (AWB) emphasize on the positive affect and negative affect that is the experienced of pleasant feelings and unpleasant feelings. Thus, the assessment of AWB involves queries on the experiences emotions such as happiness, contentment, joy, anger, sadness, worry, etc. On the other hand, the Cognitive well-being (CWB) reflects upon the evaluative measure of one’s desired life on the basis of relative ideal state of affairs. It is the process of self judgment of their present condition of life in relative to their desired goals and standards. CWB commonly measures one’s state of satisfaction with life. In

respect to the relevance and theoretical implications on the study of subjective well-being, many hedonic psychologists opined the significance of bottom-up empirical approach, expectancy-value approach, behavioral theories of reward and punishment and theories that emphasize on cognitive expectations. However, it has been observed the common absence of explicit theory adopted by the subjective well-being researchers. (Deci & Ryan, 2008; Diener, 1984; Diener et al., 1998; Dodge et al., 2012; Kapteyn et al., 2015; McMahan & Estes, 2011; Ryan & Deci, 2001; Tov, 2018).

The second approach related to the classical Hellenic philosophy of Eudaimonism, an ethical theory popularized in the book entitled “Nicomachean Ethics” of Aristotle termed as eudaimonia. He argued that the ultimate of all human well-being does not account on happiness, pleasure or satisfying desires but rather rest on the soul laden actions conforming to virtues. The inherent nature and potentialities of a person to recognize (daimon or true self) and strive towards realizing them in reality results to one’s contentment and derives meaning in life. The concept of eudaimonia associates to the essence of two popular Greek premises such as “to know yourself and to become what you are”. In different explanation, the concept of eudaimonia observed well-being as neither of an outcome nor of the end state rather more of a continues effort to recognize and bring out the daimon or true self; that a continues effort or an attempt to live out in accordance with one’s virtuous potentials and realizing the intended meaning in it. The work on the conceptualization and measurement of psychological well-being manifested upon the perspective of eudaimonic tradition but was firstly empirically ventured by Ryff way back in 1989. However, its formulation did not only derive from the Aristotle’s view but more so from the theoretical works of Maslow’s view of self-actualization, Rogers’ on fully functioning person, Jung’s conception of individuation, Allport’s view on maturity that concerning the positive psychological functioning. Moreover, those theoretical works of Erikson, Buhler, Neugarten and Jahoda were incorporated to formulate the construct of psychological well-being. Ryff conceptualized six dimensions of psychological well-being:

(1) the extent to which respondents felt their lives had meaning, purpose and direction (purpose in life); (2) whether they viewed themselves to be living in accord with their own personal convictions (autonomy); (3) the extent to which they were making use of their personal talents and potential (personal growth); (4) how well they were managing their life situations (environmental mastery); (5) the depth of connection they had in ties with significant others (positive relationships), and (6) the knowledge and acceptance they had of themselves, including awareness of personal limitations (self-acceptance) (Bradburn, 1969; Deci & Ryan, 2008; Ryan & Deci, 2001; Ryff, 1989a, 1989b, 2013; Tov, 2018; Waterman, 1993).

In another significant development of well-being studies, Keyes in 1998 maintained that in every person's life consisted of private spheres as well as public spheres. That the well-being established on the (positive feeling over negative feeling, positive functioning and personal growth) phenomena in private domain have been examining through the conceptualization within the model of hedonic tradition and eudaimonic tradition. The affects on private domain of an individual could be by-product phenomena of an individual public sphere, as so much of a person's features intertwine with the socio-cultural challenges and societal challenges. However, psychologist and social scientist overlooked the essence of public feature of an individual in grappling the issue of well-being. The contribution of Keyes' work mended the gap in dealing with the problem of well-being by zipping in the spectrum of social well-being within the traditional conceptual aspects of well-being. He proposed a definition of social well-being as "the appraisal of one's circumstance and functioning in society". The domains of social well-being are broadly classified into five dimensions such as: (1) Social integration (sense of belongingness and feeling of commonness); (2) Social acceptance (trust, comfortable with others); (3) Social contribution (something of value to give for the benefit of society, efficacy and responsibility); (4) Social actualization (sense of society's potential and ability to realize through its institutions

and citizens); (5) Social coherence (aware and knowing about the world) (Keyes, 1998; Larson, 1993a).

The Webster's Dictionary (1996, as cited in Morrison-Orton, 2004) maintained that the term spiritual originated from the Latin word "Spiritus" which means "the breath of life". In such analogy "as the breath is essential to living, the spirit is the essence of one's life". In this regards, Morrison-Orton (2004) simply stated that spirituality refers to such "relationship with one's self (nurture, authentic), the self in relationship to other (connection, belonging), self in relationship to the larger world (community responsibility, nature, the universe, and transcendence (to God [s] or others)" (p. 41). Spirituality on the other hand is viewed as a construct relating to natural phenomena, an activity in which a person seeks to find "Universal truth", an endeavor to achieve "connectedness with oneself to higher power or purpose" and meaning in life (Božek et al., 2020; Joseph et al., 2017; Woods & Ironson, 1999). The concept of spiritual well-being in this study adheres to the definition proposed by the National Interfaith on Aging (NICA, 1975, as cited in Ekşi & Kardaş, 2017; Ellison, 1983; J. Fisher, 2000; J. W. Fisher et al., 2000; Gomez & Fisher, 2003) that "Spiritual well-being is the affirmation of life in a relationship with god, self, community and environment that nurtures and celebrates wholeness".

The term physical is derived from the Latin word "physicalis" refers to "things relating to nature". "Physical well-being consists of the ability to perform physical activities and carry out social roles that are not hindered by physical limitations and experiences of bodily pain and biological health indicators" (Capiro et al., 2014).

1.5.4. Theories

Self-determination Theory (SDT) is a broad/macro theory concentrate on human motivation, personality development and well-being. It focuses on the ability to derives own decision (volition) or "self determined behavior" and within such conducive socio-cultural environment for growth. The Theory views humans as an inherently active organism to adapt difficulties and venture new things and develop propensity to integrate societal norms and values to self. Yet the evolved "intrinsic motivation" and

“internalization” promoting psychological growth and development do not occur under all phenomena; certain social environments can be either conducive or detrimental for psychological growth and well-being. The pertinent social environment conducive for promoting outcome of psychological growth and well-being therefore, rest on the pedestal fulfillment of three basic psychological needs. The three postulated psychological needs such as: (1) “autonomy” refers to such state of being “volitional” and “self-endorsed” in one’s behavior without external pressure, (2) “relatedness” refers to the state of being connected to others, and (3) “competence” refers to one being capable and efficient in the activities one involves. When these needs are unmet it hampers the psychological growth, integrity and wellness of a person. SDT in its approach to well-being expressed as one’s “full and integrated functioning” employing the concept of eudaimonia. One state of well-being is characterized as that needs fulfillment within the socio-cultural context which promote full functioning (Adams et al., 2017; Deci & Ryan, 2015; DeHaan & Ryan, 2014; Ryan, 2009).

Attempt has been made by many researchers, psychologists, and social scientists to conceptualize and define well-being to further empirical measurement in the past. From the period of Aristotle onwards to Bradburn (1969), Diener (1984), Ryff (1989), Waterman (1993), Larson (1993), Keyes (1998) and to this day, the issue of well-being gain significant space in academic discussion. In several literatures, well-being is viewed as “pleasure, happiness, life satisfaction, positive functioning, flourishing and languishing, optimal functioning, etc”. Different authors rather described the characteristics and dimensions, like wise most of the previous works drew different dimensional perspectives in defining well-being yet subjected to dissension and often lack of theoretical implication and empirical measurement. Taken into consideration the underlying complexities, controversial, overlapping and intertwining dimensional aspects of well-being, it is best approach well-being as a “multidimensional phenomenon” thus endorses both the hedonic and eudaimonic conceptualization of well-being. It is also noted that the understanding, defining and determining well-being has high cultural and contextual influences (Ryan & Deci, 2001). Therefore, the present

study adopts the proposed universally applicable definition of well-being by Dodge and colleagues. They drew the explanation from the existing “dynamic equilibrium theory” or rather popularly known as the “set point theory” of well-being, “the effect of life challenges in equilibrium/homeostasis” and “the life span model of development”. In that they defined well-being as “the balance point between an individual’s resource pool and the challenges”. The definition stemmed on three main aspects such as the concept of set point; the equilibrium/homeostasis and the changing condition of resources and challenges (Dodge et al., 2012). Thus, in line with the work of Dodge and colleagues’ structure of well-being framework is contextualized and designed to suit the study. In Fig.1.2 the seesaw/teeter-totter represents the phenomena of an individual’s propensity to attain the state of equilibrium/homeostasis. Wherein, that conditions influencing the state of individual’s equilibrium well-being is determined by the course of life experiences. Thus, life experiences of an individual is expressed in two different elements such as “Resources” and “Challenges” that affects the state of equilibrium; causing the teeter-totter tip from side to side. The analogy maintains that whenever an individual faces a challenge it disturbs the balance state of resources and challenges; resulting to tilt the line of well-being equilibrium as the string of resources of an individual is pulled to match the challenges. In this sense, well-being of an individual is at the state of equilibrium when the psychological, social, physical and spiritual resources match with the demand of psychological, social, physical and spiritual challenges. The more the challenges over resources affect the seesaw tipping towards the challenges expressing lower state of well-being otherwise.

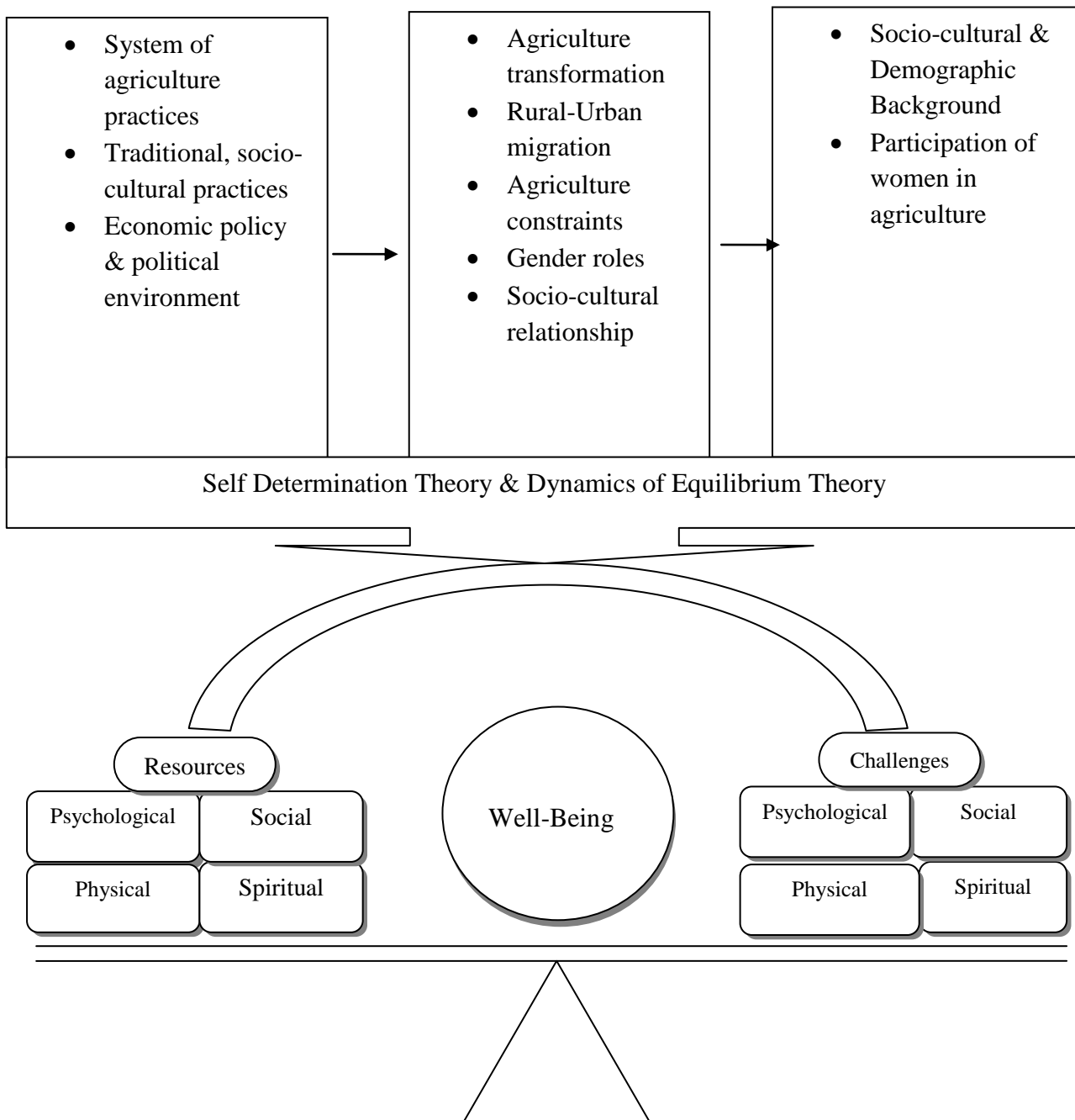


Figure 1.2.: Conceptual model in determining women farmers' well-being (Modified from Dodge et al., 2012)

1.6. Overview of Literature

The studies associating to agriculture development and workforce participation advocates that women play a key role in food production and form a large proportion of the agricultural work force regionally, nationally and globally. They are the backbone of agriculture workforce. It is noted that the development and progress of other economic sectors rely on agriculture productivity (Chand & Singh, 2022; Department of Agriculture, 2021; Devi & Singh, 2015; C. R. Doss, 2018; FAO, 2013, 2021b, 2022; Hussain et al., 2011; P. Kaur & Mavi, 2015; Nanda, 2022; National Research Centre for Women in Agriculture, 2004; Sharma et al., 2012; K. M. Singh et al., 2015)

Majority of the studies focused on participation of women in agriculture, role performance, extent and nature of participation in farming. The determinant factors of the level of women participation in farming were showed to have associated with the type of crops relatively cultivated. Similarly, the types of farming activities were undertaken depending on the type of crops. Some of the related studies attempted to explain the socio-cultural influence on the extent and nature of women participation in agriculture. On the other hand, it was found that voluminous studies have emphasized on the increasing scenario of women taking over the agriculture affairs. Many more studies were focused on the changing agriculture system, policy programmes and commercialization of agriculture (Aggarwal et al., 2013; Devi & Singh, 2015; C. Doss et al., 2011; Hussain, 2011; Ibnouf, 2009; Kapur, 2018; P. Kaur & Mavi, 2015; Lastarria-Cornhiel, 2008; Lennon, 1994a; Mamun- ur- Rashid et al., 2017; Munmun et al., 2015; Palacios-Lopez et al., 2015; Pattnaik et al., 2018; Sharma et al., 2012; Slavchevska et al., 2016a; Tyagi, 2012; Viswanathan et al., 2012).

Voluminous studies have delved into the subject matter of conceptualization of well-being, empirical measurement and applicability. Many have discussed the factors affecting the well-being from the different perspectives. Work and job related well-being gained a center of deliberation in the past years (Bradburn, 1969; Deci & Ryan, 2008; Diener, 1984; Diener et al., 1998; Dodge et al., 2012; Kapteyn et al., 2015a; Keyes,

1998; Larson, 1993b; McMahan & Estes, 2011b; Ryan & Deci, 2001; Ryff, 1989a, 1989b, 2013; Seligman & Csikszentmihalyi, 2000; W. Tov, 2018; Waterman, 1993)

1.7. Research Gap

The majority of the studies were focused on women participation in agriculture farming, dearth of studies in India and northeastern part of India. There were fewer studies focused on the challenges, opportunities and strategies of women agricultural livelihood. Studies on work and well-being; mainly focused on an organized jobs, structured organizations and the implications were prevalent. But there has not been an empirical attempt to determine well-being amongst the farmers in an unorganized agriculture sector; especially amongst the women farmers in Ukhrul. Therefore, there is a need to explore and understand the rural women's participation in agriculture and well-being in Ukhrul, Manipur, India.

1.8. Statement of the Problem

Traditionally like any other tribal societies around the globe, the Tangkhul society by practice is an agrarian society whereby it is the main source of their livelihood. Moreover, the whole system of social, economic, cultural, political, etc, revolves around the agricultural clock of the society (Manolom & Promphakping, 2015). Thus, agriculture not only provides food on their tables but more so in explicating the essence of their identity, values, beliefs and rituals. However, lately the entire scenario of agricultural livelihood practices had undergone tremendous shift because of the changing role of agriculture in society due to the change in socio-economic and political condition of the country. In the process of such change and rural transformation, agriculture sector employment is expected to attenuate as the agriculture share is inadequate to substantiate the household requirements and employment opportunities in other sectors are broaden. Thus, people living in rural areas endeavor for diversification of livelihood strategies outside agriculture (Ibnouf, 2009). Yet in contrary to this, it is noted that in most developing countries men may move out of agriculture sector while women stay or prominently move out slow. Thus, leaving all the agriculture roles and

responsibilities upon women's shoulders actually exacerbate the already overburden condition of women (Handaragama et al., 2013; Slavchevska et al., 2016b). Hence, the changing patterns of livelihood practices pose a serious concern that reflects the socio-cultural conditions which has undergone tremendous alteration in terms of social relation and traditional social fabric at large. On the other hand this has cause a great concern on the state of well-being particularly for the Tangkhul women folks who plays eminent major roles in agricultural livelihood practices apart from performing multiple inimitable roles and responsibilities in the society (Buongpui, 2013;Burman, 2012; Das, 2013; Kamei, 2011; Ruivah, 1993; Shimray, 2001, 2000; Vitso, 2003; Zimik, 2015,2014; Zehol, 1998.). On the other hand despite women becoming major role players in the income generating activities vis-a-vis economy experiences subordination and discrimination under patriarchal dominant prevalent around the globe (Handaragama et al., 2013), which is no exception in the context of Tangkhul.

1.9. Objectives

1. To profile the structural background of women farmers in Ukhul, Manipur
2. To understand the agricultural transformation from subsistence to commercialization in rural Ukhul Manipur
3. To explore the nature and extent of rural women's participation in agriculture
4. To examine the implications of agricultural changes on the socio-cultural relationships and gender roles assignment
5. To explore the implications of agricultural changes on rural women's well-being and life satisfaction
6. To suggest measures for social work practice and research

1.10. Chapter Scheme

The study is organised into the following nine chapters.

- Chapter I** : Introduction
- Chapter II** : Review of Literature
- Chapter III** : Methodology
- Chapter IV** : Structural Bases of the Respondents
- Chapter V** : Pattern of agriculture: Changes and Continuity
- Chapter VI** : Women's participation in Agriculture
- Chapter VII** : Socio-cultural Relationships and Dynamics of Gender roles
- Chapter VIII** : Agriculture: Well-being of Women Farmers and Satisfaction With Life
- Chapter IX** : Conclusion and Suggestions

1.11. Summary

This chapter draws the readers' understanding about the agriculture significance in shaping a country's economic stability and development and how women play a dominant role in agriculture operations across the globe. In this regards, research concern has been drawn towards its interlinking ramification to the well-being of women. The outlined concepts and theoretical framework will direct to the following outcome of the study. In congruent with the formulated research concern, the following chapter deals with the review of literature to establish academic justification while critically examining the previously related studies at multi dimensional perspectives.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is a crucial process of scientific research that involves conscious systematic selecting; scrutinizing and critically examining and evaluating the previous research literatures, books and other subject related documents that may help develop new ideas and concepts. A review of literature plays a pivotal role in building research foundation (Snyder, 2019). It is more than academic report writing but rather critically engaging in subject analysis, counter ideas, critiquing and validating concepts.

This chapter is organized into six sections such as; Agriculture and women work participation: Global context, Agriculture and women work participation: Indian context, Agriculture transformation, Studies on gender and agriculture, Studies on women participation in agriculture, Studies related to work and women farmers well-being and Agriculture related policies, legislations, program in India.

2.1. Agriculture and women work participation: Global Context

Agriculture, Forestry and Fishing around the globe is one of the major sources of livelihood. The population engaging in agriculture cultivation, forestry, fishing and hunting for their livelihoods be categorized under the purview of agricultural population. It comprises of all those people who are economically active in agriculture and also their non-working dependents. It is not necessarily to be confined or lived exclusively in rural areas to be dependent on agriculture for ones' livelihood (FAO, 2013). In a significant observation, FAO noted that agriculture is a significant engine for economic growth especially for the developing countries. In as much as approximately 3/4 of the world's agriculture value added products are generated by the developing countries and the countries' 30 percent of Gross Domestic Product (GDP) derives from agriculture sector. It acts as a resilient force against any global economic and financial crisis. The operations of agriculture, forestry and fishing thus constitute as the basic economic backbone of the many developing countries (FAO, 2013; Doss et al., 2011). In 2021, agriculture is accounted for about 4.3 percent of the entire global gross domestic product

(GDP) whereas in the developing countries it is accounting up to more than 25 percent gross domestic product (GDP). The contribution of agriculture, fishing and forestry in global economy witnessed increased in value added by 78 percent at \$ 3.6 trillion in 2020 from \$ 1.6 trillion in 2000. The increased of value added in Africa crossed over more than 147 percent at \$ 167 billion from \$ 413 billion. In Asia the agriculture, forestry and fishing value added grew by 91 percent that showed the jumped from \$ 1.2 trillion to \$ 2.3 trillion in between 2000-2020. The increased of 56 percent in value added were made in Americas during the period of 2000-2020. Whereas, Europe and Oceania had the growth of agriculture value added by 19 percent and 18 percent respectively in the 2000-2020 period. Amongst these regions, Asia held the highest 64 percent contribution to the world total agriculture value added in 2020. Moreover, countries such as China, India and the United States of America had the largest agriculture, forestry and fishing value added in 2020. Despite declined in the value added from industry and service sector during the pandemic, the share of agriculture sector value added continued to increase in 2020 (FAO, 2022).

According to World Bank agriculture land covered about 36.5 percent of the gross land area available in the world. The total global land areas of 4.74 billion hectares (ha) were accounted for agriculture land areas in 2020. Of which the permanent meadows and pastures comprised for about two-third (3.18 billion ha) of the total agriculture land areas whereas one-third (1.56 billion ha) of the agriculture land were accounted for cropland. The area distribution of agriculture crop land differed across regions. As in 2020, Asia composed (38 percent) the largest portion of the total global agriculture cropland area, with 24 percent from Americas, 18 percent from Europe, 18 percent from Africa and 2 percent from Oceania. Moreover, the concentration of cropland area as per the country-wise for the same year accounted India with 11 percent having the largest portion of the global cropland which was followed by United States of America with 10 percent share and China with 9 percent share. On the other hand, of the global permanent meadows and pastures China had the largest share of 12 percent

followed by Australia with 10 percent and United States of America with 8 percent of permanent meadows and pastures (FAO, 2013, 2021a, 2022).

By 2021, it is estimated that almost half of 7.8 billion (comprises of 3.92 billion (49.7percent) female and 3.97 billion (50percent) male) of the total world's populations which is more than 3.43 billion (44percent) people are living in rural areas. Of these, approximately 2.5 billion of the rural people depend on agriculture for their livelihood. While more than 1/3 of the world's population derives their livelihood from agriculture, with the largest concentration of agricultural population in Asia. The populations of 3.46 billion were accounted for global total workforce where 866 million of people were engaged in agriculture, forestry and fishing work in 2021. It was observed that the employment in agriculture had declined during the period from 2000 to 2021 by 17 percent amounting to 177 million people lesser than in 2000. The imposed restriction on human activity due to COVID pandemic had greatly impacted on the pattern of agriculture employment amongst other factors. In the region of Asia, the workforce decline between the periods of 2000 to 2021 was estimated from 800 million to approximately 580 million people. This indicated that the agriculture workers of more than one out of every four left for other sectors employment. Europe had faced a drop in agriculture employment by 49 percent that represented from about 35 million to 17 million people lesser while Africa had witnessed an increased to 226 million people in 2021. In Asia, the number of 190 million people working in agriculture in India and China accounted for two-third of agricultural employment and contributed to 44 percent of global agricultural employment in 2021 despite 27 million people moved out from agriculture sector in India and 173 million people left agriculture sector in China during the period of 2000 -2021. Although, the global share of employment in Agriculture sector witnessed certain declination from 13 percent to 26.6 percent during 2000 to 2021, Agriculture holds the second largest employment contributing sector next to Services sector across the globe. Amongst the regions Europe had the lowest share of agriculture employment with 5.1 percent who were employed in agriculture in 2021.

Moreover, Africa had the highest share of agricultural employment with 48.4 percent who were engaged in agriculture job (FAO, 2013, 2022; ILO modelled estimates, 2022).

As per the ILO (2022) the total global workforce engaged in agriculture sector is accounted to 59 percent with the segregate figure of male to 72.3 percent and female to 47.4 percent in 2021. However, this figure are seen contradictory to the FAO statistical report of 2022 where the composition of women workforce in agriculture was accounted to 37.1 percent in 2021 and the ratio is even more in developing countries or low income countries that stood up to 50 percent. Moreover, the share of women in agriculture employment could be found higher than global average in as many as 20 countries (see. Fig.1). The differences between men and women in agriculture employment status could be attributed to the nature of general notion of women engagement in agriculture as contributing family workers instead accounting as a worker for income generation as in the case of men (FAO, 2018, 2022). The accounted number of more than 60 percent of women workforces comprised of agricultural workforce in several South East Asian and Sub-Saharan African Countries (ILO, 2017, 2022). It would be of no exaggeration attributing women as the backbone of agriculture workforce (National Research Centre for Women in Agriculture, 2004; Singh, Kushwah, Singh, & Daipuria, 2015). Apart from agriculture responsibilities and workloads, women extensively spend more time as compared to men in food processing and preparation for the household, child and elder care service, collection of water and fuel, cleaning, washing and other many more unpaid chores. In addition to this, lack of gender equality undermining the rights and opportunities of women despite their significant contribution to rural economy exacerbate the overall development of the country (FAO, 2013).

2.2 Agriculture and women work participation: Indian Context

Agriculture is the main backbone of Indian economy; her economic stability is highly dependent upon agriculture resources. Of the total geographical area of 328.7 million hectares of the country, the covered area of 139.4 million hectares is accounted as net sown area in 2016-2017. Moreover, the area of 200.2 million hectares is accounted for gross cropped area at the cropping intensity of 143.6 percent and an area

of 68.6 million hectares was under net irrigated area. The contribution of agriculture and allied sector to Gross Domestic Product (GDP) at a declining pace of 16.5 percent attributed to structural transformation that impacted on the agriculture performance which led to increase in the share of other non-agriculture sector in the country. During the period of 2019-2020, the contribution of agriculture sector to India's gross value added recorded at 17.8 percent. The major crops produced during the year 2019-2020 includes rice, wheat, nutri/coarse cereals, pulses, food grains, oilseeds, sugarcane and cotton. The production of food grain during the year 2019-2020 is observed to have been increased by 26.87 million tons as compared to the last five years with the total food grain production of 296.65 million tons. Rice production is estimated to the total output of 118.43 million tons which shows 8.67 million tons higher comparing to the sum production of the last five years. The total wheat production is recorded at 107.59 million tons which indicates 11.43 million tons higher to that of 96.16 million tons in the previous years. The output of nutri/coarse cereal is recorded at 47.48 million tons with 4.42 million tons higher to that of 43.06 million tons produced 2018-2019, which indicates higher rate at 4.44 million tons compares to its average rate of output. In the case of pulses, the calculated amount of 23.15 million tons is produced in 2019-2020, that is higher by 2.33 million tons to that of 20.82 million tons of its five years sum output. The oilseeds output of the country in the year 2019-2020 amounted to 33.42 million tons which is comparatively higher by 1.90 million tons to that of 31.52 million tons in 2018-2019. This indicates that the output in 2019-2020 is higher by 4.02 million tons to its average production. The estimate rate of 355.70 million tons of sugarcane out is accounted during the period of 2019-2020. Regarding cotton, it is recorded at 35.49 million bales (each bale is equivalent to 170 kg) with 7.45 million bales higher than 28.04 million bales. Further, the rate of production of jute & mesta is accounted for 9.91 million bales (equivalent to 180 kg each) during the year 2019-2020. Rich in agri-resources and high output render farmers opportunity to dispatch their products at the international market, which in return encourage them to expand their course of production. This has factored in expanding the production area as well an increased in

amount of output. In a significant development, India has become one of the biggest exporters of agriculture commodities that include rice, spices, cotton, oil meal cake, castor oil, coffee, cashew, tea, fresh vegetable and sugar across many countries of the world. Notably, the contribution of India's agriculture export and import to the world agriculture trade accounted for 2.15 percent and 1.54 percent respectively in 2018 whereas 2.4 percent export and 1.7 percent import in 2021. Of the India's total merchandise export during (April-Nov) 2019-2020 and 2020-2021, the share of agricultural export increased from 10.9 percent to 14.4 percent respectively. Moreover, during (April-Nov) 2020-2021 the portion of agriculture and allied exports increased by 15.87 percent equivalent to Rs. 1,87,874.42 crores. The increased in agriculture and allied exports attributed to the mounted exports scenario of certain merchandise such as raw cotton (140 percent), rice excluding basmati (118 percent), sugar (72 percent), oil meals (32 percent), basmati rice (13 percent), fresh vegetables (12 percent) and spices (8 percent) during 2020-2021. The India's agriculture and allied goods exports recipient countries are the United States of America, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom. In case of imports, the agriculture and allied commodities import in India during the year 2020-2021 (April-Nov) reduced by -3.55 percent to Rs 97267.66 crore. This is due to the declined value of agriculture and allied goods imports such as raw cotton including waste (-79 percent), Spices (-33.6 percent), Cashew (-15.7 percent) and Pulses (-6.5 percent). Thus, agriculture and allied share in total merchandise reduced imports rate improved from 4.4 percent in 2019-2020 (April-Nov) to 5.9 percent in 2020-2021 (April-Nov). Majority of the imported agriculture and allied commodities come from the countries such as Indonesia, Ukraine, the United States of America, Argentina, Malaysia, Brazil, Singapore, Afghanistan, China, Thailand, Vietnam, the United Arab Emirates, Cote d'Ivoire, Australia and Myanmar. Thus, agriculture in India plays a significant role in maintaining economic stability and development. India is also one of the leading producers of various agriculture crops in the world such as sugarcane, wheat, rice,

paddy, potatoes, etc. More importantly, it is worth mentioning that when other sectors failed the agriculture sector progressed and sustained the economy during the Covid-19 pandemic. Thus, it is evidently recorded the significant essence of agriculture in sustaining livelihood (Department of Agriculture, 2021; FAO, 2022; Nanda, 2022; World Trade Organization, 2022).

Of the India's total population of 1.41 billion about 64.6 percent of the people comprising 41.4 percent of female and 52 percent of male belongs to rural areas in 2021 that are depending on agriculture for their livelihood (World Bank, 2022). While, in terms of workforce participation is concern the estimated workers composition of around 45.6 percent (23.2 million workers of rural and urban combined in 2019-2020) of the country's workforce is concentrated in agriculture sector (Chand & Singh, 2022); that it employs the largest workforce in India (Gulati & Juneja, 2022). Of this the total workforce distribution of men consists of 40 percent against the 60 percent of women in agriculture in both rural and urban combined. This indicates the pivotal role played by women in agriculture sector. In 2019-20, the workforce contribution of women in agriculture in rural areas remains higher at 75.7 percent against the 55.4 percent of the men's workforce contribution. Likewise, the urban agriculture workforce contribution of women affirms higher with 8.2 percent to that of men at 5.0 percent. Furthermore, the composition of agriculture workers indicates that 76.55 percent of men and 70.34 percent of women workers are cultivators whereas 21.63 percent of men and 28.0 percent of women engages in agriculture labour (Chand & Singh, 2022; ILO, 2020). It is undeniable that women are the backbone of the agriculture workforces (P. Kaur & Mavi, 2015; National Research Centre for Women in Agriculture, 2004; Sharma et al., 2012; S. Singh et al., 2015). Majority of its agriculture workforce are dominated by women. They contribute not only the physical output but also maintain quality and efficiency (Hussain et al., 2011; Sharma et al., 2012). Women performed majority of households' chores as well as the work related to farming and agriculture. In spite of their overwhelming contribution of workforces unfortunately go unrecognized and under estimated or suppress under gender subjugation and undermines their well-being (Hussain et al.,

2011; Singh, Swanson, & Meena, 2015). Agriculture not only meet food and nutritional requirement but it also provides significant production, employment and demand generation. It plays pivotal role to ensure poverty alleviation, to sustainable growth and development for the Indian economy (Sharma et al., 2012). The government of India adopted a new approach to further improve the agriculture and allied sector in which the priority is given to the welfare and sustainability of farmers' socio-economic, social security and well-being (Department of Agriculture, Cooperation and Farmers welfare, GOI, 2016).

2.3 Agricultural Transformation

The Indian agricultural condition have been undergone a paradigm shift since the independence introduction of various progressive programs and policies greatly influence the performance of agrarian economy. In addition, several other requisite factors are accountable for the growth of agriculture production viz:- technology, seeds, irrigation, fertilizers, agricultural credit, etc. Major changes of agriculture after the independence were noted in contingent upon the differential aspects as stated below:-

“Land use pattern”: Land is the prerequisite asset of agriculture practice. The patterns of its usage determine the growth and development of agrarian economy. Thus, land usages in India have been reclassified in March 1950 to further depict a vivid picture of land on which effective agriculture planning be sort out. Under this new classification agriculture land has been categorized into the following nine differential categories. Such as:-

- (i) forests; (ii) barren and uncultivable lands; (iii) land put to non-agricultural uses; (iv) cultivable wastes; (v) permanent pastures and other grazing lands; (vi) miscellaneous tree crops and groves not included in the net areas sown; (vii) current fallows; (viii) other fallows; (ix) net sown area.

“Changing agricultural structure”: The changing pattern of Indian agriculture is measured in condition of two dimensions, such as “employment and land holding”. The contribution of agriculture towards employment during 1950-51 accounted for about 82 % against about 72% in the year 2001. On the other hand, the agriculture share towards

national GDP was recorded at 54.66 % in 1950-51 that declined to 24% in the year 2001.

“Changing Cropping Pattern”: It refers to that behaviour of change in the portion of land allocation for cultivation of varieties of crops within a specific period of time. That area of land under cultivation of non-food crops as a portion of the total cropped areas against the portion of land used for food crops are changing over time. The areas under food crops cultivation has been reduced from 76.7 % to 65.83% in 2001 whereas, the areas under cultivation of non-food crops grows higher as compared to 23.3% of the total cropped areas at the beginning of the economic planning in India to that of 34.17% in 2001. This changing behavior in the distribution of area under cultivation for food crops to non-food crops depicts a shift from subsistence cropping to commercial cropping. It is stated the reason of such changes as inclined by the market feasibility and price and profitability yielding (Kapur, 2018).

An analysis on the progress of agriculture sector in India was done in purview of the significance of agriculture, changing agrarian economy since independence, major programs implemented in agriculture and allied sectors, performance of essential factors that is relevant for agricultural production and capital formation. The study inferred the significance of agriculture as the backbone of Indian economy, which characterized as the primary support that the country’s economy is based on. Three core reasons essentially acclaimed its significance as the primary support to Indian economy attributes as such that:-

1. Large share of country’s national income rely on agriculture
2. Agriculture sector holds a great amount of country’s workforce. As per 1971 data revealed that 2/3 of the country’s workforce constituted those of agriculture workforce, yet this was increased to 58.4% of the country’s workforce in agriculture according to 2001 census data.
3. The progress and development of other sector and overall economy completely depend upon the agriculture performance. Its multifaceted interconnection with other economic sectors, the progress of entire economy is hinged upon the transformation of

agriculture sector. It occupies the central position to reduce and obliterate poverty in India. The India's 70% of the total population settles in rural areas with their livelihood depending on agriculture. The condition of the people living in these areas often faces the slap of poverty and illiteracy bogged down in backwardness. Agricultural transformation should mitigate the dire living condition of people living in rural areas. Thus, given high priority to agriculture development will result in ameliorating poverty and reducing malnutrition. Taking cognizance of the significance of agriculture being the highest employment providing sector and central to the entire economy of the country, without hastening the progress of agriculture it will be impossible to bring overall development. It is noted that any policy formulation and reorganization of programs require agriculture to be kept at the central of the planning. Since independence, various initiatives and efforts have been given in the field of agriculture. Green revolution, a white revolution, a yellow revolution and a blue revolution were some effort to increase output, yields and area under many crops. This has resulted to advancement in production of various agricultural items in the world. India is the world largest producer of milk, fruits, cashew nuts, coconuts and tea. Whereas, the second largest producer of wheat vegetables, sugar and fish and the third largest producer of tobacco and rice. It is no doubt the agriculture sector is the pillar of national food security and yet more so a significant role played in capital formation and providing raw material to other sectors. Thus, progressing at the growth rate of 8% to 9% in overall GDP without agriculture growth at rapid rate would not contribute much towards entire economic development. The author noted substantial progress in agriculture that was made since the independence viz. increase output, yields in crops and other food grains. In align to progress being made the agrarian economy underwent changes in various aspects such as: changes in pattern of land use, transformation of agricultural structure, shift in the pattern of cropping and input use. Such changes and transformation can be attributed to the programs implementation in agriculture and other allied sectors. Mention can be made of the major programs implemented viz. National Food Security Mission, Rashtriya Krishi Vikas Yojana, Macro Management of Agriculture, Integrated

Scheme of oilseeds, Pulses, Oil Palm and Maize and National Mission for Sustainable Agriculture (Kapur, 2018).

Impeccably, agriculture plays a significant role in shaping India's economy. It is the backbone that supports the country to stand on its economic feet. Tyagi (2012) noted the importance of agriculture by highlighting its dependency of about more than half of the India's population whereas about 22% of the total country's GDP were accounted from the agriculture sector. In another validation, agriculture stands the prerequisite domain for manufacturing sector in India. Moreover, the importance of agriculture contribution stretches beyond the country's economy by becoming the second highest producer of fruits and vegetables in the world but the largest exporter of cashew nuts and spices across the world. In addition to this India stands as the largest producer of milk in the world. In yet another dimension of this study the author vividly grouped the history of Indian agriculture development into four broad different phases post independence. *The first phase 1947-64:* This period was classified as Jawaharlal Nehru era that emphasized upon the infrastructural development to promote scientific agriculture. The initiative fructified establishment of various fertilizer and pesticide factories, construction of large multi- purpose irrigation-cum-power projects, organization of community development and national extension programs. Most importantly was the establishment of agriculture universities, started with Pant Nagar University in 1958 and new research institutes like Central rice Research Institute, Cuttack and the Central Potato Research Institute of Shimla. *The Second Phase 1965-1985:* The second phase interfaced the leadership of Lal Bahadur Shastri and Indira Gandhi, with Morarji Desai and Charan Singh as Prime Ministers during 1977-79. The main emphasize was upon maximizing the benefits of infrastructure especially in the areas of irrigation and technology transfer. Re-organization and strengthening the agricultural research, education and extension initiative were taken up. On such development a significant achievement was the setting up of National Bank for Agricultural and Rural Development (NABARD) to enable farmers assured marketing opportunities and remunerative return. Increased output of wheat and rice during this period were

attributed to the popularly known as Green Revolution of 1968. C.Subramaniam (1964-67) and Jagivan Ram played a major role in providing necessary public policy guidance and support. *The Third Phase 1985-2000*: This era falls during the leadership of Rajiv Gandhi, P.V. Narashimha Rao and Atal Bihari Vajpayee. The emphasis was given mostly on the production of pulses and oilseeds as well as on the production of vegetables, fruits and milk. Initiatives were taken in making organizational innovations like Technology Missions that further resulted in rapid increase in oilseed production which was introduced by Rajiv Gandhi. This mission simultaneously stressed on conservation, cultivation, consumption and commerce. Whereas, by setting up of Wasteland Development Board greater attention was given for the development of rain-fed areas and wasteland areas. By the end of this period the government managed to reserve huge quantity of grain. In another significant observation decline in public investment in aspects of irrigation and infrastructure essential for agricultural progress were seen as well as gradual collapse in the cooperative credit system. *The Fourth Phase: 2001 to the present day*: Several programs and policies were initiated under the leadership of Atal Bihari Vajpayee and Manmohan Singh during this phase. However, no substantial progress could have been achieved in spite of all the efforts. Thus, the author rightly pointed out that this phase is characterized 'policy fatigue', that technology extension and production were stagnated. Maximum case of farmers suicide incidents were observed during this period and as many as 40% of the farmers are of the opinion to shift their occupation if other alternative opportunities be available. On the other hand, decreasing incidence of land use for agriculture and increasing exploitation of land for fuel resulted in steep declination in agriculture output. While the use of food grain for ethanol production also consequently reduced agricultural product in the midst of increase in the price of food grains at the international platform. The issue of global warming has an adverse affect on the density of rainfall; temperature and the sea level that impinge upon agricultural output. On assessing the agriculture situation in India, the author pointed out certain issues and prospects that greatly influence the performance and output of agriculture in the country such as:-

1. Declining productivity and increased variability
2. Decline in Capital Formation
3. Inadequate Credit Delivery
4. Decline in credit to small borrowers
5. Sub-Optimal use of inputs and Adoption of technology
6. Unsatisfactory spread of New Technology
7. Low availability of farm electricity power
8. Distortionary Pricing and Subsidies
9. Untapped Exports potential
10. Employment Absorptive Capacity

Despite several issues and challenges that led to decline in agriculture output during the last few years, it is still noted as the highest contributing sector that accounted for about almost 18% to India's GDP. Moreover, the contribution of agriculture sector stands out predominantly in providing various products around the world. Agriculture in India is significantly a priority policy concentration sector in national policy making not of the reason vested to its contribution to GDP alone but that more than half of the total population depend their livelihood on agriculture (Tyagi, 2012).

The contrasting experiences of agriculture transformation in five Asian countries such as Bangladesh, India, South Korea, Thailand and Vietnam reported that the introduction of "Green Revolution technologies" and "smallholder sector" led to major changes in agriculture practices. It boosted the production of food crops and engineered a self-reliant economy. However, on the other hand the condition of agriculture transition in Asia yields uneven developments otherwise except in the countries like Japan and South Korea where rapid growth and agriculture transformation coupled with advancement in non-agriculture industries were characterized. The contradictory impacts of green revolution on Asian agriculture system have brought forth various observations amongst many intellectuals. The concern over nature of smallholder agriculture sustainability in Asia associated to the permeating difficulties ranging from socio-economic, demographic, structural and institutional factors. The difficulties include:

(a) the shrinking size of farms; (b) distress-induced rural-urban migration leading to an increasing number of women and old people in agriculture; (c) persistent technological and institutional constraints; (d) climate change and its adverse impacts; and (e) the emergence of genetically modified (GM) crops and problems to do with their adoption.

Keeping in line with the aforementioned challenges, the authors critically examined the various differential accounts of agricultural transformation that were outlined into four distinct sections. The first section grasped the “trajectories of agricultural transformation” as compared to the Asian countries to that of the western countries. It was examined through different trajectory points that includes;

- (a) Spread of Green Revolution: Role of policies, Technologies and Institutions
- (b) Food Self-Sufficiency and commercialization of Agriculture
- (c) Structural Changes and Contraction of Agriculture Sector

The rural transition or agricultural transformation in the western countries adorned with swift industrialization yet in most of the Asian countries such substantial transformation remained at the slogging distance with a few exceptional country like South Korea. The advent of “Green Revolution” resulted in the change of agriculture policy, technologies and institutions. It was observed to have improved in research and development, extension and technology and infrastructure whereas providing credits and subsidies for agriculture inputs like fertilizers, irrigation and energy were significantly emphasized in the five countries of Asia. This had led to change in the pattern of agriculture farming in the aspect of rice cultivation with more of varieties and mechanized inputs. In the case of India and Bangladesh adopted intensified agriculture strategy that helped eradicate food shortage and famine and achieved food security and self sufficiency. However, on the other hand a diminished condition in the availability of genetic resources was noted. The country such as Thailand reportedly experienced tremendous agriculture improvement after the First National Economic and Social Development in 1961 that increased investment in infrastructure, technology, irrigation, research and extension coupled with rural credit support and providence of incentives marketing facilities that

further trade flows. Moreover, with the adoption of high yielding variety of seeds under Green Revolution boosted production of rice and maize. The economic reform of Vietnam in 1986 with the objective to establish “socialist-oriented market economy” and the Resolution number 10 of Politburo 1988 which scrapped the system of collective farming resulted the allocation of land to individual household. The subsequent policy of price reforms of 1989 introduced free price controls that tremendously improved the income of farmers. It significantly improved the trading in agriculture. In regards to South Korea, the policies of rural transformation were initially focused on rapid industrialization and urbanization to eradicate poverty and to command socio-economic development strategies. However, in the later part of 1970s the policies shift from industrialization to the agriculture sector by providing subsidies so as to assist farmers. Further, several agricultural programs and policies to enhance production and improve infrastructure such as farm enlargement, improvement of irrigation and water resources were introduced with the goal to achieved food security and self-sufficiency. The removal of import restriction after the late 1980s significantly transformed the agriculture sector in South Korea. The analysis pointed strongly upon the adopted agriculture policies and programs accelerating transformation of agriculture contour in the five countries of Asia. Besides, the infusion of Green Revolution further advanced and improved agriculture productions that eradicated poverty, famine and build food grains self-sufficient countries over the years. Many of these countries are now amongst the world leading producers and exporters of agriculture commodities. The authors highlighted the positive impact of Green Revolution on food production especially rice occupied one of the largest agriculture production in all the five countries besides other crops. Moreover, apart from the impact of Green Revolution, intensive effort had been invested in Research & Development (R&D), infrastructure development and extension programs to multiply the output of cash crops for export. Commercialization of agriculture and crop diversification closely associated with increase production of cash crops for exports earnings in almost all the five countries. The policy of economic liberalization gained advantage for the five countries in the business of export

agriculture cash crops. On the other hand the reviewers pointed out the significant shift from agriculture sector to service sector except Vietnam. This illustrated a contributing factor to the transformation of agriculture pattern in countries having declining agriculture GDP.

The second section delved into the “Drivers and Outcomes of Agriculture Transformation” in the Five countries of Asia. It was observed that structural change that led to reduce in agriculture significance reflected on socio-economic and demographic profiles of the farm households whereas in a similar manner the changes in socio-economic and demographic profile impacted on the agriculture undertakings. These changes were examined from different aspects such as: “(a) Demographic pressure and the fragmentation of holding; (b) migration and its effects on agriculture and farm families; (c) the feminization of agriculture and an ageing farm population; and (d) a changing technological paradigm”. The increased in population and decreased arable land due to land degradation, the urban expansion and industrial expansion occupying agriculture land had gravely affected the farmlands. This was observed to be the leading factor resulted to fragmentation of land holdings in all the five countries and all over Asia. Increased fragmentation of land holdings induced challenges and difficulties in management of multiple scattered plots by a farm household. As in the case of Vietnam, a farm house hold had to manage five to eight scattered plots of land. In another observation, the implication of migration on agriculture and farm families had transformed the contour of the countries’ economy. Dearth of employment opportunity in agriculture, low profitability of agriculture, better living opportunities in cities had one way or the other pulled the people from rural to urban. The incidences in all the five Asian countries reveled great amount of people migrated to the urban areas in search of better living who left agriculture behind. This resulted into tremendous transition of agriculture sector which reduced its economic significance. However, on the other hand the authors also pointed out the contrary outcome of rural-urban migration that led migrants ended up living miserable lives in the urban cities. As most of the migrants did not have proper education, skill n knowledge to find better jobs which led to urban

poverty. In relating to this, feminization of agriculture and increased in aging farm population attributed to factors such as “male outmigration, the growing number of women-headed households, the increase in labour-intensive cash crops and persistent poverty in rural areas”. Moreover, in a similar pattern the rural-urban migration of young people had left the old people to shoulder the agriculture related affairs, it induced old people to take up more farm responsibilities that justified the increasing number of old people in the farm. Another factor that influenced the transition of agriculture in Asia ascribed to the “changing technological paradigm”. Although Green Revolution technologies benefited many of the Asian countries through enhanced growth in production of certain crops, due to over indulgence and unregulated intensive use of fertilizers and pesticides affected the soil fertility and water resource. This posed serious issues and threatens the future agriculture sector. In realizing all these many parts of the Asian countries shifted to Genetically Modified/biotech crops which showed more feasible environmentally and economically yet a country such as India remained skeptical over health implication of such crops. The third section highlights the “critical challenges facing Asian agriculture” that were examined on the basis of: “(a) socio-economic and demographic challenges; (b) challenges of dwindling institutional support and trade reforms; (c) biotechnology and environmental challenges; and (d) climate change and food security challenges”. The increasing pressure of demography on land and the lack of employment opportunity became one of the main concern amongst the Asian countries despite various developmental programs and policies had been adopted to curb employment issue by opening up avenues in other sectors yet the outcome were slow and unaccommodating. The issue of fragmentation of land coupled with rising incidence of landless due to diversion of farm land for industrial, mining and other projects. Moreover, the increased incidence of fragmentation of land holding resulted in high cost of management which became a threat for future farming. The situation of agriculture farming had been worsen with the feminization of farming and increasing incidence of elderly people taking active part in farming while the youngsters showed no interest in farming resort to urban migration in search of better living. The challenges of

operation issues became more intense when women outrun the management of farm as compared to men women had poor access to developmental programs, training and credit. Future agriculture operation became bleak and the production of agriculture remained stagnant with the increased number of elderly people became the main actors in agriculture. In regards to the implication of “trade reform and dwindling state support” mentioned can be made that various policies in contrary aggravate the small holders farming in Asia. The economic liberalization posed greater challenges instead of mitigating the troubled situations. Moreover, the benefits of genetically modified seeds had been questioned of the food and ecological security whereas the climatic change and food security greatly affected the agriculture operations in Asia (Viswanathan et al., 2012).

2.4. Studies on gender and agriculture

Agriculture is the vital source of employment and livelihood around the world in general and particularly in the developing countries. The role of agriculture is of paramount significance and its development is critical in bringing overall economic development of a nation (Kapur, 2018), having its multiple linkages with several other sectors (Dev, 2018). On the aspect of gender development, Dev (2018) was of the opinion that achieving the goal of gender equity amongst many goals of Sustainable Development Goals (SDGs) agriculture remains the vital accelerating factor. The gender implication on agriculture operations is a significant subject to understanding the factor influencing agriculture development.

The African Population and Health Research Center (2019) highlighted the FAO initiated Conservation Agriculture (CA) that were widely practiced amongst the countries like Australia, Mexico, Southeast Asia and the USA. The CA farming system emphasize on the prevention of soil degradation and to regenerate its fertility by ensuring minimum effects on soil whilst ensuring to retain the soil cover and promoting diversification of plant species. The report focused on the underlying factors subjecting to low practice of CA in Sub-Saharan Africa. Those prevalent reasons were derived from the previous studies in countries like Ethiopia, Kenya, Zambia and Zimbabwe that

attributed to the traditional gender roles in farming linked to “insecure land tenure and the lack of access to farming inputs and tools”. The incidence had been reported that women who adopted Conservation Agriculture farming earned more income and had more food security, in line with this, observation were made to have more decision making amongst women. However, in contrary the greater decision making power remained in the hands of men as compared to women due to the fact that men have more opportunity access to land, inputs and finance. Under CA traditionally relevant crops are not allowed to plant and usage of herbicides became a challenge for healthy diet. This challenged women to maintain healthy food security to search for an alternative means which stop women to adopt CA farming. In regards to labour, where traditional method of use of animal plough is denied under CA suggested for digging planting basin by hand. This increased women workload and took great toll upon their physical strength. It rendered women inability to perform other task as most men avoid for other work.

In a significant discussion on “Gender and Agriculture: Inefficiencies, Segregation, and Low Productivity Traps”, evidence of agriculture yields differential were found within the female headed households and male headed households. It was found that lower yields in households headed by female than the male headed households. However, this could not be justified as the yield differentials vary by regions. On the other hand, the characteristics of gender yield differentials were observed diminishing when the level of access and usage of the factors of production being taken in to consideration. This signified the reason behind gender yield differentials attributed to lack of access to resources, labour, fertilizers, extension, and lack of experience. Notably, women often face challenges and constraints in access to and demand for the factors of production that would allow them to have equal yields as men. Such constraining and challenging factors resulted to the position of disadvantage stemmed from a range of institutional, social and market factors. Otherwise, given the same opportunity and access to women as men do, it is evident that women equally have the potential and efficiency as men do (Croppenstedt et al., 2013).

Gender roles in agriculture practices were commonly examined from the point of women's role in agriculture and her contribution to the productivity and food security. The female workforce participation in agriculture occupies significant proportion of overall workforce across the globe that the programme policy insensitivity towards women affects the agriculture development. The gender implications on agriculture were largely observed in a manner of resource accessibility like credits and extension. Inadequate access of women to land ownership contributed to devoid collateral that enables women to purchase agriculture inputs which affects the productivity. Men generally have the advantage in accessibility to various agriculture resources which enable higher performance and productivity. On the other hand, the agriculture programs and schemes efficiency rely upon the gender sensitivity (Khachatryan & Peterson, 2018).

“Analyses Gender and Governance in the rice and vegetable-based value chain system” was conducted in three lowlands of southern Benin and 2 lowlands in southern Mali amongst 243 farmers, 1 modern processing unit, 18 traditional processors, 76 traders and 8 national institutions. The study employed descriptive statistics and analysis was done based on Harvard analytical framework. The result confirmed that the majority of farmers have accessed to the use of land. With 80% of the food for sale and households consumptions were produced by women yet limited to have control over resources like capital and land. In addition, women did not have decision making power in respect to resources such as land, water labor, credit as these were under the control of men. This indicated significant implication of gender role in agriculture production (Adétonah et al., 2015).

2.5. Studies on women participation in agriculture

Agriculture is the main backbone of economy for the developing countries around the globe. India as one such country is highly depending on agriculture resources, where majority of its agriculture workforce are dominated by women. Women performed majority of households' chores as well as the work related to farming and agriculture. It is undeniable that women are the backbone of the agriculture workforces

(P. Kaur & Mavi, 2015; National Research Centre for Women in Agriculture, 2004; Sharma et al., 2012; S. Singh et al., 2015). They contribute not only the physical output but also maintain quality and efficiency (Hussain et al., 2011; Sharma et al., 2012). In spite of their overwhelming contribution of workforces unfortunately go unrecognized and under estimated or suppress under gender subjugation (Hussain et al., 2011; Singh, Swanson, & Meena, 2015).

Sudan is the largest African countries that lie in the north-eastern corner of Africa. A country being the largest is also undoubtedly one of the wealthiest in terms of natural resources. Despite her rich in natural resources, lack of proper utilization hampers to meet the needs of the people in a manner of attaining sustainable development. This obnoxious condition could be attributed to various reciprocating factors such a natural agents, socio-economic agents, tribal conflicts and civil wars in the country. Therefore, in view of the prevalence context for implications of reducing hunger and malnutrition the study purposed to assess the contribution of women in economic activities, that the contribution of women to their household food supply and nutrition status in Sudan were empirically understood. Various research based articles and literatures accentuated the women's crucial role in sustaining and maintaining household food security and resource utilization which is confirmed in this study. The author assured that women spent longer hours as compared to men that attributed to performance of multiple roles. Women undertook crucial role in food production, income generating activities, household chores, collecting water and firewood and food preparation that consume numerous hours (Ibnouf, 2009).

Hussain et al., (2011) maintained that, to understand the nature and extent of women participation in agriculture though enormously captured to be dominating must take into consideration the significance of the nature of activities associate to the particular crops. In his study, he inferred upon the workforce dominance of women for about 80-85 % in farming taken into consideration the activities in relation to the three major crops such as rice, maize and apple in the two bocks namely Keller and Pulwama of Jammu and Kashmir. He confirmed that agriculture activities in rice cultivation

ranging from watering to storage of grain are dominated by women either separately or jointly with their male partners except in the activity of weeding. In regards to the activities dimensioned as “sowing seeds, digging under plants, Harvesting, Threshing, storing”, etc. in maize cultivation were evidently dominated by women. In the case of apple cultivation which requires intensive workforces were jointly undertaken by men and women. Thus, he affirmed that women have higher status in horticulture society.

Sharma, Dubey, & Sharma (2012) in their study “Participation of Women in Agriculture Activities” examined the pattern of time spent in agriculture activities and the associating impact on the lives of women in Marh block of Jammu & Kashmir. The study confirmed the various agriculture activities performed by women where they spent their maximum time of 5-7 hours per day as compared to several other household chores “(Cooking, washing utensils, cleaning house, washing clothes, fetching clothes, collection of fuel, child rearing)” where they spent least of their time.

A study on the “Agriculture Activities Performed by Rural Women and Problems Faced by them in Jammu District of J&K State” attempted to highlight various activities associated to agriculture that were being dominated by women and the prevalent problems impacted upon them in performing agriculture activities. This study interviewed 150 randomly selected women from five selected villages of Jammu district. The authors found series of farm activities “(cleaning field, raising nursery seedling {chilly, tomato, pea}, sowing, transplanting, manure application, weeding, thinning, gap filling, harvesting crop and cutting of grass, picking, winnowing, drying grains, storage, grading, etc.)”, that were being dominated by women (Aggarwal et al., 2013).

A study among “Female Agricultural Labourers” was conducted in the villages under Ludhiana District, Moga District and Roopnagar District of Punjab state. In depth interview was conducted among 90 farm women. It aimed to find out the status of female labourers in associating to agricultural activities and problems faced by them. The study ascertained the uncompromising agricultural activities viz:- “transplanting, weeding, thinning, manual harvesting, picking of vegetables, drying and cleaning of grains, grading, storage, animal dung collection and its disposal”, etc. as such were pre-

dominantly performed by women. While it is also revealed certain work related challenges and difficulties as perceived by the women respondents like “drudgery prone labour, low wages, lack of access to technology, dual burden of family and work”, etc. In a relative aspect, majority of women was found to be suffering from Muscular skeletal problems (P. Kaur & Mavi, 2015).

The study at Babai and Kesla Blocks of Hoshangabad District, Madhya Pradesh on the “Factors Affecting the Participation of Rural Women in Agricultural Activities” explored the level of rural women’s participation as dependent variables in association with the independent variables of “socio-personal, communicational and psychological and socio-economic” characteristics such as “caste, education, marital status, farming experience, annual income, occupation, economic status, land holding, extension participation, extension contact, sources of information, mass media exposure, level of aspiration, scientific orientation, attitude towards agriculture, knowledge about agriculture activities”. The authors found that some variables like “education, farming experience, economic status, extension participation, source of information, mass media exposure, level of aspiration, scientific orientation, attitude towards agriculture and knowledge about agriculture activities” were positive and significantly correlated with the participation of women in agriculture at the rate of 1% level whereas at 5% level of occupation. In addition to this, the highlighted variables were noted to be highly influential towards the participation of rural women in agriculture (Singh et al., 2015).

