



**DOMAIN OF RURAL WOMEN FOR ECONOMIC AND
NON-ECONOMIC ACTIVITIES IN MANIPUR**

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

By

Serto Sophiya Kom

Admn. No. Ph- 329/21 Regn. No. Ph.D./AEC/00612

**Department of Agricultural Economics,
School of Agricultural Sciences,
Nagaland University,
Medziphema Campus – 797106, Nagaland
June, 2026**



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by

Name of candidate- Serto Sophiya Kom

Name of Supervisor- Sr. Prof. Amod Sharma

Submitted

In partial fulfilment of the requirements for the

Degree of Doctor of Philosophy

in

Agricultural Economics of Nagaland University

Dedicated

To

My loving family.

Nagaland University
December, 2025

I, Serto Sophiya Kom, 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 the basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis had not been submitted by me for any research degree in any other university/institute.

This is being submitted to Nagaland University for the degree of Doctor of Philosophy in Agricultural Economics.

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CERTIFICATE – I

This is to certify that the thesis entitled “**Domain of Rural Women for Economic and Non-Economic activities in Manipur**” submitted to Nagaland University in partial fulfillment of the requirements for the award of degree of Doctor of Philosophy (Agriculture) in Agricultural Economics is the record of research work carried out by Ms. SERTO SOPHIYA KOM Registration No. Ph.D./AEC/00612 under my personal supervision and guidance.

The result of the investigation reported in the thesis have not been submitted for any other degree or diploma. The assistance of all kinds received by the student has been duly acknowledged.

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CERTIFICATE – II

**VIVA VOCE ON THESIS OF DOCTOR OF PHILOSOPHY IN
AGRICULTURAL ECONOMICS**

This is to certify that the thesis entitled “**Domain of Rural Women for Economic and Non-Economic activities in Manipur**” submitted by Ms. Serto Sophiya Kom Admission No. Ph- 329/21 Registration No. Ph.D./AEC/00612 to the NAGALAND UNIVERSITY in partial fulfillment of the requirements for the award of degree of Doctor of Philosophy in Agricultural Economics has been examined by the Advisory Board and External examiner on

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CONTENT

CHAPTER	TITLE	PAGE NO.
I	INTRODUCTION	1 – 13
II	REVIEW OF LITERATURE	14 – 43
III	RESEARCH METHODOLOGY	44 – 58
IV	RESULT AND DISCUSSION	59 – 140
V	SUMMARY AND CONCLUSION	141 – 165
VI	APPENDICES	I – X
VII	REFERENCES	I – XV

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1.1	Classification of agricultural labours- 2011 in Manipur	9
3.1	Categorization of respondents by age group	50
3.2	Categorization of respondents by family size	50
3.3	Categorization of respondents by size of land	50
3.4	Description of variables and coding used in the study	55
3.5	Dummy Variable Coding and Reference Categories Used in the Study	56
4.1	Distribution of rural women involved and marital status of rural respondent	60
4.2	Distribution of respondents according to Age	61
4.3	Educational level of the sample farmers	63
4.4	Family size of the respondent households	64
4.5	Classification of the respondents based on main occupation of farmer	66
4.6	Distribution of respondents based on their family members and family type.	68
4.7	Distribution of respondents based on their land holding.	70
4.8	Distribution of livestock of the respondent households	72
4.9	Cost of cultivation of paddy crop in different size groups for Churachandpur district (Rs/ha) Number of respondent =136	75
4.10	Break-up of Cost over different cost in paddy at the sample farm (Rs/ ha)	77

4.11	Cost and returns of paddy cultivation for different size of sample respondent	79
4.12	Cost of cultivation of paddy crop in different size groups for Chandel district (Rs/ha), Number of respondent =140	82
4.13	Break-up Cost over different cost in paddy at the sample farm (Rs/ ha)	85
4.14	Cost and returns of paddy cultivation for different size of sample respondent	86
4.15	Gender wise frequency & percentage distribution of work participation levels of women in rice farming activities	90
4.16	Gender- wise frequency & percentage distribution of work participation levels of women in vegetable farming activities	93
4.17	Gender- wise frequency & percentage distribution of work participation levels of women in livestock activities	95
4.18	Gender- wise frequency & percentage distribution of work participation levels of women in other Economic Activities	97
4.19	Gender- wise frequency & percentage distribution of work participation levels of women in non-economic activities	100
4.20	Gender- wise frequency & percentage distribution of work on overall extent of participation levels of women	103
4.21	The average daily time utilization for economic activities	106
4.22	The average daily time utilization for non-economic activities	109
4.23	Rural women's time allocation pattern (hr)	111
4.24	Calculating of women's unpaid household work with market wage rate.	114
4.25	Time spent by rural women outside home (in hr) in Churachandpur district	117
4.26	Time spent by rural women outside home (in hr) in Chandel district	120-121
4.27	Overall time spent by rural women outside home (in hr)	123-124

4.28	Time spent by rural women at home (in hr) in Churachandpur district	126-127
4.29	Time spent by rural women at home (in hr) in Chandel district	128-129
4.30	Overall time spent by rural women at home (in hr)	130-131
4.31	Comparison of economic variables between Churachandpur and Chandel	133
4.32	Constraints faced by the respondent (n=320)	136-137
4.33	Suggestions provided by rural women	138

LIST OF FIGURES

FIGURES NO.	CAPTION	PAGE NO.
3.1	Geographical map of Manipur district	45
3.2	Sampling plan (Proposive sampling)	48
4.1	Graphical representation of distribution of rural women involved and marital status of rural respondent	60
4.2	Graphical representation of distribution of respondents according to age.	62
4.3	Graphical representation of educational level of the sample farmers	64
4.4	Graphical representation of family size of the respondent households	65
4.5	Graphical representation of classification of the respondents based on main occupation of farmer	67
4.6a	Graphical representation of distribution of respondents based on family type	69
4.6b	Graphical representation of distribution of respondents based on family members	69
4.7	Graphical representation of distribution of respondents based on their land holding.	71
4.8	Graphical representation of distribution of livestock of the respondent households	72
4.9	Graphical representation of cost of cultivation of paddy by various size of farms	80
4.10	Graphical representation of cost concepts in paddy cultivation	80
4.11	Graphical representation of cost of cultivation of paddy by various size of farms	87

4.12	Graphical representation of cost concepts in paddy cultivation	87
4.13	Graphical representation of gender- wise frequency & percentage distribution of work participation levels of women in paddy cultivation	91
4.14	Graphical representation of gender- wise frequency & percentage distribution of work participation levels of women in vegetable cultivation	93
4.15	Graphical representation of gender- wise frequency & percentage distribution of work participation levels of women in livestock management	96
4.16	Graphical representation of gender- wise frequency & percentage distribution of work participation levels of women in other economic activities	98
4.17	Graphical representation of gender- wise frequency & percentage distribution of work participation levels of women in non- economic activities	101
4.18	Graphical representation of gender- wise frequency & percentage distribution of work on overall extent of participation levels of women	104
4.19	Graphical representation of the average daily time utilization for economic activities	107
4.20	Graphical representation of average daily time utilization for non economic activities	109
4.21	Graphical representation of time allocation (average hours/day)	112
4.22	Graphical representation of suggestion given by the respondents	138

LIST OF PLATES

PLATE NO.	CAPTION	PAGES
1	Data collection	i
2	Women involved in economic activities (farm)	ii
3	Women involved in economic activities (non-farm)	iii
4	Women involved in non-economic activities	iv
5	Women involved in rearing livestock	iv

LIST OF ABBREVIATIONS

Ha	Hectare
Fig	Figure
%	Per cent
<i>et al</i>	And others
<i>etc</i>	Et cetera
hrs	Hours
GDP	Gross Domestic Product
SHG	Self Help Group
BPL	Below Poverty Line
Sq. km	Square kilometre
m	Metre
ft.	Feet
TFC	Total Fixed Cost
TVC	Total Variable Cost
TC	Total Cost
RCR	Return Cost Ratio
E	East
N	North
i.e.	That is
kg	Kilogram
g	Gram
Rs	Rupees (Indian currency)
<i>viz</i>	Namely
qtl	Quintal
<i>f</i>	Frequency
Km	Kilo meter
Approx.	Approximately
CACP	The commission on Agricultural Costs and Prices
Ex	Example

ABSTRACT

The present study, entitled “**Domain of Rural Women for Economic and Non-Economic Activities in Manipur,**” was carried out with an objective to understand the socio-economic status of the rural women, to study their nature and extent of participation in economic and non-economic activities, to study the time spent by the rural women, to identify the factors influencing the women’s performance in opting different economic and non-economic activities and to examine the constraints faced by the women and formulate strategies to increase income. The study was conducted in the state of Manipur in the year 2024-25, covering two districts namely, Churachandpur and Chandel districts. Two blocks were randomly selected from each district, comprising of 4 blocks with 10 villages chosen randomly from each block and 8 women respondents were selected from each village. Three hundred and twenty (320) rural women were randomly selected for the study. A pre-tested structured interview scheduled was the main instrument for data collection. The data collected were analyzed using descriptive statistics, cost concept analysis, multiple linear regression, replacement cost method, independent t-test and Garette’s ranking. For analysis purpose, the sampled respondents were classified according to their land holdings, viz., marginal (below 1.00 ha), small (1.01-2.00 ha), semi-medium (2.01-4.00 ha), medium (4.01-10.00 ha) and large (above 10.01 ha). Findings of the study revealed that most of the respondents belong to marginal farm category (42.20 per cent), with married women (91.56 per cent) dominating across all categories. With regard to the age of the respondent, majority of them falls under the age group of 35-53 years, and more than half of the respondents were found to be literate, having medium family sized (4-6 members) 63.44 per cent. More than 50.00 per cent of them had agriculture alone as their primary occupation. Based on their family type, it was seen that 73.75 per cent had nuclear family and almost all the sampled respondent were also involve in rearing livestock. The cost concept result showed that under Churachandpur district the highest gross income was found in Medium farm category with Rs 80,850.00 per ha, while under Chandel district, it evinced Rs 82,860.00 per ha. The study further highlights the overall women's independent participation in

economic and non-economic activities, revealing that under Churachandpur district women account for an average of 46.31 per cent and 47.83 per cent in Chandel district. The daily average amount of time spent by rural women in both districts on economic activities, non-economics activities and leisure were 9.2, 7.31 and 0.7 hrs respectively. If women work hours were to be valued at Government minimum wage rate using a Replacement cost method, it would sum up to Rs 9884.06 per month. On factors influencing the overall time rural women spend outside their home, education level above graduate, Age, were found to be significant, Social norms (restricted) was also significant but negatively. On factors influencing the overall time rural women spend at home, Age was positively influenced, Education above graduate level was also significant but showed a negative relationship. The variable social norms (restricted) was also found to be positively significant. The independent t-test further revealed significant differences in total household income ($p < 0.05$), farm income ($p < 0.01$), and non-farm income ($p < 0.05$) between the districts, while no significant differences were observed in women's time-use patterns. Overall, the study rejected the null hypothesis and confirmed that socio-economic, demographic, and institutional factors significantly influence the participation and time spent of rural women in economic and non-economic activities. The constraint faced under personal domain, showed that dual responsibility at home and farm was rank highest. Under social constraints, the major issue identified was unequal distribution of housework. In the category of economic constraints, poor economic condition emerged as the primary problem. Regarding technological constraints, lack of training programs was ranked first. Among the various suggestions given by the women, under economic activities equal sharing of work secured the first rank with the highest per cent position 93.75. Some recommendation for the study; encourage rural women to participate in more IGAs, promoting equal sharing of work, strengthen SHGs, provides trainings. The study highlights the significant role of rural women in Churachandpur and Chandel districts of Manipur in both economic and non-economic activities. The finding concludes that better education, skill development, financial support, and equal opportunities are essential to improve the participation, income, and overall well-being of rural women.

Keywords: Rural women, Activities, Economic, Non-Economic, Constraint, Manipur

CHAPTER I

INTRODUCTION

INTRODUCTION

India's economy is predominantly agrarian, with approximately 54.60 per cent of the total workforce engaged in agricultural and allied sector activities (Census 2011). Agriculture constitutes the largest sector of the rural economy and is frequently a family enterprise. Nearly 50.00 per cent of India's population depends on agriculture for their livelihood. This highlights the substantial contribution of women to the economic prosperity of nations where agriculture is crucial, as they participate as landowners, cultivators, agricultural laborers, and casual engagement helpers. In India, agriculture employs approximately 80.00 per cent of rural women, who are extensively involved in activities related to agriculture and allied sectors (Patel and Sethi, 2021). The workforce participation rate for rural women is notably higher at 41.80 per cent compared to the participation rate of urban women, which stands at 35.31 per cent (MoSPI, 2017).

In her remarks, the late Prime Minister Mrs. Indira Gandhi underscored the critical role of women in society, stating, “We cannot overlook the significance of women, who constitute half of our population, in the process of nation-building. Women, as custodians of tradition, must also be integrated into modernity. We should turn to science to achieve greater social justice and equality of opportunity” (Mugadur and Hiremath, 2014).

In India, women constitute nearly 50.00 per cent of the adult population, with 77.00 per cent of the adult population residing in rural areas (Nittur and Mugadur, 2024). Despite their active involvement in agriculture and household activities in both developed and developing regions, the critical contributions of women to agriculture often remain unrecognized. Women's participation is notably high in various agricultural and domestic activities (Pathak, 2022). Approximately 36 million women are engaged as primary workers in farm operations, encompassing tasks from sowing to harvesting and storage. Additionally, they are involved in off-farm activities, such as processing and marketing agricultural products.

Women contribute significantly to agricultural and farm management activities, predominantly serving as cultivators, assistants to cultivators, agricultural laborers, or manual laborers in various sectors. Additionally, they are actively engaged in agricultural and related fields, including livestock production, seasonal vegetable cultivation, agroforestry, social agroforestry, and fishing (Nittur and Mugadur, 2024).

Beyond their labor in the fields, women shoulder immense responsibilities at home. They are the primary providers, tirelessly gathering essentials like fuel, animal feed, water, and food for their households. Crucially, they also tend to the emotional well-being of their families – their children, elders, and partners. These nurturing, caring, and reproductive duties, while absolutely vital, have historically gone unrecognized in economic calculations, despite forming an essential and significant part of women's overall contributions (Sunitha *et al.*, 2018).

Much of the everyday work women perform – such as collecting firewood, sourcing animal fodder, fetching water, cultivating home gardens, and raising poultry for family consumption – remains invisible in official national records. This hidden labor means that women make up a staggering 90.00 per cent of the country's informal or less stable workforce (Pathak, 2022). Furthermore, studies indicate that women's participation in agriculture has steadily grown, leading to a greater contribution to the nation's economic output per person (Pingali *et al.*, 2019).

Status of rural women

Many women toiling on farms in the countryside find themselves among the most financially struggling daily laborers. These individuals often lack formal recognition or safeguards, leaving them unprotected by standard workplace regulations. They typically earn very little, either paid by the day or by the amount of work they complete, and receive no extra benefits like sick leave or health insurance.

Since agricultural tasks depend on the time of year, their employment is not steady; work is only available during the crucial planting or gathering seasons, leading to significant periods without income. This physically demanding work must be done in challenging and sometimes unhealthy conditions, enduring harsh weather. For instance, growing and harvesting rice is especially difficult and dirty, requiring them

to labor in muddy fields under intense heat or during heavy downpours,

The vital farm work women do often goes unacknowledged, largely because their societal contributions are frequently undervalued. This blending of women's farm work, household duties, and other tasks is rooted in a prevailing cultural mindset that, ironically, often places the burden of being the main family provider squarely on their shoulders. Such beliefs could be echoes of past societal structures where women were, in fact, central to keeping their families fed and sustained. Consequently, the vital financial support women provide for their families isn't often viewed as a genuine economic contribution (Krishnaveni, 2020).

Across numerous nations, the contributions and perspectives of women are frequently undervalued and often overlooked. This marginalization manifests in various forms, including a persistent gender pay gap, restrictions on land ownership, significant barriers to leadership positions, and an elevated risk of gender-based violence. The economic devalorization of women's labor and intrinsic worth is largely attributable to the ingrained assumption of female inferiority compared to men, coupled with the perception that a household cannot be sustained solely by a woman's income. Consequently, women are more often subjected to financial insecurity or destitution (Buratynsky, 2018).

Indeed, a prevailing observation notes that a substantial proportion of women's labor remains uncompensated, while the remainder is inadequately remunerated, encompassing both unpaid domestic responsibilities and underpaid external employment. A universal phenomenon, no country has been found to be entirely free of considerable disparities in earnings between men and women (Mahato, 2023). Moreover, official statistical data frequently fails to comprehensively represent women's contributions and standing within the agricultural sector. Nevertheless, aggregated data on female participation in agriculture clearly underscores their vital role in food production.

Women frequently fulfill a dual productive function, contributing unremunerated labor within the domestic and agricultural spheres while also participating in paid employment outside the home. Employment within the

agricultural sector is frequently characterized by its precarious and ephemeral nature. This often results in substandard working and living conditions for female agricultural workers. Globally, a significant proportion of agricultural laborers are deprived of fundamental human rights, specifically the entitlements to freedom of association, organization, and collective bargaining with employers (Verma, 2023). Furthermore, female agricultural workers are commonly marginalized from active involvement in decision-making processes within both their households and farming operations (Roy *et al.*, 2017). Pervasive wage discrimination exists within the agricultural sector, where female employees consistently receive lower remuneration compared to their male counterparts. Their occupational dispersion, lack of formal organization, and the seasonal nature of their work collectively contribute to their diminished bargaining power (Hurst, 2007).

Consequently, prevailing circumstances often compel these individuals to secure loans from informal creditors for consumption needs or social commitments, occasionally leading to conditions of debt bondage and involuntary servitude. The extent of women's involvement in agricultural operations is frequently underrepresented in official statistics. This pervasive situation perpetuates the social and economic marginalization of women. Therefore, there is a compelling need to develop comprehensive strategies aimed at fostering their survival, enhancing social dignity, improving welfare, promoting self-reliance, and transforming their economic and social participation within rural communities (Sharma, 2011).

Rural populations, particularly those residing in low-income households, engage in diverse and multifaceted strategies to bolster their livelihoods. This involves optimizing revenue streams, mitigating vulnerability and exposure to hazards, and pursuing broader household objectives such as improved well-being, dietary adequacy, and educational attainment. Such endeavors typically encompass both agricultural and non-agricultural economic pursuits, often exhibiting interdependencies with activities undertaken by both rural and urban populations. The efficacy and financial viability of these varied livelihood systems are contingent upon the prevailing socio-economic context and the individual household member's command over and availability of foundational assets (Bharati, 2017).

Women in Agriculture

Agricultural and related economic endeavors are those fundamentally reliant upon the agricultural sector and its associated domains, with the objective of generating household income. Such activities typically encompass crop cultivation, dairying, swine production, and avian husbandry (Maruti, 2011).

Despite the substantial contributions of rural women to the global economy, numerous development processes persist in neglecting, exploiting, and further marginalizing them. Women play a pivotal role in agriculture and related sectors, which is essential for food security and sustainable development. Engaging in tasks ranging from soil cultivation to livestock rearing, women undertake some of the most arduous responsibilities. Although they have been at the forefront of agricultural advancement for centuries, their accomplishments are seldom adequately acknowledged. Despite their significant contributions to the rural economy, women continue to encounter formidable challenges, including limited access to resources, land, education, and decision-making authority. Cultural norms and gender-based discrimination exacerbate these existing barriers, further restricting women's capacity to fully engage in agricultural activities (Pathak, 2022).