It has been accentuated about the fact that women’s play vital role in sustaining livelihood yet their numerous labour shares contribution go unrecognized and devalued across the developing countries. On the other hand, in spite of their invaluable contributions to food security and well being of the family faced challenges and barriers in their access to resources contingent upon various interacting factors in a society. Munmun, Sarker, Hoque, & Kabir (2015) maintained in line with the background of women in agriculture across the countries attempted to ascertain the condition of women’s participation in agriculture activities in Madhupur forest areas of Bangladesh. Meanwhile, attempt was made to find out the potential interacting factors that hamper

effective participation of women in agriculture productions. The total population (390) consisted of the farm families from Jalchatra (160) and Gachabari (230) were included, where 30 samples and 40 samples from Jalchatra and Gachabari respectively constituted the total sample size of 70. The objectives Information were elicited through administered pre-tested interview schedule and observations. The nature of women's participation in agriculture was measured upon the related 25 agriculture activities that categorized under three different dimensions viz. Crop management, forest management and livestock management. The level of participation then scored on the basis of their responses that rated into four point scale viz. frequently, occasionally, rarely and not at all. The scored points against the activities were further ranked to depict the level of women's participation in agriculture. In the findings, the agriculture activities of rice drying ranked 1st while threshing and drying and storing turned out to be 2nd and 3rd respectively followed by rice boiling in the 4th rank where women predominantly extent their labour share. Moreover, in regards the overall extent of women's participation in agriculture was measured in contingent upon the classified three domains as low, medium and high. On the basis of this classification the analysis confirmed that majority (95.7%) of the respondents were highly involved in agriculture productions. Further, it was revealed that the reason or the motivating factors of the 62.9% of the respondents were due on unavailability of an alternative source of livelihood but involvement in agriculture activities. Whereas, 25.7% of the respondents stated they were self motivated and another 11.4% of the respondents involved in agriculture as being enforced by others. Another important finding disclosed of the fact that there lies a significant and positive relationship between extension media contact and participation of women in agriculture activities. Similarly, access to training plays a significant and possesses positive relationship to influence participation of women in agriculture.

In a study wedged upon the generally shared notion that the African women composed of 60-80% of the Agricultural labour shares which was yet undocumented and empirically examined. Thus, attempt was made to concretize the detail in a systematic and well representative manner of female agriculture labour input in the six countries of

Sub-Saharan Africa. The representative countries are Uganda, Tanzania, Malawi, Nigeria (Northern and Southern), Ethiopia and Niger. Women's time allocation at household levels, food production and the underlying process and factors that affects them were also taken into consideration. The outcome of the study revealed an average 40% of female agriculture labour share which is against 60-80% of the commonly perceived notion of 1972. And the accounted figure is a little less than 50% figure which was estimated by FAO in the year 2011. In another significant elaboration, the authors highlighted the figure variation of female agriculture labour share across the six countries. Uganda, Tanzania and Malawi with the percentage of female agriculture labour share at 56%, 52% & 52% respectively, followed by Nigeria, Ethiopia and Niger with the percentage of 37%, 29% and 24% respectively. The factors affecting women's contribution to agriculture was examined in respect to different crops and related activities domain. Women's contributions to agriculture labour were observed to be less in respect to cash crop production in the countries like Malawi and Uganda unlike in the case of Tanzania and southern Nigeria where there were no substantial difference between men and women in respect to crops and labour contribution. In a similar situation no difference were found in female agriculture labour share in pertaining to agriculture activities such as land preparation planting/weeding and harvesting but in Ethiopia women's contribution to agriculture labour share was found to be less involved in land preparation. Another significant observation across African countries was the comparison of female labour share contribution with the age. Evidently there was no vivid variation in female labour share in reference to ages, however with an exceptional case in the Nigeria where women at the age of 30-45 were observed to contribute substantial agriculture labour input. While the age group of below 15 years of girls involved less in crops production than boys which could be attributed to the variation of household tasks except in Ethiopia the case appeared otherwise. On the other hand, the group of women at the age of 60 years and above participated less in the activities related to crops production. There are significant factors that affect women's agriculture labour share across Sub-Saharan Africa. The study accentuated the decreasing impact of

female labour share due to substitution of labour through machinery. The culturally defined gender role is as well a vital subject that influences female agriculture labour input. Women's contribution of labour time spend in crops production would be determined by the no. of children and the presence of chronologically ill adult in a family. In connection to this, women who were educated could provide more household labour share in crops production whereas, owning the land provide women more opportunity to invest their labour in crops production (Palacios-Lopez et al., 2017).

Agriculture sector is the main source of livelihood in rural Bangladesh, that about 87 percent of the rural households rely on agriculture with almost half of the total workers engage in agriculture activities. Through ages women have been the predominant contributors to agriculture productions and they play pivotal role in maintaining food security and income generation. In this review, the authors noted the increasing trends of women's participation in agricultural production and venturing into an agriculture entrepreneurship. In connection to the agriculture service sectors people commonly perceived only as that of crops production while underestimating other small scale sectors in agriculture dependence. The aspects of women's participation in this context were examined on the basis of agriculture classification such as food crops production sector, livestock sector and fisheries and others. As per the ILO STAT in 2017 (as cited in Mamun-ur-Rashid, Kamruzzaman, & Mustafa, 2017) , stated that about 63.1 Percent of the total Bangladesh labour force in agriculture were dominated by women. In another account, Jain and Hossian in 2011 (as cited in Mamun- ur- Rashid et al., 2017) accentuated that of the total employment in agriculture about 68.93 percent were women involved in livestock sector, and with an about 21.55 percent of women engaged in crops production followed by 0.48 percent in fisheries sector. The nature and extend of women's contribution in agriculture varies depending upon the distinction of agriculture sectors as whereas the activities of production. The pre-production stage found to be the least stage of women's participation; they instead highly contribute to the crop processing stage and almost in all the activities relating to homestead were observed to be performed by women folks. In a similar situation those activities

associating to the small agriculture sectors such as livestock and poultry were performed almost everything by women except in the case of construction of shades for cattle and poultry, purchasing of inputs and selling of products. More so are the engagement of women in various unaccounted unpaid tasks within households and without in Bangladesh doubled with the agriculture in farm and off farm responsibilities and roles continue to rise in the past years. On the other note Jain and Hossian in 2011 and Dirnier et al. in 2010 (as cited in Mamun- ur- Rashid et al., 2017) stated that with the changing scenario in agriculture sector, which termed it as “*feminization of agriculture*” that the phenomenon of women unpaid workers actively involved in agriculture as farm managers. It is also noted that the contribution of women to agriculture GDP is comparatively higher than men. In contradictory to this despite women extensive involvement in agriculture showed less amount of yielding as compared to men. The reasons as such were attributed to that of women operate small plot of land and farm crops yielding less remuneration. Yet if given equal opportunity and access to both men and women could yield more agriculture returns. Further, when women gained more control and access to resources higher investment on household and children’s human capital were observed. Thus, to strengthen the capacity of women and their contribution to agriculture; participation in agriculture extension program is observed to be prerequisite for overall sustainable development. Agriculture extension as stated by Mboo-Tchovawou and Colverson in 2014 (as cited in Mamun- ur- Rashid et al., 2017) refers to a “system and mechanisms designed to build and strengthen the capacity of rural farmers”. It ensures agriculture sustainability, livelihood enhancement and well-being of the rural people. Thus participation of women in agriculture extension is seen as an essential input for overall development. Although women play a vital role in agriculture productions their participation in agriculture extension is at lamentable state in Bangladesh which is due to various interacting factors rest upon socio-cultural norms, lack of education, multiple roles, immobility, time constraints etc (Mamun- ur- Rashid et al., 2017).

Agriculture is predominantly link with the country's economic development, thus the agriculture development is the basal for overall development by increasing food security and income amongst the rural smallholder farmers. Women's agriculture participation is accounted for about 43 per cent of the labour force globally in developing countries yet this statistical figure holds considerable variation across regions and even within countries in respect to culture, social context, age etc. In many instances women confine their time and effort in subsistence agriculture to maintain food security for the households. Nursing the family members, child care and food preparation extend their workload apart from the manifold agriculture and other allied activities which exceeds the labour burden to that of men. Women mostly engage in non-income generating activities and agriculture productions that are often underestimated, unaccounted and go unrecognized in mainly government censuses. Women agriculture participation is as much as men do and more so in according to the nature of plantation. Women predominantly spent their time engaging in all the agriculture activities except for ploughing (C. Doss et al., 2011) .

Like in many other developing countries Ethiopian women play a significant role as food producer and smallholder farmers and act as the mainstay in farm labour which comprised a vast majority of the workforce contributing to food subsistence agriculture and to ensuring food security. Women work in all aspects of production in agriculture as well as carrying all major household chores. The author described women's different roles into three categories such as productive, reproductive and community roles. Productive roles include those activities involve in economic enhancement. It involves both men and women to perform the roles. In reproductive roles which includes household maintenance is almost exclusively under the care of women. In regards to community roles that involve activities related to community welfare is dominated by women. Despite their prominent contribution in agriculture and inimitable roles in non-agriculture and allied sectors in a society yet there is no proper recognition and often get understated. Recommendation were made to be given attention for mainstreaming gender issues in policy making and programs for agricultural and overall development.

The working condition of women with heavy responsibility and lesser control and autonomy over work activities, time pressure, etc. have direct implication on the life of women. Poor job situation, excess family demand, physical strenuous work, etc. are detrimental for women's health and well-being (Lennon, 1994b).

2.6. Studies related to work and well-being

The term well-being may be conceptualized as the state of optimal psychological functioning and experience. It involves the evaluation of everyday experiences and interpersonal transaction but more so critically delve into empirical psychological functioning and experiences. The enquiry into human well-being disposed much complexity and controversial amongst the theorists in dealing with the construct of “what defines optimal functioning and experience” and thus what imply “the good life”, points towards much theoretical and practical implications. The laden nature of complexity in defining and conceptualizing a concrete meaning of well-being shrouded the multidisciplinary attempts. It became a contentious term amongst the scholars. In much of such endeavors, some would view well-being as “happiness”, “state of contentment”, “wellness”, etc. All these terms refers to the subject matter associating to the manifold experiences of people in their lives and assess them positively. The propagated variances of parlance denoting well-being formed valid yet fragmentary in its own sense. The technical lacunas to define and measure this complexity and inter connected aspects of life of well-being construct have been evolved as a great challenge. As the subject involves great complexity; much controversial views and approaches evolved in the past however, it has been acknowledged and derived at a common consensual observation that well-being constitutes multiple aspects which cannot be expressed through single measurement (Diener, 1984; Ryan & Deci, 2001; Seligman & Csikszentmihalyi, 2000; Tov, 2018).

Nonetheless, the historical background in dealing with the subject matter of conceptualizing well-being amongst scholars popularly revolved around two approaches such as: (1) “Hedonic well-being” and (2) “Eudaimonic well-being”. The first approach conforms to the Greek philosophy of Hedonism propounded by Aristippus during the

fourth century B.C. He purported that the pursuit of pleasure and happiness ascribed the goal of life, wherein the meaning of well-being is coterminous with happiness. Other proponents of Hedonism like Hobbes, DeSade and Bentham subscribed to the principle that human derives happiness through quenching appetites and maximization of pleasure and self interest. Thus, in this context Hedonic view of well-being is referred to the experienced state of maximum realization of carnal pleasure and happiness; fulfillment of appetites and self-interest. The empirical concept of subjective well-being (SWB) associate with the hedonistic perspective of well-being often interchangeably termed as “happiness”, expresses a state of an individual achievement of pleasure over pain and the fulfillment of desired goals. In this sense, well-being is subjectively evaluated; the life experiences of positive feelings (pleasure) over negative feelings (pain) for themselves and derives at the sense of fulfillment, wellness and satisfaction. Hedonic well-being (HWB) also popularly known as Subjective well-being (SWB) concerns with people’s self scrutiny of their own life emotionally and cognitively. It includes the characteristics of “(1) “frequent pleasant feelings, (ii) infrequent unpleasant feelings, and (iii) an overall judgment that life is satisfying”. SWB have been viewed as an “experienced well-being measures” focus on the sum experienced affect of a person and an “evaluative well-being measures” concern with the evaluation of life satisfaction. Thus, conceptually SWB operates on two basic components namely Affective component and Cognitive component. The Affective (component) well-being (AWB) emphasize on the positive affect and negative affect that is the experienced of pleasant feelings and unpleasant feelings. Thus, the assessment of AWB involves queries on the experiences emotions such as happiness, contentment, joy, anger, sadness, worry, etc. On the other hand, the Cognitive well-being (CWB) reflects upon the evaluative measure of one’s desired life on the basis of relative ideal state of affairs. It is the process of self judgment of their present condition of life in relative to their desired goals and standards. CWB commonly measures one’s state of satisfaction with life. In respect to the relevance and theoretical implications on the study of subjective well-being, many hedonic psychologists opined the significance of bottom-up empirical

approach, expectancy-value approach, behavioral theories of reward and punishment and theories that emphasize on cognitive expectations. However, it has been observed the common absence of explicit theory adopted by the subjective well-being researchers. (Deci & Ryan, 2008; Diener, 1984; Diener et al., 1998; Dodge et al., 2012; Kapteyn et al., 2015; McMahan & Estes, 2011; Ryan & Deci, 2001; Tov, 2018).

The second approach related to the classical Hellenic philosophy of Eudaimonism, an ethical theory popularized in the book entitled “Nicomachean Ethics” of Aristotle termed as eudaimonia. He argued that the ultimate of all human well-being does not account on happiness, pleasure or satisfying desires but rather rest on the soul laden actions conforming to virtues. The inherent nature and potentialities of a person to recognize (daimon or true self) and strive towards realizing them in reality results to one’s contentment and derives meaning in life. The concept of eudaimonia associates to the essence of two popular Greek premises such as “to know yourself and to become what you are”. In different explanation, the concept of eudaimonia observed well-being as neither of an outcome nor of the end state rather more of a continues effort to recognize and bring out the daimon or true self; that a continues effort or an attempt to live out in accordance with one’s virtuous potentials and realizing the intended meaning in it. The work on the conceptualization and measurement of psychological well-being manifested upon the perspective of eudaimonic tradition but was firstly empirically ventured by Ryff way back in 1989. However, its formulation did not only derive from the Aristotle’s view but more so from the theoretical works of Maslow’s view of self-actualization, Rogers’ on fully functioning person, Jung’s conception of individuation, Allport’s view on maturity that concerning the positive psychological functioning. Moreover, those theoretical works of Erikson, Buhler, Neugarten and Jahoda were incorporated to formulate the construct of psychological well-being. Ryff conceptualized six dimensions of psychological well-being:

- (1) the extent to which respondents felt their lives had meaning, purpose and direction (purpose in life);
- (2) whether they viewed themselves to be living in accord with their own personal convictions (autonomy);
- (3) the extent to which

they were making use of their personal talents and potential (personal growth); (4) how well they were managing their life situations (environmental mastery); (5) the depth of connection they had in ties with significant others (positive relationships), and (6) the knowledge and acceptance they had of themselves, including awareness of personal limitations (self-acceptance) (Bradburn, 1969; Deci & Ryan, 2008; Ryan & Deci, 2001; Ryff, 1989a, 1989b, 2013; Tov, 2018; Waterman, 1993).

In another significant development of well-being studies, Keyes in 1998 maintained that in every person's life consisted of private spheres as well as public spheres. That the well-being established on the (positive feeling over negative feeling, positive functioning and personal growth) phenomena in private domain have been examining through the conceptualization within the model of hedonic tradition and eudaimonic tradition. The affects on private domain of an individual could be by-product phenomena of an individual public sphere, as so much of a person's features intertwine with the socio-cultural challenges and societal challenges. However, psychologist and social scientist overlooked the essence of public feature of an individual in grappling the issue of well-being. The contribution of Keyes' work mended the gap in dealing with the problem of well-being by zipping in the spectrum of social well-being within the traditional conceptual aspects of well-being. He proposed a definition of social well-being as "the appraisal of one's circumstance and functioning in society". The domains of social well-being are broadly classified into five dimensions such as: (1) Social integration (sense of belongingness and feeling of commonness); (2) Social acceptance (trust, comfortable with others); (3) Social contribution (something of value to give for the benefit of society, efficacy and responsibility); (4) Social actualization (sense of society's potential and ability to realize through its institutions and citizens); (5) Social coherence (aware and knowing about the world) (Keyes, 1998; Larson, 1993a).

An in-depth review on the subject matter of psychological well-being in relation to the aspects of work environment highlighted, how numerous studies focused

on the negative impact on psychological well-being rather than the benefits and positive implication of work on the worker's well-being which is equally important. There are significant work environmental aspects but not all that creates psychological environment which consequences the psychological well-being of worker. It is thus necessary to understand the intricate concept of psychological environment that which aspects of work environment are influential to worker's well-being. While in a rather simple manner psychological environment can be construed as those features of work environment that influences the behavior of worker. Such behavior can be translated in consideration to three psychological phenomena as:- affects (*emotions, mood, psychological symptoms, affective disorder*); cognitions (*attitudes, perceptions, decision making*); and behaviors (*effectiveness, absence, motivation*). Therefore, it is these set of characteristics of work environment which affects the way worker feels, thinks and behaves that defines psychological environment. Certain affects of work environment on physical health can be more apparent as compared to that of impact on psychological environment consequences well-being which is less visible and indirect. However, the impact of work environment on worker well-being solely depends on how one's perceived certain situation and reacts accordingly. The review culminated significant psychological characteristics of work environment that influence upon worker's well-being as stated below:-

(i). Physical setting

Three main characters are taken into consideration in matters influential to well-being of worker (a). Heat, noise, lighting, etc. are considered to have direct or indirect impact upon the psychological process of worker. (b). Physical setting such as design office layout affects the level and nature of social interaction between co-workers. (c). Physical environment that concerns about the safety of workers affects the psychological well-being.

(ii). Job characteristics

The well-being of workers depends on the nature and characteristics of jobs layout. That the qualitative and quantitative workload, control, discretion workers have

over their performance of tasks, level of repetitiveness, role ambiguity, nature of jobs design, etc all such characteristics contribute to the factors that determine well-being of workers.

(iii). Broader Organizational features

The nature of organizational structure such as the assignment of tasks, communication within the organization, co-ordination amongst the workers, various departments, etc in one hand and organization culture such as norms and regulations in which the acceptable way in performing task, working hours, social support, etc on the other hand plays an important role in shaping the psychological environment of the workers and well-being.

(iv). Extra organizational factors

The situations and conditions outside the organizational work strongly determine the condition of psychological environment and well-being. These conditions can be extrapolated into three different levels. Firstly, at the individual level that is happening outside the work will determine his perception, attitude, performance, etc will have impact on individual psychological well-being in relation to work induce psychological environment. Secondly, local community level where for instance the rate of unemployment is high and where job opportunities are limited may force a worker to accept any kind of works even if it may be harmful or detrimental working condition. Thirdly, the national economic climate takes a tough influence on the well-being of worker where constant threatening of losing a job due to economic change or crisis that happens (Briner, 2000).

To understand the intricacies of work environment on psychological well-being are examined from theoretical perspectives in addition to the above highlighted features in this review. The Author reviewed some prominent theories in relation to work environment and well-being which are discussed below:-

(1) General Stress Model (GSM)

This model explicates that series of ‘stressors’ viz:- workload, role ambiguity lead to series of ‘strain’ such as mental health and absence. These features are link

through numerous variables that determine the relationship between stressors and strain such as coping mechanism of an individual, personality and social support.

Limitation:-

(i). Lack of definite explanation as to how and why the characteristics of work impact on well-being, yet this model attempts to highlight rather than helping to comprehend the intertwining relationships of various variables.

(ii). Lack of empirical or limited empirical support in terms of the highlighted relationship between stressors and strains.

(iii). Equivocal definitions and finding meanings of stressors and strains, that limit the utility of stress to explain the negative implication of work condition.

General stress model simply highlighted that when some aspects of the work environment are perceived negatively, it will eventually have negative impact upon the well-being. In addition, the model brings queries rather than solutions.

(2) Job Demand-Control Model (JDCM)

JDCM was developed by Karasek explains the relationship between workload or job demand and well-being in terms of the extent of worker's control or autonomy over their job. Those jobs having most negative impact on health are those that combine with high job demand with low control. On the other hand, the high job demand has lesser or moderate negative impact on health where there is a high level of control. The combination of high job demand and high level of control creates not only minimum negative impact on health but rather it benefits worker by providing an opportunity to learn and develop. It is the level of control on job that determines the impact on well-being as high job demand itself is not harmful.

Limitation:-

There is no concrete meaning and definition on the aspect of control as to what type of control and what it is.

(3) The Vitamin Model (TVM)

This model is a broad approach propounded by Warr. It looks at the general environment including that of unemployed youth upon psychological aspects and explains how this has an influence on people's psychological well-being. The interdependent characteristics between well-being and environment are analogically explicated, that in the case of vitamin and physical health. Vitamin A and D though essential for maintaining good health, if consumed excessively in large quantity will be harmful for health. The nine environmental vitamins as highlighted in the below require moderation so to maintain psychological well-being as in the case of vitamin A and D component in the body. This may refer to that of externally generated goals such as workload and environmental clarity. On the other hand vitamin C and E as an essential component for maintaining good health even if consumed large quantity excessively will do no harm for the body. Such as it may refer to availability of money and valued social position are not likely to be harmful to well-being even at high level. Warr explains that "psychological features of the environment in terms of vitamins such that the presence of each in the environment is important for psychological well-being but their effects on well-being will vary as their level increases".

The Nine Environmental Characteristics of Warr's vitamin model for psychological well-being:

1. Opportunity for control:- Discretion, decision latitude, independence, autonomy, job control, self-determination, personal control, absence of close supervision, participation in decision-making, absence of utilization.
2. Opportunity for skill use:-Skill utilization, utilization of valued abilities, application of skills and abilities, required skills.
3. Externally generated goals:-Job demands, quantitative or qualitative workload, time demands, role responsibility, time pressure at work, required concentration, conflicting demands.
4. Variety. Variation in job content and location, non-repetitive work, varied roles and responsibilities, skill variety, number of different job operations.

5. Environmental clarity:-Information about the consequences of behaviour (e.g. availability of feedback), information about the future (e.g. absence of job future ambiguity), and information about required behavior (e.g. low role ambiguity).
6. Availability of money:-Income level, amount of pay, moderate/high standard of living, absence of poverty, material resources.
7. Physical security:- Absence of danger, good working conditions, ergonomically adequate equipment, safe levels of temperature and noise, absence of continuous heavy lifting.
8. Opportunity for interpersonal contact:- Quantity of interaction (e.g. contact with others, adequate privacy), quality of interaction (e.g. good relationship with others, social support).
9. Valued social position:- Cultural evaluations of status (e.g. social rank, occupational prestige), more localized social evaluations of in-company status or job importance, personal evaluations of task significance (e.g. meaningfulness of job or self-respect from the job).

(4) Affective Events Theory (AET)

This theory emphasis on the event or things that actually happen at work and not the broad job characteristics which lead to emotional and behavioral response that affect well-being. It went on to state that it is specific emotional reaction against the short term experience not a broad shift in psychological well-being. It lays the stance upon interest on emotion at work place.

(5) The Psychological Contract (TPC)

This theory is popularized by Rousseau in attempting to understand the relationship between work environment and psychological well-being. It stresses on the essential beliefs of worker's expectation in return ("payment, respect, promotion") to what they offer to their employment ("effort, commitment"). According to this approach which is reciprocal in nature expect the employer to reward their worker according to their service. However, when the worker perceives in some way that their employer violates this contract may develop negative emotion which may have in long term

implication for their well-being and vice versa. The work environment is conceptualized as set of worker's beliefs about how the organization will respond to their work behavior.

These models explain and look differently according to the situation, therefore there is no one best model to understand the link between the work and environment and psychological well-being. Therefore, in addition to understand the relationship of work and well-being it is necessary to look specifically into the aspect of psychological well-being. Thus, taking into the account the importance of different context that influence on individual well-being is necessary. On the other hand, to understand comprehensively the impact of work environment on the psychological well-being must look both at the negative and positive consequences on well-being (Briner, 2000)

In a significant account the author informed about the ill health consequences due to over burden workload and weather condition. Backache, vision problem and neck problems were some common illness amongst the farmers (Hussain et al., 2011). Similar to this another study affirmed that women encountered health problem, management problem, social and financial problem in their lives due the agriculture activities (Aggarwal et al., 2013). Agriculture related health problems like fatigue, backache, headache and restlessness worsen by unhygienic condition of working place were accounted. In connection to these affects, constraints to time management and social constriction were also noted (Sharma et al., 2012). Physical stress and over burden workload without proper rest and diet consequence to agriculture related health problem of Muscular skeletal complaints (P. Kaur & Mavi, 2015).

Participation of women in agriculture extension contributes to improvement in various aspects of their life such as personal, social and economic development. It helps in promoting income enhancement, equal opportunity in access to valuable information and thus ensures improvement in the quality of life (Mamun- ur- Rashid et al., 2017). Further, Meizen-Dick et al. (as cited in Mamun- ur- Rashid et al., 2017) noted that agriculture extension services contributes to sustainability of agriculture, improvement of livelihood and overall well-being of the rural people.

A study was conducted in Jaipur, Rajasthan to examine women's participation in paid work in connection to women's well-being. The findings revealed that women's participation in paid work contribute to enhance of their well-being yet the underlying factors led to paid work participation played significant roles to determine their well-being. In some cases poverty became the push factor to women's participation in paid work had no positive impact on their well-being except in the cases of those who participated in paid work due to other factors other than poverty attained better well-being. This depicted that that factors underlying women's participation in paid work would determine the connection of paid work and well-being (Jose, 2012).

2.7 Agriculture related policies, legislations, program in India

The government of India has introduced various developmental agriculture schemes, programs and provision in the past. These programs and schemes are intended to extent assistance to farmers so as to improve production quantity as well as quality and to grant protection from farming contingencies. The designed programs and schemes involve supporting financial assistance, skills equipment, training and technological support to facilitating commercial and marketing revenue. Some major schemes and programs under the Department of Agriculture, Cooperation & Farmers' Welfare; Ministry of Agriculture & Farmers Welfare, Government of India (2021) are highlighted in this section.

2.7.1. Horticulture related schemes & programs

Mission for Integrated Development of Horticulture (MIDH) is an umbrella scheme sponsored by the central government for the development of horticulture sector. It covers "fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew and cocoa". The main objectives of the Mission are:-

- (1) Promote holistic growth of horticulture sector, including bamboo and coconut through area based regionally differentiated strategies, which includes research, technology promotion, extension, postharvest management, processing and

marketing, in consonance with comparative advantage of each State/region and its diverse agro-climatic features;

(2) Encourage aggregation of farmers into farmer groups like FIGs/FPOs and FPCs to bring economy of scale and scope.

(3) Enhance horticulture production, augment farmers, income and strengthen nutritional security;

(4) Improve productivity by way of quality germ plasm, planting material and water use efficiency through Micro Irrigation.

(5) Support skill development and create employment generation opportunities for rural youth in horticulture and post harvest management, especially in the cold chain sector.

MIDH has 5 (five) functional sub-schemes such as:-(1) National Horticulture Mission (NHM), (2) Horticulture Mission for North East & Himalayan States (HMNEH) (3) National Horticulture Board (NHB) (4) Coconut Development Board (CDB) (5) Central Institute for Horticulture (CIH), Nagaland. In the matter of MIDH scheme funding, a ratio of 60% share is on the shoulder of Government of India (GOI) applicable for the developmental programmes in all the states of India having the share of 40% except the Northeast and Himalaya as the government of India bears the share of 90%. In regards to the fund sharing for the schemes of National Horticulture Board (NHB), Coconut Development Board (CDB), Central Institute for Horticulture (CIH), Nagaland and the National Level Agencies (NLA), the GOI altogether bears 100% of its share.

Table 2.1 MIDH sub-schemes and area of operation

Sl. no	Sub Schemes	Target group/area of operation
1	NHM	All states & UTs except Northeast states & Himalayan Region
2	HMNEH	All states Northeast states & Himalayan Region
3	NHB	All states & UTs focusing on commercial horticulture
4	CDB	All States & UTs where coconut is grown
5	CIH	NE states, focusing on HRD and capacity building

1. National Horticulture Mission (NHM): NHM was launched in the year 2005-06 with the aim to bringing overall development of the horticulture sector by creating a platform for active involvement of all stake holders. Under this mission quality planting material are provided through setting up of “nurseries and tissue culture units, production and productivity improvement programmes through area expansion and rejuvenation, technology promotion, technology dissemination, human resource development, creation of infrastructure for post harvest management and marketing in consonance with the comparative advantages of each State/region and their diverse agro-climate conditions are major interventions under NHM”.

2. Horticulture Mission for North East and Himalayan States (HMNEH): The Department of Agriculture, Cooperation & Farmers’ Welfare implements this centrally sponsored scheme which was erstwhile named as Technology Mission for Integrated Development of Horticulture in North Eastern States since 2001-02. Further, the scheme was extended to Himalayan States such as Himachal Pradesh, Jammu & Kashmir and Uttarakhand during the X plan of 2003-04 and from 2014-15 it comes under the ambit of MIDH. The scheme emphasizes on all the aspects of horticulture from the planting to consumption with backward and forward linkages.

3. National Horticulture Board (NHB) was set up in 1984 as an autonomous organization under the Ministry of Agriculture and Farmers Welfare, Government of India. It was registered under Societies Registration Act 1860 and further re-registered under the Haryana Registration and Regulation of Societies Act, 2012. The NHB headquarters is situated in Gurugram of Haryana which its 29 branch offices are spread all across the country. It bears its main aims and objectives to establish “production hubs for commercial horticulture development, post harvest infrastructure and cold chain facilities, promotion of new crops and promotion of growers’ associations. The Board initiated implementing various schemes such as:

- 1) Development of Commercial Horticulture through Production and Post Harvest Management

- 2) Capital Investment Subsidy Scheme for Construction/ Expansion?
Modernization of cold Storage for Horticulture Produce
- 3) Technology Development and Transfer for Promotion of Horticulture
- 4) Market Information Service for Horticulture Crops
- 5) Horticulture Promotion Service/ Expert Service and Strengthening Capability of NHB

4. Coconut Development Board (CDB) was established by the Government of India under the parliamentary Act of 1979 and functions as a statutory body located in Kochi, Kerala. It came into functional in January 1981. The programs under CDB emphasizes on “production and distribution of quality planting material, expansion of area under coconut cultivation especially in potential and non-traditional areas, improving the productivity of coconut in major coconut producing states, developing technology in post-harvest processing and marketing activities, product diversification and by-product utilization of coconut for value addition, dissemination of information and capacity building in the coconut sector”. Some of the major programs under CDB are highlighted below:

1. Production and Distribution of Quality Planting Materials
 - (a) Demonstration cum Seed Production Farm (DSP)
 - (b) Establishment of Regional Coconut Nurseries
 - (c) Establishment of Nucleus Coconut Seed Garden
 - (d) Establishment of Small Coconut Nursery
2. Expansion of Area under Coconut
3. Integrated Farming for Productivity Improvement
 - (a) Laying out of Demonstration Plots
 - (b) Aid to Organic Manure Units
4. Technology Demonstration/Quality Testing Lab
5. Marketing, Market Intelligence Services, Statistics and Strengthening of Export promotion council (EPC)
6. Information & Information Technology

7. Technical Service & Project Management

- (a) Technology Mission on Coconut
- (b) Replanting & Rejuvenation of Old Coconut Gardens
- (c) Coconut Palm Insurance Scheme
- (d) Kera Suraksha Insurance Scheme

5. Central Institute of Horticulture (CIH), Nagaland was established during the year 2005-06 with an objective to develop Horticulture Sector in North East Region. The institute implements programs through “capacity building by training of trainers and farmers/beneficiaries; on & off farm demonstration of Improved Production Technologies; production and supply of quality planting material; Accreditation and certification of nurseries in NE region; Promotion of organic cultivation of horticulture crops; Agri-business promotion through exhibitions, seminars workshops exposure trips, buyers & sellers meet; Post harvest management and value addition of horticultural crops; skill development & certificate courses in horticulture; Transfer of technology through method & result demonstration, Publication of folders, manuals, leaflets etc and coordination with state horticulture departments of NER and other national organization, NGOs, farmers’ group and Self help Groups”.

2.7.2. National Gender Resource Centre in Agriculture (NGRCA)

A National Gender Resource Centre in Agriculture (NGRCA) was established during the year 2005-06 under the Department of Agriculture Cooperation & Farmers’ Welfare (DA & FW), Ministry of Agriculture and Farmers’ Welfare, Government of India. It is located in Directorate of Extension, Krishi Vistar Sadan, Pusa, New Delhi. Its broad aims and objectives to “converge all gender related activities & issues in agriculture & allied sectors, within and outside the DA &FW; add gender dimension to agriculture policies & programmes; render advocacy/advisory services to the States/UTs; undertaking and supporting Training, research and advocacy to mainstream gender issues in agriculture and natural resource management, so as to internalize gender

specific interventions and ensure that the policies and programmes in agriculture are fully engendered & reflect the National commitment to empowerment of women”.

2.7.3. Agriculture Technology Management Agency (ATMA)

The Agriculture Technology Management Agency (ATMA) came into being during 2005-2006 under the initiatives of Ministry of Agriculture and Farmers’ Welfare, Government of India. The Ministry with an objective to establish farmer friendly and accountability agriculture extension system through forming new mechanism for technology dissemination at district level launched ATMA as an institution to materialize extension reform. Its active participants includes farmers and farmer-groups, NGOs, Krishi Vigyan Kendras (KVKs), Panchayati Raj Institutions and other stake holders functioning at the districts and blocks level. Wherein the release of funds relies upon the Extension Work Plans (SEWPs) under the state government which the resource allocation of activities is determined based on the number of farm households and blocks. The scheme operates in 614 districts in 28 states and Union Territories in the country. Under the ATMA, various reform support activities are undertaken relating to the following policies:

- Multi-agency Extension Strategies
- Farming System Approach
- Farmer Centric Extension Services
- Convergence of extension activities
- Mainstreaming Gender Concerns
- Sustainability of Extension Services

2.7.4. Agri-Clinic and Agri-Business Centres (AC & ABC)

Agri-Clinic and Agri-Business Centres (AC & ABC) is an agriculture extension scheme jointly launched by the Ministry of Agriculture and Farmers’ Welfare, Government of India and National Band for Agriculture and Rural Development (NABARD) operating as subsidy channelizing agency. It aims to tap the expertise available in the large pool of Agriculture graduates; that under this scheme one can set

up own Agri-Clinic or Agri-Business Centre and offer professional extension services to innumerable farmers. In connection to this program, the government is now also providing start-up training to graduates in Agriculture, or any subject allied to Agriculture like horticulture, Sericulture, Veterinary Sciences, Forestry, Dairy, Poultry Farming, and Fisheries. The main objectives of the scheme includes:-

- To supplement effort of public extension by providing extension and other services to farmers either on payment basis or free of cost as per business model of agri-preneur, local needs and affordability of target group of farmers
- To support agricultural development
- To create gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture and biological science graduates with Pg in agri-related courses.

2.7.5. National Food Security Mission (NFSM)

The 53rd meeting of National Development Council (NDC) gave birth to National Food Security Mission (NFSM); a centrally sponsored Scheme which was launched in the month of October 2007 to enhance annual production of rice, wheat, and pulses. The key trust areas of the scheme include:

- Sustainable increase in the production of targeted crops through area expansion and productivity enhancement.
- Restoration of soil fertility and productivity at the individual farm level
- Rise in farm level net income

2.7.6. Integrated Scheme for Agriculture Marketing (ISAM)

The post independent effort through policy changes and farmers' hard work and dedication had brought about tremendous agriculture transformation in India from an importer of food grain to major exporter of food grain in the world. However, the increasing amount of agriculture production and marketable surplus products could not be absorbed within the marketing system and post-harvest marketing infrastructure. This has drawn the effort to bring out program to tap the issue; that the farmers gain access to

competitive markets with better infrastructure and facilities; that provides lucrative price for the farmers and for the customers to have nutritious food at the affordable price. Thus keeping in line with this aims, the Department of Agriculture & Cooperation proposed to continue and integrate the existing Central Sector Schemes as Integrated Scheme for Agriculture Marketing (ISAM) which was approved by the Government of India on 13th November 2013 in the XII five year plan. Under ISAM five important sub-schemes are operational such as (i) Agriculture Marketing Infrastructure (AMI) {an amalgamation of Grameen Bhandaran Yojana (GBY) and Development/Strengthening of Agricultural Marketing, Infrastructure, Grading and Standardization (AMIGS)}, (ii) Marketing Research and Information Network (MRIN), (iii) Strengthening of Agmark Grading Facilities (SAGF), (iv) Agribusiness Development (ABD) through Venture Capital Assistance (VCA) and Project Development Facility (PDF), and (v) Choudhary Charan Singh National Institute of Agriculture Marketing (NIAM). ISAM was launched with the objectives stated below:-

- i. To promote creation of agricultural marketing infrastructure by providing backend subsidy support to State, cooperative and private sector investments.
- ii. To promote creation of scientific storage capacity and to promote pledge financing to increase farmers' income.
- iii. To promote Integrated Value Chains (confined up to the stage of primary processing only) to provide vertical integration of farmers with primary processors.
- iv. To use ICT as a vehicle of extension to sensitize and orient farmers to respond to new challenges in agricultural marketing.
- v. To establish a nation-wide information network system for speedy collection and dissemination of market information and data on arrivals and prices for its efficient and timely utilization by farmers and other stake holders.

- vi. To support framing of grade standards and quality certification of agricultural commodities to help farmers get better and remunerative prices for their graded produce.
- vii. To catalyze private investment in setting up of agribusiness projects and thereby provide assured market to producers and strengthen backward linkages of agribusiness projects with producers and their groups.
- viii. To undertake and promote training, research, education, extension and consultancy in the agri-marketing sector.

2.7.7. Sub-Mission on Agricultural Mechanization (SMAM)

The limited agricultural land compounded with the ever increasing population and its rising demands prompted to seek an organized intervention strategy that can curb the straining condition. With the limited land resources, to raise productivity requires timely and precise field work which agriculture machines play an important role. SMAM is a Central Sector Schemes where the Government of India fully funded for its operation. The Mission objectives are as follows:

- i. Increasing the reach of farm mechanization to small and marginal farmers and to the regions where availability of farm power is low;
- ii. Promoting 'Custom Hiring Centres' to offset the adverse economies of scale arising due to small landholding and high cost of individual ownership;
- iii. Creating hubs for hi-tech & high value farm equipments;
- iv. Creating awareness among stakeholders through demonstration and capacity building activities;
- v. Ensuring performance testing and certification at designated testing centres located all over the countries

To achieve the aforementioned objectives SMAM is designed to adopt the following strategies:

- i. Conduct performance testing for various farm machineries and equipments at the four Farm Machinery Training and Testing Institutes (FMTTIs), designated State Agricultural Universities (SAUs) and ICAR institutions;

- ii. Promote farm mechanization among stakeholders by way of on-field and off-field training and demonstrations.
- iii. Provide financial assistance to farmers for procurement of farm machinery and implements
- iv. Provide financial assistance to small and marginal farmers for hiring machinery and implements in low mechanized regions.

2.7.8. Sub-Mission for Seed and Planting Material (SMSP)

The Centrally Sponsored Scheme of Sub-Mission for Seed and Planting Material (SMSP) comes under the umbrella scheme of Green Revolution-Krishonnati Yojana which has been implemented since 2016-17. This umbrella scheme comprises of 11 schemes that focus on developing the agriculture and allied sector holistically and scientifically, so as to ensure increase in farmers' income by raising productivity and better returns on produce. SMSP as one such schemes aims to increase the production of certified/quality seed, upgrade the quality of farm-saved seeds, strengthen the seed multiplication chain, promote new technologies and methodologies in seed production, processing, testing, etc, to strengthen and modernizing infrastructure for seed production, storage, certification and quality. The objectives of SMSP include:

- i. Increasing production of certified/ quality seed
- ii. Increasing Seed Replacement rate (SRR) more particularly to achieve higher SRR in crops like paddy, gram, groundnut, cotton, etc. as recommended by the Consultative Group of the Ministry of Agriculture
- iii. Upgrading the quality of farm-saved seeds with a specific objective to cover 60000 villages and produce 100 lakh quintals of seed each year through farmers participatory seed production.
- iv. Creation of Seed Infrastructure facilities in the public sector.
- v. Encouraging seed treatment, particularly for farm-saved seed
- vi. Strengthening the seed multiplication chain through assistance to the public and private sectors
- vii. Popularizing new varieties to encourage varietal replacement

- viii. Promoting new technologies and methodologies in seed production, processing, testing, etc.
- ix. Strengthening and modernizing infrastructure for seed production, storage, certification, and quality control particularly to ensure compliance with the provisions of the Seeds Bill 2004/ISTA standards, and OECD certification.
- x. Facilitating the movement of seed from India in international trade and increasing its share to 10% by 2020 as envisaged in the new policy on seed development
- xi. Assisting and supporting public and private seed-producing organizations in the seed sector and encouraging partnerships.
- xii. Ensuring availability of seed in contingent situations.
- xiii. Facilitating the dissemination of seed-related information through information, education, and communication.
- xiv. To provide an effective system for the protection of plant varieties, the rights of farmers as well as plant breeders and to encourage the development of new varieties of plants, through Protection of Plant Varieties and Farmers' Rights Authority (PPVFRA)

Table 2.2. Agriculture Schemes/Programmes and Women at a Glance

Sl. no	Subject area	Schemes/Components	Flow of benefit to women in schemes/ programmes
1	Horticulture	National Horticulture Mission (NHM), Horticulture Mission for North East & Himalayan States (HMNEH), National Horticulture Board (NHB), Coconut	Horticulture division is making efforts to stipulate in each and every administrative approval to provide for a pro-women allocation of at least 30% and the implementing agencies have been asked to ensure that he said funds are given to women beneficiaries

		<p>Development Board (CDB), Central Institute for Horticulture (CIH), Nagaland</p>	<p>such as women farmers, women Self Help Groups, women entrepreneurs etc, to encourage and to obtain the benefits of schemes under the mission as far as possible. Further, Operational Guidelines of MIDH also provides more subsidy/assistance to women farmers, beneficiaries as compared to general category farmers.</p>
2	<p>Agriculture Extension</p>	<p>National Gender Resource centre in Agriculture (NGRCA)</p>	<ul style="list-style-type: none"> ➤ Macro/Micro level and Action Research Studies initiated by the Centre include a study on “Gender Based Impact Analysis of ATMA programme” ➤ An e-book on the “Inspiring Stories of Progressive Women Farmers” was prepared by NGRCA collating best practices and success stories of women farmers and agripreneurs.
3		<p>Support to States for Extension Reforms</p>	<ul style="list-style-type: none"> ➤ Minimum 30% of resources meant for programmes and activities are required to be allocated to women farmers and women extension functionaries with specific

documentation of
expenditure and
performance for women
being maintained

- Women farmers are to be involved in different decision making bodies at district and block level such as Agricultural Technology Management Agency (ATMA) governing board and ATMA Management committee at district level
- Women are represented in Farmers Advisory Committees (FACs) set up at block/district and state level
- More women are involved as ‘Farmer Friends’ under the newly introduced mechanism for extension delivery below the block level through a ‘Farmer Friend’
- Farm women’s food Security Groups (FSGs) @ at least 2 per block to be formed annually for

ensuring household food and nutritional security providing assistance of Rs 10000 per group

- Inclusion of one “Gender coordinator” in every state in the team of committed extension personal being supported under the Scheme. The role of Gender coordinator is to ensure flow of support viz. training/ capacity building and extension support as per the specific requirements of women farmers.
- Since the inception of the Scheme in 2005-06, total 13697311 farm women (24.56% of the total benefited farmers) have participated in farmer oriented activities like exposure visit, training, demonstration & Kisan melas including 323893 women farmers benefited during 2020-21.

	Clinic & Agri-Business Centres (AC&ABC)	44% in respect to women, SC/ST & all categories of the candidates from North-Eastern and Hill States and 36% in respect of other categories. Since inception of the scheme in 2002, 5929 women agri-prenuers have been trained of which, 1804 women have established agri-ventures and of these 129 got subsidy benefit as on 30.11.2020. During the current year, no women candidates have been trained, but 49 women agri-preneurs trained during previous years have established their ventures. During 2020-21, the (EEIs) conducted 106 training courses with 4105 field extension functionaries including 1446 women extension functionaries.
5	Extension Education Institutes (EEIs)	
6	Diploma in Agricultural Extension Services for Input Dealers (DAESI)	Training was provided to 120 input dealers including 4 women candidates during 2020-21.
7	Crops National Food Security Mission (NFSM) & Bringing Green Revolution to Eastern	As per the operational guidelines of NFSM, at least 30% of funds is to be made for women farmers, 33% allocation of the fund is to be made

8	Agricultural Marketing	India (BGREI) Integrated Scheme for Agricultural Marketing (ISAM)	for small and marginal farmers Women under Agriculture Marketing Infrastructure (AMI) sub scheme of ISAM are eligible for subsidy @ 33.33% as against 25% for others
9	Mechanization and Technology	Sub Mission on Agricultural Mechanization (SMAM)	<ul style="list-style-type: none"> <li>➤ State government have been directed to earmark 30% of total funds allocated under SMAM for women beneficiaries <li>➤ 10% more assistance for women beneficiary to procure agricultural machinery, implements and equipments including PHT under component 2 and 3 <li>➤ In order to reduce the drudgery and increasing efficiency in farm operations, a number of agricultural implements and hand tools suitable for farm women have been developed by Research and Development organization under ICAR. The list of gender friendly equipments has been sent to all

			States/UTs for popularizing then through various schemes of government
			➤ Gender friendly equipment for women: under the component 1 of SMAM, agricultural mechanization through training, testing and demonstration, a total 3648 women were trained during the financial year 2019-20 and 2020-21 with 3986 women trainees were trained.
			There is no separate budget allocated/ earmarked and released exclusively for women farmers. However, implementation of States/agencies is requested to cover adequate participation of women farmers' in the scheme.
10	Seeds	Sub-Mission for Seed and Planting Material (SMSP)	During last three years (till December, 2020) 11.755) lakh women farmers benefitted under seeds village programme
11	Cooperation	National cooperative Development corporation (NCDC) National Cooperative	NCDC has launched a unique Scheme called the "Yuva Sahakar" in 2019-20, that aims at encouraging newly formed

Union of India (NCUI) National council for Cooperative Training (NCCT)

cooperative societies with new / innovative ideas. It provides 2% less than its applicable rate of interest on term loan for project activities in cases of timely repayments. It is more liberal to cooperative with 100% women members, amongst others.

NCUI implements cooperative education and development programmes through its 43 cooperative education field projects of which 04 are exclusive women projects located at Shimoga (Karnataka), Aska Behrampur (Odisha), East Imphal (Manipur) and Bhopal (Madhya Pradesh)

During 2019-20, 323 Self-help groups having membership of 4187 women were formed by the lady mobilisers of the cooperative education field projects. A total of 4097 SHGs with 45051 members have been formed since inception till date. Through various income generating activities, 14759 women were benefitted under this programme. On an average, each woman beneficiary was able to earn

about Rs. 5000 per month.

NCCT is a society registered under the Societies Registration Act, 1860 promoted by the department. It is responsible for organizing, directing, monitoring and evaluating the arrangements for cooperative training for the personnel working in the cooperative sector in the country as well as other stakeholders of cooperative sector. During the year 2020-21, the units of NCCT conducted 494 online training programs and trained 3800 women participants

Source: Ministry of Agriculture & Farmers' Welfare, Government of India (Annual Report, 2020-21)

2.8. Summary

This chapter deals with the subject comprehension and critically indulges with the previously related studies. It occupies an important aspect in research rationalization and conceptualization, through which veracity of outcome could be justified. In this, related themes are explored and examined accordingly.

In the following chapter, the design and methodological aspect of the study will be presented.

CHAPTER III

METHODOLOGY

This chapter addresses the nature and settings of the present study on women's participation in agriculture and well-being among the Tangkhuls in Ukhrul District, Manipur. It is imperative to adopt systematic procedures in any manner of empirical or scientific investigations which is of the paramount traits to culminate the desirable objectives of the studies. The ultimate credibility and reliability of investigation outcomes stand contingent upon its well-mechanized design, systematically defining the research setting by employing suitable methodology, and organizing compatible tools and techniques for data collection and analysis. In conjunction with this, a good consideration of the contextual viability of methods and techniques is of prime importance.

3.1. The Setting: Profile of the study area

This section describes the setting and profile of the present study. It elaborates on the profiles of the state of Manipur and Ukhrul district in addition to the block and the selected four sample villages.

3.1.1. The state of Manipur

The state of Manipur which is also known as the land of jewels lies at the latitude of 23.83°N and 25.68°N and longitude of 93.03°E and 94.78°E, occupying a total area of 22,327 sq km. As per the 2011 census, Manipur has a total population of 2,721,756. Its total literacy rate stands at 76.94% which comprises of male literacy rate with 83.58% and female literacy rate stands at 70.26%. Manipur is surrounded by Nagaland in the north, Mizoram in the south, and Assam in the west as well as Myanmar in the east. The Manipur state can be geographically divided into hill regions and valley regions. The hill region composes of eight districts viz. Senapati, Tangmenglom, Churachandpur, Chandel, Kamjong, Sadar Hills, Pherzawl, and Ukhrul districts whereas the valley region comprises four districts viz. Imphal East, Imphal West, Thoubal, and

Bishnupur districts. Thus, the hill districts occupy 90 percent (20089) sq km) of the total area of the state, and the remaining 10 percent (2238 sq km) of the total area of the state is occupied by the valley region. In addition to the existing Districts the Manipur Gazette No. 16/20/2016-R created seven new districts on 8th December 2016 namely, [Kangpokpi](#), [Tengnoupal](#), [Pherzawl](#), [Noney](#), [Kamjong](#), [Jiribam](#), [Kakching](#).



Figure 3.1. The state of Manipur

3.1.2. Ukhrul District

Ukhrul District in the northeast of Manipur is at present inhabited by the Tangkhuls and a handful of other tribes consisting of Kukis and Meiteis. It is located at 25.12*N-94.37*E covering a total area of 4544 sq km. According to the 2011 census, it has a total population of 1,83,115 with an average literacy rate of 81.35% out of which 85.52% comprised of males and 76.95% comprised of females. During the period of British-India in 1919 Ukhrul district was initially marked out as a sub-division but later upgraded to a district in 1968. Its maiden area covered 8200 sq km until it sliced and Tengnoupal now known as Chandel district was carved out on 15th July 1983. Since then, the so-called present Ukhrul district came into existence in 1983. The district has now seven (7) sub-divisions that are coterminous with the eight (8) developmental blocks.

The Naga people are the inhabitants of the northeastern parts of India and northwestern Burma now Myanmar. Naga people are a conglomeration of multiple tribes settling across northeastern states of India viz. Nagaland, parts of Manipur, Arunachal whereas in the northwestern parts of Sagaing province of Myanmar consisting of five townships viz. Layshi, Lahe, Nanyun, Hkamti, Homalin, etc., and in Kachin states. There are about different sixty-six (66) tribes of Nagas sharing a common culture, custom, religious beliefs, etc. They belonged to Mongoloid race, speaking various distinct Tibeto-Burman languages (Zimik, 2015).

The Tangkhul tribe is one of the major tribes of Naga settling in the areas lying between latitude 25.5*N -25.41*N and longitude 94*E-95*E in the northeastern part of India extending across the northwestern part of Myanmar. The Tangkhul country is being demarcated by the international boundary of India and Myanmar that sliced away some parts to the east. The greater portion which remains in India is found in the Manipur Ukhrul district. Some Tangkhul villages are also merged into the present district of Senapati. On the other hand, the Tangkhul villages which merged to present Myanmar are found along the Pansa and Somra tract in the north, Samshok

Thaungthut state in the south and the east connecting to Kachin (*Shimray, 2000, pp. 2-3, 2001,p.32*).

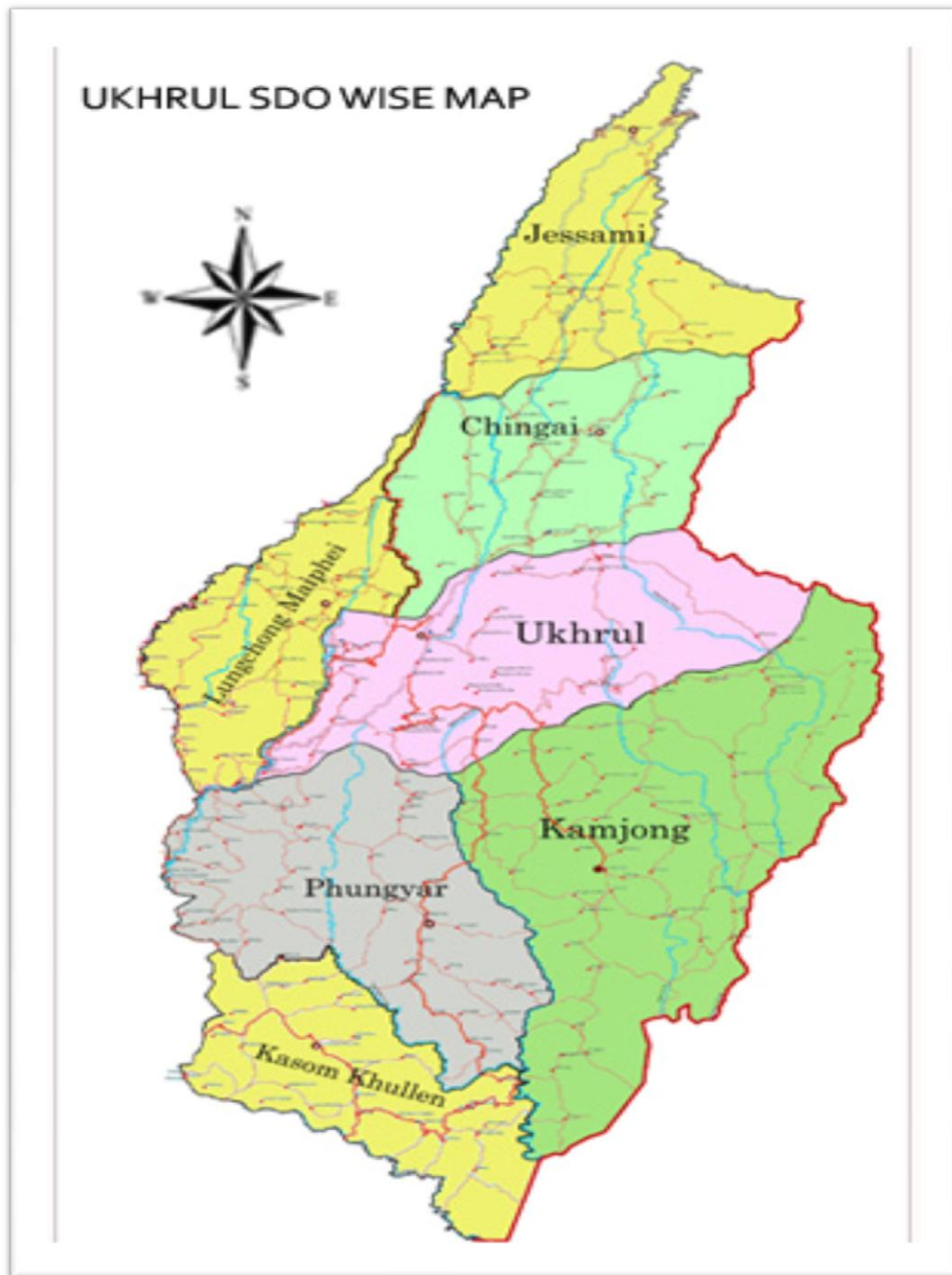


Figure 3.2. The Ukhrul District

3.1.3 The study area

The study was conducted in four villages from two different developmental blocks in Ukhrul District. These villages are Ringui village, Sinakeithei village, Khangkhui Khullen village and Lunghar village.

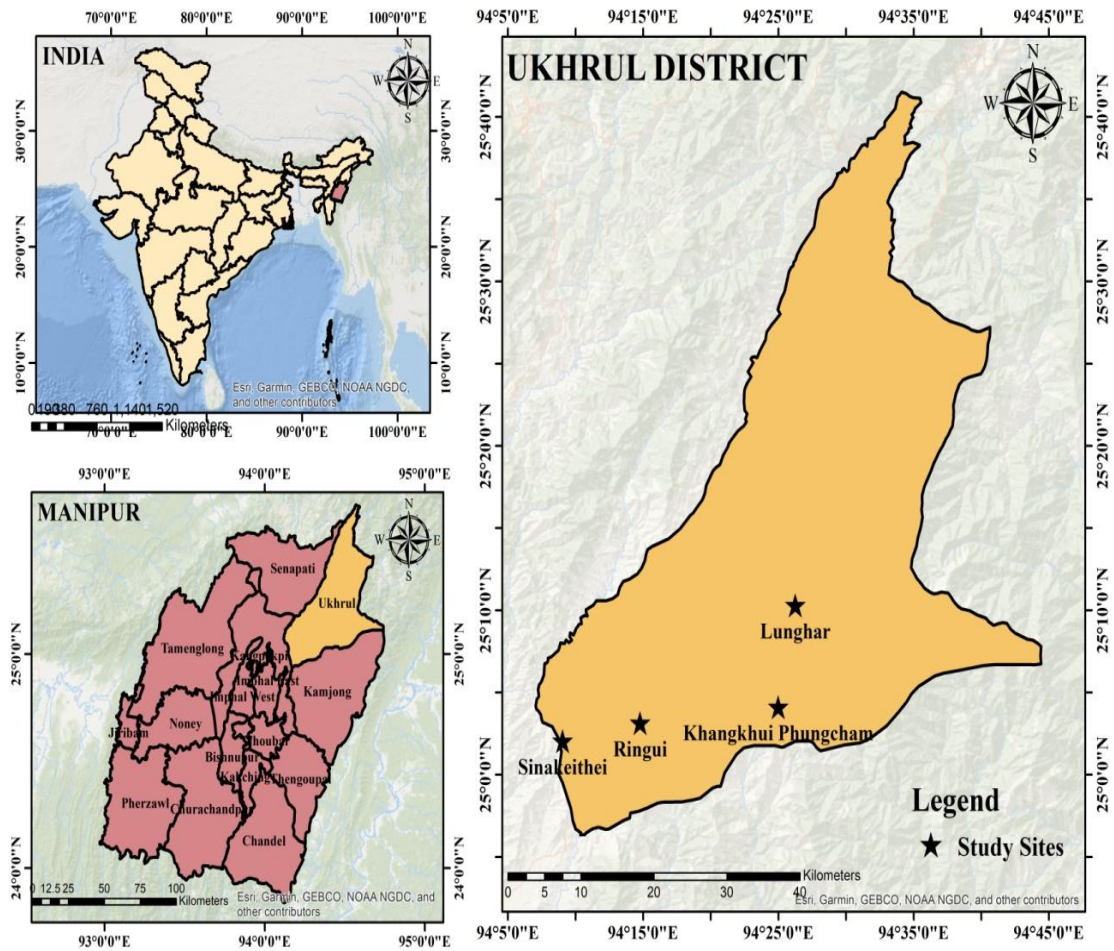


Figure 3.3. Study Areas

3.1.3.1. Sinakeithei Village

Sinakeithei is a large village located in Ukhurl Central of Ukhrl district, Manipur with a total of 441 families residing. The Sinakeithei village has a population of 2003 of which 1008 are males while 995 are females as per Population Census 2011. The average Sex Ratio of Sinakeithei village is 987 which is higher than the Manipur state average of 985. The child Sex Ratio for Sinakeithei as per census is 1318, higher than the Manipur average of 930. In 2011, the literacy rate of Sinakeithei village was 97.22 % while male literacy stands at 97.83 % and female literacy rate was 96.59 %. The village is administrated by a Sarpanch (Chairman) who is elected representative of the village. In Sinakeithel village, most of the village population is from Schedule Tribe (ST). Schedule Tribe (ST) constitutes 86.07 % of the total population in Sinakeithei village. There is no population of Schedule Caste (SC) in Sinakeithei village of Ukhrl.