The pivotal role of women in agriculture is paramount, as they constitute the fundamental support structure for global food production systems and rural economies. Women frequently act as the principal producers of agricultural commodities, thereby sustaining household incomes and welfare (Arumugam and Manida, 2023). They fulfill an integral function as custodians of biological diversity and natural resources, demonstrating a comprehensive understanding of local ecological systems and ecologically sound cultivation methods (Buehren *et al.*, 2019). Promoting the empowerment of women within the agricultural sector is fundamental to attaining food security, mitigating poverty, fostering gender parity, and supporting sustainable development (Man *et al.*, 2024). Their contributions encompass diverse facets of rural life, utilizing their inherent connection to land and ecological systems to foster innovation and resilience in the face of agrarian challenges. Historically, women have been indispensable to traditional agrarian methodologies, overseeing seed selection,

cultivation, harvesting, and livestock management, in addition to food processing and water resource stewardship. Saini and Sharma (2024) emphasize women's substantial involvement in pre-harvest activities, including seedling preparation and transplantation, as well as in the storage of agricultural yield, thereby fostering communal development and the transmission of expertise.

Female agriculturalists in India commonly experience limitations concerning their proprietorship and dominion over land, notwithstanding their substantial engagement in agrarian activities. The security of land tenure for numerous female cultivators is often precarious, primarily due to prevailing patriarchal customs and inheritance regulations that disproportionately favor male land ownership. The absence of land proprietorship consequently impedes women's economic empowerment and autonomy (Kalita, 2020).

Furthermore, the procurement of crucial agricultural inputs, including capital, planting material, agrochemicals, and technology, presents a significant challenge for Indian women farmers (Owolabi *et al.*, 2011). Discriminatory practices and prevailing societal norms often constrain their remuneration, training, and access to agricultural services and extension programs. Many women contribute unremunerated labor on family farms, and their role as agricultural laborers is frequently overlooked and undervalued. Consequently, official statistics and policy frameworks often fail to adequately account for their contributions to household food security and overall agricultural productivity (Thabah *et al.*, 2026).

The statistical data regarding women's engagement in the labor force is often misleading, as it inadequately reflects their actual involvement in productive endeavors and undervalues their contributions. Furthermore, women's contributions to agricultural output are frequently suboptimal, largely attributable to their bifurcated responsibilities within both the farm and household domains. This dual burden often results in arduous tasks, exacerbated by inefficient and cumbersome practices associated with domestic duties such as food preparation, fuel and water acquisition, resource management, and child-rearing (Aryal and Kattel, 2019). Concurrently, technological advancements have supplanted women from numerous traditional

occupations. Specifically, the Green Revolution era fostered an increased demand for casual labor and contributed to the dispossession of small-scale landholders, thereby compelling many women to transition from cultivating their own plots to becoming wage earners. Despite the mechanization of many tasks traditionally performed by men, women frequently remain engaged in highly labor-intensive roles. Nonetheless, various governmental and non-governmental organizations have initiated interventions aimed at enhancing women's agency within the agricultural sector. These programs typically strive to augment women's access to vital resources, offer capacity-building and advisory services, foster their participation in decision-making processes, and cultivate leadership competencies (De, 2015).

Women in Non-Economic Activities

Non-economic activities are those performed without expecting of financial recompense, often driven by intrinsic satisfaction or a commitment to societal betterment. These endeavors are fundamentally oriented towards personal fulfillment and collective welfare, and consequently, are not amenable to monetary valuation.

In India, women constitute approximately half of the national populace and workforce; however, they have historically experienced under representation in developmental initiatives and face systemic impediments to accessing education, employment, and leadership roles. Their contributions within sectors such as agriculture and the informal economy often remain unacknowledged. Additionally, they bear the significant burden of unremunerated domestic responsibilities, including childcare, which consequently limits their engagement in income-generating activities. Women dedicate a disproportionate 85-90.00 per cent of their time to household duties, frequently confining them to low-return, small-scale enterprises. Conversely, men's predominant control over financial assets and the frequent citation of fiscal limitations as justification for not employing external labor highlight a pronounced gender asymmetry in economic opportunities. Female labor, typically characterized by low remuneration and undervaluation, largely remains unquantified and unrecognized, notwithstanding its substantial potential to significantly augment overall productivity (Pathak, 2022).

Rural households commonly engage in a variety of livelihood strategies, with individual members assuming differentiated roles to secure the well-being and progression of the household unit. Within specific cultural contexts, this cooperative ethos can extend to broader communal collaboration. Non-agricultural economic pursuits are acquiring increased salience, providing supplementary revenue to household economies alongside traditional agrarian production. The strategic encouragement of these diversified economic ventures within rural locales holds significant potential to drive economic development and alleviate poverty. This approach simultaneously optimizes the benefits derived from agricultural advancements and fosters greater integration between urban and rural sectors (Bharati, 2017).

Rural women in Manipur

In Manipur, agriculture serves as the primary economic driver, employing the largest segment of the workforce, which is predominantly female. Women make substantial contributions to the economy and society through both their direct engagement in productive processes and their invaluable, albeit often unquantified, household labor, which is fundamental to human capital development (Premchand *et al.*, 2025). There is an increasing recognition of women's pivotal function across the agricultural spectrum, encompassing food security, horticultural practices, post-harvest processing, nutritional outcomes, sericulture, fisheries, and associated industries. As the predominant segment of the agricultural workforce, women contribute significantly to both tangible productivity and operational effectiveness.

Beyond their direct involvement in agricultural endeavors, Manipuri women undertake comprehensive household management and actively participate in a diverse array of financially productive and socio-cultural activities that are vital for sustaining households and communities. Their labor spans both productive and care-oriented spheres, including cultivation, textile production, commercial distribution, domestic administration, civic engagement, and the safeguarding of cultural heritage. Furthermore, their non-economic contributions such as unremunerated domestic labor, community participation, dispute resolution, and the perpetuation of cultural traditions

are profoundly impactful, despite often being underestimated in policy frameworks and scholarly analysis, yet they are indispensable for maintaining social coherence and fostering rural resilience.

In addition to childcare and meal preparation, women cultivate home gardens and provide support in crop and livestock rearing. Their involvement spans the entire agricultural value chain, from cultivar selection and land preparation to harvesting, commercialization, and post-harvest activities. Consequently, a significant majority of rural Manipuri women can be broadly categorized as agriculturalists, whether functioning as wage-earning agricultural laborers or as unpaid family farm contributors (Devi and Singh, 2015).

Up to 84.00 per cent of women in rural India make their living from agriculture. Approximately 33.00 per cent of cultivators and 47.00 per cent of agricultural laborers are women (Rao, 2006). Most rural women are traditionally bound, despite the fact that the majority lack literacy and skills. Nonetheless, they support rural development and agriculture (Nakwe *et al.*, 2018).

Table 1.1 Classification of agricultural labours- 2011 in Manipur.

States	Total/Urban/ Rural	Agricultural Labour(Main and Marginal)	MaleAgricultural Labour (Main and Marginal)	FemaleAgricultural Labour (Mainand Marginal)
Manipur	Total	114918	46032	68886
	Rural	90644	35797	54847
	Urban	24274	10235	14039

(Source: MoA and FW, Agricultural Statistics at a Glance, 2023).

In Manipur, women demonstrate substantial involvement in agrarian pursuits, particularly as agricultural laborers, as evidenced by statistical data (Table 1.1). Within rural areas of the state, the female agricultural workforce significantly surpasses its male counterpart, with 54,847 women (comprising both primary and supplementary workers) engaged in farm activities, compared to 35,797 men. Their responsibilities span a broad spectrum, encompassing roles from managerial positions to landless farmhands. Historically, women have served as the principal custodians and

processors of seeds. They possess expertise and are active producers across the entire food chain, from initial cultivation to final preparation for consumption. Furthermore, women disproportionately bear the arduous physical labor associated with agriculture.

Manipur fundamentally operates as an agrarian state, with agriculture forming the cornerstone of its economic framework. Approximately 22.00 per cent of the population is employed in this sector. However, the arable land constitutes only 7.24 per cent of the state's total geographical area, with a significant 56.88 per cent of this cultivated land concentrated within the valley regions. Women actively participate throughout the agricultural cycle, from the initial sowing of seeds to the eventual harvesting. The proportion of female cultivators and farm laborers is observed to exceed that of their male counterparts. Nevertheless, one statistical reference reports the average per cent of female cultivators and farm laborers relative to male cultivators and farm laborers in Manipur as 44.43 per cent (Anonymous, 2014).

Manipur's population numbers approximately 2,570,390 individuals, with females constituting 49.81 per cent of this total. The average female labor force participation rate in the region stands at 43.35 per cent. Women play an indispensable role in the development and advancement of agricultural and associated domains, encompassing activities such as crop cultivation, livestock management, horticulture, post-harvest operations, agro-forestry, and aquaculture within Manipur (Devi and Singh, 2015).

Based on the objectives of the study, the following major research questions were formulated:

1. What is the socio-economic profile of rural women in the selected districts of Manipur?
2. What types of economic and non-economic activities are performed by rural women in the study area?
3. To what extent do rural women participate in household, agricultural, income-generating activities?
4. How much time do rural women spend on different economic and non-economic activities in their daily lives?

5. What socio-economic and demographic factors influence women's participation in different economic and non-economic activities?
6. What are the major constraints and challenges faced by rural women?

Justification of the study

Women dedicate more extensive periods to endeavors aimed at enhancing their socioeconomic standing. Conversely, their male counterparts typically possess significantly smaller landholdings, largely due to intense demographic pressure on arable land. Consequently, the entire household workforce comprising adult males, females, and minors experiences pervasive underemployment, with seasonal unemployment emerging as a chronic issue. Therefore, agricultural practitioners necessitate supplementary occupations to generate additional employment opportunities and augment their income. Currently, governmental policy exhibits an increased focus on implementing women-centric programs within society, either through direct intervention or facilitated by Self-Help Groups (SHGs) and cooperative entities at the state level.

Rural women typically undertake diverse responsibilities spanning both economic and non-economic domains. Nonetheless, a substantial portion of their endeavors, particularly those related to domestic management and unremunerated activities, often goes unacknowledged in official datasets. Grasping the full spectrum of women's work is crucial for advancing gender equity, as it illuminates the unequal distribution of labor and limited opportunities. Moreover, much prior academic inquiry has predominantly concentrated on women's income-generating activities, thereby often overlooking their unpaid contributions. Consequently, it becomes imperative to investigate the nature and extent of rural women's participation across various economic and non-economic pursuits, quantify the temporal allocation devoted to these activities, assess their contributions through unremunerated household tasks, and identify the factors influencing their performance. Thus, a comprehensive evaluation of women's contributions is a critical contemporary requirement, forming the fundamental premise of the present study. Therefore, the present study, “**Domain of**

Rural Women for Economic and Non-Economic activities in Manipur” was undertaken with the following specific objectives:

Objectives of the study

1. To study the socio-economic status of rural women in the study area,
2. To study the nature and extent of participation of rural women and workout the time spent by the women in economic and non-economic activities,
3. To identify the factors influencing women’s performance of opting different economic and non-economic activities,
4. To examine the constraints faced by rural women and formulate strategies for promoting more economic activities by women to increase income.

Limitation of the study:

1. The study was confined to 20 villages each of Churachandpur and Chandel districts of Manipur only, which is a small proportion of the state in respect of geographical area and hence, may be considered a micro study and cannot be generalized with other location.

2. Parts of the area lack proper transportation infrastructure. So, only the areas which have accessed were taken into considerations, reducing the number of potential participants.

3. Agricultural and domestic responsibilities often limited the availability of women to be included in the survey. Scheduling interviews had to be flexible and often required multiple visits to complete.

4. Certain questions like income, household decision-making, or gender roles are considered sensitive. As a result, some respondents were hesitant or unwilling to provide full or honest answers, and also they do not maintain any financial record, which may potentially affect data accuracy.

5. The studies for economics activities will be limited to the rural women working in the field of agriculture alone and the study of agricultural crop is limited to one year only.

CHAPTER II

REVIEW OF LITERATURE

REVIEW OF LITERATURE

2.1 The socio-economic status of rural women:

Kaur (1991) revealed that the participation of women in agriculture is increasing at all India level, due to illiteracy and poverty, large populations of women in rural areas are engaged in agricultural works as farm laborers or cultivators for improving their economic status.

Dahiya *et al.* (1999) observed that low literacy rate and poor skill levels of women constrain them to stay in the farm sector; in most of the rural areas, women are unpaid farm labourers in their own family farms and homestead gardens.

Dwivedi (2011) in his study revealed that majority of farm women were old age, literate, belonged to backward caste, joint family, large family size, marginal(land holding), pacca house (made of bricks and cement), caste as main occupation and labour as subsidiary, medium income group and maximum belong to medium socio-economic-status.

Pavithra (2017) revealed that Majority of female agricultural labourers are illiterate. About 50 percent of female agricultural labourers respondents do not have potable drinking water facility within their house premises, as well as proper sanitation within their houses, which is more unhygienic and hazardous to health. Majority of them (60.00 per cent) of respondents earn between 1000 to 2000 Rs as their monthly income which is not even sufficient for their basic needs, Since income of 60.00 per cent of respondents is not sufficient for their basic requirements, obviously their savings will also be nil.

Yadav *et al.* (2017) investigated on socio-economic status of farm women of Tumakuru district of Karnataka state, found that 69.33 per cent of the farm women had involved in agriculture, animal husbandry (16.33 per cent), silk worm rearing (10.67 per cent), and poultry (3.67 per cent). It was found that 21.67 per cent of the farm women earn more than Rs. 6032 per month followed by 45.33 per cent of them earning

between Rs. 6032 to Rs 12114, whereas, 33.00 per cent of them earn less than Rs. 6032.

Chauhan and Pande (2018) revealed that a total of 120 sample size farm women were selected from 6 villages of Tikamgarh block of Tikamgarh district, showing a higher percentage of the farm women belonging to middle age group, acquiring primary school education, belonging to other backward class, they also belong to a nuclear family, medium family size, having small size of land holding, having medium farming experience, belonged to farming group, having medium annual income, having medium knowledge level, having medium social participation and having medium extension participation.

Samson and Madhubabu (2018) opined on the socio-economic status of women agricultural labour in Andhra Pradesh, found that nearly 43.00 per cent of main workers in the district are agricultural labourers. Their income is low and irregular. The study also examines the factors influencing the socio-economic status of the agriculture women workers in selected mandal.

Rani and Rani(2019) studied that in Bhuratwala rural area a total of 90respondents were interviewed to collect the primary data. In the survey it is noted that mostof the rural women are uneducated, unskilled and tradition bounded, therefore theirproductive capacities are also low, and counted as unskilled labour.

Devadarshini and Jena (2020) suggested that majority of the farmers (63.14 per cent) were under BPL (Below Poverty Line). When male wage rate was compared to female wage rate for agricultural activities, females represented a lower value Rs. 186.66/day compared to male workers. The average total monthly income of the household was Rs. 3459.74. Women were earning less for both in agricultural (Rs. 292.33) and non-agricultural activity (Rs. 244.68) compared to male farmers (Rs. 859.96 for agriculture and Rs. 704.72 for non agricultural activity). The study clearly showed that there was gender inequality in case income of the women between the male and the female farmers.

Kavitha and Ramane (2020) found that all the sample households live in poverty and their economic resources are very meagre. 72.00 per cent of the sampled

respondents are married. The women respondents in the age group of 35-55 formed the highest share (58.00 per cent). Primary level education (33.00 per cent) completed formed the highest attained level of education for a majority of the samples. A majority (85.00 per cent) adopts the nuclear family system. The families of the sample respondents have on the average four members in the family and a highest share of the sample respondents (74.00 per cent) also four member families. Forty per cent of the sample women respondents have been engaged in agriculture as labour for 20- 30 years.

Krishnaveni (2020) examined on the socio-economic conditions of agricultural women labour in Tamil Nadu, found that the contribution of women in socio economic development particularly in the rural areas has been of vital significance. Most of the women in rural areas are engaged in household work and many of them also spare time to take part in various economic activities of the family. Rural women are fully engaged in agriculture. Their involvement in agriculture work mainly depends on socio-economic status. Thus women at large continue to suffer from social and economic deprivation.

Chaudhary and Singh (2021) studied that 32.12 per cent of the sampled respondents were literate among which 64.00 per cent of the family heads were illiterate. In terms of the economic viability on an average 72.00 per cent of the population are non-earners and 28.00 per cent earning population carry the burden of these non-earners. The study recommends that there should be some employment guarantee schemes and loan waiver plans, specifically for the agricultural labourers to enable them to come out of the clutches of indebtedness and improve their level of living.

Durgapal and Upadhyay (2022) undertook an analysis on socioeconomic status of the farmers and farm women in the Udaipur district of Rajasthan. It revealed that the majority of the respondents (74.68 per cent) are at their midlife i.e. age group (31-45 years), followed by young i.e. 18-30 years (15.94 per cent), the upper-middle age group i.e. 40-60 years (88.75 per cent) and above 60 years (0.63 per cent). Concerning the marital status of the respondents, 96.56 per cent respondents were

married while very few respondents were unmarried (1.25 per cent), divorced (1.25 per cent), and widowed (0.94 per cent). Agriculture was the sole occupation for the majority of the respondents (80.94 per cent) whereas, 19.06 per cent of respondents were involved in the service sector also along with farming. With regard to the level of education, 29.69 per cent of respondents were educated up to middle school and 24.37 per cent of respondents were primary educated. The rest of the respondents were graduated (16.56 per cent), educated up to high school (20.00 per cent), and had post-matric diplomas (9.38 per cent).

Kumari and Shirisha (2022) showed that majority (46.00 per cent) of the respondents were old aged, highly educated (postgraduate and above) and married.

Sneha, *et al.* (2023) found that average age of farm women was between 30 and 50 years; 58.33 per cent of farm women lacked literacy and only 22.5 per cent had any form of intermediate education. Of the marginal farmers, 85.83 per cent were women, and 57.50 per cent of those women had 30 or more years of expertise in agriculture.

Dangi and Bansal (2023) analyzed the demographic factors of 180 rural women, from six villages of Mavli and Vallabh Nagar Block. The demographic variables viz., age, education, caste, family type, family size, land holding, housing pattern, occupation, income and material possession were studied through a general information schedule. The profile analysis of rural women with respect to the demographic characteristics revealed that majority of the respondents (83.34 per cent) had medium socio-economic status while 16.67 per cent respondents belonged to low socio-economic status. None of the respondent fall in the high socio-economic category.

Radhika *et al.* (2023) conducted a study on 120 women labourers in rural and urban communities of Hisar district of Haryana. In which the results revealed that majority of the respondents were in the age group of 20-35 years, belonged to scheduled caste, had nuclear families and were agricultural labours in rural areas and construction labourers in urban areas.

Sukdeve *et al.* (2023) revealed that the majority of the rural women (57.70 per cent) belonged to the young age group (below 35 years). Most of the respondents

(25.18 per cent) in the study area had illiterate, regarding the size of family that the majority (77.03 per cent) of the rural women had small family size (up to 5 members). The maximum number of the respondents (50.38 per cent) rural women's had in the landless category, the Majority of respondent (83.70 per cent) had no membership in any organization and the majority (39.27 per cent) of the rural women were involved in Agriculture + job/service.

Nazir *et al.*(2023) their study indicated that majority of the labourers, 55.0 per cent were at the age group of 30 years and above, and 65.1 percent were illiterate. 70.0 percent of respondents were married, and 41.80 per cent worked more often on 1-2 km distant agricultural farms, 46.40 per cent spend seven and above working hours, and 35.40 per cent daily wages were Rs. 251-300. 54.0 per cent of respondents' employers preferred the mode of payment as daily wages, while 69.10 per cent of labourers preferred the daily mode of payment. 60.90 per cent experienced gender disparity mainly due to socio-cultural aspects that contribute to their economic vulnerability. It was recommended that education facilities should be provided in such remote areas.

Mahato (2023) found that maximum no of women laborer in the study area are illiterate with no formal educational status. Women participation in rural labour markets varies considerably across regions, but invariably women are over represented in unpaid, seasonal and part-time work, and the available evidence suggests that women are often paid less than men for the same work.

Senthilkumar (2023) analyzed the socio-economic variables of rural women workers in terms of ages, marital status, educational qualification, experience, community, religion, family type, family size and family monthly income and contribution of women to family income for empowering in socially and economically.

Barik (2024) revealed that most of the respondents fall in the age group of 36-45 years, belonging to hindu religion, with 84.00 per cent of women married and 84.00 per cent are illiterate and 42.00 per cent of the household having a monthly income of Rs 5000 – Rs 7000.

Magsi and Mujahid (2024) indicated a lack of high qualifications among participants, with 40.00 per cent being illiterate. opportunities for livelihood work are

limited, with most engaged in home-based embroidery during non-agricultural seasons. Significant portions of their income are allocated to basic necessities, revealing financial strain.

Maneesha, *et al.* (2024) revealed that the majority 50.84 per cent of the farm women were middle-aged between 36 to 50 years and most of the farm women were illiterates (44.17 per cent). Majority of the farm women maintain nuclear family with 4-6 members. Most of the farm women belonged to small- medium landing categories who are involved in agricultural activities. The annual income of the majority of the respondents ranged between Rs. 50,001 - Rs 1,00,000.

Ajewole *et al.* (2025) the results showed that, the average age of the respondents was 47.49 years, average household size is 7 and majority (74.36 per cent) of household members were within 18-60 years of age bracket. The average farm size of the farmers is 1.94 ha and 68.40 per cent had a minimum of primary school education.

Gairola *et al.* (2025) interpreted the socio-economic study of status and economic condition of women in Chakrata District of Dehradun, the capital of Uttarakhand State. The livelihood of women in these areas is based on their income mainly coming from agriculture, horticulture, and animal husbandry. It also shows that women related to upper caste are in better condition than the women belonging to schedule caste community.

Patel and Dwarka (2025) showed that rural women play a crucial role in societal and economic development, yet their lives are shaped by various socio-personal, socio-economic, communicational and psychological factors. Socio-personally, they exhibit resilience, adaptability and strong familial ties, often juggling multiple responsibilities within households and agricultural labor. Socio-economically, they face challenges such as financial dependence, wage disparities, and restricted access to education, land and credit, limiting their economic independence and entrepreneurial opportunities. In terms of communication, many rural women rely on oral traditions and community networks for information, with limited access to

digital technology, though mobile and radio communication have begun bridging this gap.

Salim *et al.* (2025) showed that most of the participants (52.00 per cent) were in the category of 41- 46 years of age, female (51.00 per cent) by gender, married (83.00 per cent), and had no institutional education (63.00 per cent). Majority of them (42.00 per cent) earned $\leq 5,000$ taka per month only by bidi making. Moreover, majority of them (90.00 per cent) prefer to work at their home because of convenience. Twenty one percent of worker's children below 18 years.

Zubair *et al.* (2025) in their study found that majority of working women were engaged in variety of agricultural tasks, such as planting, harvesting, and picking. The majority of working women were employed to boost their family's income, but they were having a difficult time taking care of their kids and completing housework.

2.2 .The nature and extent of participation of rural women and also workout the time spent by the women in economic and non-economic activities.

Farid *et al.* (2009) discussed the major role of women in farming & non-farming activities especially in post-harvest operations, homestead gardening, livestock, and poultry rearing, selling labour etc. The primary need of women working or seeking employment in various agricultural and non-agricultural activities is to meet the family needs and to enhance the family income.

Ghosh and Ghosh (2014) analyzed the women participation in agriculture, and it can be concluded with the facts that women participation in agriculture is increasing with time and women are now acknowledged with the status of "agricultural worker". Though discrimination of wages and in working status still prevails for women labour but due to implementation of various policies and initiatives taken by government the invisibility of women as an agricultural worker is plummeting and will further diminish in future.

Khowaja *et al.* (2014) in their study highlighted the extent of the work and important role of the rural women in the agriculture sector and its allied fields along

with household affairs in the district Tando Allahyar of Sindh. The survey study depicts that more than 65 percent of the rural women carry out various jobs in crop production. They keep and care for the livestock, poultry and fish farming along with other household activities. They work for 15 hours in a day from dawn to dusk. Their level of participation is very nominal in the decision making at home or in their own circle of society. They have a very limited access to economic opportunities as such it is a major obstacle in the development and the change of their socio economic conditions.

Churpal *et al.* (2015) found that the average farm size of sample farms was registered to be 2.47 ha. Overall, cost of cultivation of Mahamaya rice variety was accounted Rs./ha 37090.31, which comprised of 61.14 per cent of labour cost followed by input material cost (32.56 per cent) and fixed cost (6.30 per cent), respectively. Overall, yield of Mahamaya rice variety was recorded to be 55.79 q/ha. The gross return of Rs./ha 87432.40 was obtained from Mahamaya rice variety. Input output ratio was found to be 1:2.36.

Pradhan *et al.* (2016), their study was undertaken in five blocks of Bhadrak district of Odisha comprising 150 numbers of respondents. The study revealed that, among various income generating activities, the extent of involvement of farm women in agro-processing (Rank I) then vegetable cultivation, mushroom cultivation, backyard poultry rearing, dairy farming, Goat farming, Craft making and vermin-composting etc.

Roy *et al.* (2017) investigated the contribution of women to household income and decision making in a few areas of Mymensingh in Bangladesh. Women in the study area were involved in various income generating activities such as crop production, post-harvest activities, poultry rearing, management of livestock and fisheries, etc. Male and female workers participated in income-generating activities for 220 man-days and 204 man-days per annum, respectively. The average annual contribution of women to household income was estimated at Rs 42,000 per year which was about 43.52 per cent of the total household income. The investigation

showed that females' income was absolutely related to women's education and farm size but negatively associated with age, family size, and indebtedness.

Talpur and Khowaja (2017) showed that the female respondents spent more than 50 percent of their time on the above activities out of which on average livestock management occupies more than 5 hours in a day, whereas, proportionately marketing activities comprise less than one hour.

Kumari (2018) studied in the Samastipur district of North Bihar to examine the extent of rural women's involvement in various agricultural activities. Two rice-growing blocks were randomly selected from a total of 20, with two villages chosen at random from each block, resulting in a sample of four villages. A total of 160 respondents were selected from 40 farm families in each village using a proportionate stratified random sampling technique based on landholding size. The study highlights that women's independent participation in farm and allied activities within rice-based farming systems was 50.05 per cent, surpassing men's independent participation of 31.28 per cent, while joint participation was recorded at 18.87 per cent.

Shamna *et al.* (2018) showed that participation of tribal farm women were 28.3 man-days on an average during the crop seasons. Participation in farming activities during mustard crop season in terms of average man-days was more (11.81) when compared to paddy (9.48) and jute (7.01). The involvement of women was more in transplantation, weeding and harvesting activities. Most of the farm women were middle aged, illiterate, had high economic motivation and social participation.

Sharma *et al.* (2018) found that rice production on sample farm was 40214.59 Rs/ha which increased as the farm size increased. The proportion of operational cost and fixed cost to total cost on sample farm was 58.46 and 41.53 per cent. The average net income over Cost C₃ was found 29417.10 Rs/ha and in case of small, medium and large farmer was 26168.23 Rs/ha, 27899.631 Rs/ha and 34183.45 Rs/ha respectively. Average input-output ratio was 1:1.66 per cent. Cost of production of rice varied from 838.56 Rs/q to 770.65 Rs/q with an average of 812.22 Rs/q. It was observed that cost

of production was found minimum in large farmers revealing to extra ordinary difference between the different size farms

Tongkaemkaew and Chambon (2018) studied on rubber plantation labor and labor movements as rubber prices decreased in southern Thailand. This study analyzes the source of labor and movement of workers working in rubber plantations in the context of reducing rubber prices. The outcomes showed that family labor and hired labor had been broadly used in rubber plantations. Family labor was the primary source of labor for smallholder rubber plots, specifically for the city and suburban areas. Furthermore, low rubber price conditions did not extensively influence labor movement in rubber plantations. Therefore, the low tapping intensity and generate the different source of earnings to appeal to young labor generation to work on the farms must be policy to preserve natural rubber production in Thailand.

Chouhan *et al.* (2019) studied the nuances of the labour market in terms of employment relations, contractual arrangements, and asset base of the workers in Tripura. The study observes that the workers in the sector subsist at bare minimum level. Interestingly, the share workers have a marginally higher income than their compatriots. The score of asset index is also highest for the share worker among the workers. The study found out that the existing labour relations have been undergoing a change with the emergence of a revenue sharing mechanism mainly in the Tripura Tribal Areas Autonomous District Council (TTAADC) areas, which are mostly Schedule tribe (ST) dominated and non-tribal workers are not available.

Kumar *et al.* (2019) in their study found that the female work participation rate initially shows an upward tendency from 19.67 in 1981 to the 25.63 in 2001 and 25.50 per cent in 2011. The Women Rural Workforce Participation Rate which 23.06 per cent in 1981 become 30.73 per cent in 2001 and then decline of 30.00 per cent in 2011. In rural sector about more than 80 per cent of female workforce engaged in agriculture and other allied activities. A major part of women in the primary sector working in the informal or residual sector can be fetched of low wages. Women are working as hired labour and pressurised to do works from morning to evening, even at late night, in deplorable conditions.

Jabeen *et al.* (2020) evaluated the impact of women's traditional economic activities that supplement their household economy directly through earning income and indirectly through savings expenditure and to assess the factors that influence their productivity performance. The data was collected by conducting face-to-face interviews and focus group discussions (FGDs). About 68.33 per cent respondents were illiterate, 47.71 per cent were 31 to 40 years old and 47.92 per cent lived in a joint family system. Due to the strict Purdah (veil) culture, about 71.88 per cent of the women's economic activities were confined indoors, such as stitching; embroidery; basket and candle making; preparing pickles, jams, and squash; dairy products; apiculture; sericulture; livestock; poultry; nursery raising; and some agriculture-related o_-farm activities. It was reported that the major decisions in the household are made by the male members due to the strong patriarchal norms and values.

Khare (2020) showed that time utilization pattern is correlated with family size. Small household family have more work as compare to big family. Small family spent the highest amount of time in farm activities (31.65 per cent) and household activities (31.25 per cent) compared to medium family (27.71 per cent) in household and farm activities (28.13 per cent) and large (26.88 per cent) in household activities and farming (26.88 per cent). Study also indicated that farm women spent more time in household work as compare to agricultural operation. They were engaged 7.50 hrs/day in house hold activities as compare to 7.40 hrs in paddy cultivation.

Pawar *et al.* (2020) had undertaken with a view to estimate the economics of production and processing of paddy in Dhamtari district of Chhattisgarh state found that Cost of paddy cultivation per hectare were calculated at Rs. 48780.99, Rs. 49551.46, Rs. 52225.06 and Rs. 50129.74 and Rs. 50116.07 for marginal farms, small farms, medium farms, large farms and overall respectively, showing a growing trend with growing farm size and a positive correlation with farm size.

Ahmed (2021) in his work showed that female participation in economic activities positively determines by women's training and woman's education level and is negatively affected by the presence of children under five years of age. The

contribution of women to household income on average was estimated Rs 32,400.50 per annum which was nearly 36.80 per cent of the overall household income.

Pathak *et al.* (2021) in their study conducted in Prayagraj district of Uttar Pradesh, India found that on an average the per hectare cost of cultivation of paddy was calculated as Rs. 34537.28/ha, on an average yield of paddy was observed 61.91 quintals and average cost of production per quintal of paddy is Rs. 557.86. Overall Benefit cost ratio of the study area was 1:1.67.

Mailumo and Ishaya (2021) analyzed the time utilized on farm, non-farm and leisure activities by rural women in Jos East Local Government Area of Plateau State. The result showed that the daily average amount of time spent by rural women on farming activities, non-farming activities and leisure were 4.56 hours, 4.42 hours, and 1.59 hours respectively. It also concludes that time resource allocation and utilization of rural women is significantly dependent on their socioeconomic characteristics. The time utilized on farming non-farming and leisure activities differ from each other.

Reddy *et al.* (2021) found that males spend more hours on employment work and work at a higher wage rate than females. As a result, a vast monetary income gap between men and women is observed, even though women worked more hours if employment and non-employment activities are jointly taken into consideration. Time spent on employment work and non-employment (mainly domestic chores) has been found to vary significantly due to social identity, household wealth, land, income, education, and skill. The segregation of labour market by sex was evident in this study, with men shifting to non-farm occupations with greater monetary returns and continued dependence on women's farm activities. Enhancing the ownership of land and other assets, encouraging women's participation particularly among minorities, and improving health are some of the policy recommendations directed from this study to enhance participation in employment work and shifting towards higher wage income employment.

Viswanathan (2021) carried out an analysis on labour shortage in rubber sector in Kerala. In that study he examined the regional dimensions of rising labour

scarcity in the rubber area in Kerala and observed that the unparalleled dynamism forged by using the expansion of rubber spearheaded through the smallholder sector in Kerala has been severely challenged, particularly because the late 1990s in view of the labour shortage, characterized by means of the paucity of skilled rubber tappers in both the smallholding and the plantation sectors. Labour shortage, particularly of rubber tappers, in the dominant rubber smallholding region has become a more serious problem in latest years.

Menelek Asfaw (2022) intended to identify and analyze the determinants of woman's participation decisions in off-farm activities. Descriptive statistics revealed that, from the total sample, 270 (57.08 per cent) of woman have participated in an off-farm activity, while, 203 (42.92 per cent) of them do not participate.

Girma and Senapathy (2022) their study showed that 61.50 per cent of the sampled respondents were under the low participation category, 30.20 per cent were under the medium-level of participation category and 8.30 per cent were under the high participation category.

Kumari and Shirisha (2022) showed that monthly income of the respondents ranged from Rs.12,545 to Rs. 85,759 and about 50.00 per cent of their total monthly income was spent on non-food items, while 1/4th (25.00 per cent) was spent on food.

Priyanka and Ghadei (2022) revealed that the extent of participation was high in purchasing of groceries (88.67 per cent) and household activities (88.00 per cent) incase of home related activities. While in self related activities, full participation was observed in selection of the institute (74.00 per cent) and incase of children related activities, feeding of the children (86.67 per cent) and recreation of the children (81.34 per cent). Majority of the women had self decision in purchasing of groceries (62.67 per cent), purchasing of appliances (62.67 per cent) and household activities (60.67 per cent) whereas decisions for occupation of the children (70.00 per cent) and education (68.67 per cent) were made with husband/father and had no decision in their marriage (30.00 per cent) and family planning (26.67 per cent). The study revealed

that the participation of women was high but their decision making was limited and most of the decisions were taken with husband/father/friends.

Gupta and Pattanaik (2023) demonstrated that important gender inequalities prevail in the time spent for all the three-activity categories. Indian men devote considerable time in ‘employment and related’ activities whereas Indian women spend more time in the other two activities. The time spent in ‘unpaid domestic’ activities by Indian women is more for those who are less educated, socially marginalized, unemployed, and belong to poorer households whereas ‘unpaid caregiving’ activities are more intensive for women who are highly educated, socially marginalized, not in the labour force and have more children at home.

Renu (2023) the study found that almost half (46.00 per cent) of the women participation in agricultural is coming from households which derive at least half of their income from own farming. Education level and female participation are inversely associated. Female participation is found highest in families with marginal size of land holdings (74.61 per cent), followed by small land holdings (12.66 per cent) and medium land holdings.

Asantewa and Jagri (2024) investigated the lived experiences of rural women in the Mion District of Ghana, focusing on their engagement in income-generating activities (IGAs) and the associated challenges and opportunities. The study reveals that these women predominantly engage in farming, trading shea butter and dawadawa, and charcoal production. Despite their significant contributions to household incomes and the local economy, these women face substantial barriers such as inadequate access to education and training, insufficient infrastructure, and restrictive cultural norms.

Chekol (2024) studied the determinants of women's participation in RNFEA in the districts of Goncha Siso Enese and Enebsie Sar Midir, Amhara Region, Ethiopia. The result indicates that age, livestock size, land size, food shock and distance to the market significantly affect women's participation in RNFEA; there is still a rich supply

of female labor force participants who are underutilized in farming due to a lack of awareness creation, negative sociocultural factors and poor infrastructure.

Sharma (2024) examined the socioeconomic status of female agricultural laborers in India, the study revealed that Working on fields is just one of many responsibilities that rural women shoulder, along with tending to the home, cooking, and watering the crops. Their lives are certainly not easy. However, national accounts do not consider the many tasks done by rural women to be "economically active employment," even though they are crucial to the prosperity of rural households. In India, women represent 24.00 per cent of the workforce in the agricultural sector and 41.10 per cent of the workforce overall.

Verma *et al.* (2024) in their study entitled “Economic analysis of Costs and Returns structure of Kala Namak Rice Cultivation in Eastern Uttar Pradesh” in the Gorakhpur, Kushinagar, Deoria and Maharajganj districts in Uttar Pradesh through proportionate cum random sampling on 120 respondents. The study revealed that the total cost of cultivation of Kala Namak rice was observed to be Rs 65138.19. The costs of cultivation were highest on medium farms Rs 68664.21, followed by small farms Rs 68230.09 and marginal farms Rs 63052.36, respectively. Whereas on overall average, net income and cost of production were found Rs 115117.90 per hectare and Rs 1989.01 per quintal whereas input-output ratio related to cost A1/A2 was highest on marginal farms (1:(4.30) in the study area.

Khan *et al.* (2025) showed that most rural women were involved in yield-creation activities such as cutting, knitting and drying farming produce. In the domesticated animal part, women produce yogurt, draining and milk stockpiling. The study highlighted an empowering reaction against gender preference in fields such as education and training. Most women chose daily training for their skill improvement, focusing on training in harvesting activities, animal rearing, poultry production and drying leafy foods.

Patel and Dwarka (2025) highlighted the gendered dynamics in rural agriculture, where women’s hard work and knowledge remain invisible in policy

frameworks. It further underscores how gender inequality, lack of education, restricted access to modern farming technologies, and socio-cultural norms hinder the empowerment of rural women farmers. The study concludes that integrating rural women fully into agricultural planning and policy is not only a matter of gender justice but a crucial step toward achieving food security, poverty reduction, and sustainable rural development.

2.3 To identify the factors influencing women's performance of opting different economic and non-economic activities.

Sankari and Uma (1995) in their paper found that India being an agrarian country, majority of the population earn livelihood from agriculture. About 60.00 per cent of agricultural operations are handled almost exclusively by women. During peak agricultural operations, especially at harvesting time, women in the families work on an average 7 to 8 hours a day in the fields. This is besides their routine duties of cooking, cleaning & fetching water.

Bhuvaneswary and Kannan (1999) found that out of total labour time spent by women on various activities, their active participation in farm operations accounted for more than 80.00 per cent.

Chauhan (1999) showed the share of women in farm and off-farm income comes to about 27.00 per cent and 12.00 per cent of total household income.

Gogoi (1999) revealed that about 15.00 to 34.00 per cent women play major role in decision making regarding farm production, 33.00 to 47.00 per cent of them play an equal role with male and 18.00 to 52.00 per cent of them only a minor role. Women workforce participation rate in crop production is 42.00 per cent almost equal male participation rate of 47.00 per cent. Women carryout 31.01 per cent works in agriculture and allied activities, 42.85 per cent works in rearing of livestock and other animals.

Sharma *et al.* (1999) found that the contribution of women to total income in all the important crops and livestock is higher than that of male labour In Himachal Pradesh.

Singh *et al.* (1999) observed around 14.00 per cent of adult women in Himachal Pradesh are engaged in wage earning activity against 10.00 per cent adult male.

Subarhmanyam (1999) in Andhra Pradesh, found that each hectare net area generates employment for 137 days of which more than 50.00 per cent is women.

Sukumar and Kendram (2010) analyzed the income and expenditure pattern of working women in the context of emerging consumer culture, the income-expenditure comparison of the households shows that 85.00 per cent of the households have more expenditure than income. Only 14.00 per cent of the households are spending within the limits of their income and 1.00 per cent of households have a spending same as their income.