Table 3.1.Profile of Sinakeithei Village at a Glance

Particulars	Male	Female	Total
Total No. of Houses	-	-	441
Population	1,008	995	2,003
Child (0-6)	88	116	204
Schedule Caste	0	0	0
Schedule Tribe	867	857	1,724
Literacy	97.83%	96.59%	97.22%
Total Workers	460	439	899
Main Worker	0	0	735
Marginal Worker	83	81	164

Source: Census 2011

3.1.3.2. Ringui Village

Ringui is a medium-sized village located in Ukhrul Central Sub Division of Ukhrul district, Manipur with a total of 352 families residing. The Ringui village has a population of 1971 of which 1022 are males while 949 are females as per population census 2011. The average sex ratio of Ringui village is 929 lower than the Manipur state average of 985. The child sex ratio for Ringui as per census is 1096, higher than Manipur's average of 930. In 2011 literacy rate of Ringui village was 90.40% compared to 76.94% of Manipur, whereby male literacy stands at 93.35% and female literacy rate was 87.14%. The village is administrated by the Head of the Village who is elected representative of the village. Most of the population of this village is from Schedule Tribe (ST) constituting 98.22% of the total population, no population of Schedule Caste was found in the village.

Table 3.2. Profile of Ringui Village at a Glance

Particulars	Male	Female	Total
Total number of houses	-	-	352
Population	1,022	949	1,971
Child (0-6)	135	148	283
schedule caste	0	0	0
schedule tribe	1,004	932	1,936
Literacy	93.35%	87.14%	90.40%
total workers	507	437	944
main worker	-	-	689
marginal worker	120	135	255

Source: Census 2011

3.1.3.3. Lunghar Village

Lunghar village is a medium-sized village located in Ukhrul Central Sub Division of Ukhrul district, Manipur with a total of 435 families residing. The Lunghar village has a population of 1917 of which 943 are males while 974 are females as per Population census 2011. The average sex ratio of Lunghar village is 1033 which is higher than the Manipur state average of 985. The child sex ratio for Lunghar as per census is 1067, higher than Manipur's average of 930. Lunghar village has a lower literacy rate compared to Manipur. In 2011, the literacy rate of Lunghar village was 71.99% compared to 276.94% in Manipur. In Lunghar male literacy stands at 78.16% while the female literacy rate was 66.00%. The village is administrated by a Sarpanch (Chairman) who is elected representative of the village. In Lunghar village most of the village population is from Schedule Tribe (ST). There is no population of Schedule Caste in Lunghar village.

Table 3.3.Profile of Lunghar Village at a Glance

Particulars	Male	Female	Total
Total No of houses	-	-	435
Population	943	974	1,917
Child (0-6)	119	127	246
Schedule Caste	0	0	0
Schedule Tribe	913	934	1,847
Literacy	78.16%	66.00%	71.99%
Total workers	624	656	1,280
Main workers	-	-	763
Marginal workers	260	257	517

Sources: Census 2011

3.1.3.4. Khangkhui Khullen Village

Khangkhui Khullen is a medium size village located in Ukhrul Central Sub Division of Ukhrul district, Manipur with a total of 133 families residing. The Khangkhui Khullen village has a population of 642 of which 316 are males while 326 are females as per Population Census 2011. The average sex ratio of the village is 1032 which is higher than the Manipur state average of 985. As per the census, the Child Sex Ratio for Khangkhui Khullen is 1167, higher than the Manipur average of 930. In 2011, Khangkhui Khullen's village literacy rate was 83.88% compared to 76.94% of Manipur. Male literacy stands at 89.51% while the female literacy rate is 78.35%. The village is administrated by the Sarpanch (Head of the Village) who is elected representative of the village. The majority of the population of the village belongs to Schedule Tribe (ST), constituting 98.91% of the total population, there is no Schedule Caste (SC) in Khangkhui Khullen village of Ukhrul.

Table 3.4. Profile of Khangkhui Khullen Village at a Glance

Particulars	Male	Female	Total
Total No. of houses	-	-	133
Population	316	326	642
Child (0-6)	30	35	65
Schedule Caste	0	0	0
Schedule Tribe	314	321	635
Literacy	89.51%	78.35%	83.88%
Total workers	180	197	377
Main Worker	-	-	267
Marginal worker	51	59	110

Source: Census 2011

3.2 Research Design

The study undertaken was cross-sectional in nature and exploratory in design. The rationale of adopting cross-sectional and exploratory research design grounded on the nature of enquiry into varied range of mosaic women farmers' experiences across time and space. While, the absence of empirical attempt to construct academic understanding of the Tangkhul women farmers' condition has prompted to establish concrete account in an exploratory manner. Adopting a mixed methods approach and an amalgamation of both Qualitative and Quantitative approaches in a sequential manner was employed. The study was based on the primary data collected through a semi-structured interview schedule. The primary data is supplemented with secondary data collected from official records and documents. The sampling frame consists of rural households from the selected villages while women age above 18 composed the sample units. Crucial information was elicited through Key informant Interviews (KIIs), In-depth Interviews (IIs), and Focus Group Discussions (FGDs).

3.3 Sampling

The majority of the Tangkhul tribe resides in Ukhrul district on the eastern part of Manipur state. They adhere to rich tradition, culture and custom that spread across generations. There are many socio-cultural and livelihood aspects of the society that still remain unexplored and reflected in academic discourse. Among many, the condition of women in agriculture and well-being is one significant aspect that requires academic exploration. In the light of this, Ukhrul District represented its best reality of socio-economic and cultural characteristics of the Tangkhul women farmers. Therefore, Ukhrul District was purposively selected for the study. A multistage sampling procedure was adopted to select two blocks out of the existing four developmental blocks based on the highest number of female workers concentration. Through this process, the Ukhrul district was purposively selected as the study area. Under the Ukhrul district, there are four developmental blocks namely: - (i). Chingai block (ii). Ukhrul block (iii). Lungchong Meiphei block (iv). Jessami block. Out of which Ukhrul (Rural) block and Lungchong Meiphei Block was selected purposively as these two blocks had

the highest concentration of female workers with 9504 female workers and 7942 female workers respectively. These two blocks comprised 68 villages with 40 villages in the Ukhrul (rural) block and 28 villages in the Lungchong Meiphei block out of the total 231 villages under the Ukhrul district. There was 38603 females' population within those two blocks against the total of 76010 females' population in Ukhrul District, rural areas composed of 20949 females in Ukhrul (rural) block and 17654 females in Lungchong Meiphei block. In addition, there were 14779 households in rural areas within the Ukhrul district out of which 8004 households were in Ukhrul (rural) block and 6775 households in Lungchong Meiphei block (Census, 2011).

The Population of the study was composed of rural villages concentrated within the selected representative blocks. Further, systematic random sampling was employed to select four villages. The sampling frame of the study was composed of village households which were selected using a stratified sampling procedure and categorized accordingly based on the pre-determined traits, having the characteristics of households adopting subsistence agriculture on one hand and households adopting commercialized agriculture for livelihood on the other hand. Non-Probability - Convenience sampling methods were employed to select female respondents from the determined households. The selected households are categorized into two strata:-

Stratum –I- Altogether 138 households were selected under this category having the characteristics of subsistence agriculture trend.

Stratum- II- Under this category, 149 households were selected based on the visible characteristics of a commercialized agricultural trend

Convenience sampling methods were employed to select respondents from the determined households. Altogether 287 respondents were selected in conforming to Krejcie & Morgan's (1970) procedure of determining sample size.

Figure 3.4. Sampling Framework

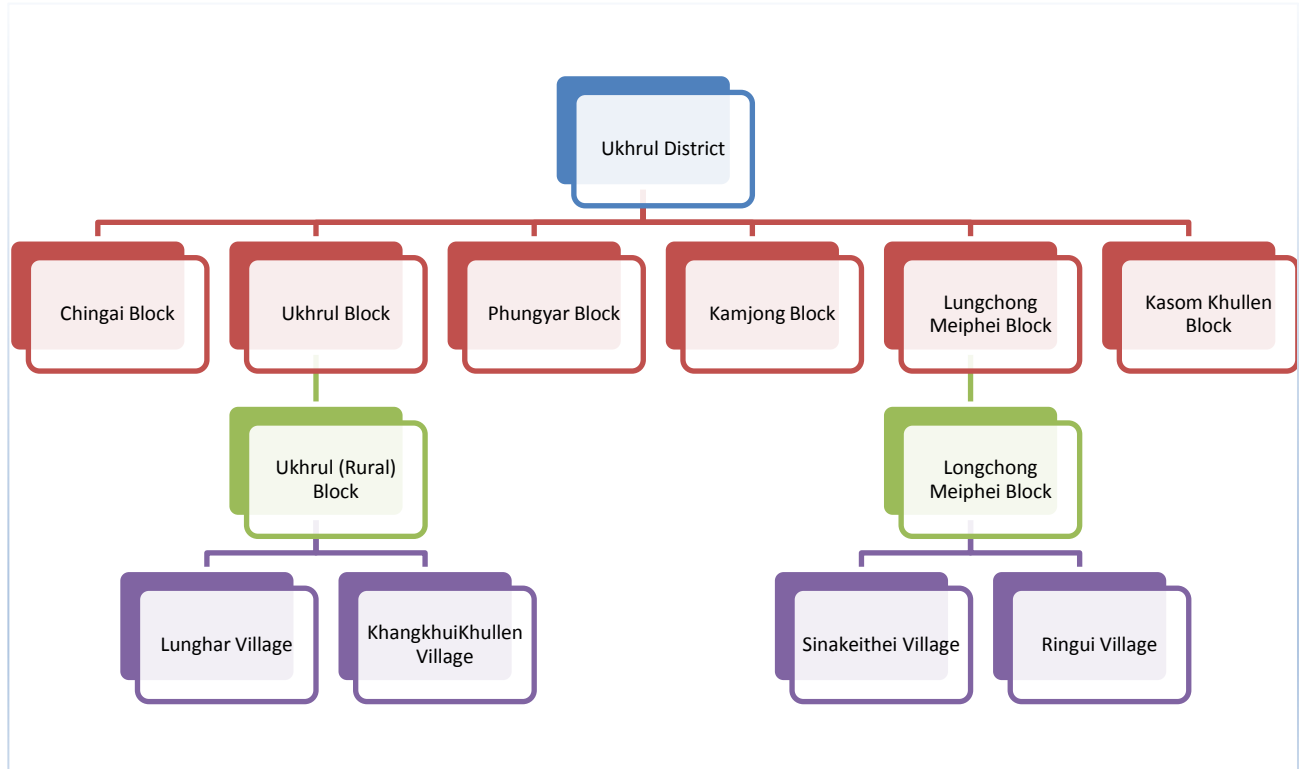


Table 3. 5. Consolidated description of the sample elements

Sl. No	Category		Characteristics
I	Stratum		Subsistence Agriculture households
	<i>Sample</i>	1	Sample units
		2	FGDs, KIIs
II	Stratum		Commercialized Agriculture households
	<i>Sample</i>	1	Sample units
		2	FGDs & KIIs

3.4 Tools of Data Collection

Qualitative and quantitative data were collected simultaneously during In-depth Interviews (IIs) through the administration of a pre-tested semi-structured interview schedule, and supplementary information was elicited through Focus Group Discussion (FGD) and Key Informant Interviews.

The well-being of women farmers was assessed through self-developed Well-being Assessment Inventories (WAI). The validity and reliability test were conducted to examine the internal consistency of the scale (see Table 3.6). The result showed a reliability (Cronbach's alpha) score of 0.825. According to the norms of the reliability test, the alpha level more or equal to 0.9 suggests excellent internal consistency and the alpha level between 0.8 and 0.9 refers to good internal consistency. As a result, it can be stated that statistically the calculated score is significant or the items of the tool are reliable. Thus the adopted inventories can be used for further research.

Table 3.6 Validity and Reliability (Well-being of Women Farmers)

Scale	Number of Items	Cronbach's Alpha
Likert Scale	20	0.825
Total	20	0.825

To validate outcome of the self developed well-being inventories a standardized tools of the Satisfaction with Life Scale (SWLS) was adopted to assess the overall satisfaction with life of the women farmers. The validity and reliability test were conducted to examine the internal consistency of the scale (see Table 3.7). The result showed a reliability (Cronbach's alpha) score of 0.838. According to the norms of the reliability test, the alpha level more or equal to 0.9 suggests excellent internal consistency and the alpha level between 0.8 and 0.9 refers to good internal consistency. As a result, it can be stated that statistically the calculated score is significant or the items of the tool are reliable. Thus the adopted SWLS tool is found applicable in the context of women farmers in Ukhrul district, Manipur.

Table 3.7 Validity and Reliability (Overall Life Satisfaction)

Scale	Number of Items	Cronbach's Alpha
Likert Scale	5	0.838
Total	5	0.838

3.5. Data Processing and Analysis

The quantitative data were processed through MS Excel and analyzed with the help of Statistical Package of Social Sciences (SPSS) software. In addition, qualitative data were freely listed and analyzed thematically. The statistical expressions of simple averages, percentages, and proportions, Karl Pearson's correlation coefficient, and *t*-test were used to draw findings.

3.6. Operational Definitions

3.6.1. Well-Being

It refers to the self-evaluative state of one's life relative to the aspects of Hedonic well-being (HWB) and Eudaimonic well-being (EWB) within, that "the balance point between an individual's resource pool and the challenges" (Dodge et al., 2012).

3.6.2. Agriculture

The practice of land tillage: producing crops and sustaining the economy through farming, rearing livestock, fisheries & others, and forestry for the sustenance of livelihood and raising products for the market economy.

3.6.3. Subsistence agriculture Villages

The villages under which the majority of their agriculture products are purposed for own consumption.

3.6.4. Commercialized agriculture villages

The agricultural characteristics of such villages are market or commercial oriented.

3.6.5. Women Farmers

Women whose primary source of livelihood depending on agriculture where they actively or seasonally engage in agriculture activities

3.7. Summary

This chapter provided the research roadmap under which the study has been formulated and actualized the outcome. It highlighted the background and profile of study areas and the adopted research design and methodology.

In the following next chapter, the result of the analysis of the structural basis of the respondents would be highlighted

CHAPTER IV

STRUCTURAL BASES OF THE RESPONDENTS

The present chapter embarks on the profile of the respondents that is broadly divided into six (6) sub-sections viz. Demographic profile of the respondents, Socio structural bases of the respondents, educational characteristics of the respondents, Economic structure of the respondents, Familial structure of the respondents, and Demographic profile of the head of the respondents' households. This chapter intends to provide an overview situational background of the sample frame of the study.

4.1. Profile of the Respondents

The profile of the respondents is a significant component to form the contextual understanding of the study. The nature and patterns of living conditions, perception and attitudes, social intercourse, norms, and behavior are derived based on the background of the respondents. The background consists of the socio-economic, cultural, and educational characteristics of the respondents are elaborated to deliver the situational understanding for the reader.

The profiles of the respondents constituting both the Subsistence Agriculture Villages (SAVs) and Commercialized Agriculture Villages (CAVs) from four sample villages in the Ukhrul district are highlighted to render an overview situational picture of the sample frame of the study.

In this section, discussions are made based on major variables such as gender, age, ethnicity, educational qualification, types of family, size of family, economic status, position, age, and occupation of the head of household.

4.1.1. Demographic profile of the Respondents

In this sub-section, the demographic characteristics composed of the age and marital statuses of the respondents are discussed (See Table 4.1)

The farmers were selected from four villages under Ukhrul District, Manipur based on the prevalent agriculture trends. The total female respondents 287 were

categorized and merged into two different categories such as 1) Subsistence Agriculture Villages (SAVs) and 2) Commercialized Agriculture Villages (CAVs). Wherein 138 (48 percent) female respondents were in subsistence agriculture villages and another 149 (52 percent) of the female respondents were in commercialized agriculture villages.

The age group of the respondents is a significant variable in determining the result inferences. It is a vital component of social categorization and understanding. The age groups of respondents were categorized into six distinct groups as Youth (Below 29 yrs), Young Adult (30-39 yrs), Middle Adult (40-49 yrs), Young Old (50-59 yrs), Middle Old (60-69 yrs) and Very Old (70+yrs). The result of the analysis revealed that a maximum of less than one-third (30.3 percent) of the total respondents fall under the age group of Young Old (50-59 yrs) followed by the age group of Middle Adult (40-49 yrs) at the rate of more than one-fourth (28.9 percent). In this regard, the previous literature justified that when young people migrated to urban cities, the agricultural responsibilities fell on the shoulders of those who were left behind normally belonging to the old age group of people. Thus, the absence of young people pressured the old ones to take an active role in agriculture operations (Viswanathan et al., 2012). The last composition of respondents falls under the age group of Very Old (70+yrs) category at the rate of 4.2 percent in total. On the other hand, the category-wise examination indicated a slightly different in the age group composition of the respondents. The SAVs had the highest respondent concentration in the age group of Middle adults (40-49 yrs) with less than one-third (29.9 percent) of the total respondents. This is followed by the composition of the Young Old (50-59 yrs) age group with less than one-third (29.0 percent) of the respondents while the least respondent composition falls at the age group of Youth (Below 29) with 1.4 percent. In the case of CAVs, the highest number of respondents reportedly fell under the age group of Young Old (50-59 yrs) with slightly less than one-third (31.5 percent) of the total respondents within the categorized villages. The second highest composition of the respondents belonged to the age group of Middle Adult (40-49 yrs) at the rate of more than one-fourth (28.2 percent) of the respondents

while the respondents belonging to the age group of Very Old (70+yrs) are recorded to be the least composition of respondents within the categorized villages.

The Marital status of a person ascertains the subjective social position and autonomy within the limited reproductive and productive space of society. One's significant social functioning and responsibility performance affirms the stability and agility of a family. The marital status of the respondents was classified into four categories Married, Unmarried, Divorced, and Widow. Amongst these categories, a maximum of 86.8 percent of the respondents were Married whereas 10.5 percent of the respondents were widows. There was a minimal number of 2.1 percent of respondents having a divorce and the least of 0.7 percent of the respondents reported being unmarried at the time of data collection. In the case of the two types of villages, the result of the analysis showed that the majority 81.2 percent and 91.9 percent of the respondents were married from SAVs and CAVs respectively. While 13.8 percent of the respondents were widows from SAVs and 7.4 percent of the respondents were from CAVs. On the other hand, 3.6 percent and 0.7 percent of the respondents reported being divorced and belonging to SAVs and CAVS respectively. And a minimum of 1.4 percent of the respondents from the SAVs revealed that they were unmarried.

Table 4.1. Demographic Profile of the Respondents

SI No.	Characteristics	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Age			
	Youth (Below 29)	2 (1.4)	11 (7.4)	13 (4.5)
	Young Adult (30-39)	19 (13.8)	28 (18.8)	47 (16.4)
	Middle Adult (40-49)	41 (29.7)	42 (28.2)	83 (28.9)
	Young Old (50-59)	40 (29.0)	47 (31.5)	87 (30.3)
	Middle Old (60-69)	25 (18.1)	20 (13.4)	45 (15.7)
	Very Old (70+)	11 (8.0)	1 (0.7)	12 (4.2)
2	Marital Status			
	Married	112 (81.2)	137 (91.9)	249 (86.8)
	Un-Married	2 (1.4)	0 0.0	2 (0.7)
	Divorce	5 (3.6)	1 (0.7)	6 (2.1)
	Widow	19 (13.8)	11 (7.4)	30 (10.5)

Source: Computed

Figures in parentheses are percentage

4.1.2. Social structural bases of the Respondents

The description of the social structures of the respondents aims to throw an understanding of the nature of relative value systems and practices that propels the function and interaction of society. This sub-section is categorized into four (4) characteristics as Ethnicity, Tribe, Religion, and Denomination (See Table 4.2). The study was conducted in the Ukhrul district of Manipur wherein the majority of the inhabitants belonged to the Naga community. The focal composition of the study sample frame consisted of women farmers belonging to the Tangkhul Tribe of the Naga community. The majority of the respondents from both the categorized agricultural villages adhere to Christianity as their religion. In the case of religious denomination, a majority (99.0 percent) of the respondents belonged to the Baptist denomination

however, 2.2 percent of the respondents from the SAVs follow the Roman Catholic denomination.

Table 4.2.Socio structural bases of the Respondents

Sl no.	Characteristics	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Ethnicity			
	Naga	138 (100.0)	149 (100.0)	287 (100.0)
2	Tribe			
	Tangkhul	138 (100.0)	149 (100.0)	287 (100.0)
3	Religion			
	Christian	138 (100.0)	149 (100.0)	287 (100.0)
4	Denomination			
	Baptist	135 (97.8)	149 (100.0)	284 (99.0)
	Catholic	3 (2.2)	0 0.0	3 (1.0)

Source: Computed

Figures in parentheses are percentage

4.1.3. Economic structure of the Respondents

The economic structure of the respondents is one of the vital aspects of well-being. Understanding the economic background helps the readers to assimilate the ideal living condition of women farmers. In this sub-section, the economic structures of the respondents were assessed through three dimensions i.e. occupation, annual income of the family/economic category, and types of Agriculture (see Table 4.4).

The occupation of respondents was classified into five (5) characteristics such as; homemaker, cultivator, governmental employee, private employee, and self-employed. The result of the analysis revealed that a maximum of three-fourths (75.6 percent) of the total respondents earned their livelihood by working as cultivators. The analysis shows that the remaining 24.4 percent of the women respondents had taken-up farming as a secondary occupation. Out of which less than one-fifth (19.2 percent) of the total respondents were homemakers or housewives. Another 2.4 percent of respondents were

private employees and 1.7 percent of the total respondents were government employees. A minimum of 1.0 percent of the total respondents were self-employed. Further, the examination of the occupation resulted that a maximum number of nearly three-fourths (72.5 percent) and little more than three-fourths (78.5 percent) of the respondents from both the SAVs and CAVs respectively were cultivators. In the case of homemakers or housewives, 20.8 percent and 17.4 percent of the respondents were under CAV and SAV respectively. The respondents belonging to SAVs had more private employees with 4.3 percent against 0.7 percent belonging to CAVs. On the other hand, the total respondents of 3.6 percent and 2.2 percent composed of government employees and self-employed respectively, and these respondents were under SAVs alone.

The annual incomes of the family/economic category of the respondents were divided into six (6) categories based on their responses such as: >₹30,000, ₹30,001 - ₹60,000, ₹60,001 - ₹90,000, ₹90,001 - ₹ 120,000, ₹ 120,001 - ₹ 150,000 and ₹ 150,001 & above. The maximum number of more than one-third (38.3 percent) of the entire respondents were under the annual income group of ₹60,001 - ₹90,000. This is followed by almost an equal number of 17.8 percent and 17.1 percent of the entire respondents had an annual income group ranging from ₹30,001 - ₹60,000 and ₹ 150,001 & above respectively. And, 16.7 percent of the entire respondents accounted for having an annual income of ₹90,001 - ₹ 120,000. The least of 2 percent and 4.9 percent of the entire respondent's annual family income were in the group of >₹30,000 and ₹ 120,001 - ₹ 150,000 respectively. Comparatively, the highest number of little more than one-fourth (26.1 percent and 26.8 percent) of the respondents under SAVs concentrated within the annual income group of ₹30,001 - ₹60,000 and ₹ 150,001 & above respectively, while the highest number of more than a half (57.0 percent) of the total respondents under CAV were belonging to the annual income group of ₹60,001 - ₹90,000. The least number of 5.1 percent and 4.7 percent of the total respondents under SAVs and CAVs were belonging to an annual income group of ₹ 120,001 - ₹ 150,000 respectively. The result of the analysis revealed that the annual income of the respondents from SAVs was

more sparsely distributed and disparity as compared to the annual income state of the respondents from the CAVs.

The types of agriculture farming were divided into three categories such as:- subsistence agriculture, commercialized agriculture, and mixed economy. The study revealed that a maximum of three-fifth (60.3 percent) of the entire respondents practiced mixed agriculture farming for their livelihood. The other section of more than one-third (36.9 percent) of the total respondents reported that they depend their livelihood on subsistence agriculture farming while 2.8 percent of the total respondents engaged in commercialized agriculture farming. An in-depth category-wise examination found that a maximum number of nearly two-thirds (64.5 percent) of the respondents under SAV depend on their livelihood on subsistence agriculture farming whereas a maximum number of two-thirds (60.3 percent) of the respondents under CAV engaged in mixed agriculture farming for their livelihood. The qualitative exploration informed of the effects of the pandemic on the pattern of agriculture farming.

Table 4.3. Economic structures of the Respondents

Sl No.	Characteristics	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Occupation			
	Home Maker	24 (17.4)	31 (20.8)	55 (19.2)
	Cultivator	100 (72.5)	117 (78.5)	217 (75.6)
	Govt. Employee	5 (3.6)	0 0.0	5 (1.7)
	Private Employee	6 (4.3)	1 (0.7)	7 (2.4)
	Self Employed	3 (2.2)	0 0.0	3 (1.0)
2	Annual Income of the Family/Economic Category			
	>₹30,000	15 (10.9)	0 0.0	15 (5.2)
	₹30,001 - ₹60,000	36 (26.1)	15 (10.1)	51 (17.8)
	₹60,001 - ₹90,000	25 (18.1)	85 (57.0)	110 (38.3)
	₹90,001 - ₹120,000	18 (13.0)	30 (20.1)	48 (16.7)
	₹120,001 - ₹150,000	7 (5.1)	7 (4.7)	14 (4.9)
	₹150,001 & Above	37 (26.8)	12 (8.1)	49 (17.1)
3	Types of Agriculture			
	Subsistence Agriculture	89 (64.5)	17 (11.4)	106 (36.9)
	Commercialized Agriculture	6 (4.3)	2 (1.3)	8 (2.8)
	Mixed Agriculture	43 (31.2)	130 (87.2)	173 (60.3)

Source: Computed

Figures in parentheses are percentage

4.1.4. Educational background of the Respondents

The educational qualification of a person greatly influences his/her livelihood performance and overall well-being. The respondents' education qualifications are characterized into seven (7) characteristics such as:- illiterate, primary (Class 1-4), upper primary (Class 5-7), high school leaving certificate (HSLC, Class 8-10), higher secondary school leaving certificate (HSSLC, Class 11-12), graduate (BA/BSC), postgraduate (MA/Msc & Above) (see Table 4.3). The result of the analysis revealed that a maximum of less than one-third (27.3 percent) of the entire respondents were illiterate followed by one-fourth (25.5 percent) of the respondents who had completed high school leaving certificates (HSLC, Class 8-10). There was a composition of total respondents with slightly lesser than one-fifth (19.9 percent) and one-eighth (12.6 percent) who had studied up to upper primary (Class 5-7) level and higher secondary school leaving certificate (HSSLC, Class 11-12) level respectively. Further, it is revealed that the composition of one-tenth (10.1 percent) of the total respondents studied up to primary (Class1-4) level of education. On the other hand, a minimal number of respondents at the rate of 3.8 percent and 0.7 percent reported having completed their graduation (BA/B.Sc.) and postgraduate (MA/ M.Sc. & above) respectively. However, when observed categorically as per the villages categorization the result of the analysis revealed that the highest number of slightly less than half (45.3 percent) of the total respondents within the SAVs remained illiterate. While the CAVs had the highest number of respondents with slightly less than one-third (32.9 percent) having completed high school leaving certificates (HSLC, Class 8-10) of education.

Table 4.4. Educational Characteristics of the Respondents

SI No.	Characteristics	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Educational Qualification			
	Illiterate	62 (45.3)	16 (10.7)	78 (27.3)
	Primary (1-4)	11 (8.0)	18 (12.1)	29 (10.1)
	Upper Primary (5-7)	19 (13.9)	38 (25.5)	57 (19.9)
	High School Leaving Certificate (HSLC, 8-10)	24 (17.5)	49 (32.9)	73 (25.5)
	Higher Secondary School Leaving Certificate (HSSLC, 11-12)	14 (10.2)	22 (14.8)	36 (12.6)
	Graduate (BA/B.Sc.)	5 (3.6)	6 (4.0)	11 (3.8)
	Post Graduate (MA/M.Sc. & Above)	2 (1.5)	0 (0.0)	2 (0.7)

Source: Computed

Figures in parentheses are percentage

4.1.5. Familial structure of the Respondents

The familial structure is an important characteristic of a person's development, and it shapes one's personality, behavior, and perspective that instills the ideal of human behavior and social interaction. This sub-section divides into four main characteristics that include types of family, size of family, head of the family household, and position of the head of the household (see table 4.5).

The first characteristic highlights the types of respondents' families. It is sub-categorized into three types viz. nuclear family, joint family, and extended family. The result of the analysis revealed that a maximum of more than three-fourths (79.8 percent) of the entire respondents belonged to the nuclear type of family. In another case, more than one-sixth (18.5 percent) of the entire respondents were in a joint family while at least 1.7 percent of the total respondents belonged to an extended family. Comparatively, in the case of SAVs and CAVs, a maximum of three-fourths (75.4 percent) and the majority (83.9 percent) of the respondents had the nuclear type of family respectively.

The second characteristic accentuated the size of respondents' families which were divided into three categories namely: - small (1-3 members), medium (4-6 members), and large (7& above). The maximum of nearly three-fifths (59.9 percent) of the entire respondents belonged to the medium family size (4-6 members). This is followed by little more than one-fourth (26.5 percent) of the entire respondents belonging to small family size (1-3 members). While the minimum of more than one-tenth (13.6 percent) of the entire respondents belonged to a large family size (7 & above). The medium family size was observed as the prevalent family characteristic amongst the respondents. Categorically, the SAVs and CAVs had the maximum number of nearly half (45.7 percent), and nearly three-fourths (73.2 percent) respectively of the total respondents belonged to the medium (4-6 members) family composition.

In the third characteristic, the head of the respondents' family household is highlighted which were divided into two categories of male and female. A maximum of 83.6 percent of the entire respondents' households were headed by males while one-sixth (16.4 percent) of the total respondents' households were headed by females.

The position of the head of respondents' households is highlighted in the fourth characteristic of familial structure. The position of the head of the household is determined based on six categories such as husband, father, father-in-law, brother, uncle, and self. A maximum of 79.4 percent of the entire respondents determined the head of the family as the responsibility of the husband. On the other hand, one-sixth (16.4 percent) of the entire respondents determined that the responsibility of the head of their household lies upon self. These respondents were either divorced, unmarried, or widowed. In the case of categorical examination, the SAVs composed a maximum of nearly three-fourths (73.9 percent) of the respondent's households headed by their husband whereas, CAVs comprised the majority (84.6 percent) of the respondent's households headed by husbands. Concerning households headed by self, SAVs had nearly one-fifth (18.8 percent) of the respondents whereas CAVs comprised one-seventh (14.28 percent) of the respondents.

Table 4.5.Familial Structure of the Respondents

Sl No.	Characteristics	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Types of Family			
	Nuclear Family	104 (75.4)	125 (83.9)	229 (79.8)
	Joint Family	29 (21.0)	24 (16.1)	53 (18.5)
	Extended Family	5 (3.6)	0 0.0	5 (1.7)
2	Size of Family			
	Small (1-3)	44 (31.9)	32 (21.5)	76 (26.5)
	Medium (4-6)	63 (45.7)	109 (73.2)	172 (59.9)
	Large (7 & Above)	31 (22.5)	8 (5.4)	39 (13.6)
3	Head of the Household			
	Male	112 (81.2)	128 (85.9)	240 (83.6)
	Female	26 (18.8)	21 (14.1)	47 (16.4)
4	Position of the head of the household			
	Husband	102 (73.9)	126 (84.6)	228 (79.4)
	Father	4 (2.9)	1 (0.7)	5 (1.7)
	Father-in-Law	4 (2.9)	1 (0.7)	5 (1.7)
	Brother	1 (0.7)	0 0.0	1 (0.3)
	Uncle	1 (0.7)	0 0.0	1 (0.3)
	Self	26 (18.8)	21 (14.1)	47 (16.4)

Source: Computed

Figures in parentheses are percentage

4.1.6. Demographic profile of the head of respondents' households

This sub-section highlights the demographic profile of the head of respondents' households. It includes three main characteristics such as age, educational qualification, and occupation of the head of household.

Age is an important characteristic of a person that implies the course of decision-making, perspective, experiences, and management of challenges and responsibilities. The age of the head of respondents' households has been categorized into six age groups as Youth (Below 29), Young Adult (30-39), Middle Adult (40-49), Young Old (50-59), Middle Old (60-69) and Very Old (70 & above). Maximum the age of the head of respondents' households fell within the age group of Young Old (50-59) with slightly less than one-third of the total head of household. Moreover, there were notably significant numbers of the head of the respondents' households whose age fell within the age group of Middle Old (60-69) with one-fourth (25.4 percent) and slightly less than one-fourth (23.7 percent) in composition. On the other hand, the examination of the different types of villages revealed slightly incongruent results. The SAVs had the maximum concentration of equally less than one-third (31.9 percent) of the head of respondents' households within the age group of Young Old (50-59) and Middle Old (60-69). In the case of CAVs, the maximum number of one-third (33.6 percent) and slightly less than one-third (30.9 percent) of the head of respondents' households belonged to the age group of Middle Adult (40-49) and Young Old (50-59) respectively.

The educational qualification of the head of respondents is classified into six educational categories such as illiterate, primary (1-4), upper primary (5-7), high school leaving certificate (HSLC, 8-10), higher secondary school leaving certificate (HSSLC, 11-12), graduate (BS/B.Sc.) and Postgraduate (MA/M.Sc.). The result of the analysis revealed that a maximum concentration of equally near to one-fourth (24.5 percent) of the total head of the respondents' households were illiterate as well as completed high school leaving certificate (HSLC, 8-10). The other section of nearly one-fifth (19.6 percent) of the total head of respondents' households studied up till upper primary (5-7) level of formal education whereas, one-eighth (12.2 percent) of the total head of the

respondents' households reported to have completed primary (1-4) level of formal education. In regards to the comparative results between the two categorized villages, the maximum of more than one-third (37.0 percent) of the head of respondents' households from the SAVs stated to be illiterate while, the maximum of nearly one-third (30.4 percent) of the head of respondents' households belonging to CAVs stated to have completed high school leaving certificate (HSLC, 8-10).

The occupation of the head of respondents' households has a direct link with the livelihood and economic condition of the respondents living condition. The occupation of the head of households is classified into five different sources of livelihood such as homemaker, cultivator, government employee, private employee, and self-employed. The study revealed that the majority (80.5 percent) of the total head of respondents' households eked out their living as cultivators. This has a similar implication for both the two different agricultural villages. The SAVs had the highest concentration of more than two-thirds (69.6 percent) of the head of respondents' households within the occupational category of a cultivator. Similarly, the CAVs also had the majority (80.5 percent) of the head of respondents' household concentration within the occupational category of cultivators.

Table 4.6. Demographic profile of the Head of Respondents' households

Sl No.	Characteristics	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Age of the head of households			
	Youth (Below 29)	3 (2.2)	2 (1.3)	5 (1.7)
	Young Adult (30-39)	12 (8.7)	15 (10.1)	27 (9.4)
	Middle Adult (40-49)	18 (13.0)	50 (33.6)	68 (23.7)
	Young Old (50-59)	44 (31.9)	46 (30.9)	90 (31.4)
	Middle Old (60-69)	44 (31.9)	29 (19.5)	73 (25.4)
	Very Old (70 & Above)	17 (12.3)	7 (4.7)	24 (8.4)
2	Educational qualification of the head of the households			
	Illiterate	51 (37.0)	19 (12.8)	70 (24.5)
	Primary (1-4)	17 (12.3)	18 (12.2)	35 (12.2)
	Upper Primary (5-7)	21 (15.2)	35 (23.6)	56 (19.6)
	(HSLC, 8-10)	25 (18.1)	45 (30.4)	70.0 (24.5)
	(HSSLC, 11-12)	9 (6.5)	19 (12.8)	28 (9.8)
	Graduate (BA/B.Sc.)	11 (8.0)	12 (8.1)	23 (8.0)
	Postgraduate (MA/M.Sc. & Above)	4 (2.9)	0 0.0	4 (1.4)
3	Occupation of the head of Households			
	Home Maker	7 (5.1)	2 (1.3)	9 (3.1)
	Cultivator	96 (69.6)	135 (90.6)	231 (80.5)
	Govt. Employee	21 (15.2)	8 (5.4)	29 (10.1)
	Private Employee	9 (6.5)	2 (1.3)	11 (3.8)
	Self-Employed	5 (3.6)	2 (1.3)	7 (2.4)

Source: Computed

Figures in parentheses are percentage

4.2. Summary

In this chapter the respondents' backgrounds have been highlighted relating to demography, education, socio-economic, marital and familial characteristics. Besides, the age, educational qualification and occupation of the head of the respondents' households have been discussed.

The following chapter deals with the discussion on women's participation in agriculture operations.

CHAPTER V

WOMEN'S PARTICIPATION IN AGRICULTURE

This chapter deliberates on the nature and extent of women's participation in agriculture practices in the selected four villages under the Ukhrul District of Manipur. This study was conducted amongst the Tangkhul tribe of Manipur. Traditionally, the Tangkhul tribe depends on their livelihood on agricultural income. It is an agrarian society where women play an important role in the socio-economic and cultural life of the society.

The discourse on women's participation in agriculture is divided into eight sub-sections such as women's participation in the agriculture pre-production stage, women's participation in the agricultural production stage, women's participation in the agricultural post-production stage, the extent of women's participation in agriculture decision making, time spent for different activities within 24 hours, extent of women's participation in livestock, fisheries and poultry management and extent of women's participation in forest operation.

5.1. Women's participation in agricultural farming (Pre-production Stage)

The nature of women's participation in the agricultural pre-production stage was examined based on ten different pre-production activities viz. plowing, field preparation, forest clearing/burning, seed treatment, preparation of fertilizers, carrying seeds/fertilizers to the field, preparation of tools & instruments, preparation of irrigation, nursery raising and fencing preparation. The extent of activity involvement was measured through four parameters such as: never, always, occasionally, and rarely (see Table 5.1).

Tilling agricultural farmland is a tedious task to undertake before the plantation of crops which requires an amount of physical exertion. In most instances, it is often left upon the shoulders of men. The study revealed that a maximum of nearly one-third (32.8 percent) of the total respondents confirmed that they undertook the task of plowing occasionally. While on the contrary, some other section of nearly one-third (31.4

percent) of the total respondents stated that they were always involved in the task of plowing. Upon examined categorically, a maximum of more than two-fifths (44.2 percent) of the respondents belonging to the Subsistence Agriculture Villages (SAVs) occasionally engaged in plowing on the other hand, the result of the analysis revealed that a maximum of more than two-fifths (43.0 percent) of the respondents belonging to the Commercialized Agriculture Villages (CAVs) always undertook plowing activities.

Field preparation is a labor-intensive activity. The study revealed that a maximum of nearly two-thirds (62.7 percent) of the total respondents were always involved in the activity of field preparation. The case is not the same for the total respondents of nearly one-third (30.7) who stated occasional engagement in the activity of field preparation. A maximum of close to three-fifth (61.6 percent) of the respondents belonging to SAVs revealed that they were always involved in the activity of field preparation. Similarly, a maximum of nearly two-thirds (63.8 percent) of the respondents belonging to CAVs confirmed that they always engaged in the activities of field preparation.

One of the important characteristics of pre-production farming activity involves clearing of forest or farmland and burning out the dried weeds and plants which in turn are treated as a source of manure. In such activity, a maximum of nearly two-fifths (39.7 percent) of the total respondents engaged occasionally while the section of nearly two-fifths (37.3 percent) of the total respondents affirmed that they always engaged in it taking up the activity. In the case of SAVs, a maximum of nearly half (46.4 percent) of the respondents asserted occasional engagement in forest clearing/burning activity while a maximum of nearly two-fifths (38.4 percent) of the respondents belonging to CAVs affirmed always engaging in the activity.

Seed treatment is the process of segregating, preserving, and protecting the viability of seeds for the future period of cultivation. It is a significant process upon which a desirable amount of future output is determined. In most tribal agrarian societies women normally take more responsibility for taking care of seeds. The result of the analysis revealed that the majority (80.5 percent) of the total respondents were always

involved in the task of seed treatment. When examined comparatively, SAVs and CAVs had the majority (71.0 percent and 89.3 percent respectively) of the respondents affirmed always being responsible for seed treatment.

Preparation of fertilizers be it organic manure or chemical fertilizers often a tedious task to perform. Preparing organic manure is not an easy task but what is harder is to avail chemical fertilizers in remote villages, transportation and lack of financial support being the biggest hurdles. Thus, became one of the greatest burdens for most of the farmers. The study revealed that a maximum of more than one-third (35.2 percent) of the total respondents occasionally prepare fertilizers while less than one-third (30.0 percent) of the total respondents affirmed that they always prepare fertilizers. In the case of SAVs, a maximum of more than two-fifths (44.9 percent) of the respondents were occasionally involved in the preparation of fertilizers. While a maximum of less than one-third (29.5 percent) of the respondents belonging to CAVs affirmed that they had never been involved in the preparation of fertilizers.

The task of carrying or transporting seeds and fertilizers to the field taking into consideration the distance and means of conveyance (depends on manpower) requires an amount of manpower and time. A maximum of slightly more than one-third (34.8 percent) of the total respondents affirmed that they occasionally managed in transporting seeds/fertilizers to the field. On the other hand, a total of one-third (33.4 percent) of the respondents affirmed that they always carry seeds and fertilizer to the field with them. In the case of SAVs equally near two-thirds (37.7 percent) of the respondents affirmed occasional engagement while others of involving in transporting seeds and fertilizers to the field. However, nearly one-third (32.2 percent) of the respondents belonging to CAVs stated that they made occasional transportation of seeds and fertilizers to the field by themselves. Whereas less than one-third (29.5 percent) of the respondents affirmed that they always managed by themselves to carry seeds and fertilizers to the field. The characteristic differences among the respondents were attributed to the accessibility and availability of other mechanical transportation in the villages.

Most of the farming tools and instruments used by the Tangkhul farmers are traditional. Periodical maintenance and repair are done before entering into farming activities. The farming tools and instruments are normally simple and homemade in many cases. In most instances, the male members in the household normally are responsible to arrange the tools and instruments in making sure of delivering their utility. However, this is not the same case in the present study as a maximum of more than one-third (34.8 percent) of the total respondents confirmed that they occasionally did involve in preparing tools and instruments for farming. While on the contrary to this, a total of one-fourth (25.8 percent) of the respondents affirmed that they were never held responsible for the preparation of tools and instruments. There were variances in responses between the two categorized villages. In this regard, a maximum of the respondents of more than two-fifths (47.8 percent) belonging to the SAVs affirmed occasional involvement in the pre-production activity of preparation of tools and instruments whereas the maximum of two-fifth (40.9 percent) of the respondents stated otherwise as they would never undertake the activity.

Agriculture farming in the Tangkhul area greatly depends upon seasonal monsoons. Irrigation is a source of water connectivity, and its maintenance is paramount, especially concerning wet terrace farming. Harvesting rainwater, clearing and leveling the stream bed, and enabling constant inflow of water greatly influence the productivity of crops. In this regard of ensuring a proper irrigation system, a maximum number of more than two-fifths (46.0 percent) of the total respondents were occasionally involved in the activity, and slightly more than one-fourth (28.9 percent) of the total respondents stated to be always involved in the preparation of irrigation. In the case of examination between the SAVs and CAVs, a maximum of two-fifth (40.6 percent) and slightly more than a half (51.0 percent) respectively of the respondents occasionally undertook the activity.

Different crops are planted in different forms and methods. Crops that are planted through saplings require intensive nursing. The method and process of raising a nursery depends on the nature of the crops. In many instances traditionally nursery is

raised in an open space once the soil is carefully tilled. Such activity involves intensive care and manual dexterity. The result of the analysis revealed that the majority (70.7 percent) of the total respondents always engaged in the activity of raising the nursery. Similarly, the maximum of the respondents of more than three-fifth (62.3 percent) belonged to SAVs in the activity whereas the maximum of more than three-fourths (78.5 percent) of the respondents belonging to CAVs were always involved in raising nursery.

Stray cattle or wild animals could be a menacing threat to the crops and valuable plants on the farm. To prevent it from damage and crop destruction proper fencing is needed to be constructed in and around the farming area. Normally, the construction of fencing is made using wooden logs and, in many cases, it is usually done by male members. In this context, the study revealed that a maximum of slightly less than one-third (30.0 percent) of the total respondents affirmed that they occasionally engaged in the activity of fencing preparation. The respondents of more than two-fifths (44.9 percent) of SAVs stated that they were occasionally involved in the activity however, the maximum of more than one-third (35.6 percent) of the respondent belonging to CAVs affirmed that they rarely took up the task of making fencing.

Table 5.1. Women’s Participation in Agricultural farming: Pre-production Stage

Sl. no.	Activities	Types of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Ploughing			
	Never	10 (7.2)	43 (28.9)	53 (18.5)
	Rarely	41 (29.7)	9 (6.0)	50 (17.4)
	Occasionally	61 (44.2)	33 (22.1)	94 (32.8)
	Always	26 (18.8)	64 (43.0)	90 (31.4)
2	Field preparation			
	Never	1 (0.7)	4 (2.7)	5 (1.7)
	Rarely	6 (4.3)	8 (5.4)	14 (4.9)
	Occasionally	46 (33.3)	42 (28.2)	88 (30.7)
	Always	85	95	180

		(61.6)	(63.8)	(62.7)
3	Forest Clearing/Burning			
	Never	4 (2.9)	13 (8.7)	17 (5.9)
	Rarely	17 (12.3)	32 (21.5)	49 (17.1)
	Occasionally	64 (46.4)	50 (33.6)	114 (39.7)
	Always	53 (38.4)	54 (36.2)	107 (37.3)
4	Seed Treatment			
	Never	1 (0.7)	0 0.0	1 (0.3)
	Rarely	5 (3.6)	3 (2.0)	8 (2.8)
	Occasionally	34 (24.6)	13 (8.7)	47 (16.4)
	Always	98 (71.0)	133 (89.3)	231 (80.5)
5	Preparation of Fertilizers			
	Never	15 (10.9)	44 (29.5)	59 (20.6)
	Rarely	16 (11.6)	25 (16.8)	41 (14.3)
	Occasionally	62 (44.9)	39 (26.2)	101 (35.2)
	Always	45 (32.6)	41 (27.5)	86 (30.0)
6	Carrying seeds/fertilizers to the field			
	Never	15 (10.9)	37 (24.8)	52 (18.1)
	Rarely	19 (13.8)	20 (13.4)	39 (13.6)
	Occasionally	52 (37.7)	48 (32.2)	100 (34.8)
	Always	52 (37.7)	44 (29.5)	96 (33.4)
7	Preparation of tools & instruments			
	Never	13 (9.4)	61 (40.9)	74 (25.8)
	Rarely	26 (18.8)	23 (15.4)	49 (17.1)
	Occasionally	66 (47.8)	34 (22.8)	100 (34.8)
	Always	33 (23.9)	31 (20.8)	64 (22.3)
8	Preparation of			

	irrigation			
	Never	9 (6.9)	9 (6.0)	18 (6.3)
	Rarely	23 (16.7)	31 (20.8)	54 (18.8)
	Occasionally	56 (40.6)	76 (51.0)	132 (46.0)
	Always	50 (36.2)	33 (22.1)	83 (28.9)
9	Nursery raising			
	Never	2 (1.4)	2 (1.3)	4 (1.4)
	Rarely	6 (4.3)	1 (0.7)	7 (2.4)
	Occasionally	44 (31.9)	29 (19.5)	73 (25.4)
	Always	86 (62.3)	117 (78.5)	203 (70.7)
10	Fencing preparation			
	Never	9 (6.5)	53 (35.6)	62 (21.6)
	Rarely	19 (13.8)	50 (33.6)	69 (24.0)
	Occasionally	62 (44.9)	24 (16.1)	86 (30.0)
	Always	48 (34.8)	22 (14.8)	70 (24.4)

Source: Computed

Figures in parentheses are percentages

5.2. Women's Participation in Agriculture Farming (Production Stage)

In this sub-section, the participation of women in agriculture farming during the production stage is determined based on the ten selected activities. Such activities of production include uprooting of saplings and transplanting, application of fertilizers and seed sowing, food preparation, irrigating crops, weeding, application of pesticides, labor management, containment of irrigation, clearing the surrounding field, and crop protection. The nature and extent of participation were assessed in line with four levels of participation such as never, always, occasionally, and rarely (see Table 5.2). The period of production in farming is a crucial stage and its activities involve a tedious and intensifying nature of tasks.

Paddy is a common crop amongst many for the Tangkhul. Its saplings are raised in an open nursery and later transplanted on a wetland. Other crops that have similar

characteristics to plantation are initially raised in the nursery and later transplanted in the farm area. The uprooting of saplings and transplanting is an intensive labor and time-consuming activity of farming. In many instances, these activities are dominated by women. The inference can be drawn from the result of the analysis that the women farmers were extensively involved in the activity of uprooting saplings and transplanting. The data revealed that a maximum of two-thirds (66.2 percent) of the total respondents were intensively involved in the uprooting of saplings and transplantation. On the other hand, of the total respondents less than one-third (29.6 percent) of the respondents stated that they were occasionally involved in the activities. The condition between the two types of villages and the level of participation varied concerning the maximum composition of respondents who stated to be always involved in the activities of uprooting saplings and transplanting. In this regard, the maximum of nearly half (47.1 percent) of the respondents belonging to SAVs confirmed their participation at the always level while the majority (83.9 percent) of the respondents belonging to CAVs stated the same response as always involved in the activities of uprooting of sapling and transplantation.

The usage of chemical fertilizers is of recent practice amongst the tribal in general and Tangkhul in particular. The yielding of crops and their productivity were solely dependent on the natural fertility of the soil. Prolonged farming and continuous pressure on land diminished its soil fertility and without additional fertilizers given productivity is compromised. The farmers are now seeking alternatives to improve the soil fertility supplement with chemical fertilizers in many instances. This has led to an increase in the amount of farming inputs. Thus, of the total respondents a maximum of nearly half (48.1 percent) of respondents actively always participated in seed sowing and application of fertilizers in their farm activities. While there are farmers who despite the dwindling condition of soil fertility still attempt to limit the usage of chemical fertilizers and dearly advocate for organic farming. In another case, this activity is mostly handled by men. Such could be inferred from the result of the analysis that nearly one-third (32.4 percent) of the total respondents were involved occasionally in the application of

fertilizers. There were sections of 11.5 percent of respondents who rarely engaged in this activity and 8.0 percent of the respondents were confident that they never participated in the application of fertilizers. The sample distribution between the two types of villages and their responses revealed a similar pattern of activity participation. A maximum of half (50.0 percent) and nearly half (46.3 percent) of the respondents belonging to SAVs and CAVs respectively affirmed actively always participating in the application of fertilizers.

Domestic work is traditionally rested upon the shoulders of women. Childcare and kitchen works are no doubt dominated by women across societies. These tasks' performance is insensitively underestimated and unaccounted for by the national workforce contribution. A consolidative amount of women's time spent is attributed to food preparation for the household. During the seed sowing season required numbers of laborers are hired or in many cases, amongst the Tangkhul traditionally labor is shared or exchanged in an altruistic form. One goes to help others today and alternatively the next time others will come and help. Food is usually served on such occasions and otherwise on normal days of working on the farm. It is usually the women in the household who takes care of the food to serve. Such practice and the responsibility of women had been confirmed through the result of the analysis. The entire respondents affirmed to be always responsible for food preparation and serving.

The agriculture farming amongst the Tangkhul depends greatly on the seasonal monsoon. A proper supply of water is quintessential for the healthy growth of crops and high productivity. The prevalent types of agriculture such as Jhum cultivation, wet terraced farming, and dry terraced farming are common practices amongst the Tangkhul. The most common types of terraced farmland amongst the Tangkhul are dry terraced farmland or bench terraced farmland which requires proper drainage for good irrigation. Regular maintenance and ensuring water inflow in farmland is an essential activity that is expected to be the responsibility of men. However, it can be observed and confirmed that women equally undertake the responsibility. This statement is corroborated by the result of the analysis as the maximum of two-fifths (40.9 percent) of the total

respondents occasionally extend their involvement in irrigating farmland activity while more than one-third (35.2 percent) of the total respondents asserted that they always undertook the task of maintaining irrigation. In the case of SAVs, the level of participation was actively always engaged in irrigating the farmland as a maximum of nearly half (47.8 percent) of the respondents confirmed it. Whereas regarding CAVs, the level of participation in the activity of irrigating the farmland was occasional as a maximum of two-fifth (40.9 percent) of the respondents asserted it.

Cultivated crops can thrive best within a clean environment free from invasive weeds or other noxious plants. Different methods of weeding using scientific technology and products augment the work efficiency of farmers in this modern world. In some instances amongst the Tangkhul, farmers usually opt for chemical application to destroy unwanted and harmful weeds on their farm. However, such applications ensue serious negative effects upon the soil fertility and texture moreover in addition this demands higher cost of inputs that burden the already suffered farmers. Manual hand weeding is common practice and this activity is practically dominated by women farmers. The result of the analysis corroborated that a maximum of slightly more than three-fifth (61.0 percent) of the total respondents always undertook the activity of weeding. And one-fourth (25.8 percent) of the total respondents asserted that they occasionally engaged in weeding. The maximum respondents of nearly two-thirds (65.9 percent) belonging to SAVs affirmed that they were always involved in weeding activity while in a similar case, a maximum of more than two-fourths (56.4 percent) of the respondents belonging to CAVs asserted that they always engaged in weeding.

Pest infestation is one of the major causes of low productivity and failed farming in many countries and is particularly a common prevalent issue amongst the Tangkhul. Lack of facilities and technical know-how amongst the farmers and occasional misapplication of chemical pesticides damage the crops as well. The activity of spraying pesticides normally rests on the shoulders of male farmers among the Tangkhul. The data revealed a similar situation the maximum of more than two-fifths (44.9 percent) of the total respondents never engaged in the application of pesticides and

more than one-fifth (22.6 percent) of the total respondents reportedly engaged in rarely spraying pesticides. Whereas a total of one-fifth (20.9 percent) of the respondents reported that they were occasionally involved in the activity while one-ninth (11.5 percent) of the total respondents would always take care of pesticides. The case between the two categorized villages conformed to the overall situation of the total respondents. The maximum of nearly two-fifths (39.9 percent) of the respondents belonging to SAVs never took up the responsibility of spraying pesticides and similarly, the maximum of nearly half (49.7 percent) of the respondents belonging to the CAVs asserted that they were never involved in the process of pesticides application.

Labor is an important factor in agriculture management. In many developed countries mostly human labor is substituted by machines that increase work efficiency and time maximization. However, the farming situations amongst the tribal societies in developing countries in general and Tangkhul society, in particular, are extensively conventional. Thus, in a conventional form of farming intensive human labor is the pillar of agricultural efficiency. Women are at the forefront of agriculture undertakings precisely aware of the labor requirements and actively involves in its management. The result of the analysis revealed that the maximum of nearly two-thirds (63.4 percent) of the total respondents asserted to had been always involved in the activity of labor management. It has a similar indication between the two categorized villages. As in the case of SAVs, a maximum of two-thirds (66.7 percent) of the respondents confirmed that they always engaged in labor management, similarly the maximum of three-fifth (60.4 percent) of the respondents belonging to CAVs as well stated that they actively always in the forefront of labor-management activity.

The Tangkhul practices Jhum cultivation, wet terraced farming, and dry terraced or bench terraced farming for their livelihood. Amongst many crops, rice is considered the stable food for the Tangkhul people. Rice is planted either in jhum land or terraced farmland. Types of rice that are planted in wet or dry terraced farmland require a proper supply of water throughout the seasons. Therefore, regular checks and ensuring continuous inflow of water are essential for the growth of crops in general and rice in

particular. This continuous checking and containing water in the wet or dry terraced farmland is an important farming activity. In most cases, normally men perform this task however women are no exception to fulfill the required task. In correspondence to this, the study revealed that a maximum of almost half (46.7 percent) of the entire respondents occasionally extend their participation in continuous checking and containing water in the farmland. Moreover, a maximum of over one-fourth (25.8 percent) of the total respondents asserted that they always had to make sure of the proper inflow of water in their farmland. A similar implication was drawn from both the two types of villages, where a maximum of more than two-fifths (44.9 percent) of the respondents belonging to the SAVs and the maximum of nearly half (48.3 percent) of the respondents belonging to the CAVs occasionally involved in the activity of containing irrigation water in their farmland. In another case, slightly more than two-fifths (42.0 percent) of the respondents belonging to SAVs confirmed that they were always involved in the activity of ensuring continuous inflow of water in their farmland. Whereas concerning CAVs, less than one-third (33.33 percent) of the respondents refuted that they were rarely involved in the activity of monitoring irrigation to ensure a continuous inflow of water in their farmland.

Periodically the farmers cut down unwanted herbs and shrubs and small plants that shroud the farmland to protect the crops from outgrowing and overpopulation. Such activity not only protects from noxious and unwanted shrubs in the surrounding farms but also ensures protection from insect and rodent infestation. Most commonly both men and women farmers jointly carried out this activity amongst the Tangkhul. Confirming scenario can be inferred from the result of the analysis. It is revealed that a maximum of slightly more than half (51.6 percent) of the entire respondents stated that they always extend their participation in the activity of clearing the surroundings of farmlands while more than one-third (35.5 percent) of the entire respondents occasionally engaged in the activity. In regards to this activity performance, slight differences could be observed from the result of the study. A maximum of nearly half (47.1 percent) of the respondents belonging to SAVs occasionally engaged in this activity whereas, in the case of CAVs, a

maximum of nearly three-fifths (59.7 percent) of the respondents stated that they were always involved in the activity of clearing the farm surroundings.

Protection of crops from pests, rodents, and wild animals is done in the traditional manner or in using the modern available means. Keeping scarecrows, ropes suspension, and bamboo-made or used cans that can produce clanking sounds that shoo away birds and other wild animals are some of the traditional methods used for crop protection. Pesticides and rat poisoning compounds are often used for the prevention of germs, insects, and rodent infestations. Construction of fencing to prevent intrusion from domesticated or wild animals is a common protective measure among farmers. Physically stationed and guarding the farm is often initiated once the crops especially when rice starts bearing, such protective measure is commonly observed amongst the farmers engaging in Jhum cultivation. In the study result, a maximum of more than half (53.0 percent) of the entire respondents revealed that they were always involved in crop protection activities while the other two-fifth (40.4 percent) of the total asserted that they would occasionally participate in such activities. When observed comparatively between the two types of villages, a maximum of three-fifth (60.1 percent) of the respondents from SAVs affirmed that they always participated in crop protection activities. However, equally close to half (46.3 percent) of the respondents from CAVs split their responses as one section confirmed that they always participated in crop protection activities whereas another section of the respondents asserted that they would occasionally involve in crop protection activities.