Manza and Garba (2019) studied the income of households' primary farmers with those of secondary farmers, to examine the expenditure pattern among the rural households and analyze the factors influencing the consumption pattern of rural households in Jema'a Local Government Area of Kaduna State, Nigeria. The result showed that of the 149 households studied, 74.50 per cent had farming as primary occupation while 25.50 per cent had other occupations as primary occupation. Comparing the income and expenditure of both groups showed that there were significant differences suggesting that the households spent more than their declared incomes. This could mean that other sources of income might have not been captured. Looking at the spending habit of the households, the results showed that at 5.00 probability, there was a significant difference between the expenditure in the different categories of food, social, education, house maintenance, transportation, farm, health and miscellaneous. The Duncan Range Multiple tests showed that the highest expenditure was on food followed by education, transport, farm inputs, house maintenance and health, social and miscellaneous expenses. The differences in the expenditure on education, social, health and farm were significant at 1.00 per cent probability. We conclude that farming is profitable since the income from farming and the income from other jobs were significant at 5.00 per cent probability.

Hamsa and Umesh (2020) revealed that farm activities are the main sources of income in both progressive and less progressive areas and non-farm and off-farm activity (mainly agricultural labor) contributes only a negligible portion. During the slack agricultural season, the smallholders and rain-fed families hinge on rural non-farm doings through non-agricultural labor as the source of earning in a liberal area, whereas, in a less liberal area, all the groups of farmers had their non-farm revenue earned mostly from house rent. Percentage of spending on various items varied with the category of farmers. With the increase in income, there was an increase in non-food items, which was observed in both areas. Inequality in income distribution was less than consumption expenditure due to unequal non food consumption expenditures in both areas. A relatively higher income and expenditure inequality was observed in the less progressive area than the progressive area. Overall, it was evident from the results that, even though farm income contribution was more in both areas, still improving off and non-farm employment opportunities that add to income and helps for further savings.

Udaykumar and Umesh (2020) studied in North of Bengaluru to analyze the investment pattern, crop diversification, and farm household income across the rural-urban interface. The required data were collected from randomly selected 80 farmers, each under rural, transition, and urban gradients. Tobit regression was utilized to demonstrate the drivers of investment, and the Herfindahl index was utilized to catch the amount of crop variation across the rural-urban edge, per farm investment was relatively higher on water resource and irrigation structure across all the gradients. Around 56.00, 51.00 and 45.00 per cent of farmers have invested in water resource and irrigation structures in transition, urban and rural gradient, respectively, followed by animal husbandry (40.00 per cent in rural gradient) and plantation and horticulture (25.00 per cent in transition and urban gradients).

Udaykumar *et al.* (2020) studied on an investment directed crop variation from food crops to vegetables, flower, and fruit crops in rural gradient between 2014 and 2019. In shift and urban gradients, the modification was from food and vegetable crops to high-value fruit crops during a similar period. In 2019, the level of variation was more in transition (0.21) and rural (0.25) gradients compared to urban (0.29)

gradient. Age of head of the family, farm income, and borrowed capital were the main drivers that significantly affected the investment in agriculture. The study concludes that investment-led high-value crops agriculture and crop modification played a substantial role in enhancing the farm income leading to development in farmer's wellbeing guaranteeing food and livelihood security.

Alemu (2022) revealed that in the study area, women are not allowed by their husbands to participate in high-income earning activities. They are considered a housewife and only husband are expected to participate in high income-generating activities due to the local customs. In the study area, women's participation in the income-generating activity is determined by age, husband's education, women's education, family size, land size, market distance, livestock holding, and access to credit. This paper contributes to the literature on women's participation challenges in income-generating activities, giving emphasis to rural women's perspectives. It provides the basis for further studies aimed at challenges hindering women's participation in high-income earning activities, particularly in developing countries.

Asfaw (2022) tried to identify and analyzed the determinants of woman's participation decisions in off-farm activities. Binary logit regression was used to analyzed the data in which the result showed that level of women education and dependency ratio positively and significantly determine woman labor force participation decision; however, a woman who had children less than five years aged, nonfarm training, distance to the market, woman marital status, access to credit, ownership of livestock and safety net adversely affected the participation decision of woman on off-farm activities. Special attention for woman educational development, adopted family planning and parental benefits, provide and properly follow up nonfarm training, developed marketplace nearby, provide credit for only productive activities, create awareness about off-farm activities in addition to livestock husbandry (mixed-farming), and provide safety net for only eligible woman was recommended by the study.

Bbaale (2022) opined to find out factors influencing women's participation in economic activities in Uganda. The positive factors such as age, education level of

the women, accessibility to land, access to capital, and access to health facilities of women encouraged women to participate in economic activities while the negative factors such as illiteracy, lack of capital, men refusing their wives to work hindered women from participating in economic activities. However, despite government's efforts to promote women emancipation and gender equality, women are still lagging behind in the participation of economic activities. It was found out that age, education, and access to land positively influenced the participation of women in economic activities. This was mainly because women who were mature in age had more responsibilities as compared to those who were young in age. Secondly, women who were educated had more knowledge and skills to enable them participate in economic activities as compared to the uneducated. Lastly, access to land increased productivity and was used as collateral to acquire credit. However, despite access to capital being one of the major factors, it negatively influenced women's participation in economic activities since women feared these loans because of high interest rates and miss-use by their husbands. Therefore, Government should emphasize more facilitation of women's education to enable them acquire the necessary skills that would help them participate fully in economic activities and enable them empower the girl child who has dropped out of school to further her education.

Tiwari (2022) used binary logistic regression model for finding the factors determining the involvement of women in Income generating activities. The result revealed that literacy status, occupational status and monthly income of family affect the women's involvement in Income generating activities significantly while age, marital status, caste, family type, number of a family member and age at first marriage do not have any effect on it. The study suggests that it is imperative to make women aware about the importance of involvement in Income generating activities as this will help them to be self-dependent. The Government of Nepal should focus on women's education to ensure the necessary knowledge and entrepreneurial skills needed for their effective participation in income-generating activities.

Zafira and Yulhendri (2022) attempted to see what factors influence women's economic activities and what activities women do in improving the household economy, trade, and consumption, besides that it can also be seen from the social status

of the woman which consists of the husband's income, education level, age, and the number of dependents. The research variables consist of endogenous variables, namely economic participation(x) with indicators consisting of work, production, trade, and consumption as well as exogenous variables namely social status(Y) with the indicators being age, income, husband, education level, number of dependents in the family. Based on the results of this study, it shows that of the 4 factors the strongest is the level of education, the second is the husband's income factor, while the weak factor in influencing women's activities in improving the economy is the age factor and the number of dependents.

Dufera *et al.* (2023) described factors determining women's non-farm participation in non-farm activities. For analyzing the data, the researcher used the binary logit model, and the result of the study shows that the determinants of women's participation in non-agricultural activities were age, family size, household property ownership, land size, non-farm training, lack of access to credit, membership in Idir, women's participation in local community affairs, and distance from the market location. Among these determinant variables, land size, family size, and distance from market location negatively influence women's participation, while the rest positively influence women's participation in non-agricultural activities.

Kaliravna and Godrara (2023) analysed women's contribution to agricultural activities in small, medium and large farm sizes and also examined the socio-economic factors that affect women's participation in the agricultural sector. The study has revealed that the participation of women in the agricultural sector is the highest in the small and medium farm size and selected socio-economic variables explain the 85.4% association with women's participation in the selected area. The study concluded that employment-wise participation of the respondent's decreases with the increase in farm size and the relationship between women's participation and farm size, family income and education is statistically significant.

Kuma and Godana (2023) conducted a study to figure out factors affecting rural women economic empowerment endeavors of development practitioners in Wolaita Ethiopia. The index result showed that 69.00 per cent of the households scored

less than 0.50. Thus were considered economically not empowered. The binary logit model result revealed that age of women, marital status, educational level, perception toward economic empowerment, motivation, income, participation in decision-making and participation in leadership positively and significantly affected rural women economic empowerment. It is recommended that existing programs and strategies should be reviewed and new ones should be designed to effectively improve the situation of rural women economic empowerment.

Rehman *et al.* (2023) aimed to quantify the numerous factors affecting female labor force participation in Lahore district. The empirical results show that educational attainment levels, marital status have a positive and significant effect on female labor force whereas female lives in joint family system and urban region less likely to participate in labor force market. Household head participation in economic activities decrease the female labor force participation. Paper also shows that in Lahore weak women empowerment exist. If female alone decides about her job, her participation in labor market decreases.

Timsal (2023) aimed to identify the critical socio-economic and demographic factors influencing women's decision-making power within households. The findings reveal that women's age, employment status, education, place of residence, and number of living children significantly influence their decision-making capacity. Notably, women residing in rural areas demonstrate lower decision-making power across all four domains, highlighting the necessity for targeted empowerment programs to enhance their roles in household decision-making. Moreover, women's education is found to have a positive correlation with decision-making in all four categories ($p < 0.01$), underscoring its pivotal role in empowering women within the household context.

Chekol (2024) explored the determinants of women's participation in RNFEA in the districts of Goncha Siso Enese and Enebsie Sar Midir, Amhara Region, Ethiopia. binary logistic regression result indicated that age, livestock size, land size, food shock and distance to the market significantly affect women's participation in RNFEA; there is still a rich supply of female labor force participants who are

underutilized in farming due to a lack of awareness creation, negative sociocultural factors and poor infrastructure. Solving these related problems can help transfer them to the non-farm sector, which may support the upgrading of rural industries and promote the implementation of rural revitalization.

Gurung *et al.* (2024) indicated significant associations between different influencing factors and women's entrepreneurship in Gaidakot, Nawalparasi. The results further show that limited access to finance, inherent sociocultural norms, gaps in education and training, regulatory constraints, and disparities in technological access were crucial factors. The findings hold substantial implications for policymakers, researchers, teachers, students, and advocates for gender equality, serving as a catalyst to motivate and empower women entrepreneurs in Nawalparasi. By addressing the above mentioned factors, our research contributes to fostering a more inclusive and supportive entrepreneurial ecosystem, thereby advancing both economic development and gender equity in the region.

Winartha *et al.* (2024) analyzed the influence of social, economic and demographic factors on the work decisions of female workers in West Nusa Tenggara. The social factors are education level, marital status, women's position in the household and internet usage. The economic factor is household income. The demographic factors are age and area of residence. The type of research used is quantitative descriptive. The data analysis used is binary logistic regression. The results of the data analysis show that education level, marital status, women's position in the household, internet usage, household income, age and area of residence have a positive and significant effect on the work decisions of female workers.

Sangeetha and Geetha (2025) investigated the socio-economic conditions of women entrepreneurs in Sivagangai District. Its primary aim is to understand the various factors that influence their entrepreneurial journey, especially considering the unique challenges women face in business. The research highlights several persistent challenges for women entrepreneurs, including those related to education, access to finance, prevailing societal norms, and family responsibilities. These factors significantly impact the establishment, growth, and sustainability of women-led

businesses in the district. Specifically, the study points out limited access to credit, inadequate business skills, and gender-based social constraints as key barriers. The findings of this research offer valuable insights for policymakers, business support organizations, and other stakeholders. The ultimate goal is to promote gender-inclusive economic growth, particularly in rural and semi-urban areas.

Selim *et al.* (2025) revealed that education, access to credit, skill development, and household characteristics significantly influence women's involvement in nonfarm sectors. The findings also underscore the importance of asset ownership and transportation infrastructure in enhancing women's economic participation.

2.4 The examine the constraints faced by the rural women and formulate the strategy for promoting more economic activities by the women for increasing income.

Alagumani (1999) found that in case of decision making 73.00 per cent decision concerning household consumption and 38.70 per cent investment decision are taken by women.

Dahiya *et al.* (1999) indicated that more than ever before there is an emphasis on planned and desirable change especially in rural societies of developing countries. But success of these planned largely depends on the rational decision-making behaviour of rural women. Maintaining day to day family budget and decision making are other unpaid activities done by women. Women outperform men in attending to the household works. The participation of women in paid economic activities is 4 to 5 hours and considering the unpaid household works, total working hours are 8 to 10 hours.

Butt *et al.* (2010) found that the rural women play an important role in agriculture such as livestock production, crops production, cultivation, gardening, and cottage industry too but they have insufficient access to new technique, education and training services, information resources, agricultural extension, and other resources. It has been concluded that male dominated society, cultural practices, and conventional belief system were prime social constraints faced by rural women.

Mugadur and Hiremath (2014) studied the socio-economic condition of agriculture women labour: a case study, highlighted the difficulties of agriculture women labour have face lots of problem and women do not know how to face the problem. According to my opinion Government must take interest in solving their problems, government should not only invent the schemes, but they must see whether the schemes are working successfully or not. By this, the agriculture women labour will come out of these problems and can lead a better life.

Rukhsana *et al.* (2015) revealed that the major constraints faced by the women members were lack of formal education, no freedom to take decisions, dominance of group leaders, decision made at administrative level, less cooperation of officials, less profit, travel expenses for disbursement of loan, poor monitoring and technical guidance, inadequate space for enterprise, high cost of raw materials, lack of storage facilities, non-cooperation between educated and uneducated people and non cooperation from family members. These constraints may be solved through extension strategies like adult education, vocational training of members, facilitating of bank officials and providing proper marketing facilities.

Yadav *et al.* (2016) revealed that lack of knowledge about enterprise, marketing linkages, schemes of developmental departments, training and financial institutions, lack of financial institutions and difficulty in getting loan, high cost and non-availability of quality inputs in time, lack of entrepreneurship development oriented trainings and requisite support were the major constraints. Lack of marketing centers, low price of produce, lack of storage and irrigation facilities, non-availability of labour, and stray animals were the major general constraints.

Gupta and Garima (2019) demonstrated that several constraints faced by women in the involvement of income generating activities were dual responsibility, due to parda pratha system women are restricted within the boundary of their home, lack of social mobility, lack of money as well as their right to have the money, higher marketing cost, widespread price fluctuation, costly transportation charges, interaction and disposal of products in proper or nearby market etc.

Rani and Rani (2019) showed that about 77.77 per cent of the respondents have done overload work at agricultural field for their livelihood. It is observed that the majority of (11.11 per cent) the female agricultural labourers are unable to take care of their family members properly while going to agricultural work. The (88.88 per cent) of the labour seasonal nature of the demand, (94.44 per cent) low wages for women, (100 per cent) lack of training and (55.55 per cent) wages are not given on time.

Manimekalai *et al.* (2021) analyzed the extent of participation of farm women in different farm operations and allied activities, constraints faced by the farm women involving in farm operations and reported the contribution of women in agriculture in Tiruvallur district is extremely significant. Women participation was the maximum in sowing, transplanting (34.00 per cent) and intercultural operations (49.00 per cent). Women actively involved in cattle management including Harvesting of fodder, Feeding, Watering, Milking, and Cleaning (85.0 to 100.00 per cent). Drudgery for farm women was recorded high in transplanting (29.30 per cent), harvesting (26.66 per cent) and carrying fertilizer (35.66 per cent). Farm women spend more time in transplanting, weeding and harvesting (08 hrs/day) followed by sowing (06 hrs/day), cattle management (04 hrs/day). Hence reduction in drudgery will lead to increase in participation of farm work.

Shaoze *et al.* (2022) examined the role of labour constraints in the use of rubber intercropping among smallholder farmers in Southwest China, drawing on a panel dataset collected from a sample of over 600 farm households in the Xishuangbanna Dai Autonomous Prefecture (XSBN). The analysis was based on two models: (i) a panel model to analyze the factors responsible for the decline in the use of rubber intercropping among smallholder farmers; (ii) an instrumental variable and endogenous switching model to assess the specific effects of off-farm labour market participation on the use of intercropping.

Patel and Suryawanshi (2023) revealed the major constraints faced by women were in performing various activities like lack of space, inadequate knowledge about loan procedure, market competition, high capital investment, lack of marketing

strategies, storage facilities, and processing units. To overcome these constraints, suggestions include reducing loan subsidy rates, simplifying loan procedures, providing training on value addition and digital/technological knowledge, and establishing storage facilities.

Asantewa *et al.* (2024) investigated the lived experiences of rural women in the Mion district of Ghana, focusing on their engagement in income-generating activities (IGAs) and the associated challenges and opportunities. The study reveals that these women predominantly engage in farming, trading shea butter and dawadawa, and charcoal production. Despite their significant contributions to household incomes and the local economy, these women face substantial barriers such as inadequate access to education and training, insufficient infrastructure, restrictive cultural norms, Lack of formal training and support from governmental and non-governmental organizations limits their ability to enhance productivity and profitability.

Chauhan *et al.* (2024) conducted a study in Kanpur Dehat district of Uttar Pradesh state. The findings of the study revealed that majority of farm women faced constraints in participation in agricultural activity is “Lack of pertinent knowledge about new innovations” ranked I with mean score (2.39), Shyness among women as compared to men ranked II WMS (2.38) and Lack of training programs ranked III with WMS (2.30).

Coello and Bahru (2024) showed that rural women in Ethiopia face significant constraints to productivity due to lack of access to education as 61.00 per cent of rural women have not attended school, compared to 34.00 per cent of rural men. Lack of resources was also considered as another factor, and disparity in pay.

Islam *et al.* (2024) examined constraints faced by 346 rural Bangladeshi women beneficiaries of PDBF microcredit, finding significant relationships between training, decision-making, savings, income-generating activities, and constraints, with high interest rates being a major concern. Among the 13 selected problem items, ‘high rate of interest’ was ranked first (70.81 per cent), ‘more savings have to be deposited while taking the loan’ was ranked second (68.69 per cent) and third (68.40 per cent)

was ‘various income generating activities and social development training are inadequate’ The findings revealed a significant relationship between training exposures, decision-making ability, savings deposit, income-generating activities, communication & network, and constraints faced by PDBF beneficiaries.

Kaur and Kaur (2024) examined the issues and challenges of women engaged in agriculture and allied activities. The study revealed that women play a dual role at farm and home. Lack of technical knowledge in agriculture, low access to land, finances, credit, socio-cultural barriers are major challenges faced by them. Wages for women working as agriculture labours are lower. It is necessary to address these issues and is essential to implement gender-specific interventions in order to boost agricultural productivity.

Magsi and Mujahid (2024) studied to understand the income-generating activities and the challenges faced by women in district Larkana, Sindh, Pakistan. The findings indicate a lack of high qualifications among participants, with 40.00 per cent being illiterate. Despite this, rural Sindh women exhibit independence in marital decision-making. However, opportunities for livelihood work are limited, with most engaged in home-based embroidery during non-agricultural seasons. To alleviate the challenges faced by rural women, interventions focusing on education, skill development, and economic empowerment are essential. Furthermore, policies promoting equal opportunities and addressing socio-economic disparities are warranted.

Malima (2024) examined the challenges faced by women in accessing economic empowerment opportunities in Kahama Municipal, Shinyanga Region of Tanzania. Findings indicate that financial empowerment services for rural women are severely limited by inadequate infrastructure, lack of knowledge, and financial constraints, hindering their economic progress. This study concludes that the lack of financial empowerment among women in rural areas poses a significant challenge, resulting in poverty, insufficient income, and impeding progress for both women and the nation.

Mupparapu *et al.* (2024) studied the constraints faced by women entrepreneurs associated with SHGs in Chittoor district include lack of education, limited opportunities for selling, insufficient availability of inputs, high transportation costs, inadequate loan amount, poor infrastructure, and lack of storage facilities. Suggestions include educating and encouraging women, providing credit facilities, skill-oriented trainings, and setting up retail shops.

Shori *et al.* (2024) revealed that majority of respondents faced problem of less availability of time because of household work, unavailability of agriculture labour and high labour cost, family restriction, health issues, lack of technical knowledge about use of farm-equipments and lack of freedom to take decision for farm practices were the major constraints expressed by the farm-women. The findings of the study suggest that, in order to enhance farm-women participation in on-farm activities and promote active participation in decision making process, by support service like skill oriented training programmes for farm-women about use of farm-equipments, decision making power should be given to farm-women, head of the family should encourage farm-women for various farm-practices, improving their confidence in farm activities can be address in a integrated manner.

Vaishnavi and Ramesh (2024) found that lack of awareness about credit sources, followed by a lack of adequate communication skills and more dependence on leaders are the major personal constraints faced by women SHG members. Also, insufficient credit facilities, followed by a lack of periodical training and a lack of marketing channels for selling their produce, are the major organisational constraints women SHG members face. Among the suggestions, the majority of the members offered to increase the loan amount, enhance the subsidy amount to the women members and create employment opportunities for women members.

Fatima *et al.* (2025) in their study examined gender dynamics in rural Pakistan, analyzing non-farm income diversification and its impact on domestic welfare, highlighting women's potential in small enterprises and the need for education, finance, and training to bridge income disparities. Pakistan is enriched with patriarchal society, where men have been destined to opportunities for economic

development since ages. On the other hand, women are largely confined to domestic roles. Despite this, women in small and medium-sized enterprises are found of having strong decision-making abilities and righteous contributions to household income. Rural women face lots of challenges, some include access constraints to education, finances, and entrepreneurial training. Empowering women and enhancing their participation in non-farm activities is essential to creating a balanced economy where both men and women contribute effectively to national development.

Sonkar *et al.* (2025) identified excessive household responsibilities (Rank I, 85.50 per cent), fear of inability (Rank II, 71.00 per cent) and lack of guidance (Rank III, 50.00 per cent) as the major constraints. Recommendations from respondents included equitable treatment within families (Rank I, 66.00 per cent), access to training (Rank II, 58.50 per cent) and reduced household burdens (Rank VIII, 40.50 per cent). The findings emphasize the need for systemic interventions, including educational opportunities, skill development programs and family support mechanisms. Addressing these issues is crucial for empowering rural women, enhancing agricultural productivity and promoting sustainable rural development.

CHAPTER III

RESEARCH METHODOLOGY

RESEARCH METHODOLOGY

This chapter includes the various research methods carried out by the researchers with respect to its study conducted on **“Domain of rural women for economic and non-economic activities in Manipur”**. The approaches designed for the research are described under the following heads:

- 3.1 Description of the study area
- 3.2 Locale of the study
- 3.3 Selection of blocks
- 3.4 Selection of villages
- 3.5 Selection of farmers
- 3.6 Collection of data
- 3.7 Analytical techniques and tools

3.1 Description of the study area

Manipur with its capital city Imphal is one among the seven North-Eastern states of India. And it is also known as the ‘Land of Gems’. The state has an area of 22,327 square kilometers (8,621 sq miles) and having a population of 3million comprising of various tribes and communities, speaking variety of Sino-Tibetan languages, while the majority group being the Meiteis. It is an isolated hill-girt state stretching between 92°58’23.422” East to 94°43’35.553” East longitudes and 23°49’45.530” North to 25°42’1.456” North latitudes. The state is bordered at North by Nagaland, at South by Mizoram, Assam to the west and state international border with Myanmar to its east. Manipur is a node of Asian economic and cultural interchange for more than 2,500 years. The vale encircling around 690 sq miles(1,787 sq km) which runs north-south and lies at an height of 2,600 feet(790 m), while the hills ranges consist of the Naga-hills to the north and the Mizo and Chin hills to the south with an average elevation varying between 5,000 and 6,000 feet (1,500 and 1,800). The state experiences temperate climate in the valley and cold in the hills. Rainfall is abundant, with about 1908.9 mm. The main source of incomes for the people of Manipur comes from agriculture and forestry. The major crops cultivated by

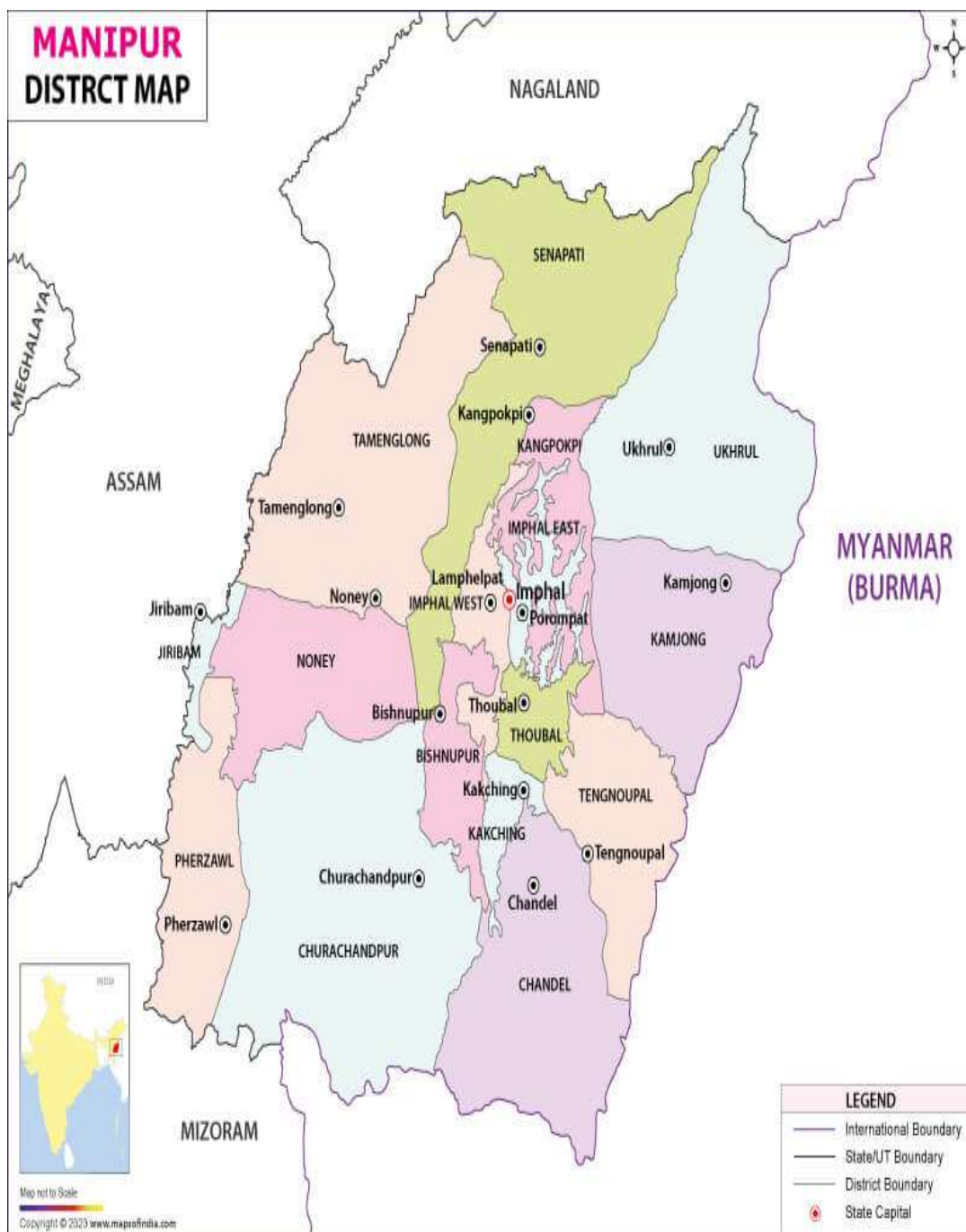


Fig. 3.1 Geographical map of Manipur

the people are rice, maize, sugarcane, mustard, tobacco, orchard plants and pulses.

3.2 Locale of the study

The present study was conducted in Churachandpur and Chandel district of Manipur. The districts were purposively selected as it is one of the major agricultural-

based areas where the primary livelihood of women is agriculture and women are gradually adopting non-economic activities for their livelihood.

Churachandpur district: One among the 16 districts in Manipur. Churachandpur district occupies the south-west part of Manipur state. Churachandpur district is the largest district in the whole state measuring over 4570 Sq.km and occupies 20.50 per cent of state's area. The District Headquarter, Churachandpur, which is the second largest town of the state, is situated at a distance of 64 kilometres from the State capital – Imphal. The district is situated in the south-western part of Manipur between 23° 56' N and 24° 36' N latitudes and 92° 58' E to 93° 52' E longitude. It neighbors with Myanmar on the east, Tamenglong on the west, Imphal valley on the north and Mizoram on the south. It is a hilly district with a very small percentage of the plain area, which is about 5.57 per cent of the total geographical area. Most of the hill ranges had elevation ranging from 350 to 1,950 m above mean sea level. There are also many unexplored caves, gorges and forests in this district.

According to the 2011 Census, the district has a total population of 2,74,143 with 1,38,820 males and 1,35,323 females. Agriculture is the power house of their survival and income of the people. According to the Economic survey Manipur, the net sown area for 2021-22 is 359.7 Sq Km. and the whole cultivated area is rain-fed. No facilities of irrigation are available in this region. Rice is the main crop cultivated in the district. The production and sustainability of the people largely depend on the nature. Moreover, although large chunk of the land are under forest cover, the district often felt the fallout of climate variability.

Chandel district: Chandel district is one of the districts in the state having wide varieties of multi-lingual, ethnicity and cultural diversity. The district was previously known as Tengenoupal district with a total geographical area of 3,313 Sq. km. It lies in the south-eastern part of Manipur between 23.49° and 24.28° North latitude and 94.09° to 94.31° East longitude. Its neighbors with Myanmar (erstwhile Burma) on the south, Ukhruel district on the east, Churachandpur on the south and west and Thoubal on the north. The district is quite rich in mineral wealth like limestone,

copper, nickel, chromites and asbestos. Highest peak is Eswani which is 8,348 ft. Out of the total geographical area, 90.00 per cent is covered by hill ranges.

According to the 2011 Census, Chandel district has a total population of 144182 individuals with 74579 males and 69603 females, thus having a sex ratio of 933. Agriculture is the main backbone of people's economy. Rice cultivation is the main mono crop besides pulses and other cereals. As reported by Economic Survey Manipur 2021-22, total crop area of the district is 223.90 sq. Km with net sown area of 149 sq. Km. The economy of the people depends on the type of settlements within the topography and natural eco-system that greatly influence their economic system.

3.3 Selection of blocks

In the second stage, a total of four blocks namely, Samulamlan and Kangvai were selected under Churachandpur district and Chandel and Chakpikarong were selected under Chandel district purposively for the study as these blocks were among one of the districts which had maximum rural women involve in economic and non-economic activities.

3.4 Selection of villages

Under the selected blocks, a list of all the villages was prepared. Out of which, 10(ten) villages were selected purposively keeping in view the maximum rural women working in farm as well as non-farm activities. This way the total number of villages selected was 40.

3.5 Selection of farmers/respondents

A list was prepared from each of the selected villages. Out of which 8 respondents were randomly selected, as each of the selected villages consists large number of rural women involved in farm activities. From the 40 selected villages from 2 blocks and 2 districts, a total of 320 respondents were selected for the study.

Sampling design:

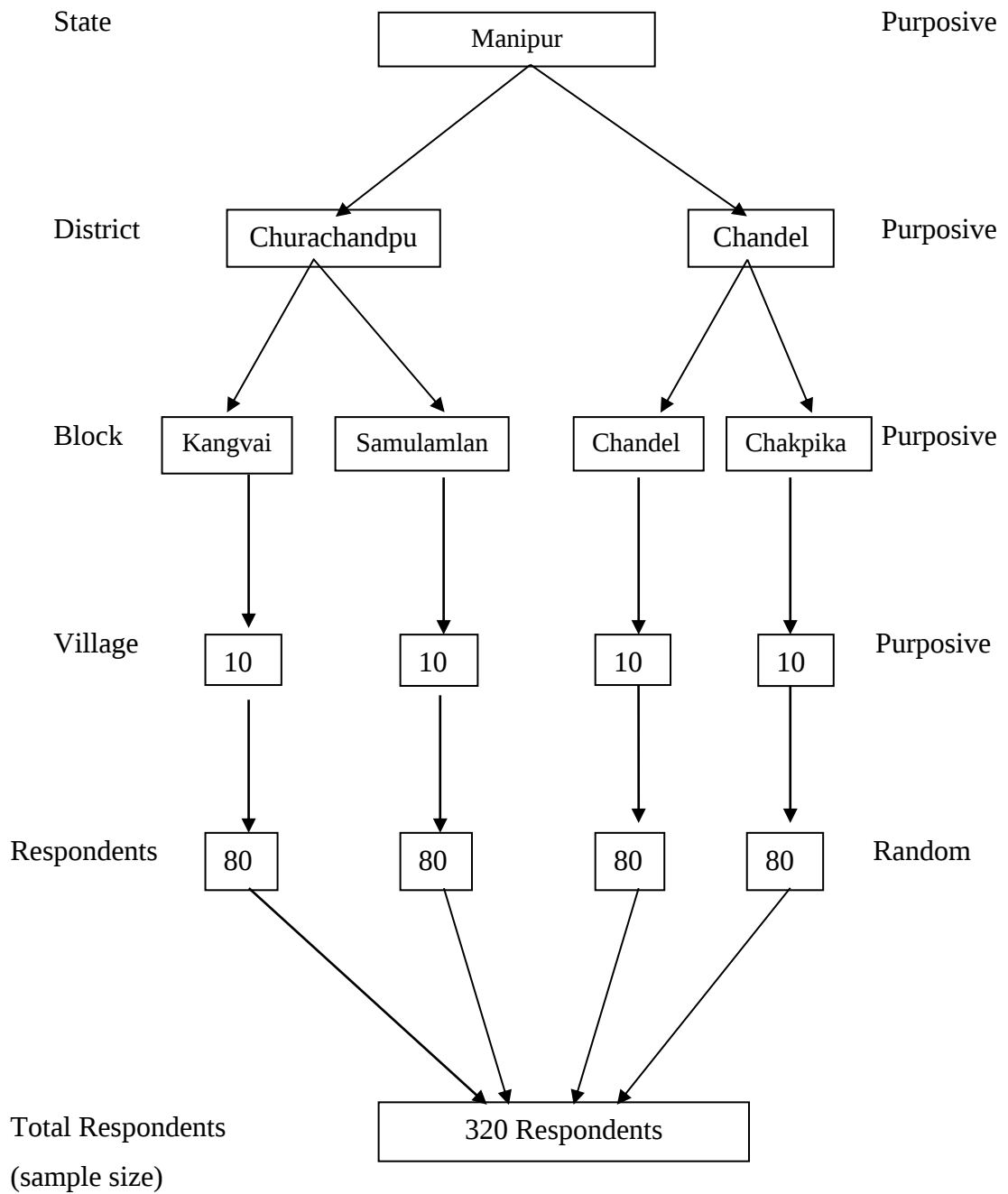


Fig. 3.2 Sampling plan.

3.6 Collection of data

The research work was based on the primary as well as secondary data.

3.6.1 Primary data

Primary data required for the present study were collected personally with the help of pre-tested and pre-schedule questionnaires especially designed for the survey. The questionnaire is used as a research element to elicit information on rural women participation in economic and non-economic activities. A well-structured questionnaire was prepared for the collection of data. An attempt was made to keep it simple and understandable to capture all the necessary information.

3.6.2 Secondary data

Pertaining to the study area, the secondary data were obtained from the published and / or unpublished records and journals of Department of Agriculture, Horticulture, Directorate of Economics and Statistics. Also from various concerned offices, magazines, handbooks and other sources.

3.7 Analytical framework

Collected data were scrutinized, tabulated, and processed systematically depending upon the given objectives and systematically analyzed using appropriate statistical tools to arrive at relevant inferences.

3.7.1 Tabulation

The data were organized and tabulated for systematic representation, easy interpretation and analysis of the data collected.

3.7.2 Research variables for socio-economic.

In order to study the socio-demographic profile of the respondents, the variables included were age, sex, type of family, marital status, family size, education, occupation, etc.

Other variables excluding age and family size were classified based on the respondent's responses during the survey while age and family size of the respondents were classified by using the mean and standard deviation as given below:

Table 3.1 Categorization of respondents by age group

Sl. No.	Category of family size	Score range
1.	Small	Less than $\mu - SD$
2.	Medium	Between $\mu \pm SD$
3.	Large	More than $\mu + SD$

Table 3.2 Categorization of respondents by family size

Sl. No.	Category of age	Score range
1.	Young	Less than $\mu - SD$
2.	Middle	Between $\mu \pm SD$
3.	Old	More than $\mu + SD$

Based on the size of their land-holdings, the respondents were categorized into marginal, small, semi-medium, medium and large.

Table 3.3 Categorization of respondents by size of land

Sl. No.	Category	Size (in ha)
1.	Marginal	<1.00
2.	Small	1.00-2.00
3.	Semi-medium	2.00-4.00
4.	Medium	4.00-10.00
5.	Large	>10.00

3.8. Analysis of data

The collected data were processed, tabulated and scrutinized systematically depending upon the given objectives. Both tabular and functional analyses were carried out to meet the various objectives of the study. Socio-economic status were analyzed using descriptive statistics while the other objectives according to their relevant tools.

3.8.1 Cost and return analysis

Cost and return of the selected respondents for practicing livelihood activities will be analyzed by using the following statistical tools. Although the present study primarily focuses on the domain of rural women for economic and non-economic activities in Manipur, the inclusion of cost concepts in rice cultivation is considered relevant. Agriculture, particularly rice cultivation, remains one of the major economic activities of rural households in the selected districts where women actively participate alongside men at various stages such as seed preparation, broadcasting/transplanting, weeding, harvesting, post-harvest processing, and storage. Therefore, the inclusion of cost concepts in rice cultivation is justified as it enables the study to capture the direct and indirect economic contribution of rural women within the agricultural production system. And also, farm business analysis was undertaken to estimate the cost and return of rice cultivation and examined the utilization of farm resources and family labour.

3.8.1.1 Cost concept

The cost of cultivation was estimated using different methods used in the farm management analysis in terms of variable and fixed cost. The Commission on Agricultural Costs and Prices (CACP), Government of India had categorized the farm cost concepts as follows:

1. **Cost A₁** = It consist of all expenses in cash and kind incurred in production by the farmers, such as
 - a) Cost of hired human labour
 - b) Cost of hired and owned bullock/ machine labour
 - c) Cost of seed (both farm seed and purchased)
 - d) Cost of insecticides and pesticides
 - e) Cost of manure (owned or purchased)
 - f) Cost of fertilizers
 - g) Irrigation charges
 - h) Land revenue, cesses and other taxes
 - i) Interest on working capital

- j) Miscellaneous expenses
- k) Depreciation on fixed assets.

Family labours were charged at the rate of hired labour charges prevailing in the region. Owned bullock labour is taken on the basis of hire rate prevailing in the village.

- 2. **Cost A₂** = Cost A₁ + rent paid for leased in land
- 3. **Cost B₁** = Cost A₁ + interest on value of owned fixed capital assets (excluding land)
- 4. **Cost B₂** = Cost B₁ + Rental value of owned land + rent paid for leased-in land
- 5. **Cost C₁** = Cost B₁ + Imputed value of family labour
- 6. **Cost C₂** = Cost B₂ + Imputed value of family labour
- 7. **Cost C₃** = Cost C₂ + 10 per cent of the total cost C₂ (known as comprehensive cost or total cost of cultivation)

$$\text{Cost of production (Rs/qt)} = \frac{\text{Total cost} - \text{value of by-product (Rs/ha)}}{\text{Yield (qt/ha)}}$$

Interest on working capital:

It was calculated at @ 6 per cent for the six months of crop period.

Interest on fixed capital:

It was calculated at @8 per cent per annum for the crop period

Rental value of owned land:

It was calculated based on the prevailing rates in the sampling villages.

Depreciation:

It represents the amount by which a farm resource decreased in value as a result of cause other than a change in the general price of the item. Straight line method was used for calculating the depreciation.

In order to analyze the income, the following types of farm income were used.

3.8.1.1 Gross Income

It includes the final Paddy of main product and by product of the crop.

3.8.1.2 Family labour income

Income from family labour was obtained by deducting cost B₂ from the gross income.

$$\text{Family labour income} = \text{Gross income} - \text{Cost B}_2$$

3.8.1.3 Net income

Net income was obtained by deducting C₂ from the gross income.

$$\text{Net income} = \text{Gross income} - C_2$$

3.8.1.4 Farm business income

It was obtained by deducting Cost A₁ from gross income.

3.8.1.5 Estimation of return

Following income measure will be used to work out the net return in the study area.