Table 5.2. Women’s Participation in Agricultural farming: Production Stage

Sl. no.	Activities	Types of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Uprooting of saplings/transplanting			
	Never	3 (2.2)	0 0.0	3 (1.0)
	Rarely	9 (6.5)	0 0.0	9 (3.1)
	Occasionally	61 (44.2)	24 (16.1)	85 (29.6)

	Always	65 (47.1)	125 (83.9)	190 (66.2)
2	Application of fertilizers			
	Never	1 (0.7)	22 (14.8)	23 (8.0)
	Rarely	13 (9.4)	20 (13.4)	33 (11.5)
	Occasionally	55 (39.9)	38 (25.5)	93 (32.4)
	Always	69 (50.0)	69 (46.3)	138 (48.1)
3	Food preparation			
	Never	0 (0.0)	0 (0.0)	0 (0.0)
	Rarely	0 (0.0)	0 (0.0)	0 (0.0)
	Occasionally	0 (0.0)	0 (0.0)	0 (0.0)
	Always	138 (100.0)	149 (100.0)	287 (100.)
4	Irrigating crops			
	Never	1 (0.7)	13 (8.7)	14 (4.9)
	Rarely	16 (11.6)	40 (26.8)	56 (19.5)
	Occasionally	55 (39.9)	61 (40.9)	116 (40.4)
	Always	66 (47.8)	35 (23.5)	101 (35.2)
5	Weeding			
	Never	3 (2.2)	4 (2.7)	7 (2.4)
	Rarely	5 (3.6)	26 (17.4)	31 (10.8)
	Occasionally	39 (28.3)	35 (23.5)	74 (25.8)
	Always	91 (65.9)	84 (56.4)	175 (61.0)
6	Spray pesticides			
	Never	55 (39.9)	74 (49.7)	129 (44.9)
	Rarely	19 (13.8)	46 (30.9)	65 (22.6)
	Occasionally	36 (26.1)	24 (16.1)	60 (20.9)
	Always	28 (20.3)	5 (3.4)	33 (11.5)
7	Labour Management			
	Never	1 (0.7)	4 (2.7)	5 (1.7)
	Rarely	5 (3.6)	28 (18.8)	33 (11.5)

	Occasionally	40 (29.0)	27 (18.1)	67 (23.3)
	Always	92 (66.7)	90 (60.4)	182 (63.4)
8	Containment of water irrigation			
	Never	2 (1.4)	14 (9.4)	16 (5.6)
	Rarely	16 (11.6)	47 (31.5)	63 (22.0)
	Occasionally	62 (44.9)	72 (48.3)	134 (46.7)
	Always	58 (42.0)	16 (10.7)	74 (25.8)
9	Clearing the field surroundings			
	Never	1 (0.7)	5 (3.4)	6 (2.1)
	Rarely	13 (9.4)	18 (12.1)	31 (10.8)
	Occasionally	65 (47.1)	37 (24.8)	102 (35.5)
	Always	59 (42.8)	89 (59.7)	148 (51.6)
10	Crops Protection			
	Never	1 (0.7)	3 (2.0)	4 (1.4)
	Rarely	7 (5.1)	8 (5.4)	15 (5.2)
	Occasionally	47 (34.1)	69 (46.3)	116 (40.4)
	Always	83 (60.1)	69 (46.3)	152 (53.0)

Source: Computed

Figures in parentheses are percentages

5.3. Women's Participation in Agriculture Farming (Post-Production Stage)

The extent of women's participation in agriculture farming was examined in corresponding to the nature of farming stages. Different stages constituted precisely different farming activities that were of paramount importance taking into consideration the veracity of measuring the extent of participation in agriculture farming. In this subsection discourse was being made, on the ten activities involved in agriculture farming post-production stage. The post-production activities such as harvesting, threshing, husking, winnowing, drying, grinding, packaging, bringing the products home, storage, and marketing marked the scope of women's participation in agriculture. These

activities' performances were measured based on four parameters such as never, always, occasionally, and rarely (see Table 5.3). The four parameters indicated the frequency of activity involvement inferentially constructed the nature and extent of women's participation in agriculture farming.

In many of the developed countries crop, harvesting is done using machines, and fewer human laborers are involved unlike in developing countries, especially in the remote areas where tribal societies inhabit the majority of the farming activities rely on manual human labor. Scientific methods of farming amongst the tribal community are far from reaching thus commonly adopt the conventional methods of farming that are greatly operative on human manual labor. From the stage of the plantation until the period of harvest and thereafter human labor is a prerequisite for a tribal society like the Tangkhul. There remains no strict gender classification of labor in agriculture farming could be observed yet farm activities performance highly relates to the availability of labor and responsibility execution. The work of harvesting involves both men's and women's labor and collectively performs commonly among the Tangkhul farmers. The data confirmed that the majority (79.1 percent) of the entire respondents were always involved in harvest activity. Moreover, the data within the categorized villages revealed a similar scenario in this regard that the majority (70.3 percent) of the maximum respondents belonging to SAVs affirmed always being involved in harvesting activity. In the case of CAVs, a majority (87.2 percent) of the maximum respondents asserted that they always engaged in harvesting activity.

The post-production activities such as threshing, husking, and winnowing are more closely associated with crops such as grain. Rice being the staple food for the Tangkhul people, it is commonly grown in their farmlands. The result of the analysis revealed the active participation of women farmers in threshing, husking, and winnowing. In this regard, activities such as threshing, husking, and winnowing the maximum of nearly half (49.5 percent), nearly two-thirds (64.5 percent), and a majority (75.3 percent) respectively of the entire respondents were always involved in these activities.

Sun drying as a conventional method is an important activity of food grain processing. In another method of the conventional method, food grains are spread in a bamboo-crafted mat-like structure that is kept on top of the kitchen hearth until the moisture content is completely dried up. Once the food grains are dried up, it is then grinding is done to be consumable. In the olden days, the Tangkhul used wooden or stone-carved mortar and wooden pestle for pounding/grinding rice. However, in the present-day machine has replaced traditional tools that make the activities less laborious. These activities are more commonly shouldered by women in society. The data revealed that a maximum of slightly more than three-fourths (76.0 percent) of the entire respondents were involved in the drying activities whereas a maximum of slightly more than two-thirds (67.6 percent) of the total respondents confirmed that they always engaged in the grinding/pounding activities.

Food grains, crops, and other products from the farm are cautiously packed either to be sent for sale or to bring them home. Once the harvesting is completed the farmers must bring all the produces at home. Transportation is done through hired vehicles depending on the distance of their farm site. This is another significant post-production activity of agriculture farming. Spices like chilly are processed and packed in a market-relevant form. Packaging and processing are all done more conventionally. The result of the analysis revealed that the maximum of nearly two-thirds (64.8 percent) and nearly half (45.3 percent) of the total respondents asserted that they always participated in the post-production activities of packaging and transporting the products home respectively.

Once the farm products reach home, the next significant activity is to maintain a proper storage system. Food grains like rice are stored in traditionally built granaries, other crops are equally stored in safe houses away from the easily damageable environment. One of the greatest challenges amongst the Tangkhul farmers is the lack of a scientific storage system that the provision can be stored up till the next off-season to be available. Highly perishable crops like green leafy vegetables can last for a few days, thus tons of vegetables go to waste or are fed to domestic animals. The problem of lack of proper scientific storage is compounded by the absence of marketing facilities.

Despite enough products are yielded difficulties in marketing due to inaccessibility incurring huge amounts of losses for the farmers. Despite such difficulties, farmers struggle to sustain their livelihood with their meager amount of earnings. Concerning the activity participation of women farmers in storage and marketing, the data revealed that the maximum of nearly three-fifths (58.2 percent) and slightly more than half (53.7 percent) of the total respondents asserted that they were always involved in the post-production activities of Storage maintenance and marketing respectively.

Table 5.3. Women's Participation in Agricultural farming: Post-production Stage

Sl. no.	Activities	Types of Villages		Total n=287
		Subsistence Agriculture	Commercialized Agriculture	
		Villages n=138	Villages n=149	
1	Harvesting			
	Never	1 (0.7)	1 (0.7)	2 (0.7)
	Rarely	6 (4.3)	2 (1.3)	8 (2.8)
	Occasionally	34 (24.6)	16 (10.7)	50 (17.4)
	Always	97 (70.3)	130 (87.2)	227 (79.1)
2	Threshing			
	Never	5 (3.6)	1 (0.7)	6 (2.1)
	Rarely	33 (23.9)	5 (3.4)	38 (13.2)
	Occasionally	65 (47.1)	36 (24.2)	101 (35.2)
	Always	35 (25.4)	107 (71.8)	142 (49.5)
3	Husking			
	Never	3 (2.2)	1 (0.7)	4 (1.4)
	Rarely	14 (10.1)	3 (2.0)	17 (5.9)
	Occasionally	34 (24.6)	47 (31.5)	81 (28.2)
	Always	87 (63.0)	98 (65.8)	185 (64.5)
4	Winnowing			
	Never	3 (2.2)	1 (0.7)	4 (1.4)
	Rarely	10 (7.2)	2 (1.3)	12 (4.2)

	Occasionally	38 (27.5)	17 (11.4)	55 (19.2)
	Always	87 (63.0)	129 (86.6)	216 (75.3)
5	Drying			
	Never	2 (1.4)	1 (0.7)	3 (1.0)
	Rarely	8 (5.8)	3 (2.0)	11 (3.8)
	Occasionally	42 (30.4)	13 (8.7)	55 (19.2)
	Always	86 (62.3)	132 (88.6)	218 (76.0)
6	Grinding/Pounding			
	Never	4 (2.9)	1 (0.7)	5 (1.7)
	Rarely	13 (9.4)	8 (5.4)	21 (7.3)
	Occasionally	40 (29.0)	27 (18.1)	67 (23.3)
	Always	81 (58.7)	113 (75.8)	194 (67.6)
7	Packaging			
	Never	1 (0.7)	1 (0.7)	2 (0.7)
	Rarely	7 (5.1)	20 (13.4)	27 (9.4)
	Occasionally	48 (34.8)	24 (16.1)	72 (25.1)
	Always	82 (59.4)	104 (69.8)	186 (64.8)
8	Transporting the produces home			
	Never	1 (0.7)	17 (11.4)	18 (6.3)
	Rarely	10 (7.2)	39 (26.2)	49 (17.1)
	Occasionally	47 (34.1)	43 (28.9)	90 (31.4)
	Always	80 (58.0)	50 (33.6)	130 (45.3)
9	Storage			
	Never	2 (1.4)	6 (4.0)	8 (2.8)
	Rarely	5 (3.6)	23 (15.4)	28 (9.8)
	Occasionally	36 (26.1)	48 (32.2)	84 (29.3)
	Always	95 (68.8)	72 (48.3)	167 (58.2)

10	Marketing			
	Never	4 (2.9)	14 (9.4)	18 (6.3)
	Rarely	15 (10.9)	37 (24.8)	52 (18.1)
	Occasionally	47 (34.1)	16 (10.7)	63 (22.0)
	Always	72 (52.2)	82 (55.0)	154 (53.7)

Source: Computed

Figures in parentheses are percentages

5.4. Assessment of perceived participation of men and Women in agriculture farming

The agriculture undertaking and activity performance of the Tangkhul farmers of both men and women were comparatively examined to validate the extent and nature of women’s participation in agriculture farming. The nature and extent of participation were measured upon three distinct stages of agriculture undertakings; each distinct stage was inclusive of diversely ten different parameters of activities that determined the level of participation. The different stages were the pre-production stage; production stage and post-production stage (see Table 5.4). The respondents from both the two categorized villages were enquired about their activities participation and the perceptual involvement of men in the agriculture undertakings. Based on their responses the result of the data was drawn and presented. The table revealed slight differences in men's participation and women's participation between the two types of villages as compared to the overall depiction of men’s participation and women’s participation in agriculture.

In the case of SAVs, the participation of women in the pre-production stage was higher at the mean score of 1.60 than men's participation at the mean score of 1.51. While the level of men's participation in the production stage is at the rate of 1.54 mean score and post-production stage with a mean score of 1.49 was higher compared to women's level of participation at 1.46 mean score of the production stage and the mean score of 1.47 in the post-production stage. The differences in the level of participation in differing stages of production were attributed to the occupational status of the respondents being in other sectors rather than cultivators.

Table 5.4. Assessment of perceived participation of men and women in agriculture farming

Types of Villages		Pre-Production Stage (Men)	Production Stage (Men)	Post-Production Stage (Men)	Pre-Production Stage (Women)	Production Stage (Women)	Post-Production Stage (Women)
Subsistence Agriculture Village	Mean	1.51	1.54	1.49	1.60	1.46	1.47
	Std. Deviation	0.49	0.44	0.51	0.43	0.41	0.42
Commercialized Agriculture Villages	Mean	1.16	1.21	1.24	1.35	1.48	1.35
	Std. Deviation	0.36	0.40	0.36	0.53	0.47	0.43
Total	Mean	1.33	1.37	1.36	1.47	1.47	1.41
	Std. Deviation	0.46	0.45	0.46	0.50	0.44	0.43

Source: Computed

Figures in parentheses are percentages

Concerning CAVs, the level of women's participation is higher than that of men's participation in agriculture farming in all three stages of production. The women's level of participation in the pre-production stage had a mean score of 1.35 higher than the 1.16 mean score of men's level of participation. In the production stage, the mean score of 1.48 for women's level of participation is higher than the mean score of 1.21 level of men's participation in agriculture farming. The post-production level of participation of women was recorded at the mean score of 1.35 which indicated a higher level of participation as compared to the mean score of 1.24 level of men's participation in post-production.

In stages-wise observation, the level of women's participation in the pre-production stage and production stage remained equally at the mean score of 1.47 which is higher than the mean score of 1.33 and 1.37 of men's level of participation in the pre-production stage and production stage respectively. The level of women's participation in the post-production stage is higher with a mean score of 1.41 to a level 1.36 mean score of men's participation in the post-production stage of agriculture farming. Thus, the result of the analysis revealed that the level of women's participation is higher as compared to that of men's level of participation in agriculture farming. Further, in

corroboration to this, the assessment of perceived overall participation of men and women (see table 5.4.1) revealed a higher level of women's participation with the mean score of 1.45 (SD= 0.38) against the level of 1.35 (SD = 0.38) mean score men's participation in agriculture farming. On the other hand, the level of women's participation in agriculture farming under SAVs was found to be higher at 1.51 (SD = 0.33) mean score as against the level of 1.40 (SD = 0.41) mean score women's participation in agriculture farming under CAVs. Whereas the data within the villages revealed that men and women had an equal mean score of 1.51 (SD = 0.33) the same level of participation in agriculture farming under SAVs. And the level of women's participation was higher at 1.45 (SD = 0.38) mean score against the 1.35 mean score (SD = 0.38) level of men's participation in agriculture farming.

Table 5.4.1. Overall perceived participation of men and women in agriculture farming

Types of Villages		Women in Agri farming	Men in Agri farming
Subsistence Agriculture Village	Mean	1.51	1.51
	Std. Deviation	0.33	0.37
Commercialized Agriculture Villages	Mean	1.40	1.20
	Std. Deviation	0.41	0.32
Total	Mean	1.45	1.35
	Std. Deviation	0.38	0.38

Source: Computed

Figures in parentheses are percentages

5.5. Women's Involvement in decision making related to agriculture farming

One of the most important dimensions of empowerment is decision-making. The commonly deliberated subject in feminist discourse is equality in all aspects of life and that decision-making aspect; a big part of equality be it political, socio-economic, or personal autonomy. In a patriarchal society like the Tangkhul, most decision-making power lies in the hands of men. Although there may be no absolute restriction on women's involvement; practically it is uncommon for women to be expressive amongst men, especially in the affairs of local governance and customary related. Land being the customary possession major decision making of it lies in the authority of men. Land which is inherited from the forefathers never has been entitled to women in the

Tangkhul society. Utilization of land resources in general and agriculture farmland in particular normally ascribe to men's authority as they hold the ownership rights unless land which is bought or attained can be entitled to women. Livestock and other related resources could be entitled to women. The involvement of women in decision-making related to agriculture farming is paramount for productive cultivation. Women being the dominant actor in farming possess invaluable knowledge and experiences that are vital for the future agriculture course of action.

This sub-section attempted to determine the level of women's participation in decision-making based on structured eleven agriculture farming activities such as crop selection, seed selection, fertilizer selection, grain storage, sale of agricultural produces, purchase and sale of land, purchase, and sale of machinery, purchase, and sale of animals, hiring labor, selection of agriculture farmland and making agriculture work plan. The levels or extents of participation were measured on a scale of zero to four (0-4), the constructed parameters included no participation (0), only opinion asked (1), to some extent (2), to a large extent (3) and final decision (4) (see Table 5.5).

The climate condition and soil condition of farmland are closely connected and vital factors in selecting the appropriate type of crops. The long experiences and exposures helped farmers acquire such intricacies of knowledge in selecting the right type of crops depending on the type of farmland, soil, and climate condition. The respondents from both the categorized villages asserted that seed preservation and seed processing were mostly done by them. They emphasized how seemingly more concerned about what to plant and how the future course of action. They acted as the guardians of agriculture seed management. The involvement of women in agriculture decision-making of crop selection however can also be determined by various factors like the nature of employment, types of family as well as marital status. The study data revealed that a maximum of more than one-third (35.5 percent) of the entire respondents were involved to a large extent in the decision-making of crop selection. The situation of involvement in decision-making amongst the respondents from CAVs was observed at the maximum of slightly more than a half (52.3 percent) associated with the level of

extending to a large extent. However, the level of involvement in decision-making was found higher comparatively in SAVs as the maximum of more than two-fifths (44.9 percent) of the respondents took the final decision in selecting crops.

In the case of seed selection, it was observed that a maximum of more than one-third (37.3 percent) of the entire respondents were involved to the extent of making a final decision. A similar extent of involvement in making a final decision was accentuated with the maximum of nearly half (47.1 percent) of the total respondents belonging to SAVs. The variance in the extent of involvement was contrary observed in the CAVs with the maximum of nearly half (48.3 percent) of its total respondents at the level of to a large extent.

The usage of chemical fertilizer was reportedly not encouraged amongst the sample villages. In the FGDs, the participants from the SAVs strongly refuted that few of the farmers having more wealth in their village introduced the application of chemical fertilizers which adversely affects the agriculture system. Subsequently, more pests and insect infestation upon their crops were experienced. However, on the other hand, the increases in outputs rely on the chemical fertilizers that left most of the farmers no better option. This compromises the quality of the crops yet when survival is at risk quantity is what matters at the end. Selection of fertilizers involves the process of estimating the quantity and types of fertilizers that would suit the crops under the farmer's budget. In this process, the result of the analysis revealed to what extent the women farmers were involved. It was observed that a maximum of less than one-third (29.6 percent) of the entire respondents were involved in a large extent of decision-making in fertilizers selection. Concerning this, a maximum of slightly more than two-fifths (42.3 percent) of the total respondents belonging to CAVs confirmed participating to a large extent in decision-making. Whereas contrary to this, a maximum of slightly less than one-third (32.6 percent) of the total respondents belonging to SAVs stated that they had no participation in the decision-making of fertilizers selection. It was confirmed that those farmers were in no support to use chemical fertilizers in their farming.

The Tangkhul traditionally store grain in a locally build granary, that are normally under the care and responsibility of women folk. In the olden days, a ritual must perform where the mother of the family or the eldest female member offer prayer as a priestess. No men were allowed neither be around nor present until the rituals were completed. This ritual was performed before the opening of a new harvest that had gathered in the granary during a year as a mark to seek protection and sustainability of their provisions from God. Women were the guardian of the storehouse and entering a storehouse was done with a pious and prayerful mind. Such practice implies that the Tangkhul women are given high status and autonomy. Post-advent of Christianity ceased to practice the olden-day ritual; however, the responsibility and manner of approaching the storehouse continue to be similar. Prayer must be offered and handled the stored grain or food as sacred, no random person is expected to enter the granary is tantamount to sacrilegious. The process of grain and seed storage involves saving, preserving, and protecting it for future consumption as well as the course of a plantation. It requires experiential knowledge and meticulous estimation that involves collective endorsement. In the study, the result revealed that a maximum of slightly more than two-fifths (42.5 percent) of the entire respondents were involved to a large extent in the process of grain and seed storage. It implied a similar situation in the CAVs that the maximum of more than half (55.0 percent) of the total respondents participated to a large extent in the decision-making of the grain and seed storage process. Whereas, the level of involvement was found to be higher in the case of SAVs where the maximum of slightly more than two-fifths (43.5 percent) of the total respondents affirmed making a final decision in the process of grain and seed storage. This confirmed that the respondents belonging to SAVs had a higher level of involvement in decision-making concerning the process of grain and seed storage as compared to the respondents from CAVs and the entire combined respondents' level of participation.

The traditional farming practices amongst the Tangkhul purposed for sustenance and family consumption. It reflected the simple living conditions and locally focused economic operations. The changes in economic waves direct the tides of livelihood sail

into the course of mixed agriculture or commercialized agriculture. The situational demands to earn monetary income push the farmers to adopt different strategies of farming that can meet their both ends of sustenance and commercial objectives. Market-oriented crops became more emphasize among the Tangkhul farmers. Considering the dilapidated road connectivity and difficult market accessibility remain the biggest challenges in selling agriculture products. It is coupled with the difficulties of an inability to connect the right buyers offering an acceptable price. The decision-making of sales of agriculture products involves consideration of all the impeding factors. The collective production made requires inclusive decisions for selling. The result of the analysis accentuated that a maximum of nearly two-fifths (36.6 percent) of the entire respondents were involved in decision-making to a large extent concerning the sale of agricultural produces. Similarly, the level of participation in decision-making was observed to be at a large extent. It is confirmed by the maximum of more than two-fifths (43.6 percent) of the total respondents belonging to CAVs. However, the rate of participation in decision-making was observed to be higher in the case of SAVs, the maximum of nearly two-fifths (39.7 percent) of its total respondents involved in making the final decision for the sale of agricultural produces.

The land signifies not only the possession of wealth but more than wealth it embodies the identity of the Tangkhul people. The tradition and cultural fabric of the society intertwine with land and its resources. The ownership entitlement of land is customarily associated with men. Although women equally play a vital role in land management their ownership entitlement is seen to be absent in general. The study revealed the existing women's situation concerning the decision-making of land purchase and sale. The data affirmed that a maximum of nearly two-fifths (37.3 percent) of the entire respondents were involved to a large extent in decision-making owing to the purchase and sale of land. The maximum of more than two-fifths (43.6 percent) of the total respondents belonging to CAVs similarly stated that they were involved in decision-making to a large extent, of which the level of participation in decision-making marked higher as compared to that of the maximum number of slightly more than two-

fifth (42.8 percent) of the total respondents belonging to SAVs stated that they involved only to some extent of decision making in purchase and sale of land.

The agriculture farming conditions of the Tangkhul society were found to be more in traditional forms, employing mechanical tools was of negligible practice. It was revealed during the interview that few of the respondents possessed tiller machines, grass cutters, and chain saws, maximum of the farming works were done using homemade or traditional tools owing to low economic status, and purchasing and maintaining mechanical tools would burden the already stressed condition. Few of those who possessed mechanical tools were operated by males and considered to be male-oriented. In this regard, the data revealed that a maximum of nearly two-fifths (35.5 percent) of the entire respondents were involved to a large extent in decision-making in the matters of purchase and sale of machinery. In comparison between the two categorized villages, the data confirmed that the CAVs had a higher level of involvement than SAVs in decision-making. The maximum of two-fifth (40.9 percent) of the total respondents belonging to CAVs stated their involvement to a large extent in decision making whereas the maximum of slightly more than two-fifths (42.8 percent) of the total respondents belonging to SAVs confirmed that they were involved only to some extent in decision making of purchase and sale of machinery.

The livelihood of the Tangkhul farmers depends on agriculture farming whereas rearing domesticated animals and livestock, poultry, fisheries, and other related activities augmented their economic conditions. Rearing domesticated animals and other livestock were not meant only for meat and dairy products, they were used for plowing agricultural farmlands and employed as a means of transporting agricultural produce. Domesticated animals were an integral part of the Tangkhul traditional agriculture farming in a place of mechanical absence. In regards to this, the study attempted to reveal the extent of women's involvement in the decision-making of the purchase and sale of animals. The result of the analysis revealed that a maximum of one-third (33.1 percent) of the entire respondents were involved to a large extent in the decision-making of the purchase and sale of animals. The situation between the SAVs and CAVs was

found to be slightly asymmetric. The maximum of slightly more than one-third (34.2 percent) of the total respondents belonging to CAV had a higher level of involvement to a large extent in decision-making as compared to the maximum of slightly above two-fifth (41.3 percent) of the respondents belonging to SAVs whose level of involvement were to some extent in decision making in the matter of purchase and sale of animals.

The agriculture workforce of the Tangkhul farmers constituted family members as young as from the age of 10 to 12 unless otherwise. In the earlier days, not many of the children would pursue higher studies; agriculture labors were of no dearth that the own family members could cover the task required. On the other hand, the unique way of Tangkhul's altruistic practice of labor sharing was common within the community. The strong community sense of belongingness and bonding emanated throughout the seasons. In times of calamities that rendered any family inability to perform agricultural tasks, the relatives, clans, and community members would altruistically assist in completing the tasks. Therefore, no situation like in the present day would require hiring labor. The changes in the situation as most of the youth left home for further studies or in search of jobs resulted in a lack of labor. Moreover, changes in the economic situation led to the monetization of labor had a tremendous impact on agricultural undertakings; the amount of labor time spent would be measured and compensated in terms of money. The lack of labor forces left no choice but to look out for means of hiring laborers. The data accentuated the level of women's involvement in decision-making in the matters of hiring agriculture labor. As per the result of the analysis, the level of women's participation was revealed to be relatively very high. The maximum of nearly half (46.7 percent) of the entire respondents affirmed being involved in making a final decision. In correspondence to this, a maximum of slightly more than half (51.7 percent) and slightly over two-fifths (41.3 percent) of the total respondents belonging to CAVS and SAVs respectively confirmed their involvement in making final decision making in the matters of hiring agriculture laborers.

The selection of agricultural farmland is a crucial process in agriculture farming. This process is mainly associated with Jhum or shifting cultivation. It is on the other

hand relates to seasonal crops and vegetable farming that every year certain portion of land must be allocated as per the suitability of soil. The process of land selection or allocation amongst the Tangkhul society is normally done by the village authority concerning Jhum land. The Headman of the CAVs confirmed that any household willing to adopt Jhum cultivation was allotted a certain portion of land by the village authority or demarcated the areas under which the forest land would be utilized for Jhum cultivation. In the case of other farmland for different purposes, the private land owner usually has autonomy over it. At the family level, normally the male holds the entitlement towards the land and its related decision however without neglecting the women's voice. The selection of agricultural land takes into consideration the factors relating to types of crops, climatic conditions, and suitability of soil. In this regard, the level of women's involvement is measured based on their responses. The result of the analysis revealed that a maximum of slightly more than two-fifths (41.5 percent) of the entire respondents were involved to a large extent in decision-making. This indication had similar reflection from both the CAVs and SAVs, the maximum of nearly half (47.0 percent) and close to two-fifths (35.5 percent) respectively of the total respondents confirmed their involvement to a large extent in the decision-making of selection of agricultural land.

The process of formulation of an agriculture work plan is an essential component of successful agriculture farming. The agriculture farming amongst the Tangkhul depends on the seasonal monsoon which demands the farmers to complete certain farming activities at a given particular period. Without stipulating a proper work plan leading to task failure, agriculture activities as seasonal based in essence requires to be done during specific farming period results in healthy growth of crops. The process of agriculture work plan normally constitutes the well define activity timeline. The involvement of all agriculture actors in plan formulation is essential for successful activities execution. The measurement of women's involvement in decision-making revealed that the maximum of nearly two-fifths (36.6 percent) of the entire respondents were involved to a large extent in agriculture work plans. Similarly, a maximum of

slightly more than half (51.7 percent) of the total respondents belonging to CAVs confirmed their involvement to a large extent in the decision-making of agriculture work plans. Whereas in contrary to this a maximum of slightly more than two-fifths (42.0 percent) of the total respondents belonging to SAVs affirmed their involvement in taking final decisions which indicated a higher level of participation in the decision-making of agriculture work plans.

Table 5.5. Women involvement in decision making pertaining to agriculture farming

Sl. no.	Activities	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=148	
1	Crop Selection			
	No Participation	2 (1.4)	0 0.0	2 (0.7)
	Only Opinion Asked	18 (13.0)	6 (4.0)	24 (8.4)
	To some extent	32 (23.2)	39 (26.2)	71 (24.7)
	To a large extent	24 (17.4)	78 (52.3)	102 (35.5)
	Final Decision	62 (44.9)	26 (17.4)	88 (30.7)
2	Seed Selection			
	No Participation	5 (3.6)	1 (0.7)	6 (2.1)
	Only Opinion Asked	12 (8.7)	4 (2.7)	16 (5.6)
	To some extent	35 (25.4)	30 (20.1)	65 (22.6)
	To a large extent	21 (15.2)	72 (48.3)	93 (32.4)
	Final Decision	65 (47.1)	42 (28.2)	107 (37.3)
3	Fertilizer Selection			
	No Participation	45 (32.6)	6 (4.0)	51 (17.8)
	Only Opinion Asked	12 (8.7)	41 (27.5)	53 (18.5)
	To some extent	38 (27.5)	18 (12.1)	56 (19.5)
	To a large extent	22 (15.9)	63 (42.3)	85 (29.6)
	Final Decision	21 (15.2)	21 (14.1)	42 (14.6)

4	Grain/Seed Storage			
	No Participation	2 (1.4)	0 0.0	2 (0.7)
	Only Opinion Asked	9 (6.5)	10 (6.7)	19 (6.6)
	To some extent	27 (19.6)	27 (18.1)	54 (18.8)
	To a large extent	40 (29.0)	82 (55.0)	122 (42.5)
	Final Decision	60 (43.5)	30 (20.1)	90 (31.4)
5	Sale of Agriculture produces			
	No Participation	11 (8.0)	7 (4.7)	18 (6.3)
	Only Opinion Asked	8 (5.8)	30 (20.1)	38 (13.2)
	To some extent	38 (27.5)	10 (6.7)	48 (16.7)
	To a large extent	40 (29.0)	65 (43.6)	105 (36.6)
	Final Decision	41 (39.7)	37 (24.8)	78 (27.2)
6	Purchase and sale of land			
	No Participation	12 (8.7)	14 (9.4)	26 (9.1)
	Only Opinion Asked	8 (5.8)	31 (20.8)	39 (13.6)
	To some extent	59 (42.8)	17 (11.4)	76 (26.5)
	To a large extent	42 (30.4)	65 (43.6)	107 (37.3)
	Final Decision	17 (12.3)	22 (14.8)	39 (13.6)
7	Purchase and sale of machineries			
	No Participation	20 (14.5)	26 (17.4)	46 (16.0)
	Only Opinion Asked	9 (6.5)	22 (14.8)	31 (10.8)
	To some extent	59 (42.8)	19 (12.8)	78 (27.2)
	To a large extent	41 (29.7)	61 (40.9)	102 (35.5)
	Final Decision	9 (6.5)	21 (14.1)	30 (10.5)
8	Purchase and sale of animals			
	No Participation	12 (8.7)	29 (19.5)	41 (14.3)

	Only Opinion Asked	13 (9.4)	18 (12.1)	31 (10.8)
	To some extent	57 (41.3)	13 (8.7)	70 (24.4)
	To a large extent	44 (31.9)	51 (34.2)	95 (33.1)
	Final Decision	12 (8.7)	38 (25.5)	50 (17.4)
9	Hiring of Labour			
	No Participation	2 (1.4)	11 (7.4)	13 (4.5)
	Only Opinion Asked	13 (9.4)	23 (15.4)	36 (12.5)
	To some extent	36 (26.1)	16 (10.7)	52 (18.1)
	To a large extent	30 (21.7)	22 (14.8)	52 (18.1)
	Final Decision	57 (41.3)	77 (51.7)	134 (46.7)
10	Selection of Agriculture Land			
	No Participation	3 (2.2)	12 (8.1)	15 (5.2)
	Only Opinion Asked	16 (11.6)	28 (18.8)	44 (15.3)
	To some extent	37 (26.8)	11 (7.4)	48 (16.7)
	To a large extent	49 (35.5)	70 (47.0)	119 (41.5)
	Final Decision	33 (23.9)	28 (18.8)	61 (21.3)
11	Agriculture Work Plan			
	No Participation	3 (2.2)	4 (2.7)	7 (2.4)
	Only Opinion Asked	11 (8.0)	13 (8.7)	24 (8.4)
	To some extent	38 (27.5)	25 (16.8)	63 (22.0)
	To a large extent	28 (20.3)	77 (51.7)	105 (36.6)
	Final Decision	58 (42.0)	30 (20.1)	88 (30.7)

Source: Computed

Figures in parentheses are percentages

5.6. Women's time spent in various activities within 24 hours

The role and responsibility and work contribution of women farmers in economic as well as domestic spheres are often underestimated and go unrecognized. The actual pictures of women's responsibilities and their workloads on the farm as well as at home are overwhelming and overburdening. The intention to explore the nature of women's time spent within 24 hours on various activities was an attempt to highlight the overwhelming nature of workloads and task performance of the Tangkhul women specifically the farmers. The nature of women's time spent in various activities within 24 hours was enquired about during the interview in both the subsistence agriculture villages (SAVs) and commercialized agriculture villages (CAVs). The measured time spent was examined based on ten commonly women-executed activities such as caregiving (childcare), fetching water, caring for livestock, cleaning house, agriculture activities, firewood collection, grinding, food preparation, leisure/personal time, and attending social meetings/gathering. The time parameters vary ranging from none to 10-15 hours engaging in different activities (see Table 5.6)

The activity of care-giving involves nurturing infants to nursing senior members of the family. In this study, exploration was done on the nature of time spent concerning childcare. The amount of time spent in childcare varied depending on the number of children and how young a child would be during the time of data collection. The data revealed that a maximum of nearly one-third (32.8 percent) of the entire respondents spent 1-5 hours of their time in caregiving. The equivalent time spent of 1-5 hours on caregiving was reflected by the maximum of nearly half (49.0 percent) of the total respondents belonging to CAVs. Whereas the amount of time spent was found to be lesser than 35-55 minutes in case of the maximum of slightly more than two-fifths (42.0 percent) of the total respondents belonging to SAVs.

The conditions of water connectivity in the sample villages were found to be rudimentary. There were no proper running water facilities within the household, thus common water reservoirs were constructed spreading to every locality for easy accessibility. The household water requirements were collected manually from the

nearest community reservoirs. This was normally performed by the women in the household spending much time and energy. The study reported that a maximum of slightly more than two-fifths (41.1 percent) of the entire respondents spent 35-55 minutes filling up or fetching water for the household. The data reflected a similar account of time spent amongst the respondents from both the SAVs and CAVs. The maximum of slightly more than two-fifths (42.8 percent) and nearly two-fifths (39.6 percent) of the total respondents belonging to SAVs and CAVs respectively spent 35-55 minutes fetching water. It was observed that differences in respondents' time spent variation associated with the distance from the community reservoir and the number of members in a household. Some of the respondents reported having normally spent 5-15 minutes and 20-30 minutes at the most.

The auxiliary income-generating activities of the Tangkhul farmers include rearing livestock and poultry farming. Apart from agriculture-related activities considerable amount of time and energy is spent in caring for livestock and poultry although it could be small scale in quantity. The explorations seek to identify the amount of women's time spent in this aspect of livelihood undertakings. The data revealed that a maximum of one-third (33.8 percent) of the entire respondents spent 20-30 minutes taking care of livestock and poultry farming. Whereas some sections of equally slightly over a fifth (21.6 percent) of the entire respondents spent 35-55 minutes and another 1-5 hours caring for livestock and poultry farming. The women's time spent in both villages was observed to be asymmetrically varied. In the case of CAVs, the maximum of slightly over one-third (34.9 percent) of the total respondents spent their time of 1-5 hours tending livestock and poultry farming. While the maximum of slightly more than one-third (34.8 percent) of the total respondents belonging to SAVs affirmed spending 20-30 minutes of their time taking care of livestock and poultry farming.

Household chores involve enormous tasks that demand time and energy investment. In many instances, the task performance of household-related tasks goes unaccounted for and unrecognized, the time spent and energy exerted. The natures of household tasks are overwhelming and burdened especially the women. Cleaning and

maintenance of the household are considered to be women's responsibilities and are often left on their shoulders. The manner of amount of time spent relates to the size of the households and the number of family members. The result of the analysis revealed that a maximum of slightly more than two-fifths (42.9 percent) of the entire respondents spent 35-55 minutes cleaning the house. In another case, a maximum of nearly one-third (31.4 percent) of the entire respondents were observed to have spent 1-5 hours cleaning the house. In the case of CAVs, a maximum of half (50.3 percent) of the total respondents revealed that they spent 1-5 hours doing household chores. Whereas a maximum of nearly three-fifths (57.2 percent) of the total respondents belonging to SAVs affirmed 35-55 minutes of their time spent doing household cleaning.

Agriculture farming is the mainstay of livelihood generation amongst the Tangkhul. Although the advent of education and the development of technology introduced a new different scope of livelihood aspects, the majority of the people still earn their living through agriculture farming. They continue to spend most of their time in farm activities. The data revealed that a maximum of slightly more than three-fifth (62.0 percent) of the entire respondents spent mostly 1-5 hours performing agriculture activities.

The activities of firewood collection, grinding, and food preparation are all associated with domestic household chores. In a traditional view of gender classification of workloads, almost all the domestic household task relates to women's responsibilities, this still has deep implications for the work classification between men and women. The activities of firewood collection, grinding, and food preparation are viewed as women's responsibilities, thus often neglected by men to involving in such activities. The result of the analysis revealed women's time spent in these activities. The maximum of nearly half (46.0 percent) of the entire respondents spent 5-15 minutes of their time in firewood collection while two-fifth (40.8 percent) of the entire respondents stated that they spent 20-30 minutes collecting firewood and 13.2 percent of the total respondents asserted that they spent 35-55 minutes of their time in collecting firewood. In the matter of grinding activity, the maximum of nearly half (49.5 percent) of the entire respondents stated that

they spent 20-30 minutes of their time whereas nearly two-fifths (38.3 percent) of the entire respondents spent 35-55 minutes and another 12.2 percent of the entire respondents spent 5-15 minutes of their time. In the case of the activity of food preparation, a maximum of more than three-fifths (64.5 percent) of the entire respondents spent 35-55 minutes and more than one-third (35.5 percent) of the respondents spent 20-30 minutes of their time in cooking.

The life of the Tangkhul women farmers is observed to be hectic with never-ending workloads at the farm and farm, they could hardly have time of their own and time available to attend social meetings/gatherings. The existing heavy workloads and responsibilities overwhelmed them in every sphere of their individual space. The study explored their time spent in the aspects of leisure/personal time and attending social meetings/ gatherings. The result of the analysis revealed that a maximum of nearly three-fourths (73.5 percent) of the entire respondents spent 20-30 minutes and over a fourth (26.5 percent) of the entire respondents affirmed their time spent of 35-55 minutes in leisure/personal time. Whereas in regards to attending social meetings/gatherings, the data revealed that a maximum of nearly two-thirds (64.1 percent) of the entire responsibility spent 20-30 minutes and another nearly two-fifths (35.9 percent) of entire respondents spent 35-55 minutes of their time.

Table 5.6. Time spent for different activities within 24 hours

Sl. no.	Activities	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Care giving (Child care)			
	None	23 (16.7)	32 (21.5)	55 (19.2)
	20-30 minutes	36 (26.1)	15 (10.1)	51 (17.8)
	35-55 minutes	58 (42.0)	29 (19.5)	87 (30.3)
	1- 5 hours	21 (15.2)	73 (49.0)	94 (32.8)
2	Fetching Water			
	5-15 minutes	27	47	74

		(19.6)	(31.5)	(25.8)
	20-30 minutes	52 (37.7)	43 (28.9)	95 (33.1)
	35-55 minutes	59 (42.8)	59 (39.6)	118 (41.1)
3	Caring livestock/poultry			
	None	4 (2.9)	3 (2.0)	7 (2.4)
	5-15 minutes	31 (22.5)	28 (18.8)	59 (20.6)
	20-30 minutes	48 (34.8)	49 (32.9)	97 (33.8)
	35-55 minutes	45 (32.6)	17 (11.4)	62 (21.6)
	1- 5 hours	10 (7.2)	52 (34.9)	62 (21.6)
4	Cleaning house/ household chores			
	20-30 minutes	44 (31.9)	30 (20.1)	74 (25.8)
	35-55 minutes	79 (57.2)	44 (29.5)	123 (42.9)
	1- 5 hours	15 (10.9)	75 (50.3)	90 (31.4)
5	Agriculture Activities			
	1- 5 hours	123 (89.1)	55 (36.9)	178 (62.0)
	10- 15 hours	15 (10.9)	94 (63.1)	109 (38.0)
6	Firewood collection			
	5-15 minutes	56 (40.6)	76 (51.0)	132 (46.0)
	20-30 minutes	55 (39.9)	62 (41.6)	117 (40.8)
	35-55 minutes	27 (19.6)	11 (7.4)	38 (13.2)
7	Grinding			
	5-15 minutes	12 (8.7)	23 (15.4)	35 (12.2)
	20-30 minutes	48 (34.8)	94 (63.1)	142 (49.5)
	35-55 minutes	78 (56.5)	32 (21.5)	110 (38.3)
8	Food Preparation			
	20-30 minutes	35 (25.4)	67 (45.0)	102 (35.5)
	35-55 minutes	103 (74.6)	82 (55.0)	185 (64.5)
9	Leisure/personal time			
	20-30 minutes	98 (71.0)	113 (75.8)	211 (73.5)

	35-55 minutes	40 (29.0)	36 (24.2)	76 (26.5)
10	Attending social meeting/gathering			
	20-30 minutes	98 (71.0)	86 (57.7)	184 (64.1)
	35-55 minutes	40 (29.0)	63 (42.3)	103 (35.9)

Source: Computed

Figures in parentheses are percentages

5.7. Extent of women's participation in livestock, fisheries, and poultry management

The concept and scope of the agriculture sector encompasses farming, livestock, fisheries, and poultry management. The nature and extent of women's participation in agriculture relate to the aspect of agriculture variables. The participation of women in agriculture farming in the Tangkhul society is more prevalent as compared to that participation in livestock, fisheries, and poultry management. This is attributed to the relevant cultural practices and traditional aspirations. The practices of rearing livestock, fisheries, and poultry farming are more towards the secondary income augmentative undertakings which are uncommon amongst the general Tangkhul population.

The research exploration of the participation of women in livestock rearing activities, fisheries, and poultry farming was conducted amongst the subsistence agriculture villages (SAVs) and commercialized agriculture villages (CAVs) of the Tangkhul in the Ukhrul district, Manipur. The extent of women's participation was conceived upon the relevant eleven associating activities of livestock rearing, fisheries, and poultry farming. The relative activities included cleaning, watering, feeding, breed selection, fencing/ranching, guarding against predators, grazing, milking, processing, and marketing. The women's activities involvements were measured based on four parameters such as never, always, occasionally, and rarely (see Table 5.7).

The research finding revealed that the most common livestock and poultry amongst the Tangkhul were pigs, cows, buffaloes, chickens, and a few ducks purposed for income generation. Whereas other animals such as dogs and cats were raised as pets, fisheries were found starkly minimal in practice. The activities such as cleaning,

watering, feeding, and breed selection of livestock indicated a high level of women's involvement in the study area. Activity of cleaning had a maximum of two-thirds (66.2 percent) of the entire respondents always involved. The distribution of respondents over SAVs and CAVs was observed to be highly concentrated in the parameter of always being involved in cleaning activity with the maximum of nearly three-fifths (57.2 percent) and nearly three-fourths (74.5 percent) of the total respondents respectively.

The result of the analysis revealed that a maximum of nearly three-fifths (58.5 percent) of the entire respondents were always involved in watering the livestock. The distribution of respondents' concentration over the SAVs and CAVs was observed to be scattered in different parameters. The SAVs had the highest concentration of nearly half (44.2 percent) of the total respondents within the parameter of occasionally whereas the CAVs had the highest concentration of nearly three-fourths (73.2 percent) of the total respondents within the parameter of always in activity involvement of watering.

The activity of feeding the livestock had the highest concentration of nearly two-thirds (65.2 percent) of the entire respondents within the parameter of always. The highest distribution of respondents over SAVs and CAVs concentrated within the parameter of always with the maximum of nearly two-thirds (62.3 percent) and slightly more than two-thirds (67.8 percent) of the total respondents respectively.

In the case of breed selection, a maximum of nearly two-fifths (39.4 percent) of the entire respondents were reportedly always involved in the activity. This had different indications between the SAVs and CAVs. The CAVs had the highest concentration of nearly half (44.3 percent) of the total respondents within the parameter of always. Whereas a maximum of nearly two-fifths (38.4 percent) of the respondents reported that they were occasionally involved in the activity of breed selection.

The respondents' involvement in the construction of fencing/ranching for livestock depicted that a maximum of two-fifth (40.4 percent) of the respondents never engaged in the activity. The extent of activity involvement in fencing/ranch construction varied between the SAVs and CAVs. The maximum of nearly two-thirds (65.1 percent)

of the total respondents belonging to CAVs asserted that they had never been involved in the construction of fencing/ranching. Whereas a maximum of nearly two-fifths (35.5 percent) of the total respondents belonging to SAVs reported that they were occasionally involved in the construction of fencing/ranch.

The practice of fisheries was uncommon amongst the Tangkhul farmers, some of the very few farmers who had fisheries were as well on a small scale enough for household consumption and no substantial amount of income could be earned. The farmers normally used their wet terrace farmland for rearing fish and no separate fishery ponds were reportedly constructed in many cases. Occasional maintenance and clearing of the surrounding were done at the fishery site. The data revealed that a maximum of nearly three-fifths (58.9 percent) of the entire respondents were reportedly never involved in the preparation of the pond. In a similar case, the majority (95.3 percent) of the total respondents belonging to CAVs affirmed they had never been involved in the preparation of fishery ponds. On the other hand, a maximum of less than one-third (30.4 percent) of the total respondents belonging to SAVs asserted that they were rarely involved in fishery pond preparation.

The protective task undertaken to ensure the safety of livestock is an important aspect of rearing livestock. Protection and guarding against predators and harsh weather conditions in the case of poultry requires intensive care and time spent for their safety. The result of the analysis revealed that a maximum of nearly half (45.6 percent) of the entire respondents reported that they never participated in the protective activities. A similar condition was found in the CAVs where a maximum of three-fourths (75.8 percent) of its total respondents asserted having never been involved in the activity of guarding the livestock against predators. Whereas a maximum of nearly two-fifths (39.1 percent) of the total respondents belonging to SAVs reported that they were occasionally involved in the activity of guarding the livestock against predators.

The livestock such as cows, buffaloes, and goats are fed by taking them out to grazing ground. This activity demands a great amount of time and labor in looking after the livestock. Regarding this activity involvement, the study revealed that a maximum of

nearly three-fourths (73.9 percent) of the entire respondents stated that they were never involved in taking the livestock to graze the ground. It was found that similar results were highlighted in both the SAVs and CAVs. The majority (98.0 percent) of the total respondents belonging to CAVs reported never being involved in taking the cattle to grazing ground. Similarly, the maximum of nearly half (47.8 percent) of the total respondents belonging to SAVs stated that they never engaged in the activity of taking the livestock to graze the ground.

The important supplementary benefits obtain from the by-products of livestock includes milk, meat, and hides. Cattle are primarily reared amongst the Tangkhul to avail animal labor for farming; this trend is seen to be gradually shifting from primary to secondary commercialization with the change in time and economy. Milking for family consumption or sale was an uncommon practice amongst the Tangkhul in the olden days, even in the present day only a handful of farmers are reported to have been acquainted with this activity. Processing of milk products or meat was uncommon to the Tangkhul except meat was dried or smoked to preserve it, either livestock was sold in whole or per kilogram commercially. Thus, meat processing or dairy processing was not found to be practiced for commercial purposes. Meat seasoning in a way of drying or smoking has been a common practice that normally is meant for family consumption. However, in the present day, meat is processed in a more traditional manner that is feasible for sale, mostly on a small scale. Thus, it was reported that few of the women farmers engaged in meat processing for the market from time to time. In this regard, the result of the analysis revealed that a maximum of slightly more than three-fourths (76.7 percent) of the entire respondents never engaged in the milking activity. This had a similar implication for the SAVs and CAVs, with the maximum of slightly more than half (53.6 percent) and a majority (98.0 percent) of the total respondents respectively having never been involved in milking. In regards to processing, a maximum of three-fourths (75.6 percent) of the entire respondents reported having never engaged in the processing of livestock by-products. The data revealed a similar scenario over the two categorized villages. The respondents belonging to CAVs had the majority (97.3

percent) ascribed within the parameter of never involved in processing activity whereas, the maximum of slightly more than half (52.2 percent) of the total respondents belonging to SAVs stated to have never been involved in processing activity. In the case of marketing relating to livestock, fisheries, and poultry farming, the maximum of nearly two-fifths (39.4 percent) of the entire respondents reported that they were always involved in the activity. The respondents belonging to SAVs had the maximum concentration of two-fifth (40.6 percent) within the parameter of occasionally involved in marketing. On the other hand, the respondents belonging to CAVs had the maximum concentration of equally more than two-fifths (43.0 percent) within the parameter of never as well as always involved in marketing activity.

Table 5.7. Extent of women's participation in livestock, fisheries and poultry management

		Type of Villages		
Sl. no.	Activities	Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	Total n=287
1	Cleaning			
	Never	7 (5.1)	26 (17.4)	33 (11.5)
	Always	79 (57.2)	111 (74.5)	190 (66.2)
	Occasionally	43 (31.2)	10 (6.7)	53 (18.5)
	Rarely	9 (6.5)	2 (1.3)	11 (3.8)
2	Watering			
	Never	7 (5.1)	26 (17.4)	33 (11.5)
	Always	59 (42.8)	109 (73.2)	168 (58.5)
	Occasionally	61 (44.2)	11 (7.4)	72 (25.1)
	Rarely	11 (8.0)	3 (2.0)	14 (4.9)
3	Feeding			
	Never	4 (2.9)	27 (18.1)	31 (10.8)
	Always	86 (62.3)	101 (67.8)	187 (65.2)
	Occasionally	45	18	63

		(32.6)	(12.1)	(22.0)
	Rarely	3 (2.2)	3 (2.0)	6 (2.1)
4	Breed Selection			
	Never	12 (8.7)	29 (19.5)	41 (14.3)
	Always	47 (34.1)	66 (44.3)	113 (39.4)
	Occasionally	53 (38.4)	43 (28.9)	96 (33.4)
	Rarely	26 (18.8)	11 (7.4)	37 (12.9)
5	Fencing/ ranching			
	Never	19 (13.8)	97 (65.1)	116 (40.4)
	Always	35 (25.4)	0 0.0	35 (12.2)
	Occasionally	49 (35.5)	12 (8.1)	61 (21.3)
	Rarely	35 (25.4)	40 (26.8)	75 (26.1)
6	Preparation of Pond			
	Never	27 (19.6)	142 (95.3)	169 (58.9)
	Always	33 (23.9)	0 0.0	33 (11.5)
	Occasionally	36 (26.1)	2 (1.3)	38 (13.2)
	Rarely	42 (30.4)	5 (3.4)	47 (16.4)
7	Guarding from predators			
	Never	18 (13.0)	113 (75.8)	131 (45.6)
	Always	36 (26.1)	12 (8.1)	48 (16.7)
	Occasionally	54 (39.1)	10 (6.7)	64 (22.3)
	Rarely	30 (21.7)	14 (9.4)	44 (15.3)
8	Grazing			
	Never	66 (47.8)	146 (98.0)	212 (73.9)
	Always	25 (18.1)	0 0.0	25 (8.7)
	Occasionally	35 (24.4)	0 0.0	35 (12.2)

	Rarely	12 (8.7)	3 (2.0)	15 (5.2)
9	Milking			
	Never	74 (53.6)	146 (98.0)	220 (76.7)
	Always	20 (14.5)	0 (0.0)	20 (7.0)
	Occasionally	34 (24.6)	0 (0.0)	34 (11.8)
	Rarely	10 (7.2)	3 (2.0)	13 (4.5)
10	Processing			
	Never	72 (52.2)	145 (97.3)	217 (75.6)
	Always	24 (17.4)	0 (0.0)	24 (8.4)
	Occasionally	37 (26.8)	2 (1.3)	39 (13.6)
	Rarely	5 (3.6)	2 (1.3)	7 (2.4)
11	Marketing			
	Never	26 (18.8)	64 (43.0)	90 (31.4)
	Always	49 (35.5)	64 (43.0)	113 (39.4)
	Occasionally	56 (40.6)	14 (9.4)	70 (24.4)
	Rarely	7 (5.1)	7 (4.7)	14 (4.9)

Source: Computed

Figures in parentheses are percentages

5.8. Assessment of perceived participation of men and women in the management of livestock, poultry, fishery, and others

The extent of women's participation in the management of livestock, poultry, fishery, and others was measured based on four-point scale parameters such as never (0), always (1), occasionally (2), and rarely (3) over eleven distinct activities related to it. The attempts were made to validate the responses by comparatively incorporating the women perceived participation of men in the management of livestock, poultry, fishery, and others. The respondents were asked to rate their perceived extent of men's participation in comparison to women's participation in livestock, poultry, and fishery management (see Table 5.8). The result of the analysis revealed that the extent of men's participation was slightly higher with a mean score of 1.04 against the extent of

women's participation at a mean score of 0.97 in livestock, poultry, and fisheries management. The examination of inter-categorized villages revealed a similar pattern of extent of participation. It was observed that the extent of men's participation was found to be slightly higher with a mean score of 1.37 as compared to the extent of women's participation at a mean score of 1.36 in subsistence agriculture villages. In the case of commercialized agriculture villages, the extent of men's participation stood at 0.73 mean scores which was found to be higher as compared to the 0.60 mean score of the extent of women's participation. Further, the data indicated that the level of men's participation belonging to SAVs was found to be higher with a 1.37 mean score as compared to the 0.47 mean score level of men's participation belonging to CAVs. Similarly, the level of women's participation belonging to SAVs was found to be higher with a mean score of 1.36 as compared to the level of women's participation belonging to CAVs at a mean score of 0.40.

Table 5.8. Perceived participation of men and women in the management of livestock, poultry, fishery and others

Type of Villages		Men	Women
Subsistence Agriculture Village	Mean	1.37	1.36
	Std. Deviation	0.54	0.52
Commercialized Agriculture Villages	Mean	0.73	0.60
	Std. Deviation	0.47	0.40
Total	Mean	1.04	0.97
	Std. Deviation	0.60	0.60

Source: Computed

Figures in parentheses are percentages

5.9. Extent of women's participation in forest management

The tribal in general are closely connected to the forest and its resources. It is their storehouse of livelihood resources. Before the advent of agriculture, mankind gathered food provisions from the forest. The Tangkhul in particular rely much on forest produces and resources to sustain their livelihood. Products such as medicinal plants, firewood, and timber are rich resources available from the forest. The activities of forest management amongst the Tangkhul farmers were classified into six (6) different natures

such as plantation, firewood collection/cutting, timber collection/cutting, collecting fodders, collecting medicinal plants, and forest boundary management. The study explored the extent of women's participation or involvement in forest management activities based on four given parameters i.e. never, always, occasionally, and rarely (see Table 5.9).

The increased depletion of forest-covered areas due to human encroachment has raised serious concerns around the globe. Its tremendous impact on climatic conditions prompts environmentalists, scientists, educators, administrators, social activities, and the general public to seek measures to revamp the ecological crisis. Tree plantation has been taken up and encouraged to improve the depleting environmental conditions across the globe. In the wake of the campaign towards the regeneration of a green and clean environment, sensitizations of the significance of tree plantation have been repeatedly attempted amongst the Tangkhul in particular at various social domains. Apart from agriculture plantations not much of other kinds of plantations were visible. Concerning this, the result of the data analysis revealed that a maximum of nearly three-fifths (56.8 percent) of the entire respondents were always involved in plantations. In a similar scenario, a maximum of close to three-fourths (71.1 percent) of the total respondents belonging to CAVs confirmed always being involved in plantations. On the other hand, a maximum of more than two-fifths (43.5 percent) of the total respondents belonging to SAVs asserted occasional involvement in plantations.

The Majority of the Tangkhul households continue to use firewood for domestic cooking. Normally in every household, firewood cutting, and collection is done to stock up for the yearly usage. Its responsibility usually rests upon the shoulders of men in the household to get this work done as it involves a great amount of physical exertion. The activity involvement in firewood cutting/collection of women in the study areas was found to be low. This was confirmed by the result of the analysis; a maximum of nearly two-fifths (38.7 percent) of the entire respondents reported to be never engaged in the activity of firewood collection. The maximum of slightly more than half (53.7 percent) of the total respondents belonging to CAVs conform to this scenario. However, the

maximum of nearly two-fifths (37.7 percent) of the total respondents belonging to SAVs informed rather slightly different scenarios where they were involved occasionally in the activity of firewood cutting/collection.

Timber is commonly used for the construction of houses, furniture, chairs, and tables for commercial purposes of private use. Extraction of timbers outside the Tangkhul areas is prohibited and not encouraged to be cut down unless it is meant for the construction of houses. The work activities related to timber are normally carried out by men. The level of women's participation in timber-related activities in the study areas was found to be minimal and low. The data revealed that the entire maximum respondents of nearly three-fifth (56.4 percent) confirmed never involvement in timber cutting/collection. Similarly, the maximum of slightly more than two-fifths (42.8 percent) and more than two-thirds (69.1 percent) of the total respondents belonging to SAVs and CAVs respectively affirmed never engaged in timber cutting/ collecting activities.

The Tribal people in general and Tangkhul are closely connected to the forest. The livelihood sustenance and agriculture operations depend on the rich forest land and resources. Apart from agriculture farming, rearing domestic animals and other livestock to substantiate their livelihood income is commonly practiced amongst the Tangkhul. The source of cattle food and fodders comes from the forest areas, which remain as the storehouse for livestock rearing. Women play a vital role in rearing livestock and ensuring enough availability of fodders to feed them. The data confirmed that a maximum of more than one-third (36.9 percent) of the entire respondents were always involved in collecting fodders. Similarly, a maximum of slightly more than two-fifths (41.3 percent) of the total respondents belonging to SAVs affirmed always engaged in fodders collection. Contrary to this, a maximum of nearly two-fifths (38.9 percent) of the total respondents belonging to CAVs refuted that they were never involved in the activity of fodder collection.

The forest lands of the Tangkhul are bestowed with a bounty of natural fauna and flora, its valuable herbs, and shrubs are deposited with high-quality medicinal properties.