Gross income synonymous with the value of output (both main and by-product) evaluated at harvest prices.

$$GI = QM * P_m + Q_b * P_b$$

Whereas:

GI = Gross income

Q_m = Quantity of main product

P_m = Price of main product

Q_b = Quantity of by-product

P_b = Price of by product

3.9. Multiple Linear Regression

To work out the determination of factor influencing of rural women for economic and non-economic activities of the rural households a separate multiple linear regression model will be fitted for selected variables.

The general form of the multiple linear regression model is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \varepsilon$$

Where:

- Y = Dependent variable (output)
- $X_1, X_2, \dots, X_k$ = Independent variables (predictors)
- β_0 = Intercept term
- $\beta_1, \beta_2, \dots, \beta_k$ = Coefficients of the independent variables
- ε = Error term (assumed to be normally distributed with mean 0)

This model estimates the linear relationship between the dependent variable and two or more independent variables. The coefficients β_i represent the average change in the dependent variable associated with a one-unit change in the corresponding independent variable, holding other variables constant.

The following dependent and independent variables were considered for analyzing:

As for the dependent variables,

Y_1 = time spent by rural women outside home (hr)

Y_2 = time spent by rural women at home (hr)

The explanatory variables included in the model comprise both continuous and categorical variables. The categorical variables were converted into dummy variables to facilitate regression analysis. Dummy variables were used in the model to represent categorical variables in numerical form so that they could be included in the

regression analysis. Since regression analysis requires quantitative inputs, qualitative characteristics such as education level, marital status, employment type, social norms, social services or family support cannot be directly used in the model. Thus, these variables were converted into dummy variables by assigning values such as 1 for the presence of a characteristic and 0 for its absence. This helps in measuring the effect of categorical factors on the dependent variable. The details of the variable measurement and coding are presented below:

Table 3.4 Description of variables and coding used in the study

Sl No.	Variable	Measurement/ Coding
i.	Age	In years
ii.	No.of children/dependent	Number
iii.	Land holding (in ha)	In ha
iv.	Access to credit	1=Yes, 0=No
v.	Training training	0=no training, 1=vocational
vi.	Experience	in years
vii.	Access to market	1=Yes, 0=No
viii.	Decision making	1=Yes, 0=No
ix.	Income contributed by women	₹ per month (in thousands)
x.	Health issue	0=No, 1=Minor
xi.	Income contributed by men	₹ per month (in thousands)
xii.	Household_size	Number

For a categorical variable with k categories, $k-1$ dummy variables are created, and one category is omitted as the reference group. The dummy variables are as follows:

Table 3.5 Dummy Variable Coding and Reference Categories Used in the Study

Sl. No.	Category	Variable	Code
1	Dummy_Education	Illiterate	Taken as reference category
		Primary	Dummy variable take value 1, if condition is met and 0 if otherwise
		Secondary_HS/PU	
		Graduate	
2	Dummy_Marital_Status	Married	Reference category
		Unmarried	1= unmarried, 0= otherwise
		Widow	1=widow, 0=otherwise
3	Dummy_employment_type	Self-employed	1= yes, 0= otherwise
		Wage_labourer	1= yes, 0= otherwise
		Informal_work	1= yes, 0= otherwise
		Self_employed & informal_work	1= yes, 0= otherwise
		Waged_employed+ informal_work	1= yes, 0= otherwise
		Triple_work_burden	1= yes, 0= otherwise
4	Dummy_social_norms	No	Reference category
		Restricted	1=restricted, 0=otherwise
		Supportive	1=supportive, 0=otherwise
5	Dummy_social_services	No involvement	Reference category
		Limited involvement	1=limited, 0=otherwise
		Active involvement	1=active, 0=otherwise
6	Dummy_family_support	Less support	1=less, 0=otherwise
		Moderate support	Reference category
		Strong support	1=strong, 0=otherwise

3.10 Replacement Cost Method

Replacement value method: Calculated using current hourly wages for comparable work to determine how replacing unpaid workers with paid worker would cost.

Replacement value method approach is the wage paid to a person who produces a similar service in the market is based on the market compensation of the worker engaged in the same type of activity in the household production for own consumption.

This method was used to estimate the economic value of unpaid work performed by the selected respondents. Under this method, the time spent by women in various activities was valued based on the prevailing market rate of hired labour performing similar work. This method helped in assigning monetary value to women's unpaid contribution and assessing their overall economic participation.

3.11 Garrett's Ranking Technique:

The different types of constraints such as social, behavioral, cultural, economic etc. faced in practicing livelihood activities by the rural women were explored with the information collected from the respondents. To find out the most significant factor which influences the respondent, Garrett, and Woodworth (1969) ranking technique was used. As per this method, respondents were asked to assign the rank of all factors and the outcome of such ranking were converted into score value with the help of the formula:

$$\text{Percent position} = 100(R_{ij} - 0.5) / N_j$$

Whereas: R_{ij} = rank given for the i th variable by the j th respondents.

N_j = number of variables ranked by the j th respondent.

The per cent position of each rank was converted into scores referring to the table by Garrett and Woodworth (1969). Then for each factor, the scores of individual respondents were added and divided by the number of respondents for whom the scores were added. The mean scores for all the factors were ranked by arranging in descending order, ranks were provided accordingly and the major factors were identified.

3.12 Independent samples t-test (Unpaired t-test)

To examine the variation between the two selected districts with respect to

economic parameters of rural women, the Independent Samples t-test (Unpaired t-test) has been applied. This test is used to compare the mean differences between two independent groups (Churachandpur and Chandel) and to test whether the observed differences are statistically significant.

The formula for the Independent Samples t-test is given below:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Where:

- $\bar{X}_1$ = Mean of 1st sample
- $\bar{X}_2$ = Mean of 2nd sample
- S_1^2 = Variance of 1st sample
- S_2^2 = Variance of 2nd sample
- n_1 = Sample size of 1st sample
- n_2 = Sample size of 2nd sample

Degree of freedom = $n_1 + n_2 - 2$

3.13 Research Hypothesis

Based on the objective and analytical framework of the present study, the following hypothesis was formulated:

H_0 : The selected socio-economic, demographic and institutional factors do not significantly influence the participation and time spent of rural women to economic and non-economic activities.

H_1 : The selected socio-economic, demographic and institutional factors significantly influence the participation and time spent of rural women to economic and non-economic activities.

CHAPTER IV

RESULTS AND DISCUSSION

RESULTS AND DISCUSSIONS

In this chapter, the data collected were analyzed accordingly and the results obtained are discussed under different sub-headings:

4.1 Socio-economic status of rural women in the study area

4.2 Nature and extent of participation and also time spent by rural women in economic and non-economic activities

4.3 Factors influencing women's performance of opting different economic and non-economic activities

4.4 Constraints faced and formulate strategy for promoting more economic activities by the women for increasing income

4.1 Socio-economic status of rural women in the study area

The socio-economic and demographic aspects of the selected farmers provide an overall features prevailing in the study area. Some of the vital characteristics are analyzed and the results as per their parameters are discussed and presented below:

4.1.1 Distribution of rural women involved and marital status of rural respondent

Table 4.1 depicts the distribution of rural women involved and their marital status. The study exclusively focuses on rural women's participation in economic and non-economic activities. Since the research domain is limited to women, no men respondents were taken into consideration. All data collected reflect only female involvement across various landholding sizes and marital statuses.

From Table 4.1, it is evident that among the 135 respondents having marginal farm size, 120 (40.90 per cent) respondents were married, 3 (100.00 per cent) respondents were unmarried and 12 (50.00 per cent) were widow.

In small farm size, among the 129 respondents, 40.30 per cent of the respondents were married and 45.80 per cent of women were widow.

Among the 43 respondents having semi-medium farm size, 42 (14.30 per cent) respondents were married and 1 (4.20 per cent) respondent was widow.

From the 13 (4.10 per cent) respondents having medium landholding, all the

13 (4.50 per cent) was married.

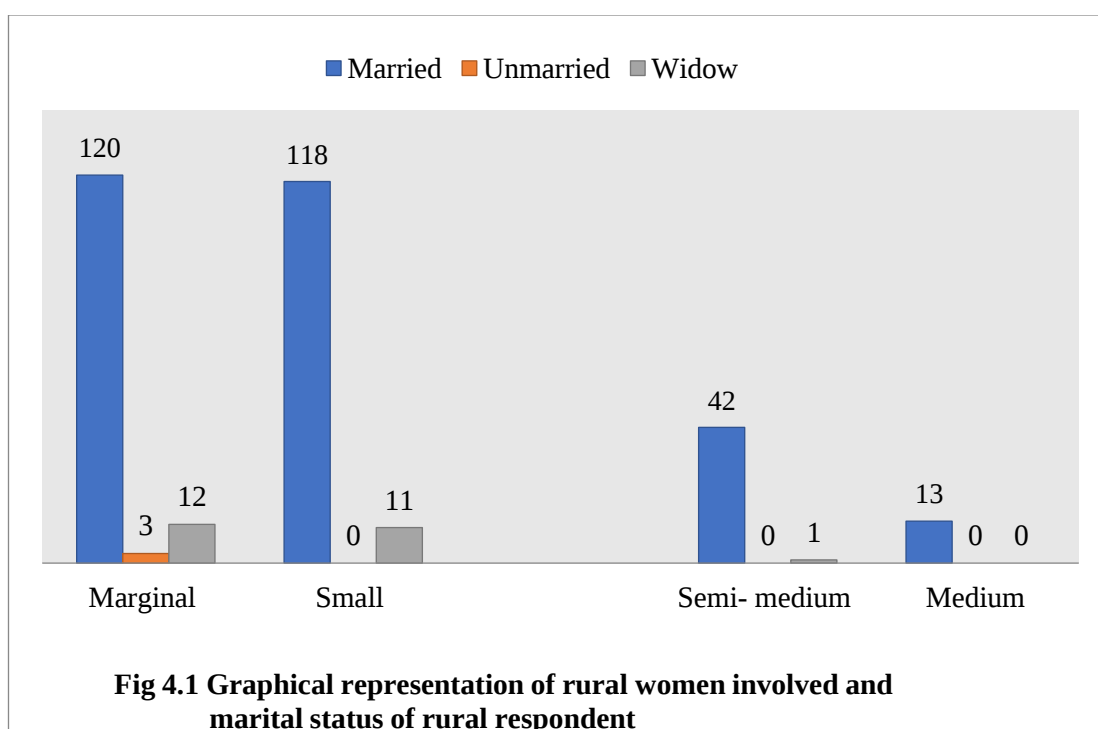
No Large farmers were involved in the study.

Table 4.1 Rural women and their marital status

Sl. No.	Land holding size	Female	Marital status		
			Married	Unmarried	Widow
1.	Marginal	135 (42.20)	120 (40.90)	3 (100.00)	12 (50.00)
2.	Small	129 (40.30)	118 (40.30)	0 (0.00)	11 (45.80)
3.	Semi- medium	43 (13.40)	42 (14.30)	0 (0.00)	1 (4.20)
4.	Medium	13 (4.10)	13 (4.50)	0 (0.00)	0 (0.00)
Total		320 (100.00)	293 (91.56)	3 (0.93)	24 (7.60)

Figures in parentheses indicate percentage to the total

Similar studies were also observed in the study conducted by Kavitha and Radja Ramane (2020), which showed that the highest share of sample respondents are married. Oluwasola and Solomon (2019) also evinced that majority of the rural women involved in the study were married (69.39 per cent). Similar findings were also recorded by Patel and Dwarka (2025), signifying that majority of the rural women (70.00 per cent) was married.



4.1.2 Distribution of respondents according to Age.

The distribution of respondents (i.e. solely women of the study area) according to age is presented in Table 4.2. Age is another significant demographic factor influencing the participation and productivity of rural women in economic and non-economic activities. A similar observation was also made in the work of Kavitha and Ramane (2020), Dangi and Bansal (2023) and Sneha *et al.* (2023) indicating that women belonging to the middle aged are more actively engaged in both agricultural activities as well as household responsibilities. Hasan *et al.* (2015) and Patel and Dwarka (2025) also found that the majority of rural women involved in farming households fall under the middle age group.

Table 4.2 Distribution of respondents according to Age.

Sl.No	Land holding	Age Group			Total	Mean	SD
	Size	Below 34	34-53	53 and above			
1.							
2.	Marginal	25 (39.70)	78 (42.50)	32 (43.80)	135 (42.20)	43.78	9.75
3.	Small	30 (47.60)	77 (41.80)	22 (30.20)	129 (40.30)		
4.	Semi medium	7 (11.10)	22 (11.90)	14 (19.20)	43 (13.40)		
5.	Medium	1 (1.60)	7 (3.80)	5 (6.80)	13 (4.10)		
Total		63 (19.69)	184 (57.50)	73 (22.81)	320 (100.00)		

Figures in parentheses indicate percentage to the total

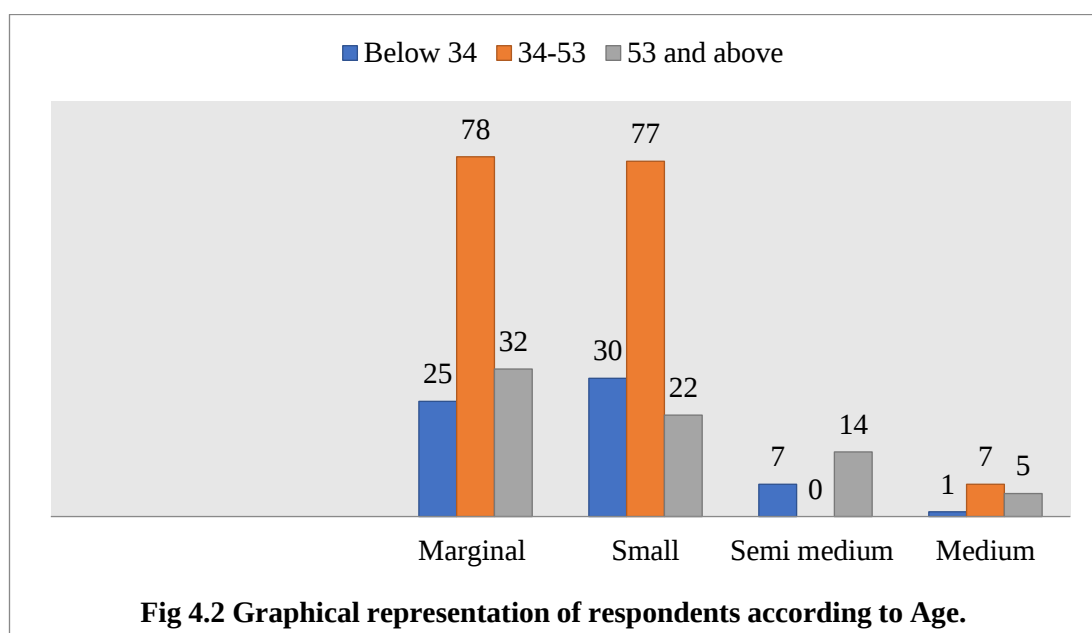
Table 4.2 indicates that, the age group were divided into 3 groups. Group I comprising of age below 34 years, group II of 34-53 years and group III indicating age group of 53 years and above.

Under marginal farmer, 25 respondents (39.70 per cent) fall into the age group of below 34 years of age, 78 respondents (42.50 per cent) under the age group *i.e.*, 34-53 years of age and 32 respondents (43.80 per cent) fall under the age group *i.e.*, 53 years and above.

Under small farmer, the highest number of respondent falls under the medium age group of 34-53 years, consisting of 77 respondents (41.80 per cent), 30 respondents (47.60 per cent) under age group of below 34 years and the least falls under the age group of 53 and above years, having 22 respondents (30.20 per cent) respectively.

Under semi-medium farmer, 7 respondents (11.10 per cent) fall under the age group *i.e.*, below 34 years, while 22 respondents (11.90 per cent) and 14 respondents (19.20 per cent) were under the age group of 34-53 years and age group of 53 and above years of age respectively.

Under medium farmer, 1 respondent (1.60 per cent) fall into the age group of below 34 years of age, 7 respondents (3.80 per cent) under the age group *i.e.*, 34-53 years of age and 5 respondents (6.80 per cent) fall under the age group *i.e.*, 53 years of age and above.



4.1.3 Classification of respondents according to education

The distribution of respondents according to their level of education is presented in Table 4.3. The data revealed that, under the marginal farmers, 42 respondents (47.70 per cent) of the sample were illiterate, 43 respondents (41.70 per cent) had primary level of education, 43 respondents (36.50 per cent) with high school level of education and 7 respondents (63.60 per cent) had graduate level of education.

Table 4.3 Educational level of the sample farmers

Sl. No.	Land holding size	Illiterate	Literate			Total	Mean	SD
			Primary	High school	Graduate			
1.	Marginal	42 (47.70)	43 (41.70)	43 (36.50)	7 (63.60)	135 (42.20)	2.17	0.88
2.	Small	36 (41.00)	39 (37.90)	51 (43.20)	3 (27.30)	129 (40.30)		
3.	Semi medium	6 (6.80)	19 (18.50)	17 (14.40)	1 (9.10)	43 (13.40)		
4.	Medium	4 (4.50)	2 (1.90)	7 (5.90)	0 (0.00)	13 (4.10)		
Total		88 (27.50)	103 (32.19)	118 (36.87)	11 (3.44)	320 (100.00)		

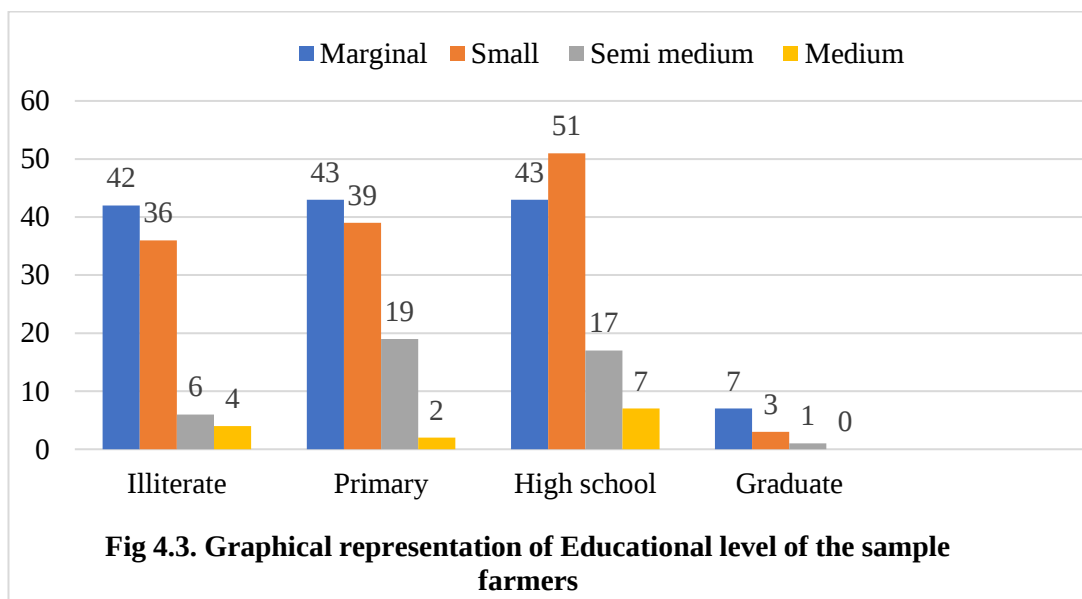
Figures in parentheses indicate percentage to the total

Under small farmers, 36 respondents (41.00 per cent) were illiterate, 39 respondents (37.90 per cent) studied up to primary level and 51 respondents (43.20 per cent) studying up to high school level of education, with 3 respondents (27.30 per cent) having graduate level of education.

Under semi-medium farmer, majority of the respondents had primary level of education *i.e.*, 19 respondents (18.50 per cent), 17 respondents (14.40 per cent) fall under high school level, 1 respondent (9.10 per cent) having graduate level of education and 6 respondents (6.80 per cent) were illiterate.

Under medium farmers, 4 respondents (4.50 per cent) were illiterate, 2 respondents (1.90 per cent) studied up to primary level and 7 respondents (5.90 per cent) studying up to high school level of education, with no involvement of respondents having graduate level of education.

Similar findings were observed in the study conducted by Patel and Dwarka (2025), where data indicated that respondents involved were more literate. While 10.83 per cent of respondent were found to be illiterate. Yadav and Revanna (2017) and Mugadur and Hiremath (2014) also reported that illiteracy in farm women were less.



4.1.4 Classification of respondent based on family size.

The distribution of women respondents according to family size is presented in Table 4.4. Family size was categorized into three groups: small (≤ 3 members), medium (4–6 members), and large (≥ 6 members).

Table 4.4 Family size of the respondent households

Sl. No.	Land holding size	Small (Upto 3)	Medium (4-6 members)	Large (6 and above)	Total	Mean	SSD
1.	Marginal	30 (53.60)	87 (42.90)	18 (29.50)	135 (42.20)	4.89	1.66
2.	Small	15 (26.80)	94 (46.30)	20 (32.80)	129 (40.30)		
3.	Semi-medium	9 (16.10)	20 (9.80)	14 (22.90)	43 (13.40)		
4.	Medium	2 (3.50)	2 (1.00)	9 (14.80)	13 (4.10)		
Total		56 (17.50)	203 (63.44)	61 (19.06)	320 (100.00)		

Figures in parentheses indicate percentage to the total

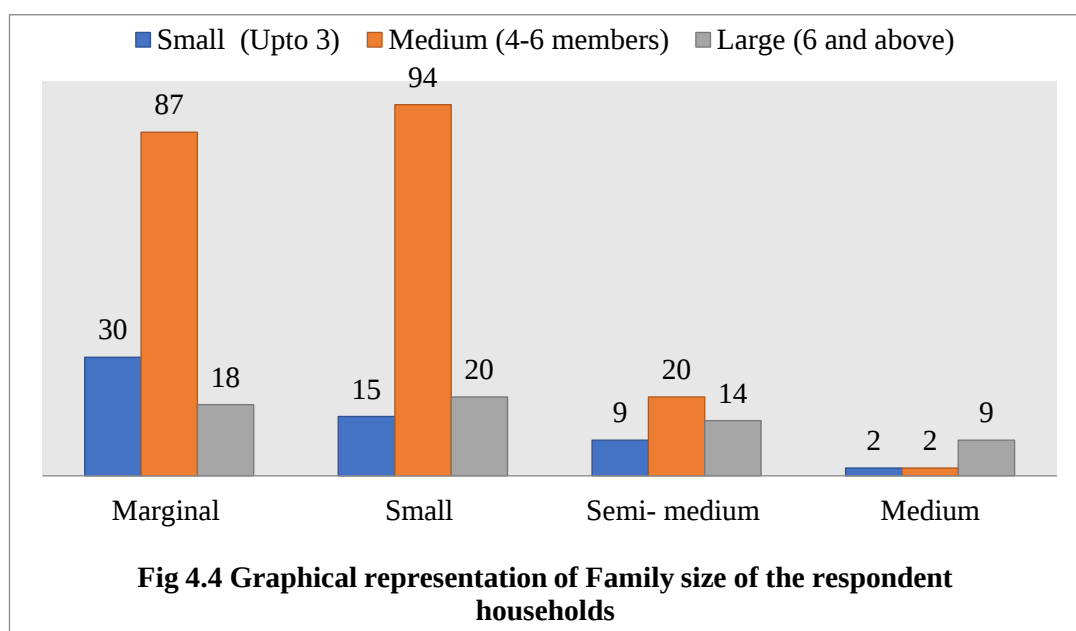
The data presented in Table 4.4 depicts that under marginal farmers, 30 respondents (53.60 per cent) were of small size family, 87 respondents (42.90 per cent) were of medium size family and 18 respondents (29.50 per cent) fall under the large family size.

Under small farmers, 15 respondents (26.80 per cent) fall under small family size, 94 respondents (46.30 per cent) were under medium size family and 20 respondents (32.80 per cent) were under large family size.

Under semi-medium farmers, 9 respondents (16.10 per cent) were of small family size, 20 respondents (9.80 per cent) fall under medium family size and 14 respondents (22.90 per cent) were of large family size.

Under small farmers, 2 respondents (3.50 per cent) fall under small family size, 2 respondents (1.00 per cent) were under medium size family and 9 respondents (14.80 per cent) were under large family size.

The data revealed that more than half (63.44 per cent) of the surveyed respondents came from medium-sized families consisting of 4-6 members, indicating that joint or extended family systems are still prevalent in the study area, which is typical in rural households.



Comparable results were also reported by Chauhan and Pande (2018), which observed a similar trend in rural households, where medium sized families were found to be predominant. Similar findings were also reported by Mishra and Gupta (2017), evincing that more than 50.00 per cent of the respondents had medium family sized.

The results are again in line with Upadhyay and Desai (2011) who reported that majority (68.33%) of the farm women were from big family (more than 4 members).

4.1.5 Classification of the respondents based on main occupation of farmer

Under marginal farmers, as presented in table 4.5, 100 respondents (43.10 per cent) had agriculture as their primary occupation, only 1 respondent (100.00 per cent) was involved in the service sector and 1 respondent (2.60 per cent) was involved in business and 33 respondents (38.80 per cent) had a combination of agriculture along with business activities.

Under small farmers, 97 respondents (41.80 per cent) had agriculture as their primary occupation, no respondent were involved in the service sector and 1 respondent (50.00 per cent) was involved in business and 31 respondents (36.50 per cent) had agriculture along with business activities.

Table 4.5 Classification of the respondents based on main occupation of farmer

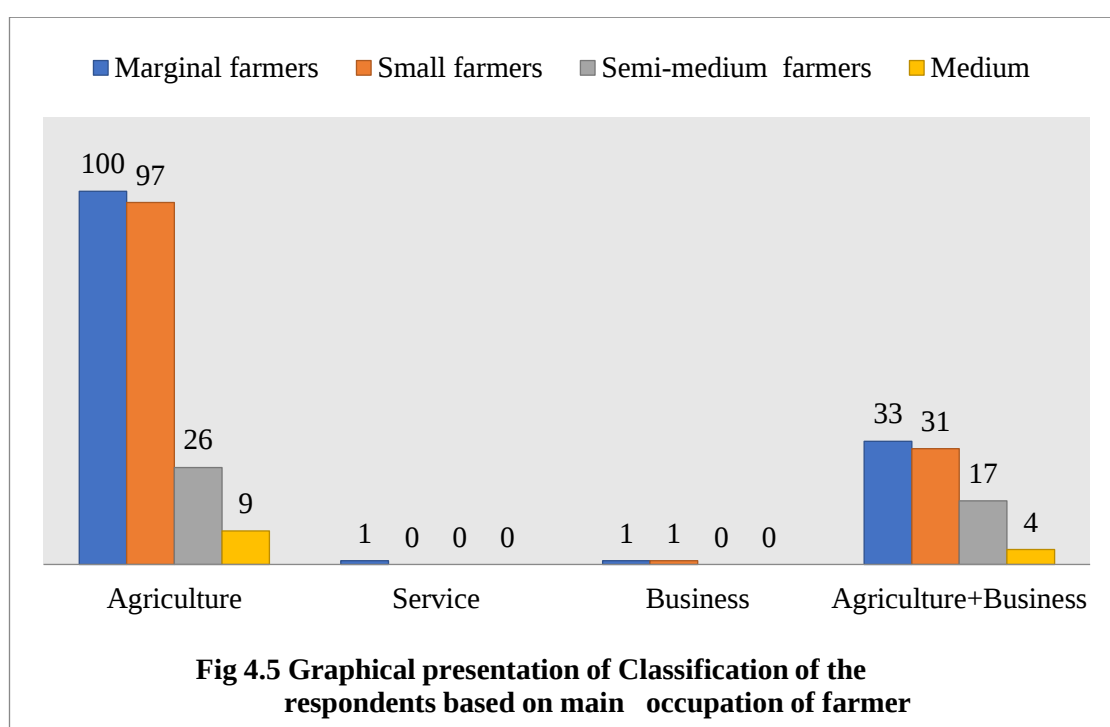
Sl. No.	Land holding size	Agriculture alone	Service	Business	Agriculture Along with Business	Total	Mean	SD
1.	Marginal farmers	100 (43.10)	1 (100.00)	1 (50.00)	33 (38.80)	135 (42.20)	1.81	1.33
2.	Small farmers	97 (41.80)	0 (0.00)	1 (50.00)	31 (36.50)	129 (40.30)		
3.	Semi-medium farmers	26 (11.20)	0 (0.00)	0 (0.00)	17 (20.00)	43 (13.40)		
4.	Medium	9 (3.90)	0 (0.00)	0 (0.00)	4 (4.70)	13 (4.10)		
Total		232 (72.51)	1 (0.31)	2 (0.62)	85 (26.56)	320 (100.00)		

Figures in parentheses indicate percentage to the total

Under medium farm category, 9 respondents (3.90 per cent) had agriculture as their primary occupation, with no involvement in service and business sector and 4 respondents (4.70 per cent) had agriculture along with business activities.

Under semi-medium farmers, 26 respondents (11.20 per cent) had agriculture as their primary occupation, no respondent were involved in the service sector and business and 17 respondents (20.00 per cent) had a combination of agriculture and business activities.

On average the data indicates that a majority (232 respondents) of surveyed respondents are primarily engaged in agriculture, highlighting their significant role in farming and allied activities. With a smaller proportion are engaged in service and business sector. Interestingly, 85 respondents of rural women were found to be involved in a combination of agriculture along with business activities, which aims to diversify income sources. These women often participate in farming during peak seasons and operate small businesses during lean agricultural periods such as grocery shop, basket making, selling vegetables, preparation of edible products at home, etc. This dual engagement helps in economic resilience and supports household income more effectively. The result was in conformity with that of Durgapal and Upadhyay (2022), where agriculture was found to be the sole occupation for the majority of the respondents (80.94 per cent). Mishra and Gupta (2017) also found that 58.00 per cent of the total respondents had agriculture as their main occupation.



4.1.6 Distribution of respondents based on their family members and family type.

The study further classified the respondent families into nuclear and joint as shown in Table 4.6. The classification was based on co-residence with extended family members.

Table 4.6 Distribution of respondents based on their family members and family type.

Sl. No.	Land holding size	Family type			Family member		
		Nuclear	Joint	Total	Male	Female	Total
1.	Marginal	104 (44.10)	31 (36.90)	135 (42.20)	309 (40.30)	338 (40.10)	647 (40.30)
2.	Small	96 (40.70)	33 (39.30)	129 (40.30)	307 (40.10)	343 (40.80)	650 (40.40)
3.	Semi medium	30 (12.70)	13 (15.50)	43 (13.40)	107 (13.90)	122 (14.50)	229 (14.20)
4.	Medium	6 (2.50)	7 (8.30)	13 (4.10)	43 (5.70)	39 (4.60)	82 (5.10)
Total		236 (73.75)	84 (26.25)	320 (100.00)	766 (47.64)	842 (52.36)	1608 (100.00)

Figures in parentheses indicate percentage to the total

Under marginal farmers, as presented in Table 4.6, 104 respondents (44.10 per cent) had nuclear family type while 31 respondents (36.90 per cent) belongs to the joint family, with a family composition of 40.30 per cent of male and 40.10 per cent of female.

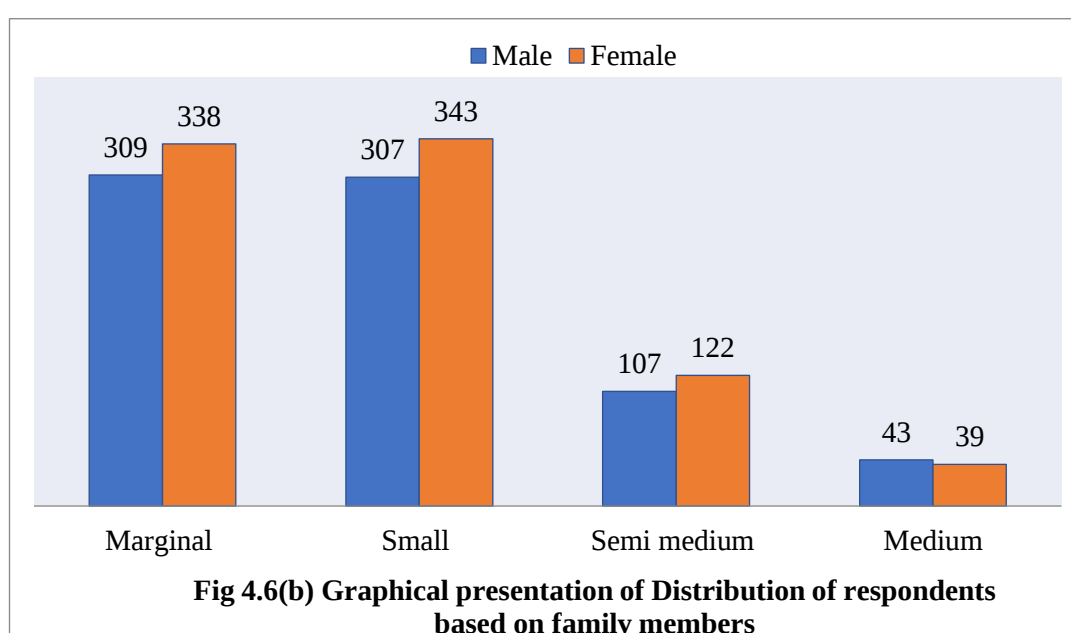
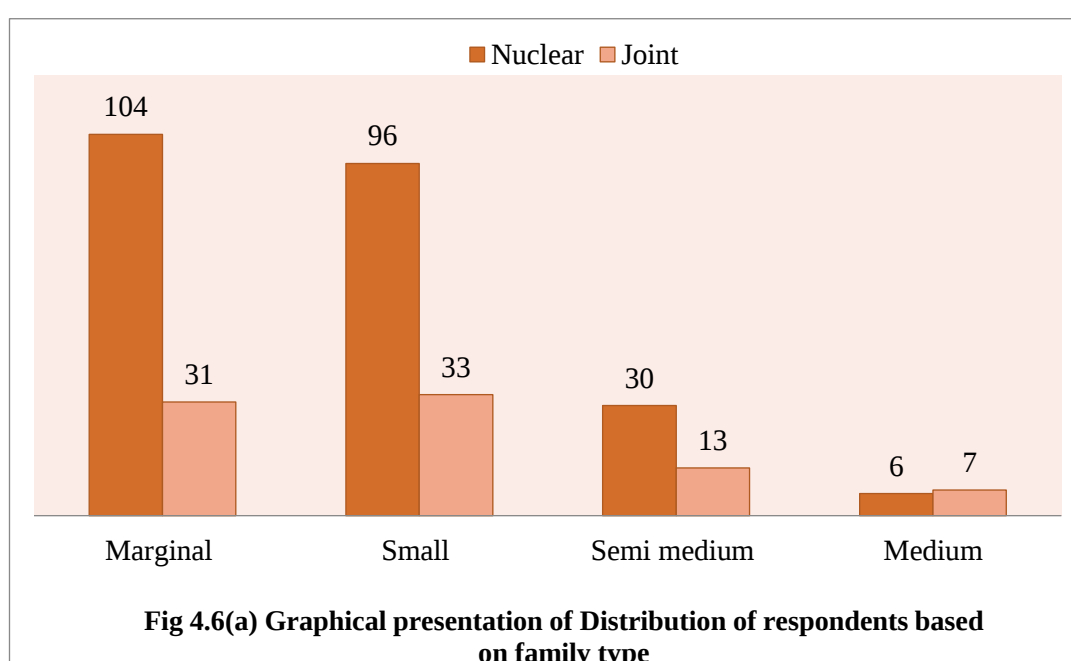
Under small farmers, 96 respondents (40.70 per cent) had nuclear family type while 33 respondents (39.30 per cent) belongs to the joint family, with a family composition of 40.10 per cent of male and 40.80 per cent of female.

Under semi-medium farmers, 30 respondents (12.70 per cent) had nuclear family type while 13 respondents (15.50 per cent) belongs to the joint family, with a family composition of 13.90 per cent of male and 14.50 per cent of female.

Under medium farmers, 6 respondents (2.50 per cent) had nuclear family type while 7 respondents (8.30 per cent) belongs to the joint family, with a family composi-

tion of 5.70 per cent of male and 4.60 per cent of female.

The results are also in line with the findings reported by Srivastava and Singh (2014) who reported that that nuclear family system was predominant in the village as 74.14 per cent were in nuclear and 25.80 per cent were living in joint family system. Similar findings were also reported by Chauhan and Pande (2018), Durgapal and Upadhyay (2022) and Senthilkumar (2023), who observed that nuclear family structure was more common among the rural households.



4.1.7 Classification of respondents based on their land holding

The sampled respondent was divided into five groups according to the size of land holdings. Here, the landholding classification is based on the operational landholding size as Marginal, Small, Semi-medium, and Large. The operational landholding size below 1.00 ha is considered as marginal landholding; 1.01-2.00 ha is small landholding; 2.01-4.00 ha is semi-medium landholding; 4.01-10.00 ha is considered as medium landholding and above 10.00 ha as large operational landholding. The number of respondents falling under each classification is given in Table 4.7

Table 4.7 Distribution of respondents based on their land holding.

Sl. No.	Category	Farm size (in ha)	Frequency	Percentage
1	Marginal	Below 1.00	135	42.20
2	Small	1.00-2.00	129	40.30
3	Semi-medium	2.00-4.00	43	13.40
4	Medium	4.00-10.00	13	4.10
5	Large	Above 10.00	0	0.00
Total			320	100.00

The result presented in Table 4.7 clearly depicts the composition of selected 320 respondents in which 42.20 per cent belongs to marginal landholdings, which consist of 135 households. All the respondents under this had land holding below 1.00 ha.

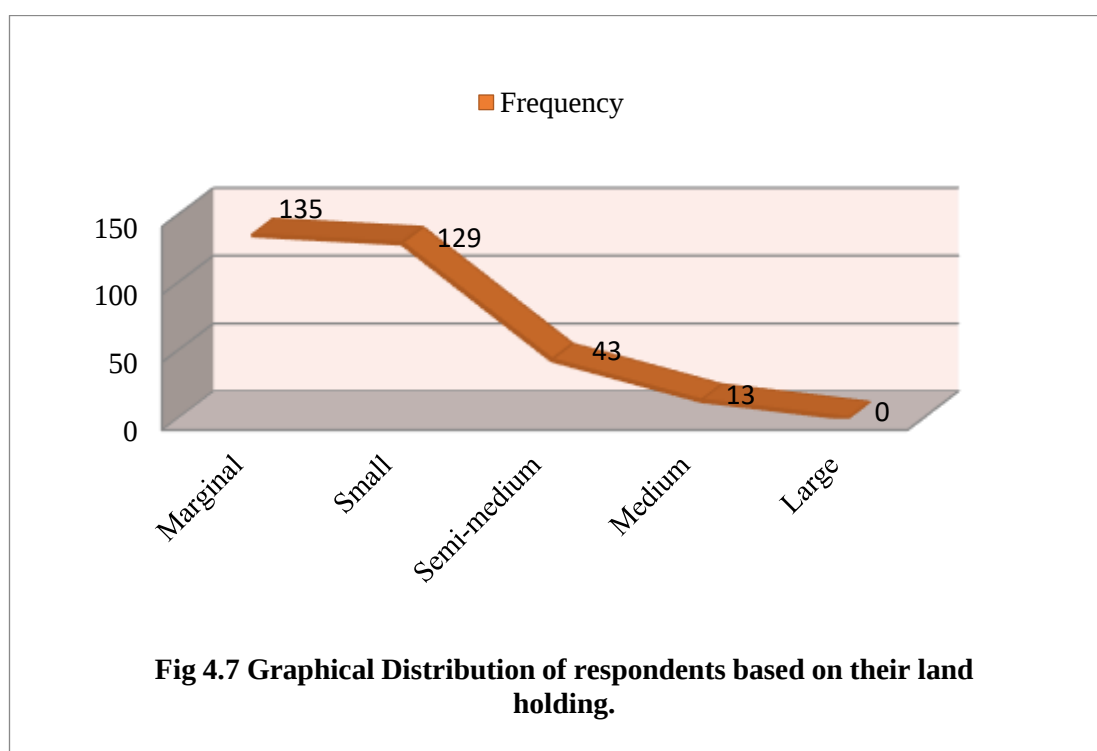
The respondents having area between 1.01-2.00 ha were categorized as small farms, consisting 40.30 per cent having a frequency of 129 households.