The traditional medicinal herbs and plants were commonly utilized amongst the society and availed from the forest. The practices of traditional healing were observed to be more common in the olden days before the advent of modern medicinal development. The data justified the dwindled utilization of traditional herbs and medicine which inferred of minimal presence of collecting medicinal plants from the forest. The result of the analysis revealed that a maximum of nearly two-fifths (39.0 percent) of the entire respondents asserted that they had never been involved in the activities of collecting medicinal plants from the forest. This was also confirmed by the maximum of more than two-thirds (68.5 percent) of the total respondents belonging to CAVs. However, the maximum of nearly two-fifths (37.7 percent) of the total respondents belonging to SAVs asserted that they occasionally engaged in collecting medicinal plants from the forest.

The Tangkhul normally adhere to the monarchical system of governance adopting the principle of democratic republic in practice. Every Tangkhul village is under the administrative ownership of a hereditary headman, in the sense that the entire village land belongs to him. However, the land is distributed or allotted to the denizen of the village with the proper demarcation of the boundary. Regard to land ownership is given to the male head of the family. Thus, the land boundary within the village is managed by the allotted owner, be it agricultural land, forest land, or settlement areas. Therefore, in many instances, women's involvement in land boundary management is uncommon amongst the Tangkhul. The data also confirmed that the level of women's participation in forest boundary management was low. It was revealed that a maximum of nearly three-fifths (59.6 percent) of the entire respondents were never involved in forest boundary management. Similarly, a maximum of three-fourths (75.2 percent) of the total respondents belonging to CAVs affirmed never being involved in forest boundary management. In the case of SAVs, the maximum of nearly three-fifths (57.2 percent) of the total respondents asserted that they were rarely involved in forest boundary management.

Table 5.9. Extent of women's participation in forest management

Sl. no.	Activities	Type of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Plantation			
	Never	4 (2.9)	15 (10.1)	19 (6.6)
	Always	57 (41.3)	106 (71.1)	163 (56.8)
	Occasionally	60 (43.5)	22 (14.8)	82 (28.6)
	Rarely	17 (12.3)	6 (4.0)	23 (8.0)
2	Firewood cutting/collection			
	Never	31 (22.5)	80 (53.7)	111 (38.7)
	Always	22 (15.9)	4 (2.7)	26 (9.1)
	Occasionally	52 (37.7)	33 (22.1)	85 (29.6)
	Rarely	33 (23.9)	32 (21.5)	65 (22.6)
3	Timber Cutting/collection			
	Never	59 (42.8)	103 (69.1)	162 (56.4)
	Always	16 (11.6)	2 (1.3)	18 (6.3)
	Occasionally	34 (24.6)	2 (1.3)	36 (12.5)
	Rarely	29 (21.0)	42 (28.2)	71 (24.7)
4	Collecting fodders			
	Never	9 (6.5)	58 (38.9)	67 (23.3)
	Always	57 (41.3)	49 (32.9)	106 (36.9)
	Occasionally	0 (43.5)	8 (5.4)	8 (23.7)
	Rarely	12 (8.7)	34 (22.8)	46 (16.0)
5	Collecting Medicinal Plants			
	Never	10 (7.2)	102 (68.5)	112 (39.0)
	Always	37 (26.8)	8 (5.4)	645 (15.7)
	Occasionally	52 (37.7)	11 (7.4)	63 (22.0)
	Rarely	39 (28.3)	28 (18.8)	67 (23.3)

6	Forest boundary Management			
	Never	59 (42.8)	112 (75.2)	171 (59.6)
	Rarely	79 (57.2)	37 (24.8)	116 (40.4)

Source: Computed

Figures in parentheses are percentages

5.10. Assessment of perceived participation of men and women in forest management.

The result of the exploration of different levels of women’s participation in forest management is presented in the previous section. It highlighted six different prominent activities related to forest management and the measurement of the levels of women’s participation based on four constructed parameters. The outcomes of the study represented the nature and extent of women's participation in forest management. In connection with this, attempts were made to highlight the perceived level of men’s participation in forest management (see Table. 5.10). The comparative examination of the perceived nature and extent of participation in forest management arrived at a fresh research avenue to ascertain scientifically in the future. The result of the analysis revealed that the nature and extent of men’s participation in forest management attained the level of 1.33 mean score while the extent of women's participation remained at the level of 1.27 mean score. Thus, it could be observed from the data that the level of men's participation was perceived to be higher as compared to that of women’s participation in forest management. Comparatively between the two villages, the level of women’s participation was found to be higher at the mean score of 1.61 against the mean score of 1.51 level of perceived men’s participation in forest management belonging to SAVs. Whereas the mean score of 1.16 level of perceived men's participation was found to be higher than the level of 0.96 mean scores of women's participation in forest management in the case of CAVs. On the other hand, upon examination of women’s level of participation in forest management between the two categorized villages, it was observed that the respondents belonging to SAVs remained higher at the level of 1.61

mean scores against the level of 0.96 mean scores of the respondents belonging to CAVs.

Table.5.10. Assessment of perceived participation between men and women in forest management

Type of Villages		Men	Women
Subsistence Agriculture Village	Mean	1.51	1.61
	Std. Deviation	0.48	0.62
Commercialized Agriculture Villages	Mean	1.16	0.96
	Std. Deviation	0.56	0.86
Total	Mean	1.33	1.27
	Std. Deviation	0.55	0.82

Source: Computed

Figures in parentheses are percentages

5.11. Participation of women in agriculture

Table 5.11 represents the assessment of the level of participation in three different avenues of agriculture against the overall level of women's participation in agriculture. The level of work participation in agriculture farming remained the highest at a 1.45 mean score against the overall 1.23 mean score level of participation in agriculture. This was followed by the level of participation in forest management at a mean score of 1.27, slightly higher than the 1.23 mean score of the overall participation in agriculture, and the level of work participation in livestock management at 0.97 mean score which was lower than the overall work participation in agriculture. As in the case of result expression within the villages, the work participation in forest management under SAVs recorded the highest at 1.61 mean score value followed by 1.51 mean score and 1.36 mean score level of participation in agriculture farming and livestock management respectively. Whereas the level of work participation under CAVs had the highest in Agriculture farming with a mean score of 1.40, followed by a mean score of 0.96 and 0.60 in forest and livestock management. The data revealed that SAVs had a

higher overall level of participation at a 1.49 mean score as against the 0.99 mean score level of participation in agriculture under CAVs.

Table.5.11. Participation of women in agriculture avenues

Types of Villages		Livestock	Forest	Farming	Overall
Subsistence Agriculture Village	Mean	1.36	1.61	1.51	1.49
	Std. Deviation	0.52	0.62	0.33	0.36
Commercialized Agriculture Villages	Mean	0.60	0.96	1.40	0.99
	Std. Deviation	0.40	0.86	0.41	0.42
Total	Mean	0.97	1.27	1.45	1.23
	Std. Deviation	0.60	0.82	0.38	0.47

Source: Computed

Figures in parentheses are percentages

5.12. Perceived overall participation of men and women in agriculture

In the previous sections, the nature and extent of women's participation in different aspects of agriculture undertakings were observed. The data depicted the multifaceted level of women's participation in corresponding to the different avenues of agriculture practices. In the present section, attempts were made to bring forth the situation and the level of women's participation in comparison to the perceived level of men's participation in agriculture as a whole (see Table. 5.12). The respondents were interviewed to draw their account of activities contributions based on constructed agriculture-related activities and ratings were done to infer their level of participation about stipulated parameters of measurement. Similarly, the respondents were asked to provide an account of their men's nature and extent of activities contributions, the same parameters of measurement were fitted within the stated perceived activities contribution to draw the level of men's participation in agriculture. Thus, the relative data were compared, and inferences were drawn to highlight the level of women's participation in

agriculture. The data associated with the overall participation of men and women in agriculture were examined in two different directions such as horizontally between men and women and between villages whereas vertically of men between villages and women between villages. The result of the analysis revealed that the overall men's level of participation in agriculture was slightly higher at the mean score of 1.24 against the mean score of 1.23 level of women's participation in agriculture. In examining the level of participation between men and women as per villages wise, the result revealed that the level of women's participation was slightly higher at a 1.49 mean score than that of a 1.46 mean score level of men's participation in the case of SAVs. However, concerning CAVs the level of men's participation was found to be higher at a 1.03 mean score against the level of 0.99 mean score of women's participation in agriculture. Vertically, the level of men's participation was found to be higher at a 1.46 mean score belonging to SAVs as against the 1.03 mean score level of men's participation from CAVs. In a similar observation, the women's level of participation was found to be higher at a 1.49 mean score from SAVs as compared to the 0.99 mean score level of women's participation belonging to CAVs. Thus, the represented data confirmed that the overall men's level of participation was slightly higher than that of women's level of participation in agriculture. Moreover, the level of agriculture participation of both men and women belonging to SAVs was observed to be higher as against to the level of agriculture participation of both men and women belonging to CAVs. In a significant observation, the SAVs had a higher level of women's participation in agriculture as compared to that of women's participation in agriculture from CAVs.

Table.5.12. Perceived overall participation of men and women in agriculture

Type of Villages	Measurement	Men	Women
Subsistence Agriculture Village	Mean	1.46	1.49
	Std. Deviation	0.36	0.36
Commercialized Agriculture Villages	Mean	1.03	0.99
	Std. Deviation	0.36	0.42
Total	Mean	1.24	1.23
	Std. Deviation	0.42	0.47

Source: Computed

5.13. Women's Participation in Agriculture between SAVs and CAVs

Hypothesis:

H₀. There is no significant difference in women's agricultural participation between the two types of villages.

H₁. There is a significant difference in women's agricultural participation between the two types of villages.

Table 5.13 showed the mean score of 1.49 (SD = 0.36) and 0.99 (SD = 0.42) level of women's participation in agriculture under SAVs and CAVs respectively. The differences in the level of women's agricultural participation were examined through a *t*-test and the calculated *t* value was found 10.99, which was greater than the critical table value of *t* distribution ($p < 0.05$). Therefore, it revealed that there was a significant difference between the two types of villages concerning women's participation in agriculture. Hereby, the stated null hypothesis 'there is no significant difference in women's agricultural participation between two villages' is rejected and the study accepted the stated alternative hypothesis. The differences in the extent of women work participation in agriculture is observed to have been determined by the nature of its operation. Agriculture operations in the Subsistence Agriculture villages is characterized by its conventional way of labour intensive and cultural laden whereas the Commercialized Agriculture villages is concentrated more on less labour intensive and less gestation period.

Table.5.13. Comparison of women's participation in agriculture between SAVs and CAVs

Types of Villages		n	Mean	SD	Std. Error Mean	t-test
Subsistence Village	Agriculture	138	1.493	0.358	.03056	10.99*
Commercialized Agriculture Villages		149	0.985	0.418	.03426	

Source: Computed

(*Significant at 0.05 level)

5.14. Correlation matrix of women's participation in agriculture, overall well-being, four dimensions of well-being, and satisfaction with life

Hypothesis:

H₀. There are no significant correlations amongst overall well-being, its four dimensions, women's participation in agriculture, satisfaction with life.

H₁. There are significant correlations among overall well-being, its four dimensions, women's participation in agriculture, and satisfaction with life.

Table 5.14 depicted that the four well-being dimensions have a significantly positive correlation with overall well-being at 0.01 level ($p < 0.01$) for degrees of freedom of 286. The correlation value of overall well-being with social well-being (0.751) and spiritual well-being (0.766) showed strong; psychological well-being (0.530) showed moderate; and physical well-being (0.271) showed a weak correlation with overall well-being. The correlation value between women's participation and overall well-being (-0.428) was found moderately negative; whereas, the correlation between satisfaction with life and overall well-being (0.408) was found moderately positive.

From further analysis, it was revealed that the correlation between women's participation and psychological well-being (0.163) was found very weak; and physical well-being (0.394) was found weak. Whereas, the correlation values of women's participation with social well-being (-0.616); and with spiritual well-being (-0.690) were found strongly negative.

The correlation values between psychological well-being and physical well-being (0.682) were found strongly positive, and psychological well-being and satisfaction with life (0.282) were found weakly positive. The correlation between physical well-being and social well-being (-0.330); and physical well-being and spiritual well-being (-0.345) were found weakly negative. Whereas, satisfaction of life and physical well-being (0.274) having weakly positive.

The correlation values of social well-being and spiritual well-being (0.872) were found very strongly positive, and it is weakly positive with satisfaction of life (0.228).

Further, the correlation between spiritual well-being and satisfaction with life (0.219) was found weakly positive.

From the analysis it was found that the majority of the study variables were correlated with each other hence the stated null hypothesis is rejected, and the study accepted the alternative hypothesis.

However, the correlation value of women's participation in agriculture with satisfaction with life (0.040); with social well-being and psychological well-being (-0.071), and with spiritual well-being and psychological well-being (-0.015) were found insignificant. Thus, the stated null hypothesis is accepted for the aforementioned variables.

Table.5.14. Correlation matrix of Women’s participation in agriculture, overall well-being, four dimensions of well-being and satisfaction with life

Women's Participation in Agriculture	1						
Psychological well-being	0.163**	1					
Physical well-being	0.394**	0.682**	1				
Social well-being	-0.616**	-0.071	-0.330**	1			
Spiritual well-being	-0.690**	-0.015	-0.345**	0.872*	1		
Satisfaction with Life	0.040	0.282**	0.274**	0.228*	0.219*	1	
Overall well-being	-0.428**	0.530**	0.271**	0.751*	0.766*	0.408**	1

Source: Computed

(** Correlation is significant at the 0.01 level (2 tailed))

5.15. Summary

This chapter has described the different avenues of agriculture practice, and in corresponding to each avenue the levels of women's participation were highlighted. The perceived levels of men's participation in agriculture have been observed to draw the situation of women's contributions and the significant roles being played in agriculture livelihood undertakings. The data showed a higher level of women's participation in agriculture farming than that level of participation in livestock and forest management. This is essentially associated with the relative practice of agriculture; Livestock and forest management exist to be secondary and supplementary forms of sustaining livelihood. The perceived level of men's participation in associating with the level of women's participation explained the significant role of women in agriculture with a slightly lower extent of participation as compared to men.

In the following chapter, the patterns of agriculture practices: their changes and continuity will be analyzed representing the various aspects of agriculture practices.

CHAPTER VI

PATTERNS OF AGRICULTURE PRACTICES: CHANGES AND CONTINUITY

The present chapter delves into the situational change reflecting upon the nature of agriculture practices among the Tangkhul. In this section, attention is given to the accentuation of the prevalent system of agriculture farming, inputs, and the experienced agriculture constraints.

6.1. Pattern of Agriculture Practices

Shimrei (2016) broadly grasped three developmental stages of the economic system to deliver a background understanding of the Tangkhul agriculture practices. The evolution of agriculture practice can be viewed from three different stages such as:- the "Savagery Stage", "Primitive Stage", and "Civilization Stage". In the "Savagery Stage," livelihood depends on forest available flora and fauna. People survived the gathering of fruits, leaves, and meat available in the jungle. The "Primitive Stage" is characterized by the transition from nomadic lives, living in caves to permanent huts, and from food gathering to food-producing lives. In the "Civilization stage", livelihood development depends on the settled agriculture structure. The author observed the pattern of agriculture practices amongst the Tangkhul which mainly classified the form of cultivation into two forms such as primitive methods of cultivation and settled or terraced cultivation. Primitive cultivation is characterized by how cultivation is unsettled and no form of irrigation is maintained. Such type of cultivation is commonly known as shifting or Jhum cultivation. The location of the cultivation changes each year from one place to another maintaining a gap of four to five years for the next cultivation on the same spot. This bears the traditional methods of regenerating soil fertility. On the other hand, terraced cultivation refers to the form of cultivation that developed mostly along the slope of the hills or around the low ground. The fields are cut out to construct a terrace and place bolder around to retain water. Canals or irrigations are built to supply

water for cultivation systematically. Terraced cultivation can be of two types such as dry terraced cultivation and wet terraced cultivation.

The practice of both the two types of cultivation is prevalent in all the study areas. The practice of shifting cultivation however is found more relevant and feasible for the production of crops like potatoes, legumes, spices, and varieties of vegetables which are grown for family consumption as well as the surplus is brought to market for pecuniary supplements. Horticulture plantation is mostly in the commercialized village, products such as avocado, banana, oranges, lemon, and mangoes are commonly grown in the areas. In regards to terraced cultivation, dry terraced cultivation is observed to have common practice in the study areas. This is due to the lack of a perennial source of supply of water, as it mainly depends on the seasonal monsoon. Nevertheless, the practice of wet terraced cultivation is found in small amounts between the two types of villages. Rice is the staple food for the Tangkhul which is mainly cultivated in terraced cultivations. Crops are cultivated seasonally and the presence of multi-cropping in the study is negligible. Commonly, the size of farmlands in the study areas is small lesser than an acre. The exact estimation of the size of farmland conforming to the standards unit of measurement could not be ascertained, as the general practice amongst the farmers' expression of farm size associates to how much tin/basket/sacks of quantity produce in a year. Such is the common parlance to express the size of the farm, the more the number of the product of tin the greater is the size of the farmland which can on the other hand affected by the fertility of the soil.

The patterns of agriculture practices are highly traditional and primitive where negligible modern methods of farming are adopted. The farming inputs are commonly locally developed and cultured. The practice of livestock rearing amongst the Tangkhul is supplementary. The farmers usually rear pigs, poultry, and cattle for the augmentation of pecuniary income which is commonly in nominal aspect.

6.2. Changes and Continuity in Agriculture Practices

Traditionally, the Tangkhul society is an agrarian society rooting its economic stability on agricultural resources. The long-standing agriculture practices have been focused mainly on the sustenance of the household economy. Therefore, agricultural inputs like seeds, tools, and methods of farming are traditional. Generally, the term agriculture is often used interchangeably with farming and crop cultivation. But in the present study, the term agriculture is conceptualized and covered three different sectors of economic operations such as farming, livestock, and forest management. The practice of animal husbandry and forest management remains a supplementary source of livelihood for the Tangkhul. Such traits of livelihood are common amongst the tribal communities in the northeast in particular and across the globe in general. The common traits were found amongst the Khasi tribe of Meghalaya (Indo-Global Social Service Society (IGSSS), 2016). Agriculture as the mainstay; a primary source of livelihood sustenance occupies the core focus of discussion in the following sections.

The inquiry into the causal factors leading to the changing pattern of agriculture practices was conducted in the form of FGDs, In-depth interviews, and Key Informant Interviews (KIIs). The information was free-listed and transcribed and presented in a thematic form.

6.2.1. Progressive adaptive change

"In the past years, we engaged in farming solely for family consumption. We had enough of everything for life to go on. But in today's world more than only food on our table, we need money to attend to our children's educational requirements and others. So farming alone for family consumption has become difficult to meet the unending life's demand unless we engage in another source of financial income", said the farmers from CAVs. Such a similar situation was faced by women farmers irrespective of the villages, whether they engaged in subsistence farming or otherwise. Another factor that led to a shift in patterns of farming was noted during the Focus Group Discussions (FGDs) in one of the CAVs villages stating that *"We have no manpower and cannot afford to hire labor. Our children are studying outside and little ones are not fit for farm work. So*

instead of farming for food, we would rather engage in cash crops farming which reduces the labor intensity that we may have double benefits..... With that amount of money earned, we can manage for both food and other needs". Commercialization of agriculture associates to increase cultivation and production of cash crops for additional pecuniary income. Production of food crops alone cannot sustain the economic demands of the people and improve the economic condition of the farmers. The condition of food security and food grain self-sufficiency holds the foundation of the household economy however; to construct fortified economic conditions monetary income requires shaping the whole self-sufficient economy. This similar incidence can be drawn from the review of the diverse experiences of agrarian transformation in five Asian countries; which reported the transformation of food crop agriculture to cash crops agriculture in pursuit of increased export earnings (Viswanathan et al., 2012).

6.2.2. Reverse adaptive change

The agriculture practices and patterns of farming which were commercially oriented at one point in the farmers' livelihood endeavor were reported to have reverted to the subsistence-oriented. Such kind of changes reflects upon the repercussion of life situation. During the outbreak of Covid19 pandemic, many households reported to have gone back to subsistence forms of farming. Those farmlands (mainly of dry terraced farmland); once left uncultivated and shifted to other commercially feasible cultivations were brought back to productive cultivation. Other sections of the farmers who left for petty businesses such as running commercial shops revert to farming to provide food security for the family due to the pandemic that their business could not sustain their livelihood. The commercially cultivated crop like cabbage, legumes, and other horticulture products could not be sold out in times of such calamities. Therefore, the only better option to sustain life was to resuscitate those uncultivated farmlands. During the pandemic period, most members of the family returned home from cities and towns are potential labor force for cultivation.

Given the pattern of agriculture practices, subsistence agriculture had been the predominant practice amongst the Tangkhul where ‘*self-reliant and sustainability*’ was often highlighted as the hallmarks of traditional undertakings during the interviews and Focus Group Discussions (FGDs). The soil fertility of the pristine agricultural land had never emerged the need for any supplementary fertilizers and the germ and pest infestation was minimal in the past years. The organic quality of food remained a distant dream for many in the present day. As time changed more life’s avenues emerged for the people to meet the demands hence the economic pattern of practices had to shift in response to such changes. The traditional ways of farming alone could not support the monetary demands of life avenues so people had to opt for different patterns of cultivation. Thus, the commercialization of agriculture as a factor to counter the change in the economic situation came to play a significant role in agriculture practices.

6.3. Sources of agriculture farming inputs

This section covered the subject elaboration on the nature and pattern of agricultural farming inputs. The way the agricultural inputs were made highlighted the condition of agriculture practices in society. As in Table 6.1, the seven (7) different agriculture inputs were highlighted such as seeds, human labor, animal labor, machinery, fertilizer, pesticides, and irrigation. The frequency of utilization and nature of inputs were assessed based on four different scales viz; Never, Sometimes, Mostly, and Always.

The nature of seeds was divided into local seeds and high-yielding variety (HYV) of seeds and the assessment was made as to how often the farmers utilized them. As the data revealed that a maximum of nearly three-fifths (58.5 percent) of the entire respondents Always used local seeds and slightly over a half (51.2 percent) of the entire respondents Sometimes used a high-yielding variety of seeds. This indicated that the farmers mostly rely on locally available seeds instead of buying from the market. In the case of within the villages, SAVs and CAVs had a maximum of nearly three-fifths (58.0 percent) and (58.1 percent) of the total respondents respectively Always opted for locally available seeds. Whereas a maximum of nearly three-fifths (55.8 percent) of the

total respondents under SAVs never opted for HYV seeds as against a maximum of slightly over three-fifths (61.1 percent) of the total respondents under CAVS Sometimes opted for HYV seeds.

The sources of human labor were observed as hired labor and family labor. The data revealed that a maximum of nearly half (48.8 percent) of the entire respondents Sometimes hired labor from outside the family but a maximum of nearly two-fifths (39.4 percent) of the entire respondents Always rather managed their work through family labor. In comparison between the types of villages, a maximum of the total respondents of little over three-fifth (63.8 percent) under SAVs and a little over two-fifths (41.6 percent) under CAVs had Sometimes hired labor and always hired labor from outside respectively. Moreover, of the total respondents under SAVs, a maximum of slightly over two-fifths (44.9 percent) of the respondents reported to have mostly utilized family labor and slightly over a half (51.0 percent) under CAVs, had always opted for family labor respectively.

The type of agricultural farmlands owing to dry terraced farmland was tilled mostly using an animal in the olden days. In the present day, most farmers opted for machines or discard the dry agricultural farmland that reduced the use of animal labor for land tilling. In this study, the data revealed that a maximum of three-fifth (60.6 percent) and slightly over a half (53.0 percent) of the entire respondents had Never owned nor hired animal labor for farm work. On the other hand, the data within the villages revealed that a maximum of one-third (33.3 percent) and a half (50.7 percent) of the total respondents under SAVs had Never owned animals for labor and sometimes hired for tilling land respectively. Whereas a maximum of 85 percent and 81.9 percent of the total respondents under CAVs Never owned nor hired animals for labor respectively.

Traditional tools and implements are commonly replaced by machines in the present day of farming. In this regard, a maximum respondents of nearly half (46.7 percent) had Never owned machinery and nearly two-fifths (38.7 percent) of the entire respondents occasionally hired machinery for farming. The comparative observation

within the villages revealed that a maximum of nearly two-fifths (37.7 percent) and slightly over a half (53.6 percent) of the total respondents under SAVs had owned machinery and hired Sometimes respectively. On the other hand, a maximum of over two-thirds (69.8 percent) and two-fifths (40.3 percent) of the total respondents under CAVs had never owned and always hired machinery respectively

The use of fertilizers has become a necessity to improve soil fertility in today's farming. The usage of chemical fertilizers is observed to be a common remedy for low productivity, yet it is not generally encouraged amongst the Tangkhul for its harmful long-term effects. The data revealed that a maximum of slightly over two-fifths (42.5 percent) and close to two-fifth (36.6 percent) of the entire respondents had Always used organic manure and never used chemical fertilizers. In the case of the villages, the data revealed that a maximum of more than three-fifth (62.3 percent) and nearly three-fourths (74.6 percent) of the total respondents under SAVs had always used organic manure and yet never opted for chemical fertilizers respectively. Whereas concerning CAVs, a maximum of nearly three-fifths (58.4 percent) and nearly a half (49.7 percent) of the total respondents had Never used organic manure and always used chemical fertilizers respectively.

Concerning the utilization of pesticides, a maximum of nearly half (47.7 percent) and close to one-third (30.3 percent) of the entire respondents Never used organic pesticides and always used chemical fertilizers respectively. The data within the villages showed that a maximum of close to two-fifth (36.2 percent) and slightly over a half (53.6 percent) of the total respondents under SAVs had Mostly used organic pesticides and never used chemical pesticides respectively. In the case of CAVs, a maximum of two-thirds (66.4 percent) and nearly three-fifths (58.4 percent) of the respondents stated that they had Never used organic pesticides and always used chemical pesticides respectively.

Irrigation is the bloodline of agriculture farming especially for wet terraced farmland and dry terraced farmland. Its source of water depends on seasonal rainfall, rainwater harvesting, and river/stream water. The result of the analysis revealed that a

maximum of slightly over two-fifth (44.6 percent), (44.6 percent) and a little over a half (54.0 percent) of the entire respondents had always depended on seasonal rainfall, never done rainwater harvesting and always depended on river/stream water respectively. When observed within the villages, the data showed that a maximum of nearly half (46.4 percent), (47.1 percent), and a little over two-fifth (41.3 percent) of the total respondents under SAVs had Mostly depended on seasonal rainfall, sometimes depended on rainwater harvesting and mostly depended on river/stream water respectively. On the other hand, a maximum of a little over a half (51.7 percent), nearly a half (49.0 percent), and over three-fourths (78.5 percent) of the total respondents under CAVs had Always depended on seasonal rainfall, never depended on rainwater harvesting and Always depended on river/stream water respectively.

Table 6.1.Source of agriculture inputs

Sl. no.	Inputs	Types of Villages		Total n=287		
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149			
1	Seeds	Local				
		Never	3 (2.2)	5 (3.4)	8 (2.8)	
		Sometimes	5 (3.6)	12 (8.1)	17 (5.9)	
		Mostly	50 (36.2)	44 (29.5)	94 (32.8)	
		Always	80 (58.0)	88 (58.1)	168 (58.5)	
		HYV				
		Never	77 (55.8)	12 (8.1)	89 (31.0)	
		Sometimes	56 (40.6)	91 (61.1)	147 (51.2)	
		Mostly	5 (3.6)	31 (20.8)	36 (12.5)	
		Always	0 (0.0)	15 (10.1)	15 (5.2)	
		2	Human Labor			
				Hired labor		
			Never	6 (4.3)	6 (4.0)	12 (4.2)

	Sometimes	88 (63.8)	52 (34.9)	140 (48.8)
	Mostly	39 (28.3)	29 (19.5)	68 (23.7)
	Always	5 (3.6)	62 (41.6)	67 (23.3)
	Family Labor			
	Never	4 (2.9)	13 (8.7)	17 (5.9)
	Sometimes	35 (25.4)	45 (30.2)	80 (27.9)
	Mostly	62 (44.9)	15 (10.1)	77 (26.8)
	Always	37 (26.8)	76 (51.0)	113 (39.4)
3	Animal Labor			
	Owned			
	Never	46 (33.3)	128 (85.9)	174 (60.6)
	Sometimes	41 (29.7)	2 (1.3)	43 (15.0)
	Mostly	41 (29.7)	1 (0.7)	42 (14.6)
	Always	10 (7.2)	18 (12.1)	28 (9.8)
	Hired			
	Never	30 (21.7)	122 (81.9)	152 (53.0)
	Sometimes	70 (50.7)	2 (1.3)	72 (25.1)
	Mostly	28 (20.3)	5 (3.4)	33 (11.5)
	Always	10 (7.2)	20 (13.4)	30 (10.5)
4	Machinery			
	Owned			
	Never	30 (21.7)	104 (69.8)	134 (46.7)
	Sometimes	52 (37.7)	2 (1.3)	54 (18.8)
	Mostly	45 (32.6)	3 (2.0)	48 (16.7)
	Always	11 (8.0)	40 (26.8)	51 (17.8)
	Hired			
	Never	13 (9.4)	47 (31.5)	60 (20.9)
	Sometimes	74 (53.6)	37 (24.8)	111 (38.7)

	Mostly	44 (31.9)	5 (3.4)	49 (17.1)
	Always	7 (5.1)	60 (40.3)	67 (23.3)
5	Fertilizer			
	Organic Manure			
	Never	2 (1.4)	87 (58.4)	89 (31.0)
	Sometimes	14 (10.1)	23 (15.4)	37 (12.9)
	Mostly	36 (26.1)	3 (2.0)	39 (13.6)
	Always	86 (62.3)	36 (24.2)	122 (42.5)
	Chemical Fertilizer			
	Never	103 (74.6)	2 (1.3)	105 (36.6)
	Sometimes	29 (21.0)	16 (10.7)	45 (15.7)
	Mostly	6 (4.3)	57 (38.3)	63 (22.0)
	Always	0 (0.0)	74 (49.7)	74 (25.8)
6	Pesticides			
	Organic Pesticides			
	Never	38 (27.5)	99 (66.4)	137 (47.7)
	Sometimes	23 (16.7)	17 (11.4)	40 (13.9)
	Mostly	50 (36.2)	7 (4.7)	57 (19.9)
	Always	27 (19.6)	26 (17.4)	53 (18.5)
	Chemical Pesticides			
	Never	74 (53.6)	4 (2.7)	78 (27.2)
	Sometimes	54 (39.1)	12 (8.1)	66 (23.0)
	Mostly	10 (7.2)	46 (30.9)	56 (19.5)
	Always	0 (0.0)	87 (58.4)	87 (30.3)
7	Irrigation			
	Seasonal Rainfall			
	Never	3 (2.2)	2 (1.3)	5 (1.7)
	Sometimes	19 (13.8)	19 (12.8)	38 (13.2)
	Mostly	64 (46.4)	51 (34.2)	115 (40.1)

Always	52 (37.7)	77 (51.7)	129 (44.9)
Rain Water Harvesting			
Never	55 (39.9)	73 (49.0)	128 (44.6)
Sometimes	65 (47.1)	0 (0.0)	65 (22.6)
Mostly	16 (11.6)	27 (18.1)	43 (15.0)
Always	2 (1.4)	49 (32.9)	51 (17.8)
River Stream water			
Never	21 (15.2)	3 (2.0)	24 (8.4)
Sometimes	22 (15.9)	7 (4.7)	29 (10.1)
Mostly	57 (41.3)	22 (14.8)	79 (27.5)
Always	38 (27.5)	117 (78.5)	155 (54.0)
Source: Computed	Figures in Parentheses are percentages		

6.4. Experienced constraining factors in productive agriculture farming

Table 6.2 represented the constraining factors for smooth and productive agriculture farming faced by the women farmers. Concerning this, fifteen (15) constraining factors were listed and ranked as per the severity and magnitude of their consequences on agriculture as indicated by the mean score. Despite the ranked status of the constraining factors remained interlinked with each other and one factor led to the other factor. The first five highest ranked factors were - Inadequate availability of organic manure, financial constraint or inadequacy, Lack of technical knowhow to operate/practice, and Lack of transportation at the mean score of 2.34 (SD = 0.811), 2.23 (SD = 0.862), 1.95 (SD = 0.778) and 1.94 (SD = 0.966) respectively. The second highest ranking factors included Inadequate human labor and lack of marketing facilities with an equal mean score of 1.81 (SD = 0.866, & 1.018), followed by Non-remunerative returns, Degradation of soil fertility and Inadequate supply of chemical pesticides at the mean score of 1.66 (SD = 0.893), 1.62 (SD = 0.723) and 1.60 (SD = 0.956) respectively. The third highest ranking constraining factors were: - Inadequate supply of chemical fertilizer, Lack of irrigation facilities/sources, Poor road connectivity, and Inadequate

animal labor with the mean score of 1.56 (SD = 0.990), 1.43 (SD = 0.905), 1.25 (SD = 1.027) and 1.04 (SD = 1.010) respectively.

Table 6.2.Experienced constraining factors in productive agriculture farming

Sl. no.	Constraints	Types of Villages					
		Subsistence Agriculture Villages n=138		Commercialized Agriculture Villages n=149		Total n=287	
		Mean	Std. D	Mean	Std. D	Mean	Std. D
1	Financial constraint	2.00	.854	2.44	.816	2.23	.862
2	Degradation of soil fertility	1.89	.799	1.38	.539	1.62	.723
3	Lack of irrigation facilities or sources	1.52	.803	1.35	.986	1.43	.905
4	Lack of technical knowhow to operate/ practice	2.07	.798	1.84	.745	1.95	.778
5	Inadequate Human labor	1.81	.779	1.81	.942	1.81	.866
6	Inadequate animal labor	1.22	.888	.87	1.086	1.04	1.010
7	Lack of marketing facilities	2.10	.922	1.54	1.030	1.81	1.018
8	Non remunerative Returns	1.96	.950	1.39	.742	1.66	.893
9	Lack of transport service	1.85	.919	2.02	1.003	1.94	.966
10	Poor road connectivity	1.93	.848	.61	.723	1.25	1.027
11	Inadequate supply of chemical fertilizer	1.47	1.089	1.65	.885	1.56	.990
12	Inadequate supply of Chemical pesticides	1.54	1.061	1.65	.846	1.60	.956
13	Inadequate availability of organic manure	2.15	.827	2.51	.759	2.34	.811
14	Lack of storage facilities	2.20	.838	.51	.759	1.32	1.163
15	Irregular rainfall monsoon	1.93	.839	1.57	.932	1.75	.905

Source: Computed

Figures within parentheses are percentages

Moreover, in corroboration to the above quantitative results, the elicited information from Focus Group Discussions (FGDs) was elaborated below concerning the experienced constraining factors and difficulties faced by the Tangkhul women farmers in Ukhrul.

6.4.1. Pests and germs infestation

In several incidents, it was reported that the major reason for low harvest or failed harvest was due to germs and pests. Usage of pesticides and other related chemicals was uncommon amongst the farmers especially those who were more into subsistence farming although they were commercially induced for financial income. These women farmers lamented, how the introduction of varieties of chemical manures has brought about the increase in the prevalence of germs and pests. *"Farmers who have money bought home chemical manures, pesticides, herbicides, etc., and all sorts of foreign products for agriculture, actually harmed the farming ecology. We who did not use such chemical products found no remedy to save our precious crops. Before they started using such chemical manures and pesticides lesser incidence of germs and pests' infestation were experienced"*. Such situations were recounted from the villages having the characteristics of subsistence agriculture trend. However, similar situations were not uncommon even in the villages having the characteristics of commercialized agriculture trends. Thus, at the end of the season, the farmers had to endure all the brunt and losses.

6.4.2. Lack of storage and marketing facilities

One of the most disheartening revelations was that *"the women farmers reported that they cultivated with sweat and tears with a hope that it would help ease up their livelihood struggles but only to face with more challenges and burdens in the absence of feasible marketing facilities most of their produces must go waste"*. Poor or rather invisible market facility coupled with low returns consumed by the absence of preservative facility. Most of the products were highly perishable that required proper preservative measures and storage facilities. While in some cases, they get to sell their products but at a low rate that could not even recuperate the cost of transportation. The cost of transportation usually was high owing to distance and the dilapidated road condition.

6.4.3. Lack of financial assistance

The changes in "input structure" demands a high amount of farmers' cash expenditure (Vyas, 2004). In the most commonly expressed scenario of people living in rural areas financially paint with instability and poor. Across the discussions, the issue of financial inadequacy occupied a wide range of distress among the women farmers. They maintained that no financial assistance had been received or sought from any government squares and corners. Such governmental schemes and provisions for financial assistance to farmers were not informed. In the past days, financial investment in farming was an uncommon practice, the farming being subsistence in nature they managed every input available in their granary. Agriculture tools were the only inputs that required financial investment. However, as more agriculture farming shifts from subsistence to that commercialization more financial investment is required starting from seeds, pesticides, fertilizers, and machine and marketing aspects. An increase in hiring labor is one factor that burdens the farmers financially. The only means available locally to ease the financial constraints is to borrow from private individuals or money lenders with an exorbitant rate of interest, this in turn burden the farmers more.

6.4.4. Overburdened workloads

Women are crushed with responsibilities at home and outside. From lighting up the hearth to that of putting off the fire they keep busy all along. Some of the women farmers expressed that "*we are like a truck fully loaded with goods; we are like a machine*" and others stated that "*we are like a bullock cart dragging all sorts of items desired by the owner*". Their analogical expressions evince their nature of overburdened workloads and ensued helplessness. Conforming to this, some women lamented saying "*How we wished we could at least split ourselves into two different bodies ensuring the entire work done*". Despite the already overwhelming tasks at home bearing all responsibilities such as food preparation, cooking, cleaning, washing, fetching water, nursing the young ones and the list goes on, women's workloads are doubled with the farm work. Compared to men, women reportedly performed greater responsibilities and tasks relating to agriculture farming as well.

6.4.5. Lack of agricultural land

Jhum cultivation and terrace farming are commonly practiced for the plantation of crops and food grain amongst the Tangkhul tribe in Ukhrul, Manipur, India. With the increase in the number of household and individual populations, the availability of cultivable land is limited especially of terrace farm land. Jhum cultivable land is normally under the custodian of the village chief and his council as well as some land is privately owned by private individuals. Some households do not own cultivable land for themselves. This posed a big concern amongst the women farmers. Thus, to sustain their livelihood they must cultivate on someone's land, and in return, they must spare certain provisions for the payment of land use especially in the case of terrace farming. *“My family does not have cultivable agriculture land for our own. Every year we request the village headman for jhum cultivable land and other types of farming purposes for our livelihood”.*

6.4.6. Irregular monsoon

Agriculture in Ukhrul is solely depending upon the seasonal monsoon. It determines the quality of the harvest. The irregularity of the monsoon greatly affects the harvest. Lack of rainwater harvesting, and proper irrigation is of big concern for the women farmers. Their yearly harvest hangs at the mercy of regular monsoon. Women farmers accounted for such bad farming experience that the crops were greatly affected due to scarcity of water hence less harvest. *“we planted with sweat and tears but when the rain did not come regularly this year (2020), our harvest was greatly affected”.* Others exclaimed, *“Our crops were all decomposed due to the irregularity of rain”.*

6.4.7. Lack of Labour

“Back in yesteryears when our children were young and living beside us, farming was never an issue having adequate manpower. However, now that they are all grown up and staying outside for their education or employment; there left no one to help us out in farming. We are old and have no more strength to carry out farming”. This situation was raised as a common scenario that challenges women farmers. Due to a lack

of manpower, some had to abandon their farm, and even hiring labor is an expensive effort to manage.

6.4.8. Psychological and Emotional Stress

Recollecting their experiences, they maintained how unfair life is at times when there is no one else to run to in times of crisis. *“Are we to worry about children’s educational expenditure or to worry about what to cook or how to run the farm affairs?”* they sighed! Such complexity is the overarching seemingly never-ending burden of concerns on their shoulders. On a different note, they maintained *“Working a whole day at the farm takes on physical strength yet peaceful sleep regains the lost strength. However, it takes more energy when any member in a family develops anti-social behavior no sleep can compensate for its exhaustion”*. One of the most challenging difficulties is that women farmers often encounter psychological and emotional exertion. They maintained that they are more worried about their children not engaging in substance abuse or such anti-social activities. Further, it is worst when the head of the household becomes a drunkard or picks up such behaviors. On the other hand, in many cases, women farmers often manage financial affairs in the family. They expressed their sleepless experiences worrying about their children's educational expenditures. When all the other sources got exhausted they enter houses to borrow from their friends. *“It is not because we have money that my children were sent to other places for higher education but knowing how helpless being uneducated like me so, we wanted my children to be educated like others. It is not easy when you have no means of financial income but solely depend on the little amount that we could manage from the farm and non-farming activities. Often we worried and with thick faces, we enter houses and borrowed from our friends and relatives only to repay it with interest”*. More than physical exhaustion women farmers’ psychological and emotional stress distresses their well-being.

6.4.9. Physical health hazards

"We woke up around 4:30 am -5:00 am to prepare food, clean house, take care of children study, and get ready for school, once all these things are done we attend to farm work for the whole day and get back as late as 6-7 pm and taking care of all the kitchen affairs. Sometimes we even go to the farm early morning before food and come back late at night, but it all depends on the work. Our responsibilities are more if there are any old people in a family or small children. Taking care of live stocks is not an exceptional case. We don't have much time for proper rest per what our body requires".

This inferred an excessive physical exertion and inability to invest their time in personal care due to this, most of them complained of their health complications. Backache and joint pain were found to be some common illnesses among the women farmers. In a significant account, the study informed about the ill health consequences due to overburdened workload and weather conditions. Backache, vision problems, and neck problems were some common illnesses among farmers (Hussain et al., 2011). Similarly to this another study affirmed that women encountered health problems, management problems, and social and financial problems in their lives due the agriculture activities (Aggarwal et al., 2013). Agriculture-related health problems like fatigue, backache, headache, and restlessness worsened by the unhygienic condition of the working place were accounted for. In connection with these effects, constraints to time management and social constriction were also noted (Sharma et al., 2012). Physical stress and burden workload without proper rest and diet consequences in agriculture-related health problems of Muscular skeletal complaints (Kaur & Mavi, 2015). The African Population and Research Center (APHRC) (2019) pointed out that back strain and pain are most commonly affected among women farmers. The use of fertilizer and herbicides harms the soil and contaminates the surface water which results in human health hazards and affects livestock. It further stated that exposure to herbicides and pesticides can lead to breast cancer, loss of sperm count, spontaneous abortion, and other reproductive-related health hazards.

6.5. Summary

The pattern and practices of agriculture within the two types of villages are discussed in this chapter. The economic condition and pattern of agriculture practices were found to be closely associated, as the shift in nature of economic demands triggered the bullet of agriculture change.

In the following chapter, the discussion will be made on the dynamics of socio-cultural relationships and gender roles concerning agricultural practices.

CHAPTER VII

DYNAMICS OF SOCIO-CULTURAL RELATIONSHIPS AND GENDER ROLES

This chapter embarks on the situational exploration of socio-cultural relationships and gender roles amongst the Tangkhul pacing in tandem with the socio-economic structural changes of the world. The socio-cultural practices and relationships amongst the Tangkhul are closely knitted with the livelihood economic undertakings. The Tangkhul being the agrarian society has the socio-cultural characteristics of agriculture manifestation. Its cultural festivals, folk lore, tales, songs and dance; the construct of social intercourse and relationships ignites and revolves around the agriculture orbits. Undoubtedly, almost every detail fringes of cultural and social fountain emanates from the source of agricultural economic spring. Gender roles thus revolve around the social system of economic ridden consortium of biological convenience. The roles and responsibilities at certain circumstances absorb predestined beings that conceived the construct of gender roles.

The long admired strong social bondage and sense of belongingness and the altruistic sense of rendering service rooted in deep cultural values characterized the Tangkhul society in the olden days. The simple ways of living, self-reliant agriculture sustenance of livelihood, less literate and outside exposure yet impeccably considered to be the better generations of Tangkhul. As time passes, situation alters; the Indian economic structural shift brought about several changes amongst the tribal in general and the Tangkhul in particular. The waves of globalization pervaded every nook and corners of villages that has challenged the long existed socio-cultural and economic structures of the Tangkhul. In the course of this inevitable forces of liberalization and commercialization, the value laden socio-cultural relationship and gender roles stand shaky.

In this chapter, the subject's discourse is outlined on the basis of the two main sub-sections that engaged in exploring the different aspects of structural changes. The first sub-section delved into the aspect of ensuing changes in socio-cultural relationship.

In the second sub-section, attempts were being made to explore the dynamics of gender roles assignment. The study was conducted in four different villages which were categorized into two types of villages based on agricultural trends such as subsistence agriculture villages (SAVs) and commercialized agriculture villages (CAVs).

7.1. Dynamics in socio-cultural relationship

The enquiry into the dynamics of socio-cultural relationship was based on six (6) distinct components of relationship. These components represent the adhered socio-cultural values, upon which the pedestal of relational practices within the community lies. These value laden acts include altruistic act, hospitality/generosity, participation in cultural activities, social unity, social disparity and community participation. The five-point scales of measurements were used to ascertain the situational dynamics of socio-cultural relationship such as don't know, highly decrease, slightly decrease, neither increase nor decrease, slightly increase and highly increase (see Table 7.1). The data inputs and responses signified the simulacra of respondents' opinions and experiences.

The reciprocal act of kindness or rendering voluntary services without any reward expectation in return has been one of the unique practices amongst the Tangkhul society. Such service has been widely practiced in carrying out agriculture activities, construction work and in times of calamities. This sense of value-based practice is instilled in the minds of young people since from the childhood so as to live with it when they grow old. As time passes by, the socio-economic and political situations changes, and the living condition of the people changes that pose challenges to the old age traditions and practices. The study intended to unearth the prevalent altruistic act amongst the Tangkhul. The result of the analysis revealed that the maximum of nearly one-fourth (24.4 percent) of the entire respondents affirmed that the practice of altruistic service had been slightly increase. In congruent to this, the maximum of two-fifth (40.3 percent) of the total respondents belonging to CAVs confirmed of highly increase in the act of altruistic service. However, in contrary to this, the maximum of less than one-third (30.4 percent) of the total respondents belonging to SAVs asserted that the practice of altruistic service had neither increase nor decrease during the period of field visit. In

comparison, the data revealed that CAVs had the higher prevalence of practice of altruistic service with the mean score of 3.91 against the SAVs level of 2.30 mean score.

The essence of hospitality goes beyond the act of serving and welcoming heartily to strangers or acquaintances. It bridges the gap between two persons and strengthens the relationships that in its process harness community cohesive bondage and humanity. A common practice amongst the Tangkhul community could be seen of sharing agriculture products and food provisions amongst the neighbors and community as a whole. This instills the sense of unity and belongingness. The manner and practice in which, selflessness and desired common welfare exist to be collective social behavior that characterized the features of Tangkhul society. The study intended to unearth the changing scenario of such practices over time amongst the Tangkhul community. The data revealed that maximum of close to one-third (31.4 percent) of the entire respondents asserted to have slightly decreased of hospitality and generosity amongst the community. The same observation had been made by the maximum of slightly more than two-fifth (42.0 percent) of the total respondent belonging to SAVs. In contrary, the maximum of a half (50.3 percent) of the total respondents belonging to CAVs asserted to have slightly increased of hospitality and generosity in the community. In regard to this, the status comparison of the prevalence of hospitality and generosity was made between the SAVs and CAVs. The result of the analysis revealed CAVs of having higher level of hospitality and generosity at 3.32 mean score as against the 2.44 mean score of SAVs.

One of the defining attributes of prevailing socio-cultural relationship can be related to the manner of how people participate in cultural activities. Cultural festivals and activities involvement builds up peoples' connectivity and strengthen their relationship, moreover it helps mould an individual's social behavior and actions. The Tangkhuls are closely adhered to their traditional and cultural norms and activities and consciously protective. The explorations were made to ascertain the condition of people's participation in cultural activities. The data inference was made that the higher the level of participation in cultural activities confirmed the better socio-cultural relationship amongst the Tangkhul. The result of the analysis highlighted that the

maximum of nearly two-fifth (37.3 percent) of the entire respondents affirmed of slightly decreased in cultural activity participation. The same affirmation had been given by the maximum of slightly over two-fifth (42.8 percent) and nearly one-third (32.2 percent) of the total respondents belonging to SAVs and CAVs respectively. The result of the analysis reflected that the CAVs had higher level of participation in cultural activities with the mean score of 2.99 as compared to that level of 2.32 mean score of SAVs.

In yester year human population were lesser with limited outside exposure that normally lived in small pockets close to each other. The Tangkhul live in semi urban, and majority are in rural areas, people live in rural villages are well known to each other and directly or indirectly related to one another which create such social environment of cohesiveness and understanding. The differences in one's thoughts and opinions are of human nature wherever it is yet finding the middle ground of understanding becomes the essence of unity. The Tangkhul has customary ways of settling conflicts and discords within the community, maintaining peace and harmony has always been the priority tasks. The data represented the situational prevalence of social unity within the Tangkhul community. The result of the analysis highlighted that the maximum of nearly two-fifth (38.7 percent) of the entire respondents believed that social unity had been slightly decreased over the years. The maximum of nearly two-fifth (37.6 percent) of the total respondents belonging to CAVs had the similar observations. On the other hand, the maximum of slightly over two-fifth (41.3 percent) of the total respondents belonging to SAVS viewed that social unity had been neither increased nor decreased over the past years. In view of the prevalence level of social unity, the CAVs had the higher level of social unity with the mean score of 2.92 over to the level of 2.39 mean score belonging to SAVs.

The economic condition of the Tangkhul reels under the waves of poverty. The major source of livelihood depends on agriculture farming, majority of the people are struggling to meet their basic needs. The problem of poverty is compounded by the existing poor road connectivity, lack of proper health facilities, improper educational

facilities, lack of marketing facilities and alternate source of livelihood plagued the community. It is pertinent to mention that certain few sections of family whose members are government employees and those of who are working in private and business sectors have better living conditions as compared to the majority of the cultivators. Families and individuals who have other sources of income rather than agriculture source appeared to have more opportunities of better living conditions. The difference in sources of income differ living conditions that yield social disparity in the society. The study explored on such possible changing conditions of social environment amongst the Tangkhul. The result highlighted that the maximum of one-third (33.4 percent) of the entire respondents viewed that social disparity had been slightly decreased. The maximum of two-fifth (40.3 percent) of the total respondents from CAVs had the same view in this respect. However, in contrary, the maximum of two-fifth (40.6 percent) of the total respondents belonging to SAVs asserted of highly increased social disparity amongst the Tangkhul. Thus, attempt had been made to ascertaining the level of existing social disparity between the two categorized villages. In this regard, the level of social disparity in SAVs was observed to be higher at 3.71 mean score as compared to that CAVs level of social disparity at 2.50 mean score.

The strong sense of we-feeling and belongingness strengthen the community bondage existed in the small community like the Tangkhul in the olden days. Almost every affair, issues and challenges were tackled altogether as one community. In a simple sense of community participation refers to that of collective endeavors and initiatives taken by the members together. Such social integrity marked the essence of community bondage in the past generations. The challenges to this social value come in the wake of emphasizing on privatization and individualization of economic sphere. The represented data highlights the existing scenario of community participation in the Tangkhul society. The result of the analysis revealed that the maximum of nearly two-fifth (36.2 percent) of the entire respondents asserted of slightly decreased in community participation. The same situation had been highlighted by the maximum of slightly over two-fifth (42.8 percent) of the total respondents belonging to SAVs. In another case, the

maximum of equally less than one-third (30.2 percent) of the total respondents belonging to CAVs asserted of slightly decreased and neither increase nor decrease in community participation. In regard to this an observation had been made to ascertain the level of community participation between the two types of villages. The result revealed that the level of community participation in CAVs proved to be at higher level with 2.86 mean score as against the SAVs level of 2.43 mean score.

Tables 7.1.Dynamics in socio-cultural relationship

Sl. no.	Components (Values)	Types of Villages		Total n=287
		Subsistence Agriculture Villages n=138	Commercialized Agriculture Villages n=149	
1	Altruistic act/service			
	Don't know	2 (1.4)	0 (0.0)	2 (.7)
	Highly Decrease	35 (25.4)	13 (8.7)	48 (16.7)
	Slightly Decrease	41 (29.7)	12 (8.1)	53 (18.5)
	Neither Increase nor Decrease	42 (30.4)	10 (6.7)	52 (18.1)
	Slightly Increase	16 (11.6)	54 (36.2)	70 (24.4)
	Highly Increase	2 (1.4)	60 (40.3)	62 (21.6)
	Mean	2.30	3.91	3.14
	Std. Deviation	1.063	1.257	1.419
	2	Hospitality/Generosity		
Don't know		1 (.7)	0 (0.0)	1 (.3)
Highly Decrease		17 (12.3)	4 (2.7)	21 (7.3)
Slightly Decrease		58 (42.0)	32 (21.5)	90 (31.4)
Neither Increase nor Decrease		47 (34.1)	32 (21.5)	79 (27.5)
Slightly Increase		12 (8.7)	75 (50.3)	87 (30.3)
Highly Increase		3 (2.2)	6 (4.0)	9 (3.1)
Mean		2.44	3.32	2.90
Std. Deviation		.920	.945	1.029

3	Participation in Cultural Activities			
	Highly Decrease	22 (15.9)	12 (8.1)	34 (11.8)
	Slightly Decrease	59 (42.8)	48 (32.2)	107 (37.3)
	Neither Increase nor Decrease	48 (34.8)	40 (26.8)	88 (30.7)
	Slightly Increase	9 (6.5)	27 (18.1)	36 (12.5)
	Highly Increase	0 (0.0)	22 (14.8)	22 (7.7)
	Mean	2.32	2.99	2.99
	Std. Deviation	0.819	1.194	1.194
4	Social Unity			
	Don't know	1 (.7)	0 (0.0)	1 (.3)
	Highly Decrease	17 (12.3)	19 (12.8)	36 (12.5)
	Slightly Decrease	55 (39.9)	56 (37.6)	111 (38.7)
	Neither Increase nor Decrease	57 (41.3)	28 (18.8)	85 (29.6)
	Slightly Increase	8 (5.8)	10 (6.7)	18 (6.3)
	Highly Increase	0 (0.0)	36 (24.2)	36 (12.5)
	Mean	2.39	2.92	2.67
	Std. Deviation	0.805	1.388	1.174
5	Social Disparity			
	Don't know	0 (0.0)	1 (0.7)	1 (0.3)
	Highly Decrease	2 (1.4)	15 (10.1)	17 (5.9)
	Slightly Decrease	36 (26.1)	60 (40.3)	96 (33.4)
	Neither Increase nor Decrease	18 (13.0)	54 (36.2)	72 (25.1)
	Slightly Increase	26 (18.8)	19 (12.8)	45 (15.7)
	Highly Increase	56 (40.6)	0 (0.0)	56 (19.5)
	Mean	3.71	2.50	3.08
	Std. Deviation	1.280	0.867	1.240
6	Community Participation			
	Don't know	3 (2.2)	0 (0.0)	3 (1.0)

Highly Decrease	12 (8.7)	13 (8.7)	25 (8.7)
Slightly Decrease	59 (42.8)	45 (30.2)	104 (36.2)
Neither Increase nor Decrease	51 (37.0)	45 (30.2)	96 (33.4)
Slightly Increase	13 (9.4)	42 (28.2)	55 (19.2)
Highly Increase	0 (0.0)	4 (2.7)	4 (1.4)
Mean	2.43	2.86	2.65
Std. Deviation	0.862	1.014	0.966

Source: Computed

Figures in parentheses are percentages

7.2. Dynamics in gender roles assignment

The ramification of traditionally construct gender classification between men and women extents over socio-economic and political spheres that the assignments of tasks and responsibilities at home and outside have been made in line with this classification. The determination of prerogative rights of men and women based on gender in human societies causes inequality and discrimination in different socio-economic and political contexts. Many scholars and social scientists have been fervently working on ensuring gender equality and eradicating such ensued social injustice. Thus, the issue of gender inequality occupies a prominent space in the academic discourse.

In this regard, the study attempted to explore the situational prevalence owing to gender roles assignments in the Tangkhul society. The exploration was done in contingent upon six prominent characteristics of gender related roles such as; responsibility at home, social obligation, leisure time with friends, involvement in decision making, autonomy in personal matters and husband involvement in household chores. The extent of these roles performances were measured in lined with six layers of rating such as don't know, highly decrease, slightly decrease, neither increase nor decrease, slightly increase and highly increase (see Table 7.2).

There is no doubt that women bear majority of the domestic household chores and responsibility upon their shoulders. The magnitude of women's labor and time spent on household requirements and responsibilities consumed almost half of their daily schedule. Generally, men were observed to be more relaxed from the household

responsibility but involved more into outside manual workloads. The traditional impression had been out the perception that domestic household chores belonged to women and for men were viewed to be out doing other farm related or heavy manual work. Certain household chores like cooking, washing, mopping floor, fetching water, grinding and husking were considered as women's task that men engaging in such activities were looked as being feminine. The role assignments on the basis of gender had been prominent in the Tangkhul society. Such classification of responsibilities had implications on the role defining and the nature of women's workload distribution. The result of the data revealed that the maximum of nearly two-fifth (38.3 percent) of the entire respondents affirmed of neither increase nor decrease in women's workload and responsibility at home. This observation was supported by the maximum of slightly more than one-third (35.5 percent) of the total respondents belonging to SAVs. On the other hand, the maximum of slightly more than two-fifth (44.3 percent) of the total respondents belonging to CAVs stated that in the past years the role and responsibilities of women at home had been slightly increase. The increase in responsibilities of women at home were attributed to different factors such as family with old age member, having small child, single parent, inattentive partner and the nature of partner's employment.

The role contribution of women in promoting social development is of paramount importance. In fact their social role and responsibility begins at home in nursing children and raising them in socially acceptable ways. Besides, outside home women play an inevitable role in taking responsibility and involvement in civil society organizations and church body. The Tangkhul women play significant roles in improving the socio-economic condition and contribute to the stability of local governance. Their free involvement and participation in social organizations shape the obligatory sense of social responsibility that on the other hand accentuates the high social status of women amongst the Tangkhul. Normally, the social obligations and responsibility evolves along with the changing social environment over a period of time. Thus, practically the past social responsibilities and obligations ought to evolve to more relevant obligations of the present time. In regards to this, the involvement of men in

social organizations and social obligations had been traditionally more obvious and considered to be their responsibility and expected women to be confine with domestic responsibilities. The study explored to such possible shift in social obligations in response to the changing environment of the society. The data revealed that the maximum of more than two-fifth (44.3 percent) of the entire respondents stated that their social obligations neither increased nor decreased. The same responses had been recorded from the respondents belonging to SAVs and CAVs. In case of SAVs, the maximum of nearly a half (45.7 percent) of the total respondents ascribed that their social obligations had neither increased nor decreased similarly, the maximum of more than two-fifth (43.0 percent) of the total respondents belonging to CAVs also affirmed that their social obligation being neither increased nor decreased.

The responsibilities of women at home and livelihood activities with social responsibilities overburden their daily life. The respondents recounted of how they felt like bullock carts or mechanical trucks that carries the whole load of responsibilities upon their shoulders. Further, they expressed their heavy daily schedule of how from the early sunrise to till dusk engaged in domestic works and farm works tremendously affect their personal and social life. Practically, such overwhelming workload overburdened women to the extent of restricting the personal space to have leisure time with friends and relatives. The implications of stressful lifestyle of women farmers upon their well-being were reported during the interview. In this study, exploration was made to measure changes in the patterns of women leisure time spent with friends. The constructs were inferred that with the positive change in gender role assignment would reduce the women workloads and have more leisure time with friends and relatives. In regard to this, the data revealed that the maximum of one-third (33.4 percent) of the entire respondents affirmed that their leisure time with friends and relatives had been slightly decreased over a period of time. The same was similarly confirmed by the maximum of slightly more than two-fifth (44.2 percent) of the total respondents belonging to SAVs. On the other hand, the maximum of nearly two-fifth (36.9 percent)

of the total respondents stated that the leisure time spent with friends and relatives had neither increased nor decreased in times.

The nature of the Tangkhul society as a patriarchal has its implications upon the socio-cultural structures and system of local governance. The dominance of male in almost every significant aspect of decision making process could be observed the pattern of patriarchal characteristics. It favors men over women in that the systems run as per the perspectives and decisions of men. Although there is no restriction upon involvement of women in decision making, it practically viewed as an unusual behavior and immodest on the part of women. Thus, women are expected to be timid and modest and remain quiet in the presence of men. However, as times bring changes and education enlightened the dungeon mindset of men as well as women are emboldened to come out from the traditional bondage and misconceptions. Gradually more women are coming up on the pedestal of decision making in the society. The data revealed that the maximum of nearly two-fifth (39.7 percent) of the entire respondents affirmed that their level of involvement in decision making had been slightly increased. The same had been confirmed by the maximum of nearly three-fifth (56.4 percent) of the total respondents belonging to CAVs. On the other hand, the maximum of slightly more than two-fifth (43.5 percent) of the total respondents stated that their involvement in decision making process had neither been increased nor decreased.

In a predominant patriarchal society, there are instances of women being subjected to the opinions, whim and wishes of men. In other words, subjugating the opinions and interests of women has directly or indirectly affect their personal autonomy and social functioning. It results to mental stress and psychological distress of women that strain the relationship between husband and wife in particular and between men and women in general. On the other hand, subordination and subjugation of the interests and opinions of women hampers the psycho-social development and curtail their well-being. During the interview the respondents were at the opinion that they would not want to do things without the knowledge and consent of their partners. This drew the researcher's attention that the women's autonomy over their personal matters still subject to certain

traditional limitations of gender roles. In corresponding to this subject matter, the data depicted that the maximum of slightly more than a half (51.2 percent) of the entire respondents affirmed of their personal autonomy being neither increased nor decreased over the past years. The responses from the SAVs and CAVs were found to be consistent with that of entire respondents' perspectives. That, the maximum of three-fifth (60.4 percent) of the total respondents belonging to CAVs reported that their personal autonomy were neither increased nor decreased in times. In regards to SAVs, the maximum of slightly more than two-fifth (41.3 percent) of the total respondents stated that their personal autonomy remained neither increased nor decreased in the past.

The Tangkhuls are busy people engage in agriculture as the main stay of livelihood, where involvement of both men and women in farm activities remain the core work nature throughout the year. The patterns of work activities involvement of men normally confines outside the households related activities. Although women were found to be actively involved in both the household chores and farm activities, men were observed to be more concentrating on the farm or other secondary activities rather to be engaged in household chores. It is reportedly believed that household chores are women's responsibility that men engaging or doing the household chores are often looked as being feminine. Thus, such traditional perception on the other hand has an adverse effect upon the life of women that their roles and responsibilities at home and on farm greatly overburden them. Subsequently, it leads to hampering the women's well-being. In an attempt to examine the changes in gender role assignments, the patterns of husband involvement in household chores were explored. The report from the explored data confirmed that the maximum of equally less than one-third (30.7 percent) of the entire respondents experienced that their husband involvement in household chores had neither been increased nor decreased while other section affirmed that it had been slightly increased in the past. The maximum of slightly more than two-fifth (44.3 percent) of the total respondents belonging to CAVs viewed that involvement of husband in household activities had been slightly increased. In contrary note, the maximum of slightly more than one-third (35.5 percent) of the total respondents

belonging SAVs stated that the involvement of husband in household chores had neither been increased nor decreased.

Table 7.2.Dynamics in gender roles assignment

Sl. no.	Characteristics	Types of villages		Total N=287
		Subsistence Agriculture Villages N=138	Commercialized Agriculture Villages N=149	
1	Responsibility at Home			
	Don't know	4 (2.9)	0 (0.0)	4 (1.4)
	Highly Decrease	8 (5.8)	0 (0.0)	8 (2.8)
	Slightly Decrease	36 (26.1)	15 (10.1)	51 (17.8)
	Neither Increase nor Decrease	49 (35.5)	61 (40.9)	110 (38.3)
	Slightly Increase	31 (22.5)	66 (44.3)	97 (33.8)
	Highly Increase	10 (7.2)	7 (4.7)	17 (5.9)
2	Social Obligation			
	Don't know	4 (2.9)	0 (0.0)	4 (1.4)
	Highly Decrease	7 (5.1)	1 (0.7)	8 (2.8)
	Slightly Decrease	39 (28.3)	22 (14.8)	61 (21.3)
	Neither Increase nor Decrease	63 (45.7)	64 (43.0)	127 (44.3)
	Slightly Increase	23 (16.7)	61 (40.9)	84 (29.3)
	Highly Increase	2 (1.4)	1 (0.7)	3 (1.0)
3	Leisure time with friends & relatives			
	Don't know	1 (0.7)	0 (0.0)	1 (0.3)
	Highly Decrease	18 (13.0)	27 (18.1)	45 (15.7)
	Slightly Decrease	61 (44.2)	35 (23.5)	96 (33.4)
	Neither Increase nor Decrease	28 (20.3)	55 (36.9)	83 (28.9)
	Slightly Increase	21 (15.2)	31 (20.8)	52 (18.1)
	Highly Increase	9	1	10

		(6.5)	(0.7)	(3.5)
4	Involvement in decision making			
	Don't know	4 (2.9)	0 (0.0)	4 (1.4)
	Highly Decrease	11 (8.0)	0 (0.0)	11 (3.8)
	Slightly Decrease	27 (19.6)	1 (0.7)	28 (9.8)
	Neither Increase nor Decrease	60 (43.5)	29 (19.5)	89 (31.0)
	Slightly Increase	30 (21.7)	84 (56.4)	114 (39.7)
	Highly Increase	6 (4.3)	35 (23.5)	41 (14.3)
5	Autonomy in personal matters			
	Don't know	5 (3.6)	0 (0.0)	5 (1.7)
	Highly Decrease	8 (5.8)	0 (0.0)	8 (2.8)
	Slightly Decrease	32 (23.2)	3 (2.0)	35 (12.2)
	Neither Increase nor Decrease	57 (41.3)	90 (60.4)	147 (51.2)
	Slightly Increase	29 (21.0)	53 (35.6)	82 (28.6)
	Highly Increase	7 (5.1)	3 (2.0)	10 (3.5)
6	Husband involvement in household chores			
	Don't know	14 (10.1)	13 (8.7)	27 (9.4)
	Highly Decrease	16 (11.6)	5 (3.4)	21 (7.3)
	Slightly Decrease	30 (21.7)	13 (8.7)	43 (15.0)
	Neither Increase nor Decrease	49 (35.5)	39 (26.2)	88 (30.7)
	Slightly Increase	22 (15.9)	66 (44.3)	88 (30.7)
	Highly Increase	7 (5.1)	13 (8.7)	20 (7.0)

Source: Computed

Figures in parentheses are percentages

7.3. Dynamics in socio-cultural relationship between SAVs and CAVs

Hypothesis:

H₀. There is no significant difference dynamics in socio-cultural relationship between SAVs and CAVs

H₁. There is significant difference dynamics in socio-cultural relationship between SAVs and CAVs

The dynamics in socio-cultural relationship of the respondents belonging to SAVs and CAVs was at the mean score of 2.60 (SD = 0.57) and 3.08 (SD = 0.73) respectively (see Table 7.3). The differences in overall satisfaction with life between the two types of villages were examined through *t*-test and the calculated *t* value was found 6.26, which was greater than the critical table value of *t* distribution ($p < 0.05$). Thus, it observed that there was significant difference between the two types of villages with respect to overall satisfaction with life. Therefore, the stated null hypothesis was rejected and the study accepted stated alternative hypothesis.

Table.7.3. Dynamics in socio-cultural relationship between SAVs and CAVs

Types of Villages	n	Mean	Std. Deviation	Std. Error Mean	<i>t</i> value
Subsistence Agriculture Village	138	2.60	0.57	0.05	6.26*
Commercialized Agriculture Villages	149	3.08	0.73	0.06	

Source: Computed

(*Significant at 0.05 level)

7.4. Dynamics in Gender roles between SAVs and CAVs

Hypothesis:

H₀. There is no significant difference dynamics in gender roles between SAVs and CAVs

H₁. There is significant difference dynamics in gender roles between SAVs and CAVs

The dynamics in gender roles of the respondents belonging to SAVs and CAVs was at the mean score of 2.74 (SD = 0.72) and 3.32 (SD = 0.53) respectively (see Table 7.4). The differences in overall satisfaction with life between the two types of villages

were examined through *t*-test and the calculated *t* value was found 7.93, which was greater than the critical table value of *t* distribution ($p < 0.05$). Thus, it observed that there was significant difference between the two types of villages with respect to overall satisfaction with life. Therefore, the stated null hypothesis was rejected and the study accepted stated alternative hypothesis.

Table.7.4. Dynamics in gender roles between SAVs and CAVs

Types of villages	n	Mean	Std. Deviation	Std. Error Mean	<i>t</i> value
Subsistence Agriculture Village	138	2.74	0.72	0.06	7.93*
Commercialized Agriculture Villages	149	3.32	0.53	0.04	

Source: Computed (*Significant at 0.05 level)

7.5. Summary

In this chapter, discussion is based on the scenario of changes in socio-cultural relationship and gender roles between SAVs and CAVs. The data informed that changes in certain socio-cultural and gender roles characteristics differ between the villages. Thus, the type of agriculture practices influences upon the socio-cultural relationship and gender roles dynamics.

In the next chapter discussion will be made on the subject of well-being and agriculture participation of women

CHAPTER VIII

AGRICULTURE: WELL-BEING OF WOMEN FARMERS AND SATISFACTION WITH LIFE

This chapter discusses the subject associated with the well-being of women farmers and their level of life satisfaction. It aims to highlight the perceptual understanding and lived experiences of women farmers that shape their subjective well-being. The livelihood agriculture practices are interconnected with the socio-economic and cultural aspects of the community. The positive changes and improvements in the agricultural environment may affect the well-being of women farmers.

The first section embarked on the exploration of the subjective well-being of women farmers as per the componential dichotomy in the Tangkhul community. It was explored through face-to-face interviews using a semi-structured interview schedule. The elicited information was in tandem with the pre-determined four dimensions of well-being such as psychological well-being, physical well-being, social well-being, and, spiritual well-being of the women farmers (see Table 8.1). In the second section, elaborations were made on the consolidated assessment of the four dimensions of well-being (see Table 8.2). This was followed by the assessment of the overall well-being of the women farmers (see Table 8.3). Whereas the fourth section discussed the overall satisfaction of the life of women farmers were assessed using Deiner's 'The Satisfaction with Life Scale' (SWLS) (see Table 8.4).

8.1. Dimensions of Well-being of Women Farmers

The concept of well-being is a complex and gained multi-faceted explanation in academic discourses and has occupied significant space among policymakers (Saxby, Gkartzios, & Scott, 2018). The lives of farmers in general and women farmers, in particular, encounter several physical, mental, psychological, and health challenges that associate with their occupation. These challenges and stresses can have a devastating impact on their lives and affect their state of well-being (Hammersley, Richardson,

Meredith, Carroll, & McNamara, 2022). The well-being condition of the women farmers was assessed in tandem with their occupation.

This section discussed the four dimensions of well-being Psychological well-being, Physical well-being, Social well-being, and Spiritual well-being of the women farmers which were highlighted into different sub-sections. These dimensions of well-being were assessed based on five different relative components. Further, each of these components was examined at a five-point scale measurement that signified the level of well-being.

8.1.1. Psychological Well-being

In the first sub-section, the conditions of psychological well-being of women farmers were assessed based on five relative components namely; self-acceptance, purpose in life, personal growth, autonomy, and self-motivation. These components were assessed on five-point scale measurements such as (1) *Not so much* (2) *To some extent* (3) *Average* (4) *Rather so much* and (5) *Very much*.

The component of self-acceptance encompassed the aspects of self-awareness and acceptance of one's weakness, failure, and strength to actualize one's dream. Thus, queries such as 'Do you get easily upset, when things do not turn out as you expect? Do you aware of your strength and weakness?' were asked to ensure the respondents understand the component of self-acceptance and allowed them to rate accordingly. The result of the analysis showed that a maximum of little more than one-third (35.5 percent) of the entire respondents had self-acceptance at the scale of *To some extent* of self-acceptance. This was followed by one-third (33.8 percent) of the entire respondents with *Average* self-acceptance. In villages-wise observation, the data showed that a maximum of nearly two-fifths (39.1 percent) and nearly one-third (32.9 percent) of the total respondents under SAVs had *Average* self-acceptance and CAVs had *To some extent* self-acceptance respectively.

The respondents' fulfillment of purposes in life was assessed in associating to the queries asked such as 'How do you feel your life is? Do you feel your life is hopeless/worthy? Do you worry about your future?' They were asked about the

understanding of one's principles and ideas. Based on their responses and understanding of how fulfilled their purpose in life was, the required rating was drawn out. The result showed that a maximum of little more than two-fifths (43.2 percent) of the entire respondents had an *Average* rating of realizing their purpose in life which was followed by a maximum of one-fifth (20.6 percent) of the entire respondents having understood their purpose in life at the extent of *Rather so much*. The result of the analysis within the villages showed that a maximum of little more than three-fifth (63.8 percent) of the total respondents with *Average* rating of purpose in life under SAVs whereas CAVs had a maximum of nearly two-fifths (38.9 percent) of the total respondents with the rating of *Not so much* in understanding the purpose in life.

The component of personal growth associated with the respondents' perceptions about their actual life is contingent upon the realization of their dreams and aspirations. Thus the related query such as 'Are you satisfied with your life?' was asked to assess the attainment of personal growth. In this regard, the result of the analysis showed that a maximum of close to one-third (31.4 percent) followed by less than one-third (29.3 percent) of the entire respondents scaled to have achieved personal growth at *To some extent* rate and at the *Average* rate respectively. On the other hand within the villages-wise, a maximum of nearly two-fifths (37.7 percent) and little less than one-third (31.5 percent) of the total respondents had personal growth at an *Average* rate and at *To some extent* rate respectively.

The psychological perception of an individual's moral responsibility towards his/her life successes and attaining a sense of contentment and due recognition of the work done expressed the component of autonomy. Thus to draw out the respondents' condition and to deliver accurate responses certain questions were asked such as 'Do you worry about having less success in life than you think deserve? Do you feel your hard work is recognized?' Based on their understanding of these queries the respondents were asked to rate the scale of their autonomy. The result showed that a maximum of close to half (45.6 percent) that was followed by one-fourth (25.1 percent) of the entire respondents had autonomy at the scale of *Average* and at the scale of *Rather so much*

respectively. In the villages-wise examination, the data showed that a maximum of close to half (43.5 percent) and (47.7 percent) of the total respondents under SAVs and CAVs respectively had autonomy at the rate of *Average* scale.

The component of self-motivation is one of the significant psychological aspects which reflect a person's inner state of resilience. To determine the awareness of one's potential and state of self-motivation a question was asked such as 'Do you feel life is interesting and exciting?' This intrigued the respondents' experiences that helped emerge with the scaling of their self-motivation. The result showed that a maximum of nearly two-fifths (37.3 percent) was followed by close to one-third (29.6 percent) of the entire respondents with the *Average* scale of self-motivation and at the scale of *Rather so much* in self-motivation. In this regards the data within the context of villages depicted that a maximum of nearly three-fifths (57.2 percent) of the total respondents under SAVs had the *Average* scaling in self-motivation. Whereas in the case of CAVs, a maximum of equally two-fifths (40.3 percent) and (40.9 percent) of the total respondents had the scaling of *Rather so much* and *Very much* respectively in self-motivation.

8.1.2. Physical well-being

The Second sub-section of well-being represented the condition of the physical well-being of the women farmers in Ukhrul district, Manipur. Physical well-being is composed of five related components such as healthy appearance, healthy lifestyle, appropriate behavior, greater flexibility, and coordination. The extent of the physical well-being components was assessed based on a five-point scale viz. (1) *Not so much* (2) *To some extent* (3) *average* (4) *Rather so much* and (5) *Very much*.

The physical well-being component of healthy appearance denoted fitness, well builds physical structure, and activeness. In line with this, the respondents were asked to evaluate and rate their condition of healthy appearance accordingly. The result of the analysis showed that a maximum of slightly more than one-third (35.9 percent) which was followed by slightly more than one-fourth (27.9 percent) of the entire respondents rated at the scale of *Average* and *To some extent* healthy appearance respectively. Further, the village-wise data showed that a maximum of slightly more than half (52.9

percent) and less than one-third (30.2 percent) of the total respondents rated their healthy appearance at the scale of *Average* under SAVs and the scale of *To some extent* under CAVs respectively.

The component of a healthy lifestyle referred to the proper maintenance of diet, regular exercise, and healthy behaviors. The respondents were given time to reflect upon their healthy habits and behaviors and on this basis rating was executed. The recorded data showed that a maximum of slightly less than one-third (32.1 percent) of the respondents had an *Average* healthy lifestyle. This was followed by a maximum of more than one-fourth (29.3 percent) of the entire respondents rated at the scale of *Not so much* of healthy lifestyle. On the other hand, the data within the villages showed that a maximum of half (50.7 percent) and nearly a half (47.0 percent) of the total respondents under SAVs scaled at the *Average* healthy lifestyle and *Not so much* of healthy lifestyle under CAVs respectively.

The inquiry was made about the respondents' appropriate behavior of health that referred to incidences of illness and the behavior of treatment. 'Do you often/easily fall ill? Do you consult doctors?'; were queries that put the respondents reflect on their behavior of health. Thus, ratings were conducted in correspondence with the queries and the respondents' reflections on their health behavior. The data showed that a maximum of close to half (45.3 percent) and nearly one-fourth (24.0 percent) of the entire respondents had scaled at the *Average* appropriate behavior and *To some extent* appropriate behavior respectively. In the villages-wise observation, a maximum of close to two-thirds (63.8 percent) and more than one-fourth (28.2 percent) of the total respondents under SAVs and CAVs respectively had scaled at the *Average* appropriate behavior.

The component of greater flexibility emphasized the person's health condition related to the locomotive. In that case, issues relating to the nervous system, muscles, and joints may greatly affect the flexibility of a person. Concerning this, the data showed that a maximum of more than two-thirds (43.6 percent) and nearly one-fourth (24.4 percent) of the entire respondents rated at the *Average* scale and the scale of *Rather so*

much in the greater flexibility respectively. On the other hand, the data within the villages showed that a maximum of nearly three-fifths (58.7 percent) and nearly one-third (32.2 percent) of the total respondents rated at the *Average* scale under SAVs and at the scale of *Rather so much* under CAVs in greater flexibility respectively.

The component of coordination emphasized the well-being of physical condition in performing physical tasks without any challenges or hampered by any physical illness. The data showed that a maximum of nearly three-fifths (58.2 percent) and nearly one-fourths (23.3 percent) of the entire respondents rated at the scale of *Average* and the scale of *To some extent* in coordination respectively. On the other hand in a village-wise examination, a maximum of close to two-thirds (63.0 percent) and slightly over a half (53.7 percent) of the total respondents under SAVs and CAVs respectively scaled at *Average* coordination.

8.1.3. Social Well-being

The third sub-section discussed the social well-being of women farmers. It aimed to highlight the individual well connectedness to social conditions, the sense of belongingness, and involvement in socio-cultural undertakings. Social well-being was explored upon five related components as Trust and Belongingness, Benevolence, Hospitability, Celebrating holidays, festivals, achievement, etc, and Social contribution. Further, these five components were assessed through a five-point scale viz (1) *Not so much*, (2) *To some extent*, (3) *Average*, (4) *Rather so much*, (5) *Very much*.

The component of Trust and Belongingness emphasized the social condition of how well one connected to others in a society and relates to each other with a strong sense of oneness and responsibility. The result of the analysis revealed that a maximum of close to half (44.9 percent) followed by close to one-fourth (22.3 percent) of the entire respondents had the *Average* and *Very much* sense of trust and belongingness respectively. The data within the villages showed that a maximum of little over half (52.2 percent) and nearly two-fifths (38.9 percent) of the total respondents had an *Average* scale under SAVs and a *Very much* scale of trust and belongingness under CAVs respectively.

The act of kindness and the practices of generous giving and sharing of what one possesses with others achieve contentment for the giver. Such practices share the characteristics of social well-being that were emphasized within the component of Benevolence. The study data showed that a maximum of little over two-fifths (42.0 percent) and one-fourth (25.9 percent) of the entire respondents rated at the *Average* scale and the *Rather so much* scale of Benevolence. The result of the analysis within the villages revealed that a maximum of nearly three-fifths (59.1 percent) and nearly two-fifths (38.9 percent) of the total respondents rated at the *Average* scale under SAVs and at *Very much* scale in Benevolence under CAVs.

The component of Hospitality emphasized the character of socially amiable personal traits. It associates the friendly nature and sociability of a person. Concerning this, the data showed that a maximum of little more than one-third (34.5 percent) and little less than one-third (31.4 percent) of the entire respondents had *Average* Hospitality and *Rather so much* Hospitality respectively. The data within the villages showed, that a maximum of nearly three-fifths (58.7 percent) and nearly half (45.0 percent) of the total respondents rated at *Average* scale under the SAVS and at *Very much* scale under CAVS respectively.

The social well-being component of Celebrating holidays, festivals, and achievements explored the aspect of respondents' social condition in collective activities and undertakings. It aimed to relate to the happiness and contentment one may attain in associating with others in collective activities. The result of the analysis accentuated that a maximum of nearly two-fifths (38.3 percent) and a little over one-fifth (21.6 percent) of the entire respondents rated at *Average* scale and *Very much* scale in Celebrating holidays, festivals, and achievements respectively. Regarding the responses within the villages, the data showed that a maximum of nearly half (49.3 percent) of the total respondents under SAVs had an *Average* social condition of Celebrating holidays, festivals, and achievements. Whereas, under CAVs, a maximum of nearly two-fifths (38.9 percent) of the total respondents rated at *Very much* scale in Celebrating holidays, festivals, and achievements.

In the component of Social contribution, emphasis was made on how respondents realized the sense of responsibility in serving the community and working for the development of society. It nurtures bonding and understanding amongst the community people and helps individuals in gaining confidence and accountability. The result of the data analysis revealed that a maximum of nearly two-fifths (39.0 percent) and nearly one-fourth (24.0 percent) of the entire respondents rated at *Average* scale and *Rather so much* scale in Social contribution respectively. Whereas in the village-wise observation, the data showed that a maximum of close to three-fifth (56 percent) of the total respondents belonging to SAVs had an *Average* scale of Social responsibility and a maximum of close to two-fifths (36.9 percent) of the total respondents under CAVs had at *Very much* scale of Social contribution.

8.1.4. Spiritual Well-being

The fourth dimension of subjective well-being consisted of Spiritual well-being comprised of five related components Self-esteem, Resilience, Harmonious, Religious, and Altruism. Further, these five components were assessed based on a five-point scale viz. (1) *Not so much*, (2) *To some extent*, (3) *Average*, (4) *Rather so much*, and (5) *Very much*.

The component of self-esteem assessed the condition of an individual realization of confidence in one's worth and abilities. It aimed to explore how much an individual finds confidence in one's worth and value and abilities. The result of the analysis showed that a maximum of close to half (47.7 percent), followed by one-fourth (25.4 percent) of the entire respondents had the *Average scale* and *Very Much* scale respectively. Concerning village-wise, a maximum of nearly three-fifths (55.1 percent) as well as nearly half (49.0 percent) of the total respondents rated at *Average scale* under SAVs and at *Very much* scale under CAVs respectively.

The component of Resilience maintained the capacity and strength to overcome challenges and difficulties, it emphasized the coping mechanism of a person. In regards to this, the majority of the participants during the Focus Group Discussions (FGDs) subjected their source of resilience to faith and prayer. The result of the analysis

revealed that a maximum of little over two-fifths (42.5 percent) which was followed by nearly one-fourth (24.7 percent) of the entire respondents rated at the *Average scale* of Resilience and the *Very much* scale of Resilience respectively. The village-wise, a maximum of nearly three-fifths (57.2 percent) under SAVs and nearly a half (47.7 percent) under CAVs of the total respondents had an *Average* scale of Resilience and at the scale of *Very much* Resilience respectively.

The feeling and experiences of being harmonious with the external forces and surroundings are related to the dimension of spiritual well-being. It reflected the essence of connectedness and relationship with external beings and systems. In this context, the data showed that a maximum of nearly two-fifths (39.0 percent) of the entire respondents had the *Average* scale of harmonious. Further, this was followed by a maximum of one-fifth (25.4 percent) and (25.1 percent) of the entire respondents rated the Harmonious component at the scale of *Rather so much* and at the scale of *Very much* respectively.

The state of a person's religiosity referred to the condition of active involvement in religious ceremonies and rituals. The result of the analysis reflected that a maximum of nearly one-third (32.4 percent) of the entire respondents rated their religiosity at the scale of *Very much* whereas it was followed by a maximum of slightly over one-fifth (28.9 percent) of the entire respondents had the scale of *Rather so much* Religious. Further, the data within the villages revealed that a maximum of nearly half (47.1 percent) and a little over three-fifth (61.1 percent) of the respondents under SAVs had the *Average* scale and those under CAVs had the scale of *Very much* religiosity respectively.

The component of Altruism reflected the spiritual well-being of a person through the lens of selflessness and in serving fellow mankind. The data revealed that a maximum of nearly half (48.1 percent) that was followed by a little over one-fifth (27.2 percent) of the entire respondents rated at the *Average* scale of Altruism and the *Very much* level of Altruism respectively. In the village-wise observation, the data depicted that a maximum of three-fifths (60.1 percent) of the total respondents under SAVs had

an *Average* scale of Altruism whereas a maximum of nearly half (49.7 percent) of the total respondents under CAVs rated at the *Very much* scale of Altruism.

The assessment of women farmers' well-being was conducted through self-constructed well-being inventories

Table 8.1. Componential assessment of well-being of women farmers

		Psychological Well-Being				
Component		Self Acceptance				
Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	11 (8.0)	54 (38.4)	54 (39.1)	15 (10.9)	5 (3.6)
	Commercialized Agriculture Villages	11 (8.0)	49 (32.9)	43 (28.9)	31 (20.8)	23 (15.4)
	Total	14 (4.9)	102 (35.5)	97 (33.8)	46 (16.0)	28 (9.8)
Component		Purpose in life				
Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	4 (2.9)	26 (18.8)	88 (63.8)	20 (14.5)	0 (0.0)
	Commercialized Agriculture Villages	58 (38.9)	12 (8.1)	36 (24.2)	39 (26.2)	4 (2.7)
	Total	62 (21.6)	38 (13.2)	124 (43.2)	59 (20.6)	4 (1.4)
Component		Personal growth				
Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	32 (23.2)	43 (31.2)	52 (37.7)	9 (6.5)	2 (1.4)
	Commercialized Agriculture Villages	37 (24.8)	47 (31.5)	32 (21.5)	28 (18.8)	5 (3.4)
	Total	69 (24.0)	90 (31.4)	84 (29.3)	37 (12.9)	7 (2.4)
Component		Autonomy				

Types of Villages	Scale	Not so much	To some extent	Average	Rather so much	Very much
		Subsistence Agriculture Village	3 (2.2)	33 (23.9)	60 (43.5)	36 (26.1)
Commercialized Agriculture Villages	5 (3.4)	36 (24.2)	71 (47.7)	36 (24.2)	1 (0.7)	
	Total	8 (2.8)	69 (24.0)	131 (45.6)	72 (25.1)	7 (2.4)

Types of Villages	Component	Scale	Self Motivation			
			Not so much	To some extent	Average	Rather so much
Subsistence Agriculture Village		6 (4.3)	28 (20.3)	79 (57.2)	25 (18.1)	0 (0.0)
Commercialized Agriculture Villages		0 (0.0)	0 (0.0)	28 (18.8)	60 (40.3)	61 (40.9)
	Total	6 (2.1)	28 (9.8)	107 (37.3)	85 (29.6)	61 (21.3)

Physical Well-Being

Types of Villages	Component	Scale	Health appearance			
			Not so much	To some extent	Average	Rather so much
Subsistence Agriculture Village		16 (11.6)	35 (25.4)	73 (52.9)	14 (10.1)	0 (0.0)
Commercialized Agriculture Villages		30 (20.1)	45 (30.2)	30 (20.1)	36 (24.2)	8 (5.4)
	Total	46 (16.0)	80 (27.9)	103 (35.9)	50 (17.4)	8 (2.8)

Types of Villages	Component	Scale	Health lifestyle			
			Not so much	To some extent	Average	Rather so much
Subsistence Agriculture Village		14 (10.1)	39 (28.3)	70 (50.7)	15 (10.9)	0 (0.0)
Commercialized Agriculture Villages		70 (47.0)	9 (6.0)	22 (14.8)	43 (28.9)	5 (3.4)

		Total	84 (29.3)	48 (16.7)	92 (32.1)	58 (20.2)	5 (1.7)
	Component		Appropriate Behavior				
	Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village		3 (2.2)	35 (25.4)	88 (63.8)	12 (8.7)	0 (0.0)
	Commercialized Agriculture Villages		32 (21.5)	34 (22.8)	42 (28.2)	36 (24.2)	5 (3.4)
		Total	35 (12.2)	69 (24.0)	130 (45.3)	48 (16.7)	5 (1.7)
	Component		Great flexibility				
	Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village		2 (1.4)	31 (22.5)	81 (58.7)	22 (15.9)	2 (1.4)
	Commercialized Agriculture Villages		4 (2.7)	38 (25.5)	44 (29.5)	48 (32.2)	15 (10.1)
		Total	6 (2.1)	69 (24.0)	125 (43.6)	70 (24.4)	17 (5.9)
	Component		Coordination				
	Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village		1 (0.7)	32 (23.2)	87 (63.0)	18 (13.0)	0 (0.0)
	Commercialized Agriculture Villages		2 (1.3)	35 (23.5)	80 (53.7)	27 (18.1)	5 (3.4)
		Total	3 (1.0)	67 (23.3)	167 (58.2)	45 (15.7)	5 (1.7)
			Social Well-Being				
	Component		Trust and Belongingness				
	Scale		Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village		4 (2.9)	31 (22.5)	72 (52.2)	25 (18.1)	6 (4.3)

	Commercialized Agriculture Villages	0 (0.0)	0 (0.0)	57 (38.3)	34 (22.8)	58 (38.9)
	Total	4 (1.4)	31 (10.8)	129 (44.9)	59 (20.6)	64 (22.3)
	Component			Benevolence		
	Scale	Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	1 (0.7)	30 (21.9)	81 (59.1)	23 (16.8)	2 (1.5)
	Commercialized Agriculture Villages	0 (0.0)	1 (0.7)	39 (26.2)	51 (34.2)	58 (38.9)
	Total	1 (0.3)	31 (10.8)	120 (42.0)	74 (25.9)	60 (21.0)
	Component			Hospitability		
	Scale	Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	3 (2.2)	21 (15.2)	81 (58.7)	29 (21.0)	4 (2.9)
	Commercialized Agriculture Villages	0 (0.0)	3 (2.0)	18 (12.1)	61 (40.9)	67 (45.0)
	Total	3 (1.0)	24 (8.4)	99 (34.5)	90 (31.4)	71 (24.7)
	Component			Celebrating holidays, festivals and achievement		
	Scale	Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	7 (5.1)	35 (25.4)	68 (49.3)	24 (17.4)	4 (2.9)
	Commercialized Agriculture Villages	15 (10.1)	12 (8.1)	42 (28.2)	22 (14.8)	58 (38.9)
	Total	22 (7.7)	47 (16.4)	110 (38.3)	46 (16.0)	62 (21.6)
	Component			Social contribution		
	Scale	Not so much	To some extent	Average	Rather so much	Very much

Types of Villages	Subsistence Agriculture Village	6 (4.3)	35 (25.4)	78 (56.5)	18 (13.0)	1 (0.7)
	Commercialized Agriculture Villages	2 (1.3)	7 (4.7)	34 (22.8)	51 (34.2)	55 (36.9)
	Total	8 (2.8)	42 (14.6)	112 (39.0)	69 (24.0)	56 (19.5)

Spiritual Well-Being

Types of Villages	Component	Self esteem				
		Scale	Not so much	To some extent	Average	Rather so much
	Subsistence Agriculture Village	8 (5.8)	35 (25.4)	76 (55.1)	19 (13.8)	0 (0.0)
	Commercialized Agriculture Villages	0 (0.0)	0 (0.0)	61 (40.9)	15 (10.1)	73 (49.0)
	Total	8 (2.8)	35 (12.2)	137 (47.7)	34 (11.8)	73 (25.4)

Types of Villages	Component	Resilience				
		Scale	Not so much	To some extent	Average	Rather so much
	Subsistence Agriculture Village	5 (3.6)	35 (25.4)	79 (57.2)	19 (13.8)	0 (0.0)
	Commercialized Agriculture Villages	0 (0.0)	0 (0.0)	43 (28.9)	35 (23.5)	71 (47.7)
	Total	5 (1.7)	35 (12.2)	122 (42.5)	54 (18.8)	71 (24.7)

Types of Villages	Component	Harmonious				
		Scale	Not so much	To some extent	Average	Rather so much
	Subsistence Agriculture Village	2 (1.4)	27 (19.6)	86 (62.3)	22 (15.9)	1 (0.7)
	Commercialized Agriculture Villages	0 (0.0)	1 (0.7)	26 (17.4)	51 (34.2)	71 (47.7)
	Total	2 (0.7)	28 (9.8)	112 (39.0)	73 (25.4)	72 (25.1)

Types of Villages	Component	Religious				
	Scale	Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	9 (6.5)	34 (24.6)	65 (47.1)	28 (20.3)	2 (1.4)
	Commercialized Agriculture Villages	0 (0.0)	0 (0.0)	3 (2.0)	55 (36.9)	91 (61.1)
	Total	9 (3.1)	34 (11.8)	68 (23.7)	83 (28.9)	93 (32.4)
Types of Villages	Component	Altruism				
	Scale	Not so much	To some extent	Average	Rather so much	Very much
Types of Villages	Subsistence Agriculture Village	4 (2.9)	36 (26.1)	83 (60.1)	11 (8.0)	4 (2.9)
	Commercialized Agriculture Villages	1 (0.7)	3 (2.0)	55 (36.9)	16 (10.7)	74 (49.7)
	Total	5 (1.7)	39 (13.6)	138 (48.1)	27 (9.4)	78 (27.2)

Source: Computed

Figures in parentheses are percentages

8.2. Dimensional Assessment of Well-being of Women Farmers

Table 8.2 presented the assessment of consolidated dimensions of well-being within villages and the overall outcome of dimensional dominance of well-being amongst women farmers. The assessed dimensions of well-being included the Psychological, Physical, Social, and Spiritual domains of women farmers. The overall result of the analysis accentuated that amongst the dimensions of the well-being of women farmers, the Spiritual dimension of well-being remained at the highest domain with a mean score of 3.57. This was followed by the Social dimension, Psychological dimension, and Physical dimension of well-being with the mean score of 3.50, 2.97, and 2.77 respectively. On the other hand, the data indicated a slight asymmetrical dominance of dimensions of well-being within the villages. In the case of SAVs, the Social dimension of well-being was dominantly recorded at the highest mean score of 2.94 and subsequently the Psychological well-being, Spiritual well-being, and Physical well-being with the mean score of 2.85, 2.84, and 2.77 respectively. Whereas under CAVs, the Spiritual dimension remained at the highest domain of well-being at the mean score

of 4.24 which was followed consecutively by Social well-being, Psychological well-being, and Physical well-being at the mean score of 4.01, 3.07, and 2.77 respectively. Furthermore, a comparative observation of the data between villages highlighted the better condition of respondents' well-being under CAVs. As the rate of mean scores (4.24, 4.01, 3.07) in all the dimensions of well-being were higher than the mean scores (2.94, 2.85, 2.84) of SAV except in the case of the Physical dimension of well-being where it remained equal at 2.77.

Table 8.2. Dimensional assessment of women farmers' well-being

Village Name		Psychological well-being	Physical well-being	Social well-being	Spiritual well-being
Subsistence	Mean	2.85	2.77	2.94	2.84
Agriculture	Std. Deviation	0.56	0.52	0.53	0.51
Commercialized	Mean	3.07	2.77	4.01	4.24
Agriculture	Std. Deviation	0.59	0.90	0.85	0.74
Total	Mean	2.97	2.77	3.50	3.57
	Std. Deviation	0.58	0.74	0.89	0.95

Source: Computed

8.3. Overall Well-being of Women Farmers

The result of the analysis of the overall well-being of women farmers is presented in Table 8.3. The well-being dimensional scores were summed up and distributed in different scales/levels that indicated the condition of the overall well-being of women farmers. The scores were divided into five levels of well-being such as (20-37) *Low*, (38-54) *Slightly Low*, (55-71) *Average/Fair*, (72-88) *Slightly High*, and (89-100) *High*. It was found that a preponderance of nearly two-thirds (65.2 percent) of the entire respondents had an *average/fair* level of well-being followed by nearly one-fifths (18.5 percent) of the entire respondents had *slightly high* well-being. Concerning data distribution within the villages, a maximum of nearly two-thirds (63.0 percent) and

slightly over two-thirds (67.1 percent) of the total respondents under SAVs and CAVs respectively had *average/fair* levels of distribution.

Table 8.3. Overall well-being of women farmers

Types of Villages	Scale				
	(20-37) Low	(38-54) Slightly Low	(55-71) Average/Fair	(72-88) Slightly High	(89-100) High
Subsistence Agriculture Villages	0 (0.0)	47 (34.1)	87 (63.0)	4 (2.9)	0 (0.0)
Commercialized Agriculture villages	0 (0.0)	0 (0.0)	100 (67.1)	48 (32.9)	0 (0.0)
Total	0 (0.0)	47 (16.4)	187 (65.2)	53 (18.5)	0 (0.0)

Source: Computed

(Figures in parentheses are percentages)

8.4. Overall well-being of women farmers between SAVs and CAVs

Hypothesis:

H₀. There is no significant difference in the well-being of women farmers between SAVs and CAVs.

H₁. There is a significant difference in the well-being of women farmers between SAVs and CAVs.

In Table 8.4, the data revealed the women farmers' well-being under SAVs and CAVs with the mean score of 2.85 (SD = 0.42) and 3.52 (SD = 0.25) respectively. The differences in women farmers' well-being between the two types of villages were examined through a *t*-test and the calculated *t* value was found 16.80, which was greater than the critical table value of *t* distribution ($p < 0.05$). Thus, it was observed that there was a significant difference between the two types of villages concerning women farmers' well-being. Therefore, the stated null hypothesis 'There is no significant difference in women farmers' well-being between SAVs and CAVs' was rejected and the study accepted the stated alternative hypothesis.

Table 8.4. Well-being of women farmers between SAVs and CAVs

Types of Villages	n	Mean	Std. Deviation	Std. Error Mean	t value
Subsistence Agriculture Village	138	2.85	0.42	0.04	16.80*
Commercialized Agriculture Villages	149	3.52	0.25	0.02	

Source: Computed (*Significant at 0.05 level)

8.5. Overall Life Satisfaction of women farmers

The overall life satisfaction of women farmers was assessed through the score of the Satisfaction With Life Scale (SWLS) developed and copyrighted yet permitted to use for free (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993). Diener, Emmons, Larsen, & Griffin (1985) maintained life satisfaction is congruent with Shin's and Johnson's (1985) view (as cited in Diener, Emmons, Larsen, & Griffin, 1985) as the 'cognitive judgmental process' of 'global assessment of a person's quality of life according to his chosen criteria'. Thus, the SWLS was developed to assess an individual's global judgment of life satisfaction derives from their self-values and standards. The scale carries five items or statements as stated below:-

- *In most ways, my life is close to my ideal.*
- *The conditions of my life are excellent.*
- *I am satisfied with my life.*
- *So far I have gotten the important things I want in life.*
- *If I could live my life over, I would change almost nothing.*

Each of these items was measured on a seven-point scale such as (1) *Strongly Disagree* (2) *Disagree* (3) *Slightly Disagree* (4) *Neither Agree nor Disagree* (5) *Slightly Agree* (6) *Agree* (7) *Strongly Agree*. Based on these scales, the scores from 1-7 were assigned to each statement according to how the respondents' felt about it; with higher scores indicating the higher level of their life satisfaction. Further, the assigned scores of an individual were then summed up against each of the statements. These summed

aggregate scores were then fit into predetermined levels of life satisfaction which are indicated below:-

- 31-35 = *Extremely satisfied*
- 26-30 = *Satisfied*
- 21-25 = *Slightly Satisfied*
- 20 = *Neutral*
- 15-19 = *Slightly dissatisfied*
- 10-14 = *Dissatisfied*
- 5-9 = *Extremely dissatisfied*

As indicated in Table 8.4, a maximum of less than one-third (31.7 percent) of the entire respondents had *slightly dissatisfied* with their life. This was followed by a little over one-fourths (27.9 percent) of the entire respondents who had *slightly satisfied* with their life. In the case of data between the villages, it was shown that a maximum of equally close to two-fifths (36.2 percent) and (36.9 percent) of the total respondents under SAVS had *slightly dissatisfied* with their life and those under CAVs had in contrast *slightly satisfied* with their life respectively.

**Table.8.5. Overall Satisfaction with Life
Satisfaction With Life Scale (SWLS)**

	Score	(5-9) Extremely Dissatisfied	(10-14) Dissatisfied	(15-19) Slightly Dissatisfied	(20) Neutral	(21-25) Slightly Satisfied	(26-30) Satisfied
Types of Villages	Subsistence Agriculture Villages	13 (9.4)	32 (23.2)	50 (36.2)	13 (9.4)	25 (18.1)	5 (3.6)
	Commercialized Agriculture Villages	1 (0.7)	32 (21.5)	41 (27.5)	6 (4.0)	55 (36.9)	14 (9.4)
	Total	14 (4.9)	64 (22.3)	91 (31.7)	19 (6.6)	80 (27.9)	19 (6.6)

Source: Computed

(Figures in parentheses are percentages)

8.6. Overall Life Satisfaction between SAVs and CAVs

Hypothesis:

H₀. There is no significant difference in overall life satisfaction between SAVs and CAVs

H₁. There is a significant difference in overall life satisfaction between SAVs and CAVs

The overall satisfaction with life of the respondents under SAVs and CAVs was at the mean score of 3.29 (SD = 1.01) and 3.82 (SD = 1.09) respectively (see Table 8.6).

The differences in overall satisfaction with life between the two types of villages were examined through a *t*-test and the calculated *t* value was found 4.35, which was greater than the critical table value of *t* distribution ($p < 0.05$). Thus, it was observed that there was a significant difference between the two types of villages concerning overall satisfaction with life. Therefore, the stated null hypothesis was rejected and the study accepted the stated alternative hypothesis.

Table.8.6. Satisfaction with Life between SAVs and CAVs

Types of Villages	n	Mean	Std. Deviation	Std. Error Mean	<i>t</i> value
Subsistence Agriculture Village	138	3.29	1.01	0.09	4.35*
Commercialized Agriculture Villages	149	3.82	1.09	0.09	

Source: Computed (*Significant at 0.05 level)

8.7. Summary

A discussion has been made concerning the well-being and satisfaction with the life of women farmers. The overall well-being of women farmers stood fairly at an average level, however, the percentage distribution in CAVS inclined towards the higher level of well-being as compared to SAVs. With this, the farmers belonging to SAVS confirmed slightly dissatisfied with their lives which represents the opposite situation with the farmers from CAVs reporting having slightly satisfied life.

The following chapter covers the concluding observation of the study.

CHAPTER IX

CONCLUSION AND SUGGESTIONS

The study aimed at exploring the scenario of participation in agriculture and well-being of women farmers in Ukhrul District, Manipur. It adopted both qualitative and quantitative methods where data were collected through semi-structured interview schedule. Focus Group Discussions (FGDs), Free listing and Key Informant Interviews (KIIs). The collected data were analyzed using Statistical Package for Social Sciences (SPSS), Microsoft Excel and Thematic procedure. The results of the analysis were discussed in the preceding chapters. In this chapter, an attempt has been made to summarize the results of the analysis. In the first section major findings and conclusion are presented. The second section emphasized on the implications on social work practice and further research.

9.1. Findings

The findings of the study are summarized into five sub-sections. The first section deals with the structural bases of the respondents and findings pertaining to women's participation in agriculture are presented in the second sub-section. In the third sub-section, patterns of agriculture; changes and continuity are summarized and the fourth sub-sections emphasized on dynamics of socio-cultural relationships and gender roles. The fifth sub-section pertains to the findings of agriculture and well-being of women farmers.

9.1.1. Structural bases of the respondents

The demographic composition includes Age and Marital status of the respondents. In regards to age, a maximum of less than one-third (30.3 percent) of the entire respondents fall under the age group of Young Old (50-59 yrs) followed by the age group of Middle Adult (40-49 yrs) at the rate of more than one-fourth (28.9 percent). While within the villages, SAVs had the highest respondents concentration at the age group of Middle adult (40-49 yrs) with less than one-third (29.9 percent) of the total

respondents and CAVs had the highest number of respondents reportedly falling under the age group of Young Old (50-59 yrs) with slightly less than one-third (31.5 percent) of the total respondents. In this regard the previous literature justified that when young people migrated to urban cities, the agriculture responsibilities fell on the shoulders of those who were left behind normally belongs to the old age group of people. Thus, the absence of young people pressured the old ones to take active role in agriculture operations (Viswanathan et al., 2012).

In regards to the marital status of the respondents, a maximum of 86.8 percent the respondents were married whereas 10.5 percent of the respondents were widow. There were minimal number of 2.1 percent of respondents having divorce and the least of 0.7 percent of the respondents reported un-married. In the case of the two types of villages the result of the analysis showed that majority 81.2 percent and 91.9 percent of the respondents were married from SAVs and CAVs respectively

In regards to socio-structure, the respondents belonged to the Tangkhul Naga community, where the majority of the respondents adhered to Christianity as their religion. In the case of religious denomination, majority (99.0 percent) of the respondents belonging to the Baptist denomination however, 2.2 percent of the respondents from the SAVs follow Roman Catholic denomination.

As regards to the educational background of the respondents, a maximum of less than one-third (27.3 percent) of the entire respondents were illiterate followed by one-fourth (25.5 percent) of the respondents who had completed high school leaving certificate (HSLC, Class 8-10). Categorically, the highest number of slightly less than a half (45.3 percent) of the total respondents within the SAVs remained illiterate. While the CAVs had the highest number of respondents with slightly less than one-third (32.9 percent) who had completed high school leaving certificate (HSLC, Class 8-10) of education.

In the economic aspects, it was found that a maximum of three-fourth (75.6 percent) of the entire respondents earned their livelihood by working as cultivators. It has the similar indication between the two types of villages, as a maximum number of

nearly three-fourth (72.5 percent) and little more than three-fourth (78.5 percent) of the respondents from both the SAVs and CAVs respectively were cultivators. And in pertaining to the annual income, a maximum number of nearly two-fifth (38.3 percent) of the entire respondents were under the annual income group of ₹60,001 - ₹90,000. Comparatively, the highest number of little more than one-fourth (26.1 percent and 26.8 percent) of the respondents under SAVs concentrated within the annual income group of ₹30,001 - ₹60,000 and ₹ 150,001 & above respectively, while the highest number of more than a half (57.0 percent) of the total respondents under CAV were belonging to the annual income group of ₹60,001 - ₹90,000.

As regards to the types of agriculture farming, the study have shown that a maximum of three-fifth (60.3percent) of the entire respondents practice mixed agriculture farming for their livelihood. The other section of more than one-third (36.9 percent) of the total respondents reported that they depend their livelihood on subsistence agriculture farming while 2.8 percent of the total respondents engaged in commercialized agriculture farming. In-depth category-wise examination found that a maximum number of nearly two-third (64.5 percent) of the respondents under SAV depending their livelihood on subsistence agriculture farming whereas a maximum number of two-third (60.3 percent) of the respondents under CAV engaged in mixed agriculture farming for their livelihood. The qualitative exploration informed of the affects of pandemic upon the pattern of agriculture farming.

In case of the type of family, the result of the analysis revealed that maximum of more than three-fourth (79.8 percent) of the entire respondents belonged to the nuclear type of family. And a maximum of nearly three-fifth (59.9 percent) of the entire respondents belonged to the medium family size (4-6 members). As regards to the head of the respondents' household, a maximum of 83.6 percent of the entire respondents' households were headed by male while one-sixth (16.4 percent) of the total respondents' households were headed by female. Those households headed by female were mostly widow.

The age of the head of respondents' households has been categorized into six age groups such as Youth (Below 29), Young Adult (30-39), Middle Adult (40-49), Young Old (50-59), Middle Old (60-69) and Very Old (70 & above). Maximum of the age of the head of respondents' households fell within the age group of Young Old (50-59) with slightly less than one-third of the total head of household. Moreover, there were notably significant numbers of the head of the respondents' households whose age fell within the age group of Middle Old (60-69) with one-fourth (25.4 percent) and slightly less than one-fourth (23.7 percent) in composition.

The educational qualification of the head of respondents is classified into six educational categories such as illiterate, primary (1-4), upper primary (5-7), high school leaving certificate (HSLC, 8-10), higher secondary school leaving certificate (HSSLC, 11-12), graduate (BS/B.Sc.) and Postgraduate (MA/M.Sc.). The result of the analysis revealed that maximum concentration of equally near to one-fourth (24.5 percent) of the total head of the respondents' households were illiterate as well as completed high school leaving certificate (HSLC, 8-10).

The occupation of the head of households is classified into five different sources of livelihood such as home maker, cultivator, government employee, private employee and self-employed. The study has shown that majority (80.5 percent) of the total head of respondents' households eked out their living as cultivators.

9.1.2. Women's participation in agriculture farming

The extent and nature of women's participation in agriculture farming was examined based on three stages of production viz. Pre-production stages, production stages and post production stages. In that the nature of participation were constructed incongruent to the contextual farming activities; that the extent of participation were examined through self designed four point scale ranging from zero to three (0-3) relating to the frequency of involvement. Moreover, a comparative examination between the state of women's participation and the perceived state of men's participation in agriculture farming was done to derive at conclusive veracity.

The involvement of women in pre-production activities of agriculture farming includes ploughing that a maximum of nearly one-third (32.8 percent) of the total respondents engaged occasionally and a maximum of nearly two-third (62.7 percent) of the total respondents always involved in the activity of field preparation. The activity involving clearing of forest or farmland and burning out the dried weed and plants for manure is a significant pre-production process. In such activity, the maximum of nearly two-fifth (39.7 percent) of the total respondents confirmed of occasional involvement. Seed treatment is a significant process upon which a desirable amount of future output is determined. In most of the tribal agrarian society women normally take more responsibility taking care of seeds. The result of the analysis too affirmed that a majority (80.5 percent) of the total respondents always involved in the task of seed treatment. The activity concerning preparation of manure fertilizers was less seen common and to avail chemical fertilizers daunt greater challenge for the farmer in the study area. it was found that a maximum of more than one-third (35.2 percent) of the total respondents occasionally prepare fertilizers. In regards to carrying seeds/fertilizers to the field; a maximum of slightly more than one-third (34.8 percent) of the total respondents had occasionally engaged in the activity. It was found that a maximum of more than one-third (34.8 percent) of the total respondents confirmed that they occasionally did involve in preparing tools and instruments for farming. Agriculture farming in the Tangkhul area greatly depends upon seasonal monsoon. Irrigation as a source of water connectivity, its maintenance is paramount especially in respect to wet terrace farming. In this regard of ensuring proper irrigation system, the maximum number of more than two-fifth (46.0 percent) of the total respondents occasionally involved in the activity. Different crops are planted in different forms and methods. Crops that are planted through saplings require an intensive nursing. The result of the analysis revealed that the majority (70.7 percent) of the total respondents always engaged in the activity of raising nursery. The activity involvement in fencing preparation of the respondents was reported with a maximum of slightly less than one-third (30.0 percent) at the occasional extent.

The production phase demands intensive labour inputs in the process of agriculture farming. The traditional practices of farming characterized the farming system of the Tangkhul community solely depending on the manual labour of the family. In this aspect, women significantly participated in the production phase through the activities such as uprooting of saplings/transplanting with a maximum of two-third (66.2 percent) of the total respondents intensively. Of the total respondents, a maximum of nearly a half (48.1 percent) of the respondents actively always participated in seed sowing and application of fertilizers in their farm. During the seed sowing season required numbers of labors are hired or in many cases, amongst the Tangkhul traditionally labors are shared or exchanged in an altruistic form. One goes to help others today and alternatively the next time others will come and help. Food is usually served on such occasion and otherwise on normal days of working in the farm. It is usually the women in the household who takes care of the food to serve. Such practice and the responsibility of women had been confirmed through the result of the analysis. The entire respondents affirmed to be always responsible for food preparation and serving. Irrigating crops is another important activity in the production phase where a maximum of two-fifth (40.9 percent) of the total respondents confirmed of involvement at the occasional extent. The activity of manual weeding is of common practice and it is practically dominated by women farmers. Thus, corroborating to this a maximum of slightly more than three-fifth (61.0 percent) of the total respondents always undertook the activity of weeding. Spray pesticides is one production activity that are normally dominated by men. In line with this the data corroborated that a maximum of more than two-fifth (44.9 percent) of the total respondents never engaged in application of pesticides. In regards to labour management, a maximum of nearly two-third (63.4 percent) of the total respondents asserted to have been always actively involved. Containment of water irrigation for crops is a task jointly performed by both men and women. So, likewise the data supported to have a maximum of almost a half (46.7 percent) of the entire respondents occasionally extent their participation in continuous checking and containing water in the farmland. Clearing the field surroundings activity

not only protects from noxious and unwanted shrubs in the surrounding of farms but also ensure protection from insects and rodents' infestation. This activity is normally performed jointly by both men and women. The study found that a maximum of slightly more than a half (51.6 percent) of the entire respondents stated that they always extent their participation in the activity of clearing the surroundings of farmland. In regards to crops protection; the activity intend to keep the pests, rodents and wild animal away from the crop land had a maximum of more than a half (53.0 percent) of the total respondents confirmed of active involvement at the extent of always.

The post-production activities of agriculture farming includes; Harvesting, Threshing, Husking, Winnowing, Drying, Grinding/Pounding, Packaging, Transporting the produces home, Storage and marketing. As per the result of the data analysis, it was revealed that women actively engaged in all the stated post production activities of agriculture farming.

. The work of harvesting involves both men and women labor and collectively perform commonly amongst the Tangkhul farmers. In this regard, the data confirmed that the majority (79.1 percent) of the entire respondents always involved in harvest activity. Rice being the staple food for the Tangkhul people, it is commonly grown in their farmlands. The result of the analysis revealed active participation of women farmers in threshing, husking and winnowing. In this regard, activities such as threshing, husking and winnowing the maximum of nearly a half (49.5 percent), nearly two-third (64.5 percent) and majority (75.3 percent) respectively of the entire respondents always involved in these activities. Sun drying and grinding/pounding activities are more commonly shouldered by women in the society. The data revealed that maximum of slightly more than three-fourth (76.0 percent) of the entire respondents involved in the drying activities and a maximum of slightly more than two-third (67.6 percent) of the total respondents confirmed that they always engaged in the grinding/pounding activities. Once the harvesting is completed it is necessary for the farmers to bring all the produces at home. Transportation is done through hired vehicle depending on the distance of their farm site. Spices like chilly are processed and packed in a market

relevant form. Packaging and processing are all done in more conventional manner. The result of the analysis revealed that the maximum of nearly two-third (64.8 percent) and nearly a half (45.3 percent) of the total respondents asserted that they always participated in the post-production activities of packaging and transporting the produces home respectively. In regard to the activity participation of women farmers in storage and marketing, the data revealed that the maximum of nearly three-fifth (58.2 percent) and slightly more than a half (53.7 percent) of the total respondents asserted that they always involved in the post-production activities of Storage maintaining and marketing respectively.

The study showed an active participation of women in all the stages of production across the study areas. This was confirmed through the comparative examination of women's participation and perceived men's participation in agriculture farming. The comparison between the perceived involvement of men and women in all the stages of agriculture production revealed that women had higher level of involvement as against the men's involvement in agriculture farming. Thus, women had higher level of participation or involvement in agriculture farming. Although it might not be justified on the part of men for drawing inference solely based on the women's perspective yet however the shared experiences of women cannot be simply vilified.

9.1.3. Women involvement in decision making in agriculture farming

The extent of women involvement in decision making in respect to agriculture farming indicated their status and role in society. The levels or extents of participation were measured on the scale of zero to four (0-4), the constructed parameters included no participation (0), only opinion asked (1), to some extent (2), to a large extent (3) and final decision (4). The examined decision making activities includes; Crop selection (35.5%), Seed Selection (37.3%), Fertilizer Selection (29.6%), Grain/seed storage (42.5%), Sale of agriculture produces (36.6%), Purchase and sale of land (37.3%), Purchase and sale of machineries (35.5%), Purchase and sale of animals (33.1%), Hiring of labour (46.7%), Selection of agricultural land (41.5%) and Agricultural work plan (36.6%). The extent of participation in agricultural farming decision making is

determined by the nature of desired activities. Wherein the exploration projected the maximum involvement of women farmers to a large extent in decision making in all the aforementioned farming related activities except in the case of seed selection and hiring labour where the maximum of the women farmers make final decision. Whereas observation could be made that women farmers involvement in decision making related to agriculture farming associates to the household structures. The husband or the male head of household engaging primarily in other economic sectors would normally shift the affairs of agriculture upon the care of his wife or women members in the household. Thus, the increase in responsibility results in higher access to decision making.

9.1.4. Women time spent in different activities within 24 hours

The Tangkhul women in particular rest enormous responsibilities upon their shoulders within the household or outside their homes. The time spent were assessed on the activities includes: Care giving (child care), fetching water, Caring livestock, Cleaning Houses/household chores, Agriculture activities, Firewood collection, Grinding, Food preparation, Leisure/personal time and Attending social meeting/gathering. Amongst the activities, time spent within the agriculture activities, care giving and cleaning houses accounted the highest women farmers time spent activities with up to 1-5 hrs within 24 hours.

9.1.5. Extent of women's participation in Livestock, fisheries and poultry management

As regards to livestock, fisheries and poultry management, the participation of women were assessed based on eleven (11) activities such as Cleaning, Watering, Feeding, Breed selection, Fencing/ranching, Preparation of pond, Guarding from predators, Grazing, Milking, Processing and Marketing. The research finding revealed that most common livestock and poultry amongst the Tangkhul were pigs, cows, buffaloes, chicken and few of duck purposed for income generation. Whereas other animal such as dogs and cats were raised as pets, fisheries were found starkly minimal in practice. The activities such as cleaning, watering, and feeding and breed selection of

livestock indicated high level of women involvement in the study area. Whereas, the activities of Fencing/ranching, Preparation of pond, Guarding from predators, Grazing, Milking, Processing were found low participation of women. This was related to the type of livestock rearing within the households.

In a comparative assessment of participation between men and women revealed that the participation of men in livestock, poultry and fisheries management was higher than that of women participation.

9.1.6. Extent of women's participation in forest management

The activities relating to forest management were Plantation, Firewood cutting/collection, Timber cutting/collection, Collecting fodders, Collecting Medicinal plants and Forest boundary Management. The activities such as plantation, collecting fodders had high level of women's participation whereas Firewood cutting/collection, Timber cutting/collection, Collecting Medicinal plants and Forest boundary Management had low involvement of women amongst the Tangkhul. Further the result revealed that, men's participation in forest management was higher as compared to that of women's participation.

9.1.7. Participation of women in agriculture

The level of women's participation found highest in agriculture farming as compared to other avenues of agriculture while the participation of women in all the avenues were found higher under SAVs as compared to CAVs. The agriculture avenue of livestock management had the least women's participation as per the data. Further, the overall participation of women in agriculture was found significantly higher under SAVs (mean score 1.49) as against the level of participation in agriculture under CAVs (mean score 0.42). On the other hand, the study revealed that the overall participation of men was higher as compared to that of women's participation in agriculture.

9.1.8. Patterns of agriculture farming practices: Change and Continuity

In view of the pattern of agriculture practices, subsistence agriculture had been the predominant practices amongst the Tangkhul where '*self-reliant and sustainability*'

was often highlighted as the hallmarks of traditional undertakings during the interviews and Focus Group Discussions (FGDs). However, the increasing state of pecuniary demands of the households triggered a shift in pattern of farming; the type and quantity of crops cultivation that are more commercially feasible. The soil fertility of the pristine agricultural land had never emerged the need for any supplementary fertilizers and the germ and pest infestation were of minimal in the past years. The organic quality of food remained a distant dream for many in the present days. As time change more lives avenues were emerged for the people to meet the demands hence the economic pattern of practices had to shift in response to such changes. The traditional ways of farming alone could not support the monetary demands of lives avenues that people had to opt for different pattern of cultivations. Thus, the commercialization of agriculture as a factor to counter the change of economic situation came to play a significant role in agriculture practices amongst the Tangkhul.

The prevalent types of agriculture were mostly of mixed type of farming to balance the changing demands. It was commonly found practice within the Commercialized villages. In both the types of villages, Jhum cultivations were still noticeable however dry and wet terraced farming were found predominantly practiced in the study villages. There was no difference in the nature and type of crops cultivated except the larger quantity in the case of commercialized agriculture villages. . Owing to the patterns of agriculture inputs the farmers relied mostly on the locally available resources rather than commercially available inputs

9.1.9. Dynamics of socio-cultural relationships and gender roles

The socio-cultural practices and relationships amongst the Tangkhul are closely knitted with the livelihood economic undertakings. The Tangkhul being the agrarian society has the socio-cultural characteristics of agriculture manifestation. Its cultural festivals, folk lore, tales, songs and dance; the construct of social intercourse and relationships ignites and revolves around the agriculture orbits. Undoubtedly, almost every detail fringes of cultural and social fountain emanates from the source of agricultural economic spring. Gender roles thus revolve around the social system of

economic ridden consortium of biological convenience. The roles and responsibilities at certain circumstances absorb predestined beings that conceived the construct of gender roles.

The enquiry into the dynamics of socio-cultural relationship was based on six (6) distinct components of relationship. These components represent the adhered socio-cultural values, upon which the pedestal of relational practices within the community lies. These value laden acts includes: altruistic act, hospitality/generosity, participation in cultural activities, social unity, social disparity and community participation. The result of the analysis revealed that the maximum of nearly one-fourth (24.4 percent) of the entire respondents affirmed that the practice of altruistic service had been slightly increase and a maximum of close to one-third (31.4 percent) of the entire respondents asserted to have slightly decreased of hospitality and generosity amongst the community. Further, it was revealed CAVs of having higher level of hospitality and generosity at 3.32 mean score as against the 2.44 mean score of SAVs.

In regards cultural activity participation, a maximum of nearly two-fifth (37.3 percent) of the entire respondents affirmed of slightly decreased in cultural activity participation. The result of the analysis reflected that the CAVs had higher level of participation in cultural activities with the mean score of 2.99 as compared to that level of 2.32 mean score of SAVs. And, a maximum of nearly two-fifth (38.7 percent) of the entire respondents believed that social unity had been slightly decreased over the years. In view of the prevalence level of social unity, the CAVs had the higher level of social unity with the mean score of 2.92 over to the level of 2.39 mean score belonging to SAVs.

As regard to Social disparity, a maximum of one-third (33.4 percent) of the entire respondents viewed that social disparity had been slightly decreased. However, this was denied by the maximum of two-fifth (40.6 percent) of the total respondents under SAVs. In this regard, the level of social disparity in SAVs was observed to be higher at 3.71 mean score as compared to that CAVs level of social disparity at 2.50 mean score.

Further, slight decrease in community participation was reported by a maximum of nearly two-fifth (36.2 percent) of the entire respondents. The result revealed that the level of community participation in CAVs proved to be at higher level with 2.86 mean score as against SAVs level of 2.43 mean score.

The exploration on the situational prevalence of gender roles assignments was done in contingent upon six prominent characteristics of gender related roles such as; responsibility at home, social obligation, leisure time with friends, involvement in decision making, autonomy in personal matters and husband involvement in household chores. The data revealed that the maximum of nearly two-fifth (38.3 percent) of the entire respondents affirmed of neither increase nor decrease in women's workload and responsibility at home. However, a maximum of respondents from CAVs stated in contrary that in the past years the role and responsibilities of women at home had been slightly increased. The increase in responsibilities of women at home were attributed to different factors such as family with old age member, having small child, single parent, inattentive partner and the nature of partner's employment.

As regards to Social obligation, a maximum of more than two-fifth (44.3 percent) of the entire respondents stated that their social obligations neither increased nor decreased and the same was affirmed by the respondents under SAVs and CAVs.

The exploration was made to measure changes in the patterns of women leisure time spent with friends. The constructs were inferred that with the positive change in gender role assignment would reduce the women workloads and have more leisure time with friends and relatives. The data revealed that the maximum of one-third (33.4 percent) of the entire respondents affirmed that their leisure time with friends and relatives had been slightly decreased over a period of time.

The dominance of male in almost every significant aspects of decision making process could be observed the pattern of patriarchal characteristics. Although there is no restriction upon involvement of women in decision making, it practically viewed as an unusual behavior and immodest on the part of women. Thus women are expected to be timid and modest and remain quiet in the presence of men. However, as times bring

changes and education enlightened the dungeon mindset of men as well as women are emboldened to come out from the traditional bondage and misconceptions. Gradually more women are coming up on the pedestal of decision making in the society. The data revealed that the maximum of nearly two-fifth (39.7 percent) of the entire respondents affirmed that their level of involvement in decision making had been slightly increased over past years.

In a predominant patriarchal society, there are instances of women being subjected to the opinions, whim and wishes of men. During the interview the respondents were at the opinion that they would not want to do things without the knowledge and consent of their partners. This drew the researcher's attention that the women's autonomy over their personal matters still subject to certain traditional limitations of gender roles. , the data depicted that the maximum of slightly more than a half (51.2 percent) of the entire respondents affirmed of their personal autonomy being neither increased nor decreased over the past years.

As regards to husband involvement in household chores, the report from the explored data confirmed that the maximum of equally less than one-third (30.7 percent) of the entire respondents experienced that their husband involvement in household chores had neither been increased nor decreased while other section affirmed that it had been slightly increased in the past. The same was affirmed by the respondents from CAVs, however the respondents under SAVS stated that the involvement of husband in household chores had neither been increased nor decreased.

9.1.10. Agriculture and well-being of women farmers

The concept of well-being is a complex and gained multi faceted explanation in the academic discourses and has occupied significant space amongst the policy makers (Saxby et al., 2018). The lives of farmers in general and women farmers in particular encounter several physical, mental, psychological and health challenges that associate with their occupation. These challenges and stresses can have devastating impact on their lives and affects their state of well-being (Hammersley et al., 2022). The well-being condition of the women farmers were assessed in tandem with their occupation.

The assessed dimensions of well-being included the Psychological, Physical, Social and Spiritual domains of women farmers. The overall result of the analysis accentuated that amongst the dimensions of well-being of women farmers, the Spiritual dimension of well-being remained at the highest domain with the mean score of 3.57. This was followed by the Social dimension, Psychological dimension and Physical dimension of well-being at the mean score of 3.50, 2.97 and 2.77 respectively. In case of SAVs, the Social dimension of well-being dominantly recorded at the highest mean score of 2.94 and subsequently the Psychological well-being, Spiritual well-being and Physical well-being with the mean score of 2.85, 2.84 and 2.77 respectively. Whereas under CAVs, the Spiritual dimension remained at the highest domain of well-being at the mean score of 4.24 which was followed consecutively by Social well-being, Psychological well-being and Physical well-being at the mean score of 4.01, 3.07 and 2.77 respectively. In summation, the observation of the data between villages highlighted better condition of respondents' well-being under CAVs.

9.1.11. Overall well-being of women farmers between SAVs and CAVs

The overall well-being indicated the summed total score of all the dimensions of well-being. It was found that a preponderance of nearly two-third (65.2 percent) of the entire respondents had average/fair level of well-being followed by nearly one-fifth (18.5 percent) of the entire respondents had slightly high well-being. In respect to data distribution within the villages, a maximum of nearly two-third (63.0 percent) and slightly over two-third (67.1 percent) of the total respondents under SAVs and CAVs respectively had average/fair level of distribution. Moreover, the result of the analysis revealed that the women farmers under CAVs had better or higher level of well being as against the level of well-being of women farmers under SAVs with a significant difference at t value of 16.80.

9.1.12. Satisfaction with life between SAVs and CAVs

The overall life satisfaction of women farmers were assessed through the score of Satisfaction With Life Scale (SWLS) developed and copyrighted yet permitted to use

for free (Diener et al., 1985; Pavot & Diener, 1993). Diener, Emmons, Larsen, & Griffin (1985) maintained life satisfaction in congruent with Shin's and Johnson's (1985) view (as cited in Diener, Emmons, Larsen, & Griffin, 1985) as the 'cognitive judgmental process' of 'global assessment of a person's quality of life according to his chosen criteria'. The result of the analysis revealed that a maximum of less than one-third (31.7 percent) of the entire respondents had *Slightly Dissatisfied* with their life. In the case of data between the villages, it was shown that a maximum of equally close to two-fifth (36.2 percent) and (36.9 percent) of the total respondents under SAVS had slightly *Dissatisfied* with their life and those under CAVs had in contrast *Slightly satisfied* with their life respectively.

9.2. Conclusion

This study provides understanding of the practical contribution of the Tangkhul women farmers in particular and tribal women in general in operation of small holder agriculture farming. In many instances of governmental reports and publications, women farmers' contributions in agriculture are often overlooked or underestimated based on the land ownership. Traditionally the Tangkhuls like in the cases of many other communities adheres to the patriarchal system of society. This enjoins men to hold the rightful ownership mainly that of ancestral possessions. Thus, any ancestral land in a family is owned by the men normally the head of the family. However, the role of women in land cultivation cannot be overlooked on the basis of landownership particularly in the case of Tangkhul. Where, it is evident that the contribution of women farmers in agriculture farming and their roles are inimitable. The study confirmed that in spite of void land ownership and disparity in recognition, the Tangkhul women farmers extensively involved in agriculture operation and decision making. This, on the other hand imply that although women formerly do not bear the ownership of land she has every mandate and privileges in managing the affairs of agriculture farming and shared equal cognizance of responsibilities. Unlike the agriculture labourers who do not have such sanctioned privileges that a farmer has in regards to the farming matters. Moreover, it is significant to take into consideration the nature and extent of

participation in agriculture operation and decision making is subjected to the nature of agriculture farming, type of crops grown and the resources in possession within the household. It is of the fact that the vitality of the Tangkhul women farmers' role in agriculture farming extent beyond food production but most significantly an essence of sustaining and balancing the life's pendulum of human society. Unfortunately, their invaluable role and contribution often go unrecognized or underestimated and considered as petty household undertakings. Any such devastating void would engender chasms of socio-economic and cultural disparity in the Tangkhul society without the role and contribution of the women farmers.

In the case of livestock management is concerned, a usually small home based income supplementary and for self consumption is an alternate vocation accounted in the study villages. Rearing of livestock other than pigs, poultry, cows, buffaloes, etc. are uncommon among the Tangkhul society while the same pattern is found in the study villages. The contributing role of women in livestock management is subjectively extensive and vital in nature associated closely with household chores. In the aspect of forest management, the Tangkhul society sustains on agrarian livelihood greatly rely on forest resources. Besides farming, collection of fodders and fuel woods comes from forest which is accounted to have shared responsibilities between men and women.

The physical, social and economic functional impacts of agriculture practices among the women farmers are diverse and interconnected in nature. The cause of physical incapability due to strenuous nature of work could consequences to impediment in performing economic activities and socially handicap. Moreover such interconnected ramifications overarching mental and psychological functioning of the women farmers. The stressful conditions resulting out of on farm challenges are observed as causal factors for disruptive mental and psychological functioning. Although many of the challenges are associated with on farm distresses, directly or indirectly impacted on the functioning of women farmers. In addition, the off farm stressful familiar and social environment equally influence while ensuring the women farmers in their personal spheres of life smooth functioning. In a simple note, the women overall well-being does

not directly associated to their involvement in agriculture operations. However, it is observed indirect influences of agriculture operations and its changes on certain dimensions of well-being. Whereas, more than livelihood challenges, the relationship discrepancy and deficit behavior of a child has reportedly be more devastating and disrupting the well-being of women farmers.

9.3. Implication for Social Work Education

As per the definition propounded by the International Federation of Social worker (IFSW) (2014), *“Social work is practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledges, social work engage people and structures to address life challenges and enhance wellbeing”*.

Coming to Indian context National Association of Professional Social workers (NAPSWI) (2018) has deliberated in defining social work, *“Professional social work is based on democratic values, humanitarian philosophy with central focus on the human relationships and human dignity. In India, the profession of social work draws its strengths from indigenous wisdom, constitutional commitment for equality, social justice and human rights, and scientific knowledge base. Its professional practice contributes to macro level understanding and policy change while continuing to focus on people at individual, group and the community levels. As a practice-based profession its interactions enrich institutions and systems at all levels through culturally responsive interventions that aim at individual and social wellbeing. Its central concerns are empowerment of vulnerable, oppressed, and marginalized sections of our communities and as a practice it endeavours to partake in social change, sustainable development through participatory and collaboratory processes with people in need, institutions and the state”*.

Thus, social work seeks to help ameliorate the disturbed social functioning of an individual or group or society as a whole. While in tune with the principle of human rights, social justice and democratic values based on scientific methods is the hallmark of the profession. The historical contexts of the origin of social work as a profession draw us to an understanding that it is the byproduct of industrialization induced human problems across the globe. The need for social work interventions is ever growing as the complexities of human problems are compounding each day.

In the present deliberation, the practice of rural social work and its relevance in dealing with the subject matter of agriculture challenges concerning the women farmers in particular and village farmers in general are explored. Among many one of the most relevant studies conducted in china are referred to.

Neoliberal globalization and free trade economic policy induced economic dependency on imported goods from other country greatly affects food security, safety and sustainability in China. Economic transition from the state of people oriented to market oriented has led to change in agriculture organization. Commercialization of agriculture resulted to mechanization of operation has tremendously pressurized the rural smallholder farming eventually became insignificant. Pingzhai, an old village with over 300 years of settlement history faced agrarian challenges after post-reform in China. Food insecurity and financial debt crippled their lives. The failed attempt of government in eradicating poverty through 'green revolution' practically devastated the whole livelihood of this village. Traditional seeds and methods of cultivations were replaced with modern technology and high yielding variety of seeds for higher production. However, contradictorily it burdened more to the villagers as the cost of operation incurred higher amount of money. It is reported that the villagers had to spend extra expenditure for the chemical fertilizers and pesticides. The use of chemical fertilizers and pesticides eliminated fertility of the farm and without which no production could be attained. The traditional skills in farming and its crops were waning away at the expense of market suitable production. The matter of Food security and sustainability were gravely challenged. To revive and to regenerate traditional

production skills and to reclaim ecological balance and reconstruct community bonding, a team of social work scholars and university students prompted a participatory action research in line with the framework of social economy. Scientist and agriculture expertise were collaboratively engaged in accordance with the subject requirement especially in dealing with the soil and crops management. To further the intervention strategy farmer cooperative was formed and encouraged for better income and food security. Traditional knowledge and information were gathered regarding farming, preparing organic manure and pesticides from the elderly farmers and the same was disseminated among the members. Farmers were helped to allocate their produces for marketing where direct consumer relationship would be maintained. Urban residents were invited during the harvest festivals to have the opportunity to learn about the process of organic food production and helped to get first hand taste of the varieties of crops. After several years the scientist reported that the soil fertility of the farm regain tremendously in response to the use of organic manure. It was noted that the family income of the cooperative members were highly increased post intervention. Moreover, in regards to human relationship, the formation of cooperative have helped members developed sense of belongingness that permeates mutual helps and aid in times of struggles. The case of Pingzhai village in north eastern region of Yunnan Province, southwest China reflected the concrete evidence of the affects of commercialization of agriculture and neo liberal globalization in rural livelihood. On the other hand, the process of interventions achieved by the social work scholars and university students in reviving the rural self reliant livelihood accentuated the relevance of social work intervention in rural setting (Ku & Kan, 2020).

Moreover, in relating to the interventional strategy of social work practice in the field of agriculture and women farmers is in relevant to the work of Ponnuswami & Francis (2012) opined that there is an existing gap between the social work curriculum and social work practice in India. Subtly marking out that the social work educators engage themselves only in teaching and research arena with little or no engagement in practice or extension work while on the other parts, the social work practitioners confine

solely with field work without getting in touch with teaching work. Thus, lack in creating a meeting point between the two and share the experiences and knowledge. Unlike other professions, social work even after existence of more than 75 years still has not gained public approval and considered it as a profession rather a mere service provider. It is suggested that, through extension work only will social work be publicized and gain public confidence. In an attempt to highlight pathways for social work intervention, four paradigms of agriculture extension have been expounded as follows:-

(I). *“Technology transfer (Persuasive + Paternalistic)”*

In this aspect transmitting or recommending of social work scientific methods and techniques in tackling psycho-social challenges, problem relating to environment and community in conflicts

(II). *“Advisory Work (Persuasive + Participatory)”*

Counseling and providing guidance towards the individual, group and community in tackling their challenges and problems and help them identify their strength to solve it.

(III). *“Human Resource Development (Educational + Paternalistic)”*

Social work outreach activities in reaching out the poor and rural people can be used as a means to disseminating information, conduct training programs and sensitizing issues

(IV). *“Facilitation for Empowerment (Educational + Participatory)”*

This paradigm involves participatory and experiential learning through interaction and exchange of experience. Social work engages in imparting knowledge and training through participatory medium of learning. The paradigms of agriculture extension can be applicable in social work intervention at different settings.

Social work Intervention in agriculture farming is of urgent necessity, the intervention measure to ameliorate the ordeal of farmers and particularly the condition of women farmers. Social work methods must be strengthened with the required paradigms and frameworks from different professions and disciplines

9.4. Limitations and scope for future research

1. The present study deliberated mainly on self reports of women farmers' well-being and life satisfaction, yet limited to delve into the significant characteristics of well-being. Therefore, to conduct more in-depth study on the aspect of what constitutes significant characteristics of women farmers' well-being or inclusive of men farmers' will derive better academic justification.
2. The sample unit for the study consisted only of women farmers belonging to the particular (Tangkul) tribe; that the representation of agriculture population stands narrow and the diverse experiences of farmers' well-being construct could not capture. Thus, to draw more conclusive and inclusive findings cross gender, cross culture and community study requires to be done.

9.5. Suggestions

1. No agriculture developmental schemes and programs were reportedly availed by the women farmers in the study areas; awareness drive and sensitization of the programs implementation can improve the condition of women farmers and boost the products.
2. Locally organize marketing facilities will ease the issue of marketing amongst the women farmers
3. Sensitization of agriculture entrepreneurship and its scope can tap the issue of changing agriculture environment; it can support to meet the pecuniary needs while sustaining the subsistence agriculture practice in a family.
4. Providing hands on training in the aspects of food preservation and processing will immensely help mitigate the issue of food wastage.
5. Providing hands on training in regards to application of chemical fertilizers and pesticides to prevent it further damage due to misuse of artificial inputs.

APPENDIX

INTERVIEW SCHEDULE

Participation in Agriculture and Well-being among Women in Ukhrul District, Manipur.

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Interview Schedule

(Confidential & PhD Research purpose only)

Section I

Demographic, socio-economic profile

Schedule no. :

Village : (1). Subsistence
Agriculture
(2). Commercialized
Agriculture

1. Profile of the Respondents

1.1. Structural background

Sl.no	Dimensions	Items
1	Gender	: <input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Others
2	Age	: <input type="radio"/> Youth (Below 29) <input type="radio"/> Young Adult (30-39) <input type="radio"/> Middle adult (40-49) <input type="radio"/> Young old (50-59) <input type="radio"/> Middle old (60-69) <input type="radio"/> Very Old (70+)
3	Ethnicity	: <input type="radio"/> Naga <input type="radio"/> Others
4	Tribe	: <input type="radio"/> Tangkhul
5	Religion	: <input type="radio"/> Christian <input type="radio"/> Hindu <input type="radio"/> Muslim <input type="radio"/> Others
6	Denomination	: <input type="radio"/> Baptist <input type="radio"/> Catholic <input type="radio"/> SDA
7	Educational status	: <input type="radio"/> Illiterate <input type="radio"/> Primary (1-4) <input type="radio"/> Upper Primary (5-7) <input type="radio"/> HSLC (8-10) <input type="radio"/> HSSLC (11-12) <input type="radio"/> Graduate (BA/BSC) <input type="radio"/> Post Graduate (MA/Msc) & Above
8	Occupation	: <input type="radio"/> Home maker <input type="radio"/> Cultivator <input type="radio"/> Govt Employee <input type="radio"/> Private employee <input type="radio"/> Self-employee
9	Marital status	: <input type="radio"/> Married <input type="radio"/> Un-Married <input type="radio"/> Divorce <input type="radio"/> Widow
10	Head of the household	: <input type="radio"/> Male <input type="radio"/> Female
11	Type of family	: <input type="radio"/> Nuclear family <input type="radio"/> Joint family <input type="radio"/> Extended family
12	Size of family	: <input type="radio"/> Small (1-3) <input type="radio"/> Medium (4-6) <input type="radio"/> Large (7-Above)
13	Husband's age/Father's age	: <input type="radio"/> Youth (Below 1 - 29) <input type="radio"/> Young Adult (30-39) <input type="radio"/> Middle adult (40-49) <input type="radio"/> Young old (50-59) <input type="radio"/> Middle old (60-69) <input type="radio"/> Very Old (70+)

14	Husband's/Father's education	:	<input type="radio"/> Illiterate <input type="radio"/> Primary (1-4) <input type="radio"/> Upper primary (5-7) <input type="radio"/> HSLC (8-10) <input type="radio"/> HSSLC (11-12) <input type="radio"/> Graduate(BA/BSC) <input type="radio"/> PostGraduate(MA/Msc) &Above
15	Husband's/Father's occupation	:	<input type="radio"/> Home maker <input type="radio"/> Cultivator <input type="radio"/> Govt Employee <input type="radio"/> Private employee <input type="radio"/> Self- employee
16	Annual income/economic category of the family	:	<input type="radio"/> >Rs. 30000 <input type="radio"/> Rs.30,001-Rs. 60,000 <input type="radio"/> Rs. 60,001 - Rs. 90,000 <input type="radio"/> Rs. 90,001 - Rs.120,000 <input type="radio"/> Rs. 120,001 - Rs. 150,000 <input type="radio"/> Rs. 150,000 &Above
17	Types of Agriculture	:	<input type="radio"/> Subsistence <input type="radio"/> Commercial <input type="radio"/> Mixed Economy

Section II

Women Participation in Agriculture

2. Extent of women participation in agriculture Farming

Sl. no	Activities	Extent of Participation							
		Men				Women			
		Never	Always	Occasionally	Rarely	Never	Always	Occasionally	Rarely
	Pre Production Stage	0	1	2	3	0	1	2	3
1	Plowing								
2	Field preparation								
3	Forest clear & burning								
4	Seed treatment								
5	Preparation of fertilizers								
6	Carrying seeds & fertilizers to the field								
7	Preparation of tools & instruments								
8	Preparation of irrigation								
9	Nursery raising								
10	Fencing preparation								
	Production Stage	0	1	2	3	0	1	2	3
1	Uprooting of seedlings & transplanting								

2	Application of fertilizers & Seed sowing								
3	Food preparation								
4	Irrigating crops field								
5	Weeding								
6	Pesticides spray								
7	Labour management								
8	Containment of water/irrigation								
9	Clearing the field surroundings								
10	Crops protection								
Post Production Stage		0	1	2	3	0	1	2	3
1	Harvesting								
2	Threshing								
3	Husking								
4	Winnowing								
5	Drying								
6	Grinding								
7	Packaging								
8	Bringing the produce home								
9	Storage								
10	Marketing								

2.1. Participation in Decision making in agriculture related matters

Sl.no	Activities	No Participation	Only opinion asked	To some extent	To a large extent	Final Decision
		0	1	2	3	4
1	Crop selection					
2	Seed treatment					
3	Fertilizer selection					
4	Storage of grain					
5	Sale of agriculture produce					
6	Purchase & sale of land					

7	Purchase & sale of machinery						
8	Purchase & sale of animals						
9	Hiring of labour						
10	Selection of agriculture land						
11	Agriculture work plan						

2.2. Time allocation for different activities within 24 hours (Men)

Sl. no	Activities	Time in hours						
		None	5-15 mins	20-30 mins	35-55 mins	1-5hrs	10-15hrs	20-24 hrs
1	Cooking food							
2	Fetching water							
3	Cleaning house							
4	Caring children							
5	Agriculture activities							
6	Caring animals							
7	Fire wood collection							
8	Attending social meeting							
9	Grinding							
10	Others							

2.3. Time allocation for different activities within 24 hours (Women)

Sl. no	Activities	Time in hours						
		None	5-15 mins	20-30 mins	35-55 mins	1-5 hrs	10-15 hrs	20-24 hrs
1	Cooking food							
2	Fetching water							
3	Cleaning house							
4	Caring children							
5	Agriculture activities							
6	Caring animals							
7	Fire wood collection							
8	Attending social meeting							
9	Grinding							
10	Others							

2.4. Extent of Women's participation in Livestock, Fisheries & others management (Gender wise)

Sl. no	Activities	Extent of Participation							
		Men				Women			
		Never	Always	Occas ionall	Rarely	Never	Always	Occasi onally	Rarely

		0	1	2	3	0	1	2	3
		1	Cleaning						
2	Watering								
3	Feeding								
4	Breed selection								
5	Fencing/ranching								
6	Preparation of pond								
7	Guarding from predators								
8	Grazing								
9	Milking								
10	Processing								
11	Marketing								

2.5. Extent of Women's participation in Forest operations

Sl. no.	Activities	Extent of participation							
		Men				Women			
		Never	Always	Occasionally	Rarely	Never	Always	occasionally	Rarely
		0	1	2	3	0	1	2	3
	Plantation								
1	Firewood cutting/collection								
2	Timber cutting/collection								
3	Collecting fodders								
4	Collecting Medicinal Plants								
5	Boundary Management								

Section III

Agricultural Transformation

3.1 Extent of using the following inputs in cultivations

Sl.no	Input	Extent of Use			
		Never	Sometimes	Mostly	Always
1	Seeds	0	1	2	3
	Local				
	HYV				
2	Human labour	0	1	2	3
	Hired labour(<i>Male</i>)				
	Hired labour(<i>Female</i>)				
	Family Labour(<i>Male</i>)				
	Family Labour(<i>Female</i>)				
3	Animal Labour	0	1	2	3

		Own			
		Hired			
4	Machinery	0	1	2	3
		Own			
		Hired			
5	Fertilizer	0	1	2	3
		Organic Manure			
		Chemical Fertilizer			
6	Pesticide	0	1	2	3
		Organic pesticides			
		Chemical pesticides			
7	Irrigation	0	1	2	3
		Seasonal Rain Fall			
		Rain water harvesting			
		River Stream water			

3.2. Difficulties faced in Agriculture

Sl. no	Constraint	Never	Sometimes	Mostly	Always
		0	1	2	3
1	Inadequate funds				
2	Non suitability of land for cultivation	0	1	2	3
3	Lack of irrigation facilities or sources	0	1	2	3
4	Lack of technical knowhow to practice	0	1	2	3
5	Inadequate human labour	0	1	2	3
6	Inadequate animal labour	0	1	2	3
7	Lack of marketing facilities	0	1	2	3
8	Non remunerative price	0	1	2	3
9	Lack of transport service	0	1	2	3
11	Poor road connectivity	0	1	2	3
12	Inadequate supply of chemical fertilizer	0	1	2	3
13	Inadequate supply of chemical pesticides	0	1	2	3
14	Inadequate availability of organic manure	0	1	2	3

15	Lack of storage facilities	0	1	2	3
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Section IV

Socio-cultural relationships and gender roles assignment

4.1. Perceptual Socio-cultural relationship and Gender Roles

Sl.no	Dimension	Don't know	Score/Rate				
			Highly Decrease	Slightly Decrease	Neither Increase nor Decrease	Slightly Increase	Highly Increase
A	Socio-Cultural Relationship		1	2	3	4	5
1	Altruistic Service (Yarkathui)						
2	Hospitality (Yaokashai)						
3	Participation in cultural activities						
4	Social Unity						
5	Social Disparity/have & havenot						
6	Community Participation						
B	Gender Roles Assignment		1	2	3	4	5
1	Responsibility at home						
2	Social Obligation						
3	Leisure time with friends						
4	Involvement in decision making						
5	Autonomy in personal matter						
6	Husband involvement in household chores						

Section V

Agriculture practice and Well-being of Rural women

5. Well-Being of women

5.1. Please scale your well-being

Sl.no	Dimension	Score				
		Not so much	To some extent	Average	Rather so much	Very much
A).Psychological Well-Being						
i	Self-Acceptance	1	2	3	4	5
ii	Purpose in life	1	2	3	4	5

iii	Personal growth	1	2	3	4	5
iv	Autonomy	1	2	3	4	5
v	Self-Motivation/Environmental Mastery	1	2	3	4	5
B). Physical Well-Being						
i	Healthy appearance	1	2	3	4	5
ii	Healthy lifestyle	1	2	3	4	5
iii	Appropriate Behaviour	1	2	3	4	5
iv	Greater flexibility	1	2	3	4	5
v	Coordination	1	2	3	4	5
C) Social Well-Being						
i	Trust and Belongingness/ Social Integration	1	2	3	4	5
ii	Benevolence /Social actualization	1	2	3	4	5
iii	Hospitability/Social Acceptance	1	2	3	4	5
iv	Celebrating holidays, festivals, achievement/Social Coherent	1	2	3	4	5
v	Contributing towards society /Social Contribution	1	2	3	4	5
D).Spiritual Well-Being						
i	Self-esteem	1	2	3	4	5
ii	Resilience	1	2	3	4	5
iii	Harmonious	1	2	3	4	5
iv	Religious	1	2	3	4	5
v	Altruism	1	2	3	4	5

5.2. Please scale your overall life satisfaction/Well-Being

Sl no.	Items	Score						
		SDA	DA	SLDA	NADA	SLA	A	SA
1	In most ways my life is close to my ideal	1	2	3	4	5	6	7
2	The condition of my life are excellent	1	2	3	4	5	6	7
3	I am satisfied with my life	1	2	3	4	5	6	7
4	So far I have gotten the important things I want in life	1	2	3	4	5	6	7
5	If I could live my life over, I would change almost nothing	1	2	3	4	5	6	7

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3	Bachelor of Commerce	Commerce	North-Eastern Hill University (NEHU)	2008	40.35
4	HSSLC	Commerce	Meghalaya Board of School Education (MBOSE)	2005	48.8
5	HSLC	General	Board of Secondary Education, Manipur (BOSEM)	2002	41

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RESEARCH PUBLICATIONS

Sl. no.	Title	Journal	Year
1	Participation of Rural Women in Agricultural Activities in India: A Review	Management Convergence (An International Journal of Management), Peer-reviewed Journal. ISSN No. 0976-5492. Vol-10(1), pp. 47-54.	2019
2	Women in Agriculture Farming in India: A Scope for Social Work Intervention	Dogo Rangsang Research Journal (UGC Care), Peer-reviewed Journal. ISSN No. 2347-7180. Vol 12(3), pp. 86-92	2022

CONFERENCE/SEMINAR PRESENTATION

Sl.no.	Title	Name of the conference/ seminar	Organizer	Date & Year
1	Work Participation of Women in Agriculture Farming in India: A Situational Analysis	National Online Seminar on Family, Community, Health and Wellbeing: Patterns Process and Outcomes of Social Work Research in India	Department of Social Work, Mizoram University	23-24 June 2021
2	Women in Agriculture Farming in India: A Scope for Social Work Extension	9 th Indian Social Work Congress	Matru Sewa Sangh Institute of Social Work, Nagpur; Maharashtra Association of social work educators (MASWE) and National Association of Professional Social Workers in India (NAPSWI)	28-30 October 2021

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PARTICULARS OF THE CANDIDATE

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DEPARTMENT : Social Work
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ABSTRACT

**PARTICIPATION IN AGRICULTURE AND WELL-BEING
AMONG WOMEN IN UKHRUL DISTRICT, MANIPUR.**

**AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY**

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DEPARTMENT OF SOCIAL WORK

SCHOOL OF SOCIAL SCIENCES

MAY, 2023

**PARTICIPATION IN AGRICULTURE AND WELL-BEING
AMONG WOMEN IN UKHRUL DISTRICT, MANIPUR.**

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Submitted

**In partial fulfillment of the requirement of the Degree of
Doctor of Philosophy in Social Work of Mizoram University, Aizawl**

Abstract

Introduction

Agriculture is the main backbone of Indian economy; her economic stability is highly dependent upon agriculture resources. Of the total geographical area of 328.7 million hectares of the country, the covered area of 139.4 million hectares is accounted as net sown area in 2016-2017. Moreover, the area of 200.2 million hectares is accounted for gross cropped area at the cropping intensity of 143.6 percent and an area of 68.6 million hectares was under net irrigated area. The contribution of agriculture and allied sector to Gross Domestic Product (GDP) at a declining pace of 16.5 percent attributed to structural transformation that impacted on the agriculture performance which led to increase in the share of other non-agriculture sector in the country. During the period of 2019-2020, the contribution of agriculture sector to India's gross value added recorded at 17.8 percent. The major crops produced during the year 2019-2020 includes rice, wheat, nutri/coarse cereals, pulses, food grains, oilseeds, sugarcane and cotton. The production of food grain during the year 2019-2020 is observed to have been increased by 26.87 million tons as compared to the last five years with the total food grain production of 296.65 million tons. Rice production is estimated to the total output of 118.43 million tons which shows 8.67 million tons higher comparing to the sum production of the last five years. The total wheat production is recorded at 107.59 million tons which indicates 11.43 million tons higher to that of 96.16 million tons in the previous years. The output of nutri/coarse cereal is recorded at 47.48 million tons with 4.42 million tons higher to that of 43.06 million tons produced 2018-2019, which indicates higher rate at 4.44 million tons compares to its average rate of output. In the case of pulses, the calculated amount of 23.15 million tons is produced in 2019-2020, that is higher by 2.33 million tons to that of 20.82 million tons of its five years sum output. The oilseeds output of the country in the year 2019-2020 amounted to 33.42 million tons which is comparatively higher by 1.90 million tons to that of 31.52 million

tons in 2018-2019. This indicates that the output in 2019-2020 is higher by 4.02 million tons to its average production. The estimate rate of 355.70 million tons of sugarcane out is accounted during the period of 2019-2020. Regarding cotton, it is recorded at 35.49 million bales (each bale is equivalent to 170 kg) with 7.45 million bales higher than 28.04 million bales. Further, the rate of production of jute & mesta is accounted for 9.91 million bales (equivalent to 180 kg each) during the year 2019-2020. Rich in agri-resources and high output render farmers opportunity to dispatch their products at the international market, which in return encourage them to expand their course of production. This has factored in expanding the production area as well an increased in amount of output. In a significant development, India has become one of the biggest exporters of agriculture commodities that include “rice, spices, cotton, oil meal cake, castor oil, coffee, cashew, tea, fresh vegetable and sugar across” many countries of the world. Notably, the contribution of India’s agriculture export and import to the world agriculture trade accounted for 2.15 percent and 1.54 percent respectively in 2018 whereas 2.4 percent export and 1.7 percent import in 2021. Of the India’s total merchandise export during (April-Nov) 2019-2020 and 2020-2021, the share of agricultural export increased from 10.9 percent to 14.4 percent respectively. Moreover, during (April-Nov) 2020-2021 the portion of agriculture and allied exports increased by 15.87 percent equivalent to Rs. 1,87,874.42 crores. The increased in agriculture and allied exports attributed to the mounted exports scenario of certain merchandise such as raw cotton (140 percent), rice excluding basmati (118 percent), sugar (72 percent), oil meals (32 percent), basmati rice (13 percent), fresh vegetables (12 percent) and spices (8 percent) during 2020-2021. The India’s agriculture and allied goods exports recipient countries are the United States of America, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom. In case of imports, the agriculture and allied commodities import in India during the year 2020-2021 (April-Nov) reduced by -3.55 percent to Rs 97267.66 crore. This is due to the declined value of agriculture and allied goods imports such as raw cotton including

waste (-79 percent), Spices (-33.6 percent), Cashew (-15.7 percent) and Pulses (-6.5 percent). Thus, agriculture and allied share in total merchandise reduced imports rate improved from 4.4 percent in 2019-2020 (April-Nov) to 5.9 percent in 2020-2021 (April-Nov). Majority of the imported agriculture and allied commodities come from the countries such as Indonesia, Ukraine, the United States of America, Argentina, Malaysia, Brazil, Singapore, Afghanistan, China, Thailand, Vietnam, the United Arab Emirates, Cote d'Ivoire, Australia and Myanmar. Thus, agriculture in India plays a significant role in maintaining economic stability and development. India is also one of the leading producers of various agriculture crops in the world such as sugarcane, wheat, rice, paddy, potatoes, etc. More importantly, it is worth mentioning that when other sectors failed the agriculture sector progressed and sustained the economy during the Covid-19 pandemic. Thus, it is evidently recorded the significant essence of agriculture in sustaining livelihood (Department of Agriculture, 2021; FAO, 2022; Nanda, 2022; World Trade Organization, 2022).

Of the India's total population of 1.41 billion about 64.6 percent of the people comprising 41.4 percent of female and 52 percent of male belongs to rural areas in 2021 that are depending on agriculture for their livelihood (World Bank, 2022). While, in terms of workforce participation is concern the estimated workers composition of around 45.6 percent (23.2 million workers of rural and urban combined in 2019-2020) of the country's workforce is concentrated in agriculture sector (Chand & Singh, 2022); that it employs the largest workforce in India (Gulati & Juneja, 2022). Of this the total workforce distribution of men consists of 40 percent against the 60 percent of women in agriculture in both rural and urban combined. This indicates the pivotal role played by women in agriculture sector. In 2019-20, the workforce contribution of women in agriculture in rural areas remains higher at 75.7 percent against the 55.4 percent of the men's workforce contribution. Likewise, the urban agriculture workforce contribution of women affirms higher with 8.2 percent to that of men at 5.0 percent. Furthermore, the composition of agriculture workers indicates that 76.55 percent of men and 70.34 percent of women workers are cultivators whereas 21.63 percent of men and 28.0

percent of women engages in agriculture labour (Chand & Singh, 2022; ILO, 2020). It is undeniable that women are the backbone of the agriculture workforces (P. Kaur & Mavi, 2015; National Research Centre for Women in Agriculture, 2004; Sharma et al., 2012; S. Singh et al., 2015a). Majority of its agriculture workforce are dominated by women. They contribute not only the physical output but also maintain quality and efficiency (Hussain et al., 2011; Sharma et al., 2012). Women performed majority of households' chores as well as the work related to farming and agriculture. In spite of their overwhelming contribution of workforces unfortunately go unrecognized and under estimated or suppress under gender subjugation and undermines their well-being (Hussain et al., 2011; Singh, Swanson, & Meena, 2015). Agriculture not only meet food and nutritional requirement but it also provides significant production, employment and demand generation. It plays pivotal role to ensure poverty alleviation, to sustainable growth and development for the Indian economy (Sharma et al., 2012). The government of India adopted a new approach to further improve the agriculture and allied sector in which the priority is given to the welfare and sustainability of farmers' socio-economic, social security and well-being (Department of Agriculture, Cooperation and Farmers welfare, GOI, 2016).

The North Eastern Region (NER) part of India comprises of the states of Assam, Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura. It covers the geographical area of 26.2 million hectare; that is about 8 percent of the total area of India. This region has about 72 percent of the entire area characterized by the hilly ecosystem. The NER composes of diverse types of vegetation ranging from subtropical, submontanne, montanne, subalpine to alpine system. It is endowed with rich natural resources, dense forest vegetations; high diversity of species and endemism became a global biodiversity hotspot. The native of this region belongs to the total of 225 diverse tribal ethnic groups out of the total 427 tribal communities settling in all over India (M. Kaur et al., 2018). Majority of which is more than 85 percent of these people in north-east India living in rural area adopted agriculture as the main source of livelihood (Birthal, 2010). The commonly practices agricultural patterns

or types can be broadly classified into two such as: (i) Settled cultivation are prevalent in plains and valleys as well as foothills and terraced slopes (ii) Shifting cultivation are commonly practices in all the hilly areas of this region excepting Sikkim relied on settled terraced cultivation. Approximately 12 percent of the total sown area falls under shifting cultivation and as high as about 400,000 families in this region still depends on such cultivation People here predominantly cultivated rice as their main crop except for Sikkim maize is dominant in their cropping system. The agriculture farming is mostly concentrated on food grain production with more than 80 percent of the aggregate crop area falls under food grain of which 89.8 percent of the total crop area is under rice cultivation. Moreover, of the total food grain production 93.2 percent of the food grain production consisted of rice. Agriculture farming practices is mainly purposed for subsistence in this region (A. Das et al., 2009; I. Das, 2013; Dikshit & Dikshit, 2014). Apart from marginal agriculture practices small scale livestock and poultry can be observed as an alternative source of income amongst the farmers in this region (Indo-Global Social Service Society (IGSSS), 2016). Thus, agriculture act as the main thriving force for economic growth and poverty eradication to further overall socio-economic progress of the rural North Eastern Region (NER) (Bordoloi, 2021).

As per the 2011 census, the total population of North Eastern Region (NER) estimated to 45 million which comprised of 23 million male and 22 million female. The majority of 37.0 million people in NER with 18.9 million male and 18.1 million female are residing in rural areas whose livelihood depends on agriculture. The urban total population estimated to 8.4 million people that consisted of 4.2 million male and 4.1 million female. In such a scenario, the workforce participation of women in agriculture varies from country to country and region to region in respect to the availability of resources, nature of work and socio-cultural practices (Bordoloi, 2021; Mawkhlieng & Algur, 2021; Pegu, 2015). Therefore, the work participation rate of women in NER varies from state to state. The summary of all the eight states work participation rate are highlighted below:-

(1) Arunachal Pradesh has the work participation rate (WPR) of 42.5 percent in total person that inclusive of 49.5 percent of male and 35.4 percent female. The classification of rural and urban status of WPR revealed that the total person of work participation in rural area estimated to 44.1 percent with 48.5 percent of male and 39.5 percent. Whereas, the urban total WPR estimated to 37.0 percent with 50.9 percent of male and 21.3 percent of female.

(2) Assam has the total WPR of 38.4 percent comprising of 53.6 percent male and 22.5 percent female. The rate of work participation in rural areas revealed that out of the total 38.7 percent of work participation, 53.1 percent is accounted for male and 23.7 percent of female workforce. In the urban area, the total work participation rate estimated to 36.4 percent with 56.8 percent of male and 14.9 percent of female.

(3) Manipur estimated the total work participation rate of 45.1 percent with 51.6 percent of male and 38.6 percent of female workforce. The work participation rate rural area recorded to 46.9 percent inclusive of 52.4 percent male and 41.2 percent of female. Whereas in the case of urban work participation rate, it totaled up to 41.4 percent that is comprised of 49.9 percent male and 33.2 percent female workforce.

(4) Meghalaya has the total work participation rate of 40.0 percent that comprised of 47.2 percent of male and 32.7 percent of female. In rural area, the total WPR is recorded to 41.0 percent inclusive of 47.0 percent of male and 35.0 percent of female while in urban area the total WPR accounted to 35.6 percent consisted of 47.7 percent of male and 23.6 percent of female.

(5) Mizoram is recorded with the total WPR of 44.4 percent with 52.4 percent of male and 36.2 percent of female workforce. The rural situation of participation in work estimated at the total rate of 48.0 percent that comprises of 53.9 percent of male and 36.2 percent of female whereas, in urban area the total WPR considered at 41.0 percent with 50.9 percent of male and 31.1 percent of female.

(6) Nagaland reflected with the total WPR of 49.2 percent that comprises of 53.4 percent male and 44.7 percent of female. In rural areas, the total WPR accounted for 54.0 percent with 55.7 percent of male and 52.3 percent of female while in the case

of urban, the total WPR recorded at 37.4 percent inclusive of 47.9 percent of male and 25.9 percent of female.

(7) Sikkim has the total WPR of 50.5 percent, having the highest work participation rate amongst the North Eastern states inclusive of 60.2 percent of male workers and 39.6 percent of female workers. In the rural area the total WPR accounted for 53.3 percent with 61.0 percent of male and 44.6 percent of female workers while in the urban area the total WPR is estimate at 41.9 percent with 57.5 percent male and 24.8 percent of female.

(8) Tripura has an estimated amount of total WPR at 40.0 percent consisting of 55.8 percent male and 23.6 percent of female workers. The rural area has the total WPR of 41.1 percent with 55.3 percent of male and 26.3 percent of female. On the other hand, the urban total WPR is accounted for 36.8 percent consisting of 57.0 percent of male and 16.0 percent of female workers.

Sikkim has the highest total WPR of 50.5 percent and the highest number of male WPR at 60.2 percent while Nagaland accounted the highest total WPR of women at 44.7 percent amongst the north eastern states. In case of rural work participation, Nagaland has the highest total rate of 54.0 percent and accounted the highest female WPR at 52.3 percent while Sikkim has an estimated total male WPR of 61.0 percent amongst the entire north eastern states. On the other hand, the highest number of WPR in urban area belongs to the Sikkim state with the total rate of 41.9 percent also, having the highest male WPR with 57.5 percent while the highest female WPR belongs to the state of Manipur with 33.2 percent in the entire north eastern states. Moreover, majority of the north eastern states have more than one-third of their women work participation rate especially in the rural areas which reveals significant roles played by women in agriculture sector being their main source of livelihood (North Eastern Council Secretariat: GoI, 2015). Thus, women are at the integral part of rural economy in India at large and particularly in the North-eastern part of the country. Women continue to perform inevitable roles in agriculture and allied sector, animal husbandry and forest

management, which they constitute as the backbone of agriculture workforce as well as its allied sector.

The Tangkhul Nagas are the major inhabitants of Ukhrul district situated on the eastern part of Manipur along the international frontier of India and Myanmar. Moreover, a significant portion of the Tangkhul population are living along the Somrah hill tract in Saigong sub-division of Myanmar (Shimray, 2004). The indigenous Tangkhul society is still governed by the old age traditional customary law. Ranging from socio-cultural and economic practices and governance deeply rooted to indigenous agriculture practices (Yaongam & Elizabeth, 2017). Shimrei (2016) highlighted different stages of livelihood practices amongst the Tangkhul on the basis of the characteristic of economic system. The first stage is categorized a savagery stage, in this stage people depended on flora and fauna for their livelihood and shelter. In the second stage which she termed it as primitive stage, people shifted from nomadic way of life to permanent settlement. Their livelihood practices shifted from food gathering effort to food producing activities. The third stage is categorized as civilization stage where society is developed on the basis of agrarian culture. Further, the authors classified the agriculture practices into two different methods. The first method is termed as primitive method. In this primitive method, no system of irrigation and ploughing of land were done. It is now commonly known as shifting cultivation or temporary cultivation. Secondly, terraced cultivation with well irrigated and thorough plough is done. It can be of two types, one as wet terraced cultivation (WTC) and another one as dry terraced cultivation (DTC). Agriculture as such remains the main stay of livelihood sustenance.

According to the census (2011), Ukhrul District has the total population of 183,998 persons comprising of 94718 male and 89280 female. Of these, maximum of the population of 156,811 persons with 80,801 of male and 76,010 of female resides in rural area while the population of 13917 male and 13270 female summing up to the total of 27187 persons are residing in urban area of Ukhrul District. The district has as high as 87,929 (47.79 percent) total workers that are inclusive of main and marginal

workers. Of the total workers, 46,533 (49.13 percent) and 41,396 (46.37 percent) workers comprises of male and female respectively. The total population of 67,724 (36.81 percent) consists as the main workers with 37,336 (39.42 percent) male and 30,388 (34.04 percent) female workers whereas 20,205 (10.98 percent) of the total population of workers consists as marginal workers with 9,197 (9.71 percent) of male and 11,008 (12.33 percent) of female. On the other hand, the total population of 96,069 (52.21 percent) persons represents the non-workers inclusive of 48,185 (50.87 percent) male and 47,884 (53.63 percent) female. Further, the classification of workers as per the economic activities the total population of 56,815 (64.61 percent) persons are categorized as cultivators with 27,277 (58.62 percent) and 29,538 (71.35 percent) persons are male and female respectively. The agriculture laborers make up the total number of 3,852 (4.38 percent) persons inclusive of 1,836 (3.95 percent) male and 2,016 (4.87 percent) female. Moreover, the total population of 2,233 (2.54 percent) persons engages as workers in household industry with 872 (1.87 percent) male and 1,361 (3.29 percent) female. While, the total population of 25,029 (28.47 percent) with 16,848 (35.56 percent) male and 8,481 (20.49 percent) female belongs to other workers.

Conceptual and Theoretical Perspective

Attempt has been made by many researchers, psychologists, and social scientists to conceptualize and define well-being to further empirical measurement in the past. From the period of Aristotle onwards to Bradburn (1969), Diener (1984), Ryff (1989), Waterman (1993), Larson (1993), Keyes (1998) and to this day, the issue of well-being gain significant space in academic discussion. In several literatures, well-being is viewed as “pleasure, happiness, life satisfaction, positive functioning, flourishing and languishing, optimal functioning, etc”. Different authors rather described the characteristics and dimensions, like wise most of the previous works drew different dimensional perspectives in defining well-being yet subjected to dissension and often lack of theoretical implication and empirical measurement. Taken into consideration the underlying complexities, controversial, overlapping and

intertwining dimensional aspects of well-being, it is best approach well-being as a “multidimensional phenomenon” thus endorses both the hedonic and eudaimonic conceptualization of well-being. It is also noted that the understanding, defining and determining well-being has high cultural and contextual influences (Ryan & Deci, 2001). Therefore, the present study adopts the proposed universally applicable definition of well-being by Dodge and colleagues. They drew the explanation from the existing “dynamic equilibrium theory” or rather popularly known as the “set point theory” of well-being, “the effect of life challenges in equilibrium/homeostasis” and “the life span model of development”. In that they defined well-being as “the balance point between an individual’s resource pool and the challenges”. The definition stemmed on three main aspects such as the concept of set point; the equilibrium/homeostasis and the changing condition of resources and challenges (Dodge et al., 2012). Thus, in line with the work of Dodge and colleagues’ structure of well-being framework is contextualized and designed to suit the study. In Fig.1. the seesaw/teeter-totter represents the phenomena of an individual’s propensity to attain the state of equilibrium/homeostasis. Wherein, that conditions influencing the state of individual’s equilibrium well-being is determined by the course of life experiences. Thus, life experiences of an individual is expressed in two different elements such as “Resources” and “Challenges” that affects the state of equilibrium; causing the teeter-totter tip from side to side. The analogy maintains that whenever an individual faces a challenge it disturbs the balance state of resources and challenges; resulting to tilt the line of well-being equilibrium as the string of resources of an individual is pulled to match the challenges. In this sense, well-being of an individual is at the state of equilibrium when the psychological, social, physical and spiritual resources match with the demand of psychological, social, physical and spiritual challenges. The more the challenges over resources affect the seesaw tipping towards the challenges expressing lower state of well-being otherwise.

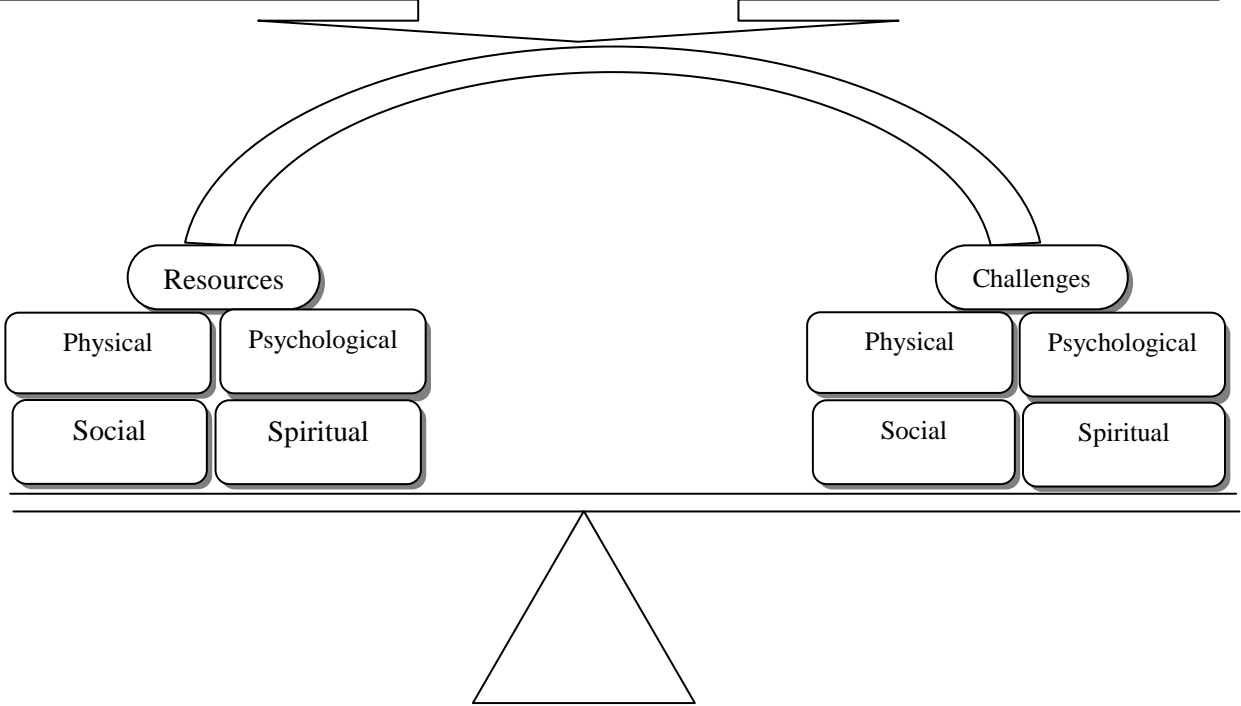
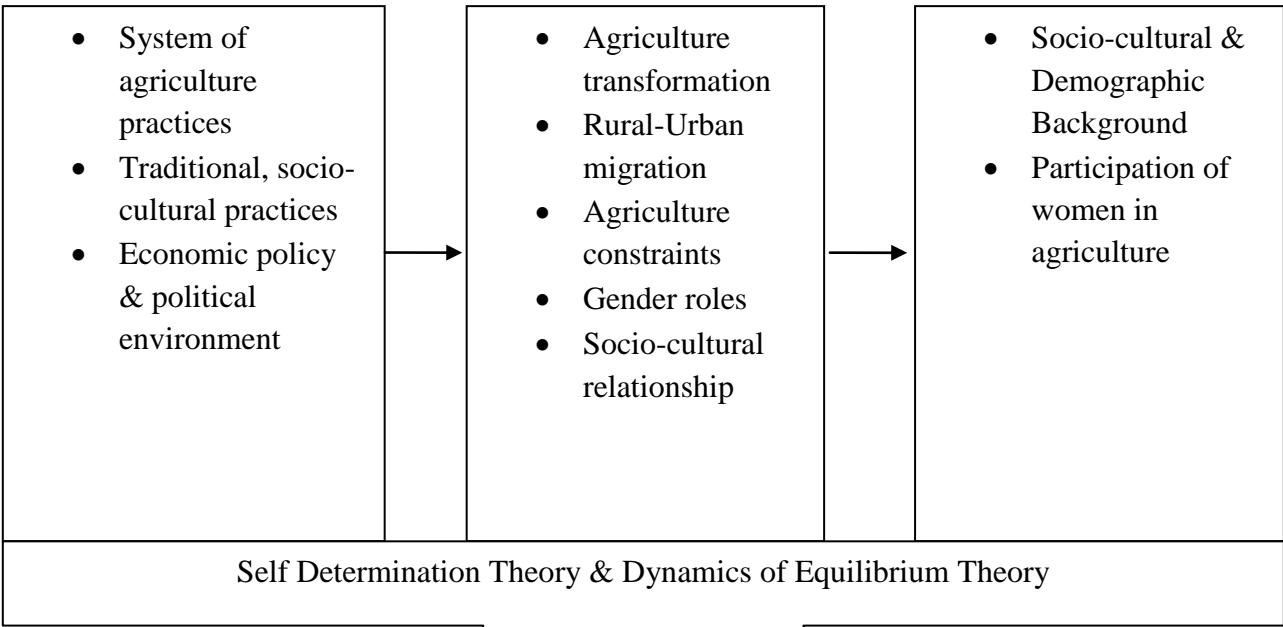


Figure 1. Conceptual model in determining women farmers' well-being (Modified from Dodge et al., 2012)

Overview of Literature

The studies associating to agriculture development and workforce participation advocates that women play a key role in food production and form a large proportion of the agricultural work force regionally, nationally and globally. They are the backbone of agriculture workforce. It is noted that the development and progress of other economic sectors rely on agriculture productivity (Chand & Singh, 2022; Department of Agriculture, 2021; Devi & Singh, 2015; C. R. Doss, 2018; FAO, 2013, 2021b, 2022; Hussain et al., 2011; P. Kaur & Mavi, 2015; Nanda, 2022; National Research Centre for Women in Agriculture, 2004; Sharma et al., 2012; K. M. Singh et al., 2015)

Majority of the studies focused on participation of women in agriculture, role performance, extent and nature of participation in farming. The determinant factors of the level of women participation in farming were showed to have associated with the type of crops relatively cultivated. Similarly, the types of farming activities were undertaken depending on the type of crops. Some of the related studies attempted to explain the socio-cultural influence on the extent and nature of women participation in agriculture. On the other hand, it was found that voluminous studies have emphasized on the increasing scenario of women taking over the agriculture affairs. Many more studies were focused on the changing agriculture system, policy programmes and commercialization of agriculture (Aggarwal et al., 2013; Devi & Singh, 2015; C. Doss et al., 2011; Hussain, 2011; Ibnouf, 2009; Kapur, 2018; P. Kaur & Mavi, 2015; Lastarria-Cornhiel, 2008; Lennon, 1994; Mamun- ur- Rashid et al., 2017; Munmun et al., 2015; Palacios-Lopez et al., 2015; Pattnaik et al., 2018; Sharma et al., 2012; Slavchevska et al., 2016a; Tyagi, 2012; Viswanathan et al., 2012).

Voluminous studies have delved into the subject matter of conceptualization of well-being, empirical measurement and applicability. Many have discussed the factors

affecting the well-being from the different perspectives. Work and job related well-being gained a center of deliberation in the past years (Bradburn, 1969; Deci & Ryan, 2008; Diener, 1984; Diener et al., 1998; Dodge et al., 2012; Kapteyn et al., 2015a; Keyes, 1998; Larson, 1993b; McMahan & Estes, 2011b; Ryan & Deci, 2001; Ryff, 1989a, 1989b, 2013; Seligman & Csikszentmihalyi, 2000; W. Tov, 2018; Waterman, 1993)

Research Gap

The majority of the studies were focused on women participation in agriculture farming, dearth of studies in India and northeastern part of India. There were fewer studies focused on the challenges, opportunities and strategies of women agricultural livelihood. Studies on work and well-being; mainly focused on an organized jobs, structured organizations and the implications were prevalent. But there has not been an empirical attempt to determine well-being amongst the farmers in an unorganized agriculture sector; especially amongst the women farmers in Ukhrul. Therefore, there is a need to explore and understand the rural women's participation in agriculture and well-being in Ukhrul, Manipur, India.

Statement of the problem

Traditionally like any other tribal societies around the globe, the Tangkhul society by practice is an agrarian society whereby it is the main source of their livelihood. Moreover, the whole system of social, economic, cultural, political, etc, revolves around the agricultural clock of the society (Manolom & Promphakping, 2015). Thus, agriculture not only provides food on their tables but more so in explicating the essence of their identity, values, beliefs and rituals. However, lately the entire scenario of agricultural livelihood practices had undergone tremendous shift because of the changing role of agriculture in society due to the change in socio-economic and political condition of the country. In the process of such change and rural transformation, agriculture sector employment is expected to attenuate as the agriculture share is inadequate to substantiate the household requirements and

employment opportunities in other sectors are broaden. Thus, people living in rural areas endeavor for diversification of livelihood strategies outside agriculture (Ibnouf, 2009). Yet in contrary to this, it is noted that in most developing countries men may move out of agriculture sector while women stay or prominently move out slow. Thus, leaving all the agriculture roles and responsibilities upon women's shoulders actually exacerbate the already overburden condition of women (Handaragama et al., 2013; Slavchevska et al., 2016). Hence, the changing patterns of livelihood practices pose a serious concern that reflects the socio-cultural conditions which has undergone tremendous alteration in terms of social relation and traditional social fabric at large. On the other hand this has cause a great concern on the state of well-being particularly for the Tangkhul women folks who plays eminent major roles in agricultural livelihood practices apart from performing multiple inimitable roles and responsibilities in the society (Buongpui, 2013;Burman, 2012; Das, 2013; Kamei, 2011; Ruivah, 1993; Shimray, 2001, 2000; Vitso, 2003; Zimik, 2015,2014; Zehol, 1998.). On the other hand despite women becoming major role players in the income generating activities vis-a-vis economy experiences subordination and discrimination under patriarchal dominant prevalent around the globe (Handaragama et al., 2013), which is no exception in the context of Tangkhul.

Objectives

1. To profile the structural background of rural Households/Women in Ukhul, Manipur
2. To understand the agricultural transformation from subsistence to commercialization in rural Ukhul Manipur
3. To explore the nature and extent of rural women's participation in agriculture
4. To examine the implications of agricultural changes on the socio-cultural relationships and gender roles assignment
5. To examine the implications of agricultural changes on rural women's well being

6. To suggest measures for social work practice and research

Chapter Scheme

The study is organised into the following nine chapters.

- Chapter I** : Introduction
- Chapter II** : Review of Literature
- Chapter III** : Methodology
- Chapter IV** : Structural Bases of the Respondents
- Chapter V** : Pattern of agriculture: Changes and Continuity
- Chapter VI** : Women's participation in Agriculture
- Chapter VII** : Socio-cultural Relationships and Dynamics of Gender roles
- Chapter VIII** : Agriculture: Well-being of Women Farmers and Satisfaction With Life
- Chapter IX** : Conclusion and Suggestions

The Setting: Profile of the study area

This section describes the setting and profile of the present study. It elaborates the profiles of the state of Manipur and Ukhrul district in addition to the block and the selected four sample villages.

The state of Manipur

The state of Manipur which is also known as the land of jewels lies at the latitude of 23.83*N and 25.68*N and at longitude of 93.03*E and 94.78*E, occupying the total area of 22,327 sq km. As per the 2011 census, Manipur has the total population of 2,721,756. Its total literacy rate stands at 76.94% which comprises of male literacy rate with 83.58% and female literacy rate stands at 70.26%. Manipur is

surrounded by Nagaland in the north, Mizoram in the south and Assam in the west as well as Myanmar in the east. The Manipur state can be geographically divided into hill region and valley region. The hill region composes of eight districts viz. Senapati, Tangmenglong, Churachandpur, Chandel, Kamjong, Sadar Hills, Pherzawl and Ukhrul districts whereas valley region comprises of four districts viz. Imphal East, Imphal West, Thoubal and Bishnupur districts. Thus, the hill districts occupy 90 percent (20089) sq km) of the total area of the state and the remaining 10 percent (2238 sq km) of the total area of the state is being occupied by the valley region. In addition to the existing Districts the Manipur Gazette No. 16/20/2016-R created seven new districts on 8th December 2016 namely, [Kangpokpi](#), [Tengnoupal](#), [Pherzawl](#), [Noney](#), [Kamjong](#), [Jiribam](#), [Kakching](#).



Figure 2. The state of Manipur

Ukhrul District

Ukhrul District in the north east of Manipur is at present inhabited by the Tangkhuls and a handful of other tribes consisting of Kukis and Meiteis. It is located at 25.12*N-94.37*E covering a total area of 4544 sq km. According to 2011 census, it has a total population of 1,83,115 with an average literacy rate of 81.35% out of which 85.52% comprised of male and 76.95% comprised of female. During the period of British-India in 1919 Ukhrul district was initially marked out as a sub-division but later upgraded to a district in 1968. Its maiden area covered 8200 sq km until it sliced and Tengnoupal now known as Chandel district was carved out on 15th July 1983. Since then, the so called present Ukhrul district came into existence in 1983. The district has now seven (7) sub-divisions that coterminous with the eight (8) developmental blocks.

The Naga people are the inhabitants of the north eastern parts of India and north western Burma now Myanmar. Naga people are a conglomeration of multiple tribes settling across north eastern states of India viz. Nagaland, parts of Manipur, Arunachal as whereas in the north western parts of Sagaing province of Myanmar consisting of five townships viz. Layshi, Lahe, Nanyun, Hkamti, Homalin, etc. and in Kachin states. There are about different sixty-six (66) tribes of Nagas sharing common culture, custom, religious beliefs, etc. They belonged to Mongoloid race, speaking various distinct Tibeto-Burman languages (Zimik, 2015).

The Tangkhul tribe is one of the major tribes of Naga settling in the areas lying between latitude 25.5*N -25.41*N and longitude 94*E-95*E in the north eastern part of India extending across the north western part of Myanmar. The Tangkhul country is being demarcated by the international boundary of India and Myanmar that sliced away some parts to the east. Greater portion which remain in India are found in Manipur Ukhrul district. Some Tangkhul villages are also merged to present district of Senapati. On the other hand the Tangkhul villages which merged to present Myanmar are found along the Pansa and Somra tract in the north, SamshokThaungthut state in the south and in the east connecting to Kachin (*Shimray, 2000, pp. 2-3, 2001,p.32*).

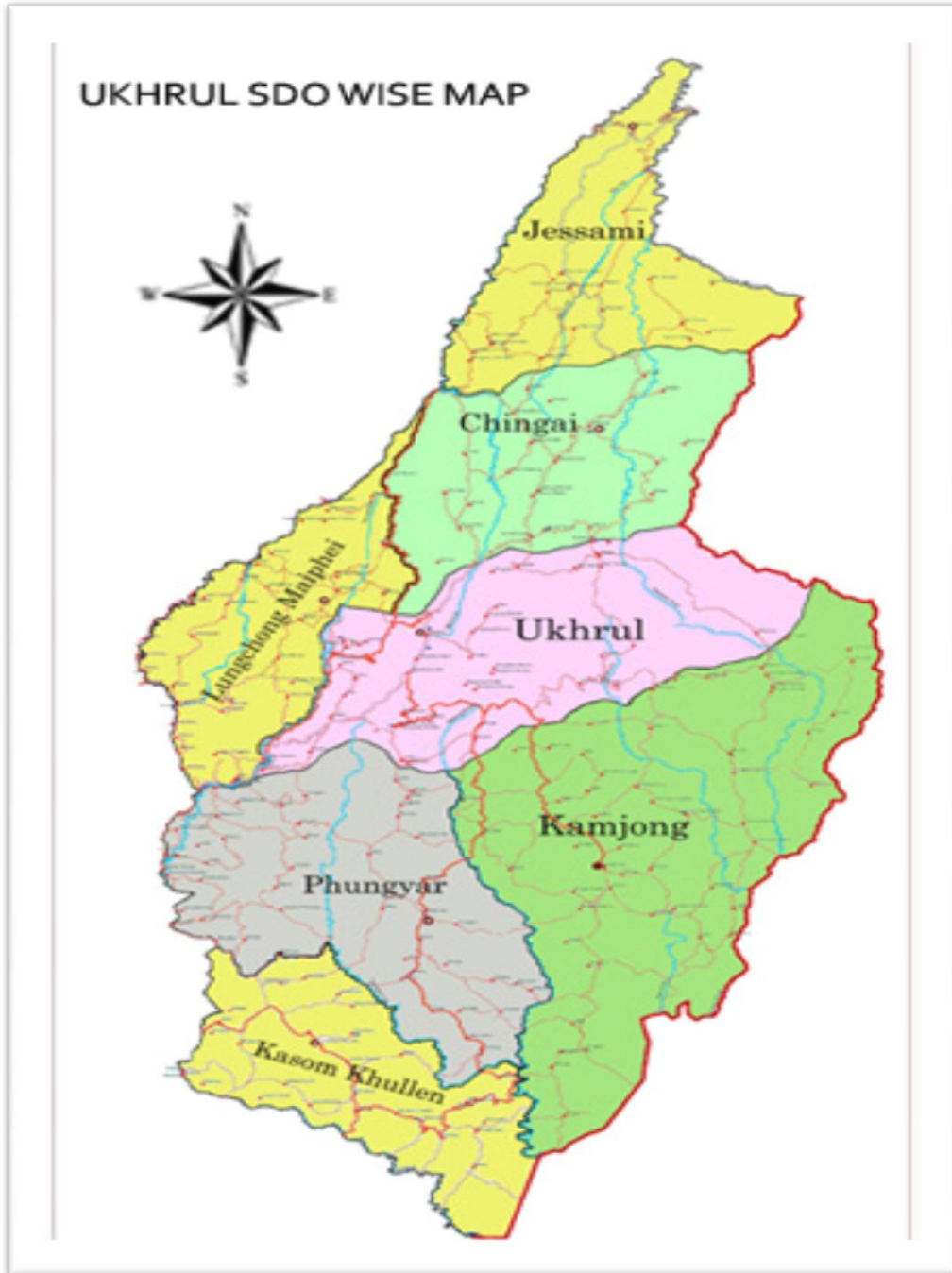


Figure 3. The Ukhrul District

The study area

The study was conducted in four villages from two different developmental blocks in Ukhrul District. These villages are Ringui village, Sinakeithei village, Khangkhui Khullen village and Lunghar village.

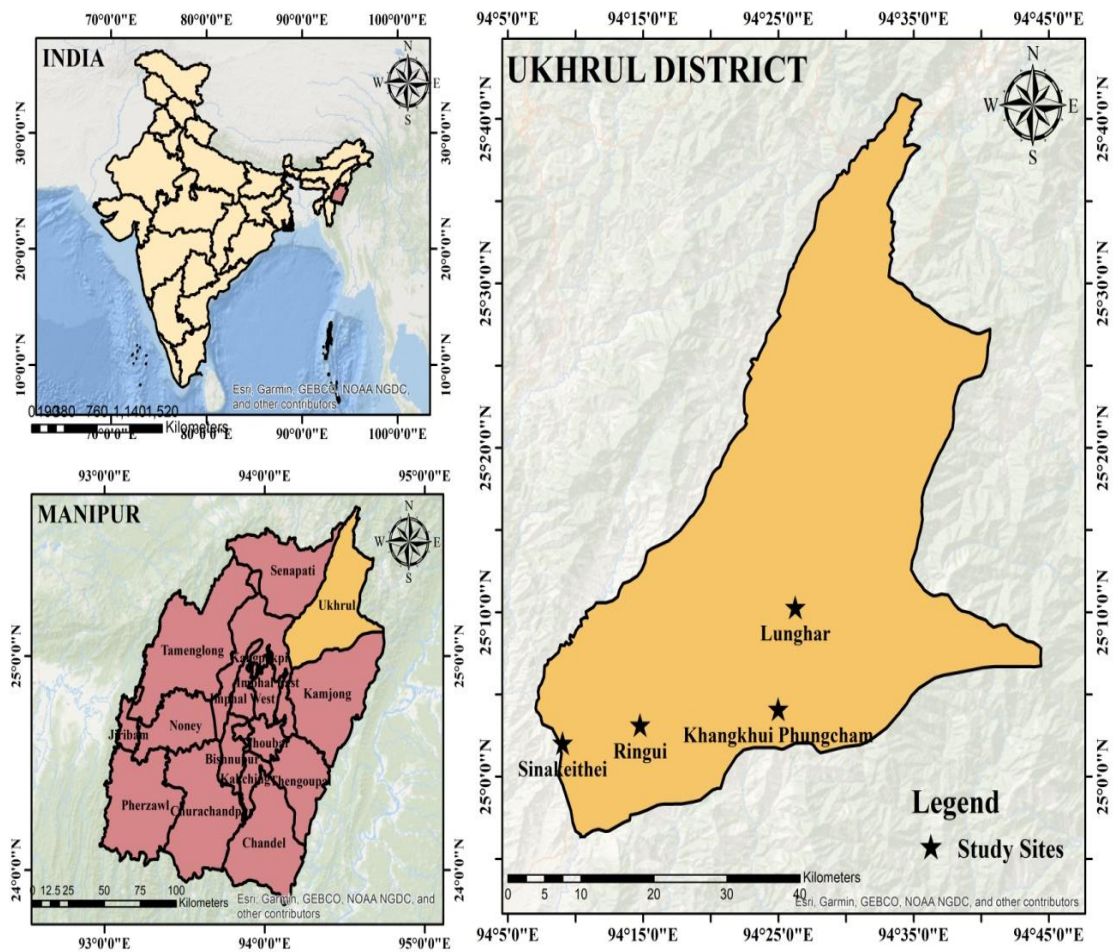


Figure 4. Study Areas

Sinakeithei Village

Sinakeithei is a large village located in Ukhurl Central of Ukhurul district, Manipur with total 441 families residing. The Sinakeithei village has population of 2003 of which 1008 are males while 995 are females as per Population Census 2011. Average Sex Ratio of Sinakeithei village is 987 which is higher than Manipur state average of 985. Child Sex Ratio for Sinakeithei as per census is 1318, higher than Manipur average of 930. In 2011, literacy rate of Sinakeithei village was 97.22 % while male literacy stands at 97.83 % and female literacy rate was 96.59 %. The village is administrated by Sarpanch (Chairman) who is elected representative of village. In Sinakeithei village, most of the village population is from Schedule Tribe (ST). Schedule Tribe (ST) constitutes 86.07 % of total population in Sinakeithei village. There is no population of Schedule Caste (SC) in Sinakeithei village of Ukhurul.

Table.1. Profile of Sinakeithei Village at a glance

Particulars	Male	Female	Total
Total No. of Houses	-	-	441
Population	1,008	995	2,003
Child (0-6)	88	116	204
Schedule Caste	0	0	0
Schedule Tribe	867	857	1,724
Literacy	97.83%	96.59%	97.22%
Total Workers	460	439	899
Main Worker	0	0	735
Marginal Worker	83	81	164

Source: Census 2011

Ringui Village

Ringui is a medium sized village located in Ukhrul Central Sub Division of Ukhrul district, Manipur with total 352 families residing. The Ringui village has population of 1971 of which 1022 are males while 949 are females as per population census 2011. Average sex ratio of Ringui village is 929 lower than Manipur state average of 985. Child sex ratio for Ringui as per census is 1096, higher than Manipur average of 930. In 2011 literacy rate of Ringui village was 90.40% compared to 76.94% of Manipur, whereby male literacy stands at 93.35% and female literacy rate was 87.14%. The village is administrated by Head of the Village who is elected representative of village. Most of the population of this village is from Schedule Tribe (ST) constituting of 98.22% of total population, no population of Schedule Caste was found in the village.

Table.2. Profile of Ringui Village at a glance

Particulars	Male	Female	Total
Total number of houses	-	-	352
Population	1,022	949	1,971
Child (0-6)	135	148	283
schedule caste	0	0	0
schedule tribe	1,004	932	1,936
Literacy	93.35%	87.14%	90.40%
total workers	507	437	944
main worker	-	-	689
marginal worker	120	135	255

Source: Census 2011

Lunghar Village

Lunghar village is a medium sized village located in Ukhrul Central Sub Division of Ukhrul district, Manipur with total 435 families residing. The Lunghar village has population of 1917 of which 943 are males while 974 are females as per Population census 2011. Average sex ratio of Lunghar village is 1033 which is higher than Manipur state average of 985. Child sex ratio for Lunghar as per census is 1067, higher than Manipur average of 930. Lunghar village has lower literacy rate compared to Manipur. In 2011, literacy rate of Lunghar village was 71.99% compare 276.94% of Manipur. In Lunghar male literacy stands at 78.16% while female literacy rate was 66.00%. The village is administrated by Sarpanch (Chairman) who is elected representative of village. In Lunghar village most of the village population is from Schedule Tribe (ST). There is no population of Schedule Caste in Lunghar village.

Table. 3. Profile of Lunghar Village at a glance

Particulars	Male	Female	Total
Total No of houses	-	-	435
Population	943	974	1,917
Child (0-6)	119	127	246
Schedule Caste	0	0	0
Schedule Tribe	913	934	1,847
Literacy	78.16%	66.00%	71.99%
Total workers	624	656	1,280
Main workers	-	-	763
Marginal workers	260	257	517

Sources: Census 2011

Khangkhui Khullen Village

Khangkhui Khullen is a medium size village located in Ukhrul Central Sub Division of Ukhrul district, Manipur with total 133 families residing. The Khangkhui

Khullen village has a population of 642 of which 316 are males while 326 are females as per Population Census 2011. The average sex ratio of the village is 1032 which is higher than Manipur state average of 985. As per the census the Child Sex Ratio for Khangkhui Khullen is 1167, higher than Manipur average of 930. In 2011, Khangkhui Khullen village literacy rate was 83.88% compared to 76.94% of Manipur. Male literacy stands at 89.51% while female literacy rate 78.35%. The village is administrated by the Sarpanch (Head of Village) who is elected representative of village. The majority of the population of the village belongs to Schedule Tribe (ST), constituting of 98.91% of total population, there is no Schedule Caste (SC) in Khangkhui Khullen village of Ukhrul.

Table.4.Profile of Khangkhui Khullen Village at a glance

Particulars	Male	Female	Total
Total No. of houses	-	-	133
Population	316	326	642
Child (0-6)	30	35	65
Schedule Caste	0	0	0
Schedule Tribe	314	321	635
Literacy	89.51%	78.35%	83.88%
Total workers	180	197	377
Main Worker	-	-	267
Marginal worker	51	59	110

Source: Census 2011

Research Design

The study undertaken was cross sectional in nature and exploratory in design. Adopting mixed methods approach and an amalgamation of both Qualitative and Quantitative approaches in a sequential manner was employed. The study was based on the primary data collected through semi structured interview schedule. The primary data is supplemented with secondary data collected from official records and

documents. The sampling frame consists of rural households from the selected villages while women at the age of above 18 were the sample units. Key informant Interviews (KIIs), In-depth Interviews (IIs), Focus Group Discussions (FGDs) and PRA techniques will be employed to elicit crucial information.

Sampling

A multistage sampling procedure was adopted to select the district and then two blocks were selected out of the existing four developmental blocks on the basis of the highest number of female workers concentration. Through this process, Ukhrul district was purposively selected as the study area. Under Ukhrul district there are four developmental blocks namely: - (i). Chingai block (ii). Ukhrul block (iii). Lungchong Meiphei block (iv). Jessami block. Out of which Ukhrul (Rural) block and Lungchong Meiphei Block was selected purposively as these two blocks had the highest concentration of female workers with 9504 female workers and 7942 female workers respectively. These two blocks comprised of 68 villages with 40 villages in Ukhrul (rural) block and 28 villages in Lungchong Meiphei block out of the total 231 villages under Ukhrul district. There were 38603 females' population within those two blocks against the total of 76010 females' population in Ukhrul District, rural areas composed of 20949 females in Ukhrul (rural) block and 17654 females in Lungchong Meiphei block. In addition, there were 14779 households in rural areas within Ukhrul district out of which 8004 households in Ukhrul (rural) block and 6775 households in Lungchong Meiphei block (Census, 2011).

The Population of the study was composed of rural villages concentrating within the selected representative blocks. Further, a systematic random sampling was employed to select four villages. The sampling frame of the study was composed of village households which were selected using a stratified sampling procedure and categorized them accordingly based on the pre-determined traits, having the characteristics of households adopting subsistence agriculture on one hand and households adopting commercialized agriculture for livelihood on the other hand. Non-Probability - Convenience sampling methods was employed to select female

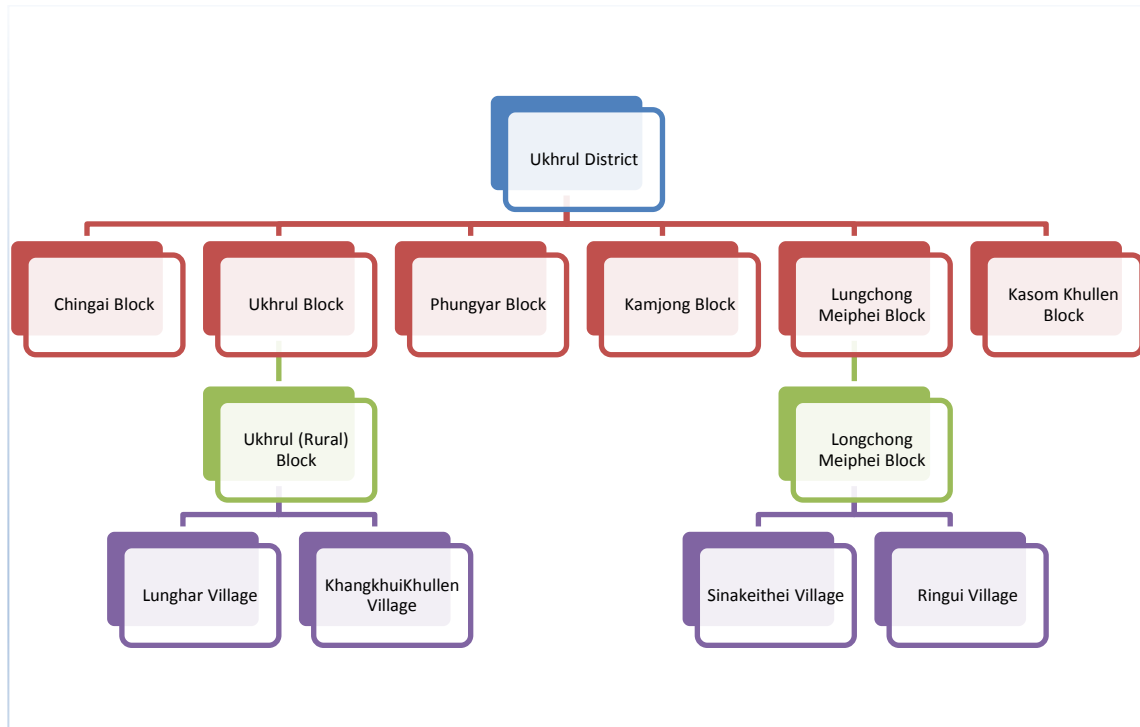
respondents from the determined households. The selected households are categorized into two strata as:-

Stratum –I- Altogether 138 households were selected under this category having the characteristics of subsistence agriculture trend.

Stratum- II- Under this category 149 households were selected based on the visible characteristics of commercialized agricultural trend

Convenience sampling methods were employed to select respondents from the determined households. Altogether 287 respondents were selected in conforming to Krejcie & Morgan (1970) procedure of determining sample size.

Figure. 5. Sampling Framework



Tools of Data collection

Qualitative and quantitative data were collected simultaneously during In-depth Interviews (IIs) through administration of pre-tested semi structured interview

schedule, and supplementary information was elicited through Focus Group Discussion (FGD) and Key Informant Interview.

The well-being of women farmers were assessed through self developed Well-being Assessment Inventories (WAI). The validity and reliability test were conducted to examine the internal consistency of the scale (see Table 3.6). The result showed the reliability (Cronbach's alpha) score of 0.825. According to the norms of the reliability test, the alpha level more or equal to 0.9 suggests excellent internal consistency and the alpha level between 0.8 and 0.9 refers to good internal consistency. As a result it can be stated that statistically the calculated score is significant or the items of the tool are reliable. Thus the adopted inventories can be used for further research.

Table.5. Validity and Reliability (Well-being of Women farmers)

Scale	Number of Items	Cronbach's Alpha
Likert Scale	20	0.825
Total	20	0.825

The Satisfaction with Life Scale (SWLS) was adopted to assess the overall satisfaction with life of the women farmers. The validity and reliability test were conducted to examine the internal consistency of the scale (see Table 3.7). The result showed the reliability (Cronbach's alpha) score of 0.838. According to the norms of the reliability test, the alpha level more or equal to 0.9 suggests excellent internal consistency and the alpha level between 0.8 and 0.9 refers to good internal consistency. As a result, it can be stated that statistically the calculated score is significant or the items of the tool are reliable. Thus the adopted SWLS tool is found applicable in the context of women farmers in Ukhrul district, Manipur.

Table.6. Validity and Reliability (Overall Life Satisfaction)

Scale	Number of Items	Cronbach's Alpha
Likert Scale	5	0.838

Data Processing and Analysis

The quantitative data were processed through MS Excel and analyzed with the help of Statistical Package of Social Sciences (SPSS) software. In addition qualitative data were free listed and analyzed thematically. The statistical expressions of simple averages, percentages and proportions, Karl Pearson's correlation coefficient and *t* test were used to draw findings.

Major Findings

The findings of the study are summarized into five sub-sections. The first section deals with the structural bases of the respondents and findings pertaining to women's participation in agriculture are presented in the second sub-section. In the third sub-section, patterns of agriculture; changes and continuity are summarized and the fourth sub-sections emphasized on dynamics of socio-cultural relationships and gender roles. The fifth sub-section pertains to the findings of agriculture and well-being of women farmers.

Structural bases of the respondents

The demographic composition includes Age and Marital status of the respondents. In regards to age, a maximum of less than one-third (30.3 percent) of the entire respondents fall under the age group of Young Old (50-59 yrs) followed by the age group of Middle Adult (40-49 yrs) at the rate of more than one-fourth (28.9 percent). While within the villages, SAVs had the highest respondents concentration at the age group of Middle adult (40-49 yrs) with less than one-third (29.9 percent) of the total respondents and CAVs had the highest number of respondents reportedly falling under the age group of Young Old (50-59 yrs) with slightly less than one-third (31.5 percent) of the total respondents. In this regard the previous literature justified that when young people migrated to urban cities, the agriculture responsibilities fell on the

shoulders of those who were left behind normally belongs to the old age group of people. Thus, the absence of young people pressured the old ones to take active role in agriculture operations (Viswanathan et al., 2012).

In regards to the marital status of the respondents, a maximum of 86.8 percent the respondents were married whereas 10.5 percent of the respondents were widow. There were minimal number of 2.1 percent of respondents having divorce and the least of 0.7 percent of the respondents reported un-married. In the case of the two types of villages the result of the analysis showed that majority 81.2 percent and 91.9 percent of the respondents were married from SAVs and CAVs respectively

In regards to socio-structure, the respondents belonged to the Tangkhul Naga community, where the majority of the respondents adhered to Christianity as their religion. In the case of religious denomination, majority (99.0 percent) of the respondents belonging to the Baptist denomination however, 2.2 percent of the respondents from the SAVs follow Roman Catholic denomination.

As regards to the educational background of the respondents, a maximum of less than one-third (27.3 percent) of the entire respondents were illiterate followed by one-fourth (25.5 percent) of the respondents who had completed high school leaving certificate (HSLC, Class 8-10). Categorically, the highest number of slightly less than a half (45.3 percent) of the total respondents within the SAVs remained illiterate. While the CAVs had the highest number of respondents with slightly less than one-third (32.9 percent) who had completed high school leaving certificate (HSLC, Class 8-10) of education.

In the economic aspects, it was found that a maximum of three-fourth (75.6 percent) of the entire respondents earned their livelihood by working as cultivators. It has the similar indication between the two types of villages, as a maximum number of nearly three-fourth (72.5 percent) and little more than three-fourth (78.5 percent) of the respondents from both the SAVs and CAVs respectively were cultivators. And in pertaining to the annual income, a maximum number of nearly two-fifth (38.3 percent) of the entire respondents were under the annual income group of ₹60,001 - ₹90,000.

Comparatively, the highest number of little more than one-fourth (26.1 percent and 26.8 percent) of the respondents under SAVs concentrated within the annual income group of ₹30,001 - ₹60,000 and ₹ 150,001 & above respectively, while the highest number of more than a half (57.0 percent) of the total respondents under CAV were belonging to the annual income group of ₹60,001 - ₹90,000.

As regards to the types of agriculture farming, the study have shown that a maximum of three-fifth (60.3percent) of the entire respondents practice mixed agriculture farming for their livelihood. The other section of more than one-third (36.9 percent) of the total respondents reported that they depend their livelihood on subsistence agriculture farming while 2.8 percent of the total respondents engaged in commercialized agriculture farming. In-depth category-wise examination found that a maximum number of nearly two-third (64.5 percent) of the respondents under SAV depending their livelihood on subsistence agriculture farming whereas a maximum number of two-third (60.3 percent) of the respondents under CAV engaged in mixed agriculture farming for their livelihood. The qualitative exploration informed of the affects of pandemic upon the pattern of agriculture farming.

In case of the type of family, the result of the analysis revealed that maximum of more than three-fourth (79.8 percent) of the entire respondents belonged to the nuclear type of family. And a maximum of nearly three-fifth (59.9 percent) of the entire respondents belonged to the medium family size (4-6 members). As regards to the head of the respondents' household, a maximum of 83.6 percent of the entire respondents' households were headed by male while one-sixth (16.4 percent) of the total respondents' households were headed by female. Those households headed by female were mostly widow.

The age of the head of respondents' households has been categorized into six age groups such as Youth (Below 29), Young Adult (30-39), Middle Adult (40-49), Young Old (50-59), Middle Old (60-69) and Very Old (70 & above). Maximum of the age of the head of respondents' households fell within the age group of Young Old (50-59) with slightly less than one-third of the total head of household. Moreover, there

were notably significant numbers of the head of the respondents' households whose age fell within the age group of Middle Old (60-69) with one-fourth (25.4 percent) and slightly less than one-fourth (23.7 percent) in composition.

The educational qualification of the head of respondents is classified into six educational categories such as illiterate, primary (1-4), upper primary (5-7), high school leaving certificate (HSLC, 8-10), higher secondary school leaving certificate (HSSLC, 11-12), graduate (BS/B.Sc.) and Postgraduate (MA/M.Sc.). The result of the analysis revealed that maximum concentration of equally near to one-fourth (24.5 percent) of the total head of the respondents' households were illiterate as well as completed high school leaving certificate (HSLC, 8-10).

The occupation of the head of households is classified into five different sources of livelihood such as home maker, cultivator, government employee, private employee and self-employed. The study has shown that majority (80.5 percent) of the total head of respondents' households eked out their living as cultivators.

Women's participation in agriculture farming

The extent and nature of women's participation in agriculture farming was examined based on three stages of production viz. Pre-production stages, production stages and post production stages. In that the nature of participation were constructed incongruent to the contextual farming activities; that the extent of participation were examined through self designed four point scale ranging from zero to three (0-3) relating to the frequency of involvement. Moreover, a comparative examination between the state of women's participation and the perceived state of men's participation in agriculture farming was done to derive at conclusive veracity.

The involvement of women in pre-production activities of agriculture farming includes plowing that a maximum of nearly one-third (32.8 percent) of the total respondents engaged occasionally and a maximum of nearly two-third (62.7 percent) of the total respondents always involved in the activity of field preparation. The activity involving clearing of forest or farmland and burning out the dried weed and plants for manure is a significant pre-production process. In such activity, the maximum of nearly

two-fifth (39.7 percent) of the total respondents confirmed of occasional involvement. Seed treatment is a significant process upon which a desirable amount of future output is determined. In most of the tribal agrarian society women normally take more responsibility taking care of seeds. The result of the analysis too affirmed that a majority (80.5 percent) of the total respondents always involved in the task of seed treatment. The activity concerning preparation of manure fertilizers was less seen common and to avail chemical fertilizers daunt greater challenge for the farmer in the study area. It was found that a maximum of more than one-third (35.2 percent) of the total respondents occasionally prepare fertilizers. In regards to carrying seeds/fertilizers to the field; a maximum of slightly more than one-third (34.8 percent) of the total respondents have occasionally engaged in the activity. It was found that a maximum of more than one-third (34.8 percent) of the total respondents confirmed that they occasionally did involve in preparing tools and instruments for farming. Agriculture farming in the Tangkhul area greatly depends upon seasonal monsoon. Irrigation as a source of water connectivity, its maintenance is paramount especially in respect to wet terrace farming. In this regard of ensuring proper irrigation system, the maximum number of more than two-fifth (46.0 percent) of the total respondents occasionally involved in the activity. Different crops are planted in different forms and methods. Crops that are planted through saplings require an intensive nursing. The result of the analysis revealed that the majority (70.7 percent) of the total respondents always engaged in the activity of raising nursery. The activity involvement in fencing preparation of the respondents was reported with a maximum of slightly less than one-third (30.0 percent) at the occasional extent.

The production phase demands intensive labour inputs in the process of agriculture farming. The traditional practices of farming characterized the farming system of the Tangkhul community solely depending on the manual labour of the family. In this aspect, women significantly participated in the production phase through the activities such as uprooting of saplings/transplanting with a maximum of two-third (66.2 percent) of the total respondents intensively. Of the total respondents, a

maximum of nearly a half (48.1 percent) of the respondents actively always participated in seed sowing and application of fertilizers in their farm. During the seed sowing season required numbers of labors are hired or in many cases, amongst the Tangkhul traditionally labors are shared or exchanged in an altruistic form. One goes to help others today and alternatively the next time others will come and help. Food is usually served on such occasion and otherwise on normal days of working in the farm. It is usually the women in the household who takes care of the food to serve. Such practice and the responsibility of women had been confirmed through the result of the analysis. The entire respondents affirmed to be always responsible for food preparation and serving.

Irrigating crops is another important activity in the production phase where a maximum of two-fifth (40.9 percent) of the total respondents confirmed of involvement at the occasional extent. The activity of manual weeding is of common practice and it is practically dominated by women farmers. Thus, corroborating to this a maximum of slightly more than three-fifth (61.0 percent) of the total respondents always undertook the activity of weeding. Spray pesticides is one production activity that are normally dominated by men. In line with this the data corroborated that a maximum of more than two-fifth (44.9 percent) of the total respondents never engaged in application of pesticides. In regards to labour management, a maximum of nearly two-third (63.4 percent) of the total respondents asserted to have been always actively involved. Containment of water irrigation for crops is a task jointly performed by both men and women. So, likewise the data supported to have a maximum of almost a half (46.7 percent) of the entire respondents occasionally extent their participation in continuous checking and containing water in the farmland. Clearing the field surroundings activity not only protects from noxious and unwanted shrubs in the surrounding of farms but also ensure protection from insects and rodents' infestation. This activity is normally performed jointly by both men and women. The study found that a maximum of slightly more than a half (51.6 percent) of the entire respondents stated that they always extent their participation in the activity of clearing the surroundings of farmland. In

regards to crops protection; the activity intend to keep the pests, rodents and wild animal away from the crop land had a maximum of more than a half (53.0 percent of the total respondents confirmed of active involvement at the extent of always.

The post-production activities of agriculture farming includes; Harvesting, Threshing, Husking, Winnowing, Drying, Grinding/Pounding, Packaging, Transporting the produces home, Storage and marketing. As per the result of the data analysis, it was revealed that women actively engaged in all the stated post production activities of agriculture farming.

The work of harvesting involves both men and women labor and collectively perform commonly amongst the Tangkhul farmers. In this regard, the data confirmed that the majority (79.1 percent) of the entire respondents always involved in harvest activity. Rice being the staple food for the Tangkhul people, it is commonly grown in their farmlands. The result of the analysis revealed active participation of women farmers in threshing, husking and winnowing. In this regard, activities such as threshing, husking and winnowing the maximum of nearly a half (49.5 percent), nearly two-third (64.5 percent) and majority (75.3 percent) respectively of the entire respondents always involved in these activities. Sun drying and grinding/pounding activities are more commonly shouldered by women in the society. The data revealed that maximum of slightly more than three-fourth (76.0 percent) of the entire respondents involved in the drying activities and a maximum of slightly more than two-third (67.6 percent) of the total respondents confirmed that they always engaged in the grinding/pounding activities. Once the harvesting is completed it is necessary for the farmers to bring all the produces at home. Transportation is done through hired vehicle depending on the distance of their farm site. Spices like chilly are processed and packed in a market relevant form. Packaging and processing are all done in more conventional manner. The result of the analysis revealed that the maximum of nearly two-third (64.8 percent) and nearly a half (45.3 percent) of the total respondents asserted that they always participated in the post-production activities of packaging and transporting the produces home respectively. In regard to the activity participation of

women farmers in storage and marketing, the data revealed that the maximum of nearly three-fifth (58.2 percent) and slightly more than a half (53.7 percent) of the total respondents asserted that they always involved in the post-production activities of Storage maintaining and marketing respectively.

The study showed an active participation of women in all the stages of production across the study areas. This was confirmed through the comparative examination of women's participation and perceived men's participation in agriculture farming. The comparison between the perceived involvement of men and women in all the stages of agriculture production revealed that women had higher level of involvement as against the men's involvement in agriculture farming. Thus, women had higher level of participation or involvement in agriculture farming. Although it might not be justified on the part of men for drawing inference solely based on the women's perspective yet however the shared experiences of women cannot be simply vilified.

Women involvement in decision making in agriculture farming

The extent of women involvement in decision making in respect to agriculture farming indicated their status and role in society. The levels or extents of participation were measured on the scale of zero to four (0-4), the constructed parameters included no participation (0), only opinion asked (1), to some extent (2), to a large extent (3) and final decision (4). The examined decision making activities includes; Crop selection (35.5%), Seed Selection (37.3%), Fertilizer Selection (29.6%), Grain/seed storage (42.5%), Sale of agriculture produces (36.6%), Purchase and sale of land (37.3%), Purchase and sale of machineries (35.5%), Purchase and sale of animals (33.1%), Hiring of labour (46.7%), Selection of agricultural land (41.5%) and Agricultural work plan (36.6%). The extent of participation in agricultural farming decision making is determined by the nature of desired activities. Wherein the exploration projected the maximum involvement of women farmers to a large extent in decision making in all the aforementioned farming related activities except in the case of seed selection and hiring

labour where the maximum of the women farmers make final decision. Whereas observation could be made that women farmers involvement in decision making related to agriculture farming associates to the household structures. The husband or the male head of household engaging primarily in other economic sectors would normally shift the affairs of agriculture upon the care of his wife or women members in the household. Thus, the increase in responsibility results in higher access to decision making.

Women time spent in different activities within 24 hours

The Tangkhul women in particular rest enormous responsibilities upon their shoulders within the household or outside their homes. The time spent were assessed on the activities includes: Care giving (child care), fetching water, Caring livestock, Cleaning Houses/household chores, Agriculture activities, Firewood collection, Grinding, Food preparation, Leisure/personal time and Attending social meeting/gathering. Amongst the activities, time spent within the agriculture activities, care giving and cleaning houses accounted the highest women farmers time spent activities with up to 1-5 hrs within 24 hours.

Extent of women's participation in Livestock, fisheries and poultry management

As regards to livestock, fisheries and poultry management, the participation of women were assessed based on eleven (11) activities such as Cleaning, Watering, Feeding, Breed selection, Fencing/ranching, Preparation of pond, Guarding from predators, Grazing, Milking, Processing and Marketing. The research finding revealed that most common livestock and poultry amongst the Tangkhul were pigs, cows, buffaloes, chicken and few of duck purposed for income generation. Whereas other animal such as dogs and cats were raised as pets, fisheries were found starkly minimal in practice. The activities such as cleaning, watering, and feeding and breed selection of livestock indicated high level of women involvement in the study area. Whereas, the activities of Fencing/ranching, Preparation of pond, Guarding from predators, Grazing, Milking, Processing were found low participation of women. This was related to the type of livestock rearing within the households.

In a comparative assessment of participation between men and women revealed that the participation of men in livestock, poultry and fisheries management was higher than that of women participation.

Extent of women's participation in forest management

The activities relating to forest management were Plantation, Firewood cutting/collection, Timber cutting/collection, Collecting fodders, Collecting Medicinal plants and Forest boundary Management. The activities such as plantation, collecting fodders had high level of women's participation whereas Firewood cutting/collection, Timber cutting/collection, Collecting Medicinal plants and Forest boundary Management had low involvement of women amongst the Tangkhul. Further the result revealed that, men's participation in forest management was higher as compared to that of women's participation.

Participation of women in agriculture

The level of women's participation found highest in agriculture farming as compared to other avenues of agriculture while the participation of women in all the avenues were found higher under SAVs as compared to CAVs. The agriculture avenue of livestock management had the least women's participation as per the data. Further, the overall participation of women in agriculture was found significantly higher under SAVs (mean score 1.49) as against the level of participation in agriculture under CAVs (mean score 0.42). On the other hand, the study revealed that the overall participation of men was higher as compared to that of women's participation in agriculture.

Patterns of agriculture farming practices: Change and Continuity

In view of the pattern of agriculture practices, subsistence agriculture had been the predominant practices amongst the Tangkhul where '*self-reliant and sustainability*' was often highlighted as the hallmarks of traditional undertakings during the interviews and Focus Group Discussions (FGDs). However, the increasing state of pecuniary demands of the households triggered a shift in pattern of farming; the type and quantity of crops cultivation that are more commercially feasible. The soil fertility of the

pristine agricultural land had never emerged the need for any supplementary fertilizers and the germ and pest infestation were of minimal in the past years. The organic quality of food remained a distant dream for many in the present days. As time change more lives avenues were emerged for the people to meet the demands hence the economic pattern of practices had to shift in response to such changes. The traditional ways of farming alone could not support the monetary demands of lives avenues that people had to opt for different pattern of cultivations. Thus, the commercialization of agriculture as a factor to counter the change of economic situation came to play a significant role in agriculture practices amongst the Tangkhul.

The prevalent types of agriculture were mostly of mixed type of farming to balance the changing demands. It was commonly found practice within the Commercialized villages. In both the types of villages, Jhum cultivations were still noticeable however dry and wet terraced farming were found predominantly practiced in the study villages. There was no difference in the nature and type of crops cultivated except the larger quantity in the case of commercialized agriculture villages. . Owing to the patterns of agriculture inputs the farmers relied mostly on the locally available resources rather than commercially available inputs

Dynamics of socio-cultural relationships and gender roles

The socio-cultural practices and relationships amongst the Tangkhul are closely knitted with the livelihood economic undertakings. The Tangkhul being the agrarian society has the socio-cultural characteristics of agriculture manifestation. Its cultural festivals, folk lore, tales, songs and dance; the construct of social intercourse and relationships ignites and revolves around the agriculture orbits. Undoubtedly, almost every detail fringes of cultural and social fountain emanates from the source of agricultural economic spring. Gender roles thus revolve around the social system of economic ridden consortium of biological convenience. The roles and responsibilities at certain circumstances absorb predestined beings that conceived the construct of gender roles.

The enquiry into the dynamics of socio-cultural relationship was based on six (6) distinct components of relationship. These components represent the adhered socio-cultural values, upon which the pedestal of relational practices within the community lies. These value laden acts includes: altruistic act, hospitality/generosity, participation in cultural activities, social unity, social disparity and community participation. The result of the analysis revealed that the maximum of nearly one-fourth (24.4 percent) of the entire respondents affirmed that the practice of altruistic service had been slightly increase and a maximum of close to one-third (31.4 percent) of the entire respondents asserted to have slightly decreased of hospitality and generosity amongst the community. Further, it was revealed CAVs of having higher level of hospitality and generosity at 3.32 mean score as against the 2.44 mean score of SAVs.

In regards cultural activity participation, a maximum of nearly two-fifth (37.3 percent) of the entire respondents affirmed of slightly decreased in cultural activity participation. The result of the analysis reflected that the CAVs had higher level of participation in cultural activities with the mean score of 2.99 as compared to that level of 2.32 mean score of SAVs. And, a maximum of nearly two-fifth (38.7 percent) of the entire respondents believed that social unity had been slightly decreased over the years. In view of the prevalence level of social unity, the CAVs had the higher level of social unity with the mean score of 2.92 over to the level of 2.39 mean score belonging to SAVs.

As regard to Social disparity, a maximum of one-third (33.4 percent) of the entire respondents viewed that social disparity had been slightly decreased. However, this was denied by the maximum of two-fifth (40.6 percent) of the total respondents under SAVs. In this regard, the level of social disparity in SAVs was observed to be higher at 3.71 mean score as compared to that CAVs level of social disparity at 2.50 mean score.

Further, slight decrease in community participation was reported by a maximum of nearly two-fifth (36.2 percent) of the entire respondents The result

revealed that the level of community participation in CAVs proved to be at higher level with 2.86 mean score as against SAVs level of 2.43 mean score.

The exploration on the situational prevalence of gender roles assignments was done in contingent upon six prominent characteristics of gender related roles such as; responsibility at home, social obligation, leisure time with friends, involvement in decision making, autonomy in personal matters and husband involvement in household chores. The data revealed that the maximum of nearly two-fifth (38.3 percent) of the entire respondents affirmed of neither increase nor decrease in women's workload and responsibility at home. However, a maximum of respondents from CAVs stated in contrary that in the past years the role and responsibilities of women at home had been slightly increased. The increase in responsibilities of women at home were attributed to different factors such as family with old age member, having small child, single parent, inattentive partner and the nature of partner's employment.

As regards to Social obligation, a maximum of more than two-fifth (44.3 percent) of the entire respondents stated that their social obligations neither increased nor decreased and the same was affirmed by the respondents under SAVs and CAVs.

The exploration was made to measure changes in the patterns of women leisure time spent with friends. The constructs were inferred that with the positive change in gender role assignment would reduce the women workloads and have more leisure time with friends and relatives. The data revealed that the maximum of one-third (33.4 percent) of the entire respondents affirmed that their leisure time with friends and relatives had been slightly decreased over a period of time

The dominance of male in almost every significant aspects of decision making process could be observed the pattern of patriarchal characteristics. Although there is no restriction upon involvement of women in decision making, it practically viewed as an unusual behavior and immodest on the part of women. Thus women are expected to be timid and modest and remain quiet in the presence of men. However, as times bring changes and education enlightened the dungeon mindset of men as well as women are emboldened to come out from the traditional bondage and misconceptions. Gradually

more women are coming up on the pedestal of decision making in the society. The data revealed that the maximum of nearly two-fifth (39.7 percent) of the entire respondents affirmed that their level of involvement in decision making had been slightly increased over past years.

In a predominant patriarchal society, there are instances of women being subjected to the opinions, whim and wishes of men. During the interview the respondents were at the opinion that they would not want to do things without the knowledge and consent of their partners. This drew the researcher's attention that the women's autonomy over their personal matters still subject to certain traditional limitations of gender roles. , the data depicted that the maximum of slightly more than a half (51.2 percent) of the entire respondents affirmed of their personal autonomy being neither increased nor decreased over the past years.

As regards to husband involvement in household chores, the report from the explored data confirmed that the maximum of equally less than one-third (30.7 percent) of the entire respondents experienced that their husband involvement in household chores had neither been increased nor decreased while other section affirmed that it had been slightly increased in the past. The same was affirmed by the respondents from CAVs, however the respondents under SAVS stated that the involvement of husband in household chores had neither been increased nor decreased.

Agriculture and well-being of women farmers

The concept of well-being is a complex and gained multi faceted explanation in the academic discourses and has occupied significant space amongst the policy makers (Saxby, Gkartzios, & Scott, 2018). The lives of farmers in general and women farmers in particular encounter several physical, mental, psychological and health challenges that associate with their occupation. These challenges and stresses can have devastating impact on their lives and affects their state of well-being (Hammersley, Richardson, Meredith, Carroll, & McNamara, 2022). The well-being condition of the women farmers were assessed in tandem with their occupation.

The assessed dimensions of well-being included the Psychological, Physical, Social and Spiritual domains of women farmers. The overall result of the analysis accentuated that amongst the dimensions of well-being of women farmers, the Spiritual dimension of well-being remained at the highest domain with the mean score of 3.57. This was followed by the Social dimension, Psychological dimension and Physical dimension of well-being at the mean score of 3.50, 2.97 and 2.77 respectively. In case of SAVs, the Social dimension of well-being dominantly recorded at the highest mean score of 2.94 and subsequently the Psychological well-being, Spiritual well-being and Physical well-being with the mean score of 2.85, 2.84 and 2.77 respectively. Whereas under CAVs, the Spiritual dimension remained at the highest domain of well-being at the mean score of 4.24 which was followed consecutively by Social well-being, Psychological well-being and Physical well-being at the mean score of 4.01, 3.07 and 2.77 respectively. In summation, the observation of the data between villages highlighted better condition of respondents' well-being under CAVs.

Overall well-being of women farmers between SAVs and CAVs

The overall well-being indicated the summed total score of all the dimensions of well-being. It was found that a preponderance of nearly two-third (65.2 percent) of the entire respondents had average/fair level of well-being followed by nearly one-fifth (18.5 percent) of the entire respondents had slightly high well-being. In respect to data distribution within the villages, a maximum of nearly two-third (63.0 percent) and slightly over two-third (67.1 percent) of the total respondents under SAVs and CAVs respectively had average/fair level of distribution. Moreover, the result of the analysis revealed that the women farmers under CAVs had better or higher level of well being as against the level of well-being of women farmers under SAVs with a significant difference at *t* value of 16.80.

Satisfaction with life between SAVs and CAVs

The overall life satisfaction of women farmers were assessed through the score of Satisfaction With Life Scale (SWLS) developed and copyrighted yet permitted to

use for free (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993). Diener, Emmons, Larsen, & Griffin (1985) maintained life satisfaction in congruent with Shin's and Johnson's (1985) view (as cited in Diener, Emmons, Larsen, & Griffin, 1985) as the 'cognitive judgmental process' of 'global assessment of a person's quality of life according to his chosen criteria'. The result of the analysis revealed that a maximum of less than one-third (31.7 percent) of the entire respondents had slightly dissatisfied with their life. In the case of data between the villages, it was shown that a maximum of equally close to two-fifth (36.2 percent) and (36.9 percent) of the total respondents under SAVS had slightly dissatisfied with their life and those under CAVs had in contrast slightly satisfied with their life respectively.

Implication for Social Work Education

As per the definition propounded by the International Federation of Social worker (IFSW) (2014), *“Social work is practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledges, social work engage people and structures to address life challenges and enhance wellbeing”*.

Coming to Indian context National Association of Professional Social workers (NAPSWI) (2018) has deliberated in defining social work, *“Professional social work is based on democratic values, humanitarian philosophy with central focus on the human relationships and human dignity. In India, the profession of social work draws its strengths from indigenous wisdom, constitutional commitment for equality, social justice and human rights, and scientific knowledge base. Its professional practice contributes to macro level understanding and policy change while continuing to focus on people at individual, group and the community levels. As a practice-based profession its interactions enrich institutions and systems at all levels through culturally responsive interventions that aim at individual and social wellbeing. Its*

central concerns are empowerment of vulnerable, oppressed, and marginalized sections of our communities and as a practice it endeavours to partake in social change, sustainable development through participatory and collaboratory processes with people in need, institutions and the state”.

Thus, social work seeks to help ameliorate the disturbed social functioning of an individual or group or society as a whole. While in tune with the principle of human rights, social justice and democratic values based on scientific methods is the hallmark of the profession. The historical contexts of the origin of social work as a profession draw us to an understanding that it is the byproduct of industrialization induced human problems across the globe. The need for social work interventions is ever growing as the complexities of human problems are compounding each day.

In the present deliberation, the practice of rural social work and its relevance in dealing with the subject matter of agriculture challenges concerning the women farmers in particular and village farmers in general are explored. Among many one of the most relevant studies conducted in china are referred to.

Neoliberal globalization and free trade economic policy induced economic dependency on imported goods from other country greatly affects food security, safety and sustainability in China. Economic transition from the state of people oriented to market oriented has led to change in agriculture organization. Commercialization of agriculture resulted to mechanization of operation has tremendously pressurized the rural smallholder farming eventually became insignificant. Pingzhai, an old village with over 300 years of settlement history faced agrarian challenges after post-reform in China. Food insecurity and financial debt crippled their lives. The failed attempt of government in eradicating poverty through ‘green revolution’ practically devastated the whole livelihood of this village. Traditional seeds and methods of cultivations were replaced with modern technology and high yielding variety of seeds for higher production. However, contradictorily it burdened more to the villagers as the cost of operation incurred higher amount of money. It is reported that the villagers had to spend extra expenditure for the chemical fertilizers and pesticides. The use of chemical

fertilizers and pesticides eliminated fertility of the farm and without which no production could be attained. The traditional skills in farming and its crops were waning away at the expense of market suitable production. The matter of Food security and sustainability were gravely challenged. To revive and to regenerate traditional production skills and to reclaim ecological balance and reconstruct community bonding, a team of social work scholars and university students prompted a participatory action research in line with the framework of social economy. Scientist and agriculture expertise were collaboratively engaged in accordance with the subject requirement especially in dealing with the soil and crops management. To further the intervention strategy farmer cooperative was formed and encouraged for better income and food security. Traditional knowledge and information were gathered regarding farming, preparing organic manure and pesticides from the elderly farmers and the same was disseminated among the members. Farmers were helped to allocate their produces for marketing where direct consumer relationship would be maintained. Urban residents were invited during the harvest festivals to have the opportunity to learn about the process of organic food production and helped to get first hand taste of the varieties of crops. After several years the scientist reported that the soil fertility of the farm regain tremendously in response to the use of organic manure. It was noted that the family income of the cooperative members were highly increased post intervention. Moreover, in regards to human relationship, the formation of cooperative have helped members developed sense of belongingness that permeates mutual helps and aid in times of struggles. The case of Pingzhai village in north eastern region of Yunnan Province, southwest China reflected the concrete evidence of the affects of commercialization of agriculture and neo liberal globalization in rural livelihood. On the other hand, the process of interventions achieved by the social work scholars and university students in reviving the rural self reliant livelihood accentuated the relevance of social work intervention in rural setting (Ku & Kan, 2020).

Moreover, in relating to the interventional strategy of social work practice in the field of agriculture and women farmers is in relevant to the work of Ponnuswami &

Francis (2012) opined that there is an existing gap between the social work curriculum and social work practice in India. Subtly marking out that the social work educators engage themselves only in teaching and research arena with little or no engagement in practice or extension work while on the other parts, the social work practitioners confine solely with field work without getting in touch with teaching work. Thus, lack in creating a meeting point between the two and share the experiences and knowledge. Unlike other professions, social work even after existence of more than 75 years still has not gained public approval and considered it as a profession rather a mere service provider. It is suggested that, through extension work only will social work be publicized and gain public confidence. In an attempt to highlight pathways for social work intervention, four paradigms of agriculture extension have been expounded as follows:-

(I). *“Technology transfer (Persuasive + Paternalistic)”*

In this aspect transmitting or recommending of social work scientific methods and techniques in tackling psycho-social challenges, problem relating to environment and community in conflicts

(II). *“Advisory Work (Persuasive + Participatory)”*

Counseling and providing guidance towards the individual, group and community in tackling their challenges and problems and help them identify their strength to solve it.

(III). *“Human Resource Development (Educational + Paternalistic)”*

Social work outreach activities in reaching out the poor and rural people can be used as a means to disseminating information, conduct training programs and sensitizing issues

(IV). *“Facilitation for Empowerment (Educational + Participatory)”*

This paradigm involves participatory and experiential learning through interaction and exchange of experience. Social work engages in imparting knowledge and training through participatory medium of learning. The paradigms of agriculture extension can be applicable in social work intervention at different settings.

Social work Intervention in agriculture farming is of urgent necessity, the intervention measure to ameliorate the ordeal of farmers and particularly the condition

of women farmers. Social work methods must be strengthened with the required paradigms and frameworks from different professions and disciplines

Limitations and scope for future research

1. The present study deliberated mainly on self reports of women farmers' well-being and life satisfaction, yet limited to delve into the significant characteristics of well-being. Therefore, to conduct more in-depth study on the aspect of what constitutes significant characteristics of women farmers' well-being or inclusive of men farmers' will derive better academic justification.
2. The sample unit for the study consisted only of women farmers belonging to the particular (Tangkhal) tribe; that the representation of agriculture population stands narrow and the diverse experiences of farmers' well-being construct could not capture. Thus, to draw more conclusive and inclusive findings cross gender, cross culture and community study requires to be done.

Suggestions

1. No agriculture developmental schemes and programs were reportedly availed by the women farmers in the study areas; awareness drive and sensitization of the programs implementation can improve the condition of women farmers and boost the products.
2. Locally organize marketing facilities will ease the issue of marketing amongst the women farmers
3. Sensitization of agriculture entrepreneurship and its scope can tap the issue of changing agriculture environment; it can support to meet the pecuniary needs while sustaining the subsistence agriculture practice in a family.
4. Providing hands on training in the aspects of food preservation and processing will immensely help mitigate the issue of food wastage.
5. Providing hands on training in regards to application of chemical fertilizers and pesticides to prevent it further damage due to misuse of artificial inputs.

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