The respondent having area between 2.01-4.00 ha were categorized as semi-medium farm, which consists of 32 households (13.40 per cent). All the respondents under this had land holdings between 2.01-4.00 ha.

The respondent having area between 4.01-10.00 ha were categorized as medium farm, which consists of 13 households (4.10 per cent). All the respondents under this had land holdings between 4.01-10.00 ha.

No respondents were found to have land holding of more than 10.00 ha.

The data provided in Table 4.7 shows that majority of the respondents were marginal farmers (42.20 per cent) who possess less than one ha of land. Similar results were obtained by Shamna *et al.* (2018) and Warkade (2010), signifying that majority of the respondent possess below 1.00 ha of land. Saikia, P (2021) also found that higher percentage 41.33 per cent of farm women belonged to the category of marginal farmer.



4.1.8 Distribution of livestock of the respondent households

Table 4.8 presents the distribution of respondents based on the types of livestock they own. Under marginal farmer, 131 pigs (26.41 per cent), 1289 poultry (41.30 per cent), 634 ducks (25.41 per cent), 44 cattle (25.73 per cent) and 125 others such as dog, cat (43.86 per cent) were reared by the respondent.

Under small farmer, 165 pigs (33.27 per cent), 1339 poultry (42.90 per cent), 835 ducks (33.47 per cent), 95 cattle (55.56 per cent) and 109 others such as dog, cat (38.25 per cent) were reared by the respondent.

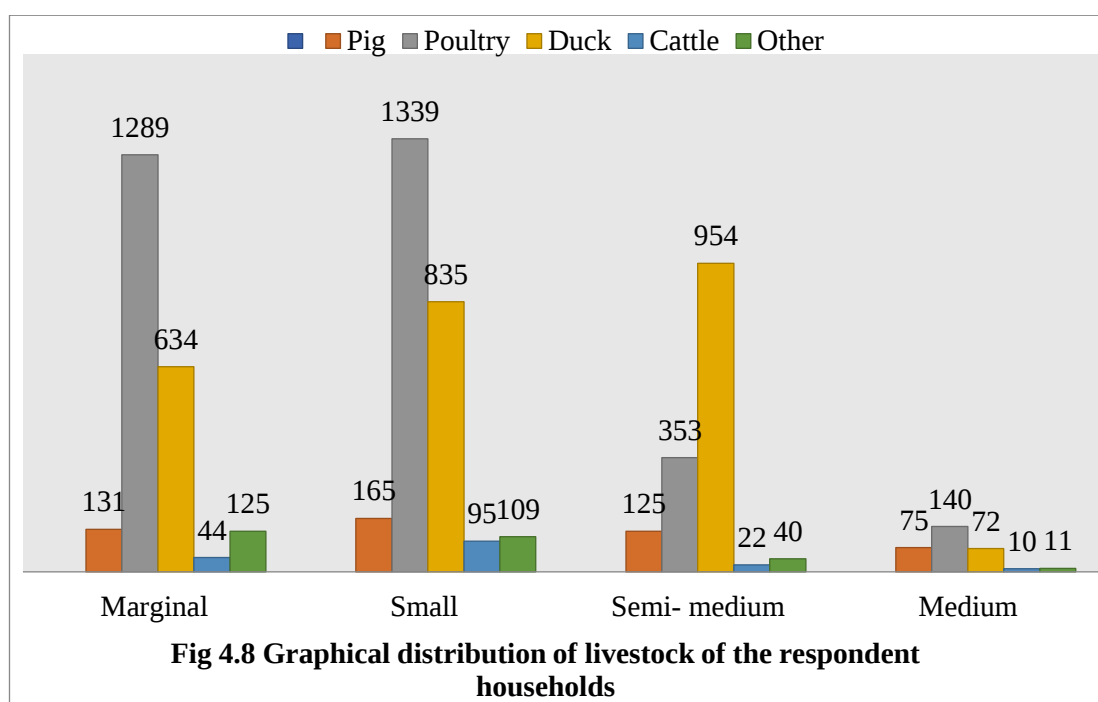
Under semi-medium farmer, 125 pigs (25.20 per cent), 353 poultry (11.31 per

cent), 954 ducks (38.23 per cent), 22 cattle (12.86 per cent) and 40 others such as dog, cat (14.04 per cent) were reared by the respondent.

Table 4.8 Distribution of livestock of the respondent households

Sl. No	Land holding size	Pig	Poultry	Duck	Cattle	Other	Total
1.	Marginal farmers	131 (26.41)	1289 (41.30)	634 (25.41)	44 (25.73)	125 (43.86)	2223 (33.84)
2.	Small farmers	165 (33.27)	1339 (42.90)	835 (33.47)	95 (55.56)	109 (38.25)	2543 (38.72)
3.	Semi-medium farmers	125 (25.20)	353 (11.31)	954 (38.23)	22 (12.86)	40 (14.04)	1494 (22.75)
4.	Medium farmers	75 (15.12)	140 (4.49)	72 (2.89)	10 (5.85)	11 (3.85)	308 (4.69)
Total		496 (7.55)	3121 (47.52)	2495 (37.99)	171 (2.60)	285 (4.34)	6568 (100.00)

Figures in parentheses indicate percentage to the total



Under medium farmer, 75 pigs (15.12 per cent), 140 poultry (4.49 per cent), 72 ducks (2.89 per cent), 10 cattle (5.85 per cent) and 11 others such as dog, cat (3.85 per cent) were reared by the respondent.

The results are similar findings of Okitoi *et al* (2017), reported that majority (63.00 per cent) of chicken in Kenya were owned by women, and also with Mthi *et al.* (2018), who reported that majority of women owned poultry (30.00 per cent) in the study area. The study was in contrast with Awan *et al.* (2021) and Ashfaq *et al.* (2020), whose findings were majority of the respondents own large number of cows (36.00 per cent) and exotic breeds of cattle (60.00 per cent) respectively.

4.2 To study the nature and extent of participation of rural women and also work out the time spent by the women in economic and non- economic activities.

Although the primary focus of the study is on rural women's participation in economic and non-economic activities, the cost concept was included for both the district because paddy cultivation is a joint activity in rural households of Manipur and women's roles cannot be separated from the overall production process. Even though the study focuses solely on women, the economic value of their labour can only be understood when seen within the total cost of cultivation, which includes both men's and women's work. It further helps to reveal the true value and extent of women's contribution within a shared agricultural activity.

4.2.1 Cost of cultivation and returns from Paddy in Churachandpur district

In this section, the economic viability of paddy production was examined through a detailed layout of the cost of production and net return.

Table 4.9 represents the detailed about the cost incurred as well as return obtained from paddy production in Churachandpur district. Out of the 160 respondents in Churachandpur district, 136 households were engaged in paddy cultivation. The cost pertaining to production of paddy was calculated based on the data collected from these households.

The total cost of paddy was accounted to be Rs 38,961.00 on marginal, Rs 47,186.00 on small, Rs 55,935.00 on semi-medium and Rs 72,130.00 on medium farmers. The break-up of total cost into fixed cost and variable costs indicated that the fixed cost were Rs 23,048.00 (59.16 per cent) on marginal, Rs 23,074.00 (48.9 per cent) on small, Rs 23,912.00 (42.75 per cent) on semi-medium and Rs 32,042.00

(44.42 per cent) on medium farms, while the variable costs were Rs 15,913.35 (40.84 per cent) on marginal, Rs 24,111.96 (51.10 per cent) on small, Rs 32,022.39 (57.25 per cent) on semi-medium and Rs 40,087.20 (55.58 per cent) on medium farms.

Among the variable cost, which includes operational cost and material cost the machinery labor bore the highest which amounted to Rs 5058.49, Rs 6101.81, Rs 9652.17 and Rs 6460.00 on marginal, small, semi-medium and medium farms, contributing 12.98 per cent, 12.93 per cent, 17.26 per cent and 8.96 per cent respectively. Similar findings were observed in the study conducted by Pawar *et al.*(2020), where the highest cost was borne by machinery. The second major cost factor was cost of hired labor which accounted Rs 3433.96, Rs 4647.27, Rs 3634.78 and Rs 3200.00 on marginal, small, semi-medium and medium farmers with 8.81 per cent, 9.85 per cent, 6.50 per cent and 4.44 per cent respectively. This was due to the fact that paddy being a labor-intensive crop increased the production cost by higher labor cost. This is then followed by cost incurred in purchasing fertilizer amounted to Rs 1616.06 (4.15 per cent), Rs 4004.27 (8.49 per cent), Rs 7031.83 (12.57 per cent) and Rs 13940 (19.33 per cent) on marginal, small, semi-medium and medium farmers respectively. The cost incurred in plant protection accounted for Rs 1892.45 (4.86 per cent) on marginal, Rs 3592.72 (7.61 per cent) on small, Rs 3617.39 (6.47 per cent) on semi-medium and Rs 4240.00 (5.88 per cent) on medium farmers. The cost incurred on miscellaneous charges accounted to Rs 1575.47 (4.04 per cent) on marginal, Rs 1772.72 (3.76 per cent) on small, Rs 2217.39 (3.96 per cent) on semi-medium and Rs 2100.00 (2.91 per cent) on medium farmers respectively. Other cost components contributed to the overall variable cost include cost of family labour which account to Rs 1215.09 (3.12 per cent) on marginal, Rs 1549.09 (3.28 per cent) on small, Rs 1826.08 (3.26 per cent) on semi-medium and Rs 2720.00 (3.77 per cent) on medium farmers. Followed by cost of seed Rs 739.62 (1.90 per cent), Rs 1838.55 (3.90 per cent), Rs 3227.83 (5.77 per cent) and Rs 6400.00 (8.87 per cent) on marginal, small, semi-medium and medium farmers respectively. The least cost was found on interest on working capital at 6 per cent which cost Rs 382.21 (0.98 per cent) on marginal, Rs 605.53 (1.28 per cent) on small, Rs 814.92(1.46 per cent) on semi-medium and Rs 1027.2(1.42 per cent) on medium farmers respectively.

Table 4.9 Cost of cultivation of paddy crop in different size groups for Churachandpur district (Rs/ha) n =136

SL. No.	Churachandpur district					
	(A) Operational cost	Category of farm size				
		Marginal	Small	Semi-medium	Medium	Average (Rs/ha)
1	Family labour	1215.09 (3.12)	1549.09 (3.28)	1826.08 (3.26)	2720.00 (3.77)	1827.57 (3.41)
2	Hired labour	3433.96 (8.81)	4647.27 (9.85)	3634.78 (6.50)	3200.00 (4.44)	3729.00 (6.96)
3	Miscellaneous charges	1575.47 (4.04)	1772.72 (3.76)	2217.39 (3.96)	2100.00 (2.91)	1916.40 (3.58)
4	Interest on working capital @6per cent	382.21 (0.98)	605.53 (1.28)	814.92 (1.46)	1027.20 (1.42)	707.47 (1.32)
Subtotal (A)		6606.73 (16.95)	8574.61 (18.17)	8493.17 (15.18)	9047.20 (12.54)	8180.43 (15.27)
(B) Material cost						
5	Seed	739.62 (1.90)	1838.55 (3.90)	3227.83 (5.77)	6400.00 (8.87)	3051.50 (5.70)
6	Fertilizer	1616.06 (4.15)	4004.27 (8.49)	7031.83 (12.57)	13940.00 (19.33)	6648.04 (12.41)
7	Plant protection	1892.45 (4.86)	3592.72 (7.61)	3617.39 (6.47)	4240.00 (5.88)	3335.64 (6.23)
8	Machinery labour	5058.49 (12.98)	6101.81 (12.93)	9652.17 (17.26)	6460.00 (8.96)	6818.12 (12.73)
	Sub total (B)	9306.62 (23.89)	15537.35 (32.93)	23529.22 (42.07)	31040.00 (43.04)	19853.30 (37.07)
Total variable cost (A+B)		15913.35 (40.84)	24111.96 (51.10)	32022.39 (57.25)	40087.20 (55.58)	28033.73 (52.34)
(C) Fixed cost						
9	Depreciation	760.00 (1.95)	759.00 (1.61)	1185.00 (2.12)	5250.00 (7.28)	1988.00 (3.71)
10	Interest on fixed capital@8per cent	1168.00 (3.00)	1195.00 (2.53)	1607.00 (2.87)	5672.00 (7.86)	2410.50 (4.51)
11	Rental value of owned land	21120.00 (54.21)	21120.00 (44.76)	21120.00 (37.76)	21120.00 (29.28)	21120.00 (39.44)
	Sub total (c)	23048.00 (59.16)	23074.00 (48.90)	23912.00 (42.75)	32042.00 (44.42)	25519.00 (47.66)
Total cost of cultivation		38961.00 (100.00)	47186.00 (100.00)	55935.00 (100.00)	72130.00 (100.00)	53552.90 (100.00)

(Primary data 2024-2025, Figures in parentheses shows percentage to total)

Among the fixed cost, the highest cost is borne by rental value on own land accounting Rs 21,120.00 which was found to be similar on all the farm category, that is on marginal, small, semi-medium and medium farms, the results concur with those of Supriya *et al.*(2025) which is followed by cost of interest value on fixed capital Rs 1168.00 (3.00 per cent) on marginal farms, Rs 1195.00 (2.53 per cent) on small farms, Rs 1607.00 (2.87 per cent) on semi-medium and Rs 5672.00 (7.86 per cent) on medium farmers. The cost for depreciation on building and equipment cost accounted to Rs 760.00 (1.95 per cent) on marginal farmer, Rs 759.00 (1.61 per cent) on small farmer, Rs 1185.00 (2.12 per cent) on semi-medium farmers and Rs 5250.00 (7.28 per cent) on medium farmers.

4.2.1.1 Cost of production for paddy growers

The cost of production of paddy according to cost concepts of Cost A₁, Cost B₁, Cost B₂, Cost C₁, Cost C₂ and Cost C₃ were worked out in this segment and presented in Table 4.10.

4.2.1.1.1 Cost A₁

Under marginal farmer, the average Cost A₁ was Rs 14,698.26. Under small farmer, the average Cost A₁ was Rs 22,562.87, for semi-medium farmer, the average Cost A₁ was Rs 30,196.31 and for medium farmers, Cost A₁ was Rs 37,367.20, respectively.

4.2.1.1.2 Cost B₁

Under marginal farmer, the average Cost B₁ was Rs 15,865.94. Under small farmer, the average Cost B₁ was Rs 23,758.00, under semi-medium farmer, the average Cost B₁ was Rs 31,803.49 and for medium farmer, Cost B₁ was Rs 43,039.60, respectively.

4.2.1.1.3 Cost B₂

Under marginal farmer, the average Cost B₂ was Rs 36,985.94. Under small farmer, the average Cost B₂ was Rs 44,878.00, under semi-medium farmer, the average Cost B₂ was Rs 52,923.49 and for medium farmer, Cost B₂ was Rs 64,159.60, respectively.

4.2.1.1.4 Cost C₁

Under marginal farmer, the average Cost C₁ was Rs 17,081.03. Under small farmer, the average Cost C₁ was Rs 25,307.09, under semi-medium farmer, the average Cost C₁ was Rs 33,629.57 and for medium farmers, Cost C₁ was Rs 45,759.60, respectively.

4.2.1.1.5 Cost C₂

Under marginal farmer, the average Cost C₂ was Rs 38,201.03. Under small farmer, the average Cost C₂ was Rs 46,427.09, under semi-medium farmer, the average Cost C₂ was Rs 54,749.57 and for medium farmers, Cost C₂ was Rs 66,879.60, respectively.

4.2.1.1.6 Cost C₃

Under marginal farmer, the average Cost C₃ was Rs 42,021.13. Under small farmer, the average Cost C₃ was Rs 51,069.80, under semi-medium farmer, the average Cost C₃ was Rs 60,224.53 and for medium farmers, Cost C₃ was Rs 73,567.56, respectively.

The above Break-up cost results corroborate the findings of Kumar *et al.* (2019) which showed that the cost increases as the farm size increases.

Table 4.10 Break-up of Cost over different cost in paddy at the sample farm (Rs/ ha) n=136

Sl. No.	Particulars	Farm size groups				
		Marginal	Small	Semi-medium	Medium	Average (Rs/ha)
1	Cost A ₁	14,698.26	22,562.87	30,196.31	37,367.20	26,206.16
2	Cost B ₁	15,865.94	23,758.00	31,803.49	43,039.60	28,616.76
3	Cost B ₂	36,985.94	44,878.00	52,923.49	64,159.60	49,736.76
4	Cost C ₁	17,081.03	25,307.09	33,629.57	45,759.60	30,444.32
5	Cost C ₂	38,201.03	46,427.09	54,749.57	66,879.60	51,564.32
6	Cost C ₃	42,021.13	51,069.80	60,224.53	73,567.56	56,720.75

Source: Survey Data

4.2.1.1.4 Return from Paddy production

Table 4.11 showed the cost and return of paddy cultivation of sample respondents. It was observed that the highest gross income per ha was obtained by medium size group Rs. 80,850.00 per ha followed by semi-medium size 77,300.00 Rs/ha, small size group 75,110.00 Rs/ha and Rs 71,688.00/ha by marginal farmers.

The highest net income was obtained by marginal farmers 33,486.97 Rs/ha followed by small 28,682.91 Rs/ha then semi-medium farmers 22,550.43 Rs/ha and medium farm size Rs 13,970.40 per ha. The family labour income was found highest for marginal farmers 34,702.06 Rs/ha followed by small, semi- medium and medium farmers i.e. 30,232.00 Rs/ha, 24,376.51 Rs/ha and 16,690.40 Rs/ha respectively. Farm business income was also found to be highest for marginal farm category i.e. Rs 56,989.74 per ha. The findings are in agreement with those reported by Kumar *et al.*(2019), showing that marginal farm size had the highest family labour income and farm business income.

4.2.1.1.5 Benefit Cost Ratio

Table 4.11 indicated the Benefit cost Ratio of the four groups. Benefit cost ratio on the basis of Cost A₁ found that marginal farm generated a BCR of 4.88, small farm generated 3.33, BCR on semi-medium farm was 2.56 and BCR on medium farm was 2.16. BCR on the basis of Cost C₂ showed that marginal farm generated 1.88, small farm generated 1.62, BCR on semi-medium was 1.41 and BCR on medium farm was 1.21. Thus, it can be concluded that all the farm business measures had proved to financially feasible of marginal, small, semi-medium and medium farmers.

Table 4.11 Cost and returns of paddy cultivation for different size of sample respondent n=136

Sl. No.	Particulars	Farm size (Rs/ha)				
		Marginal	Small	Semi-medium	Medium	Average (Rs/ha)
1	Yield of main product(ctl/ha)	38.00	40.00	41.00	43.00	40.50
2	Yield of by product(ctl/ha)	1,600.00	1,600.00	1,600.00	1,600.00	1,600.00
3	Value of main product (Rs/ctl.)	60,800.00	64,000.00	65,600.00	68,800.00	64,800.00
4	Value of by product (Rs/ctl.)	54.44	55.55	58.50	60.25	57.19
5	Return of main product (Rs/ha.)	200.00	200.00	200.00	200.00	200.00
6	Return of by product (Rs/ha.)	10,888.00	11,110.00	11,700.00	12,050.00	11,437.00
7	Gross income (Rs/ha.)	71,688.00	75,110.00	77,300.00	80,850.00	76,237.00
8	Farm business income	56,989.74	52,547.13	47,103.69	43,482.80	50,030.84
9	Family labour income	34,702.06	30,232.00	24,376.51	16,690.40	26,500.24
10	Net income	33,486.97	28,682.91	22,550.43	13,970.40	24,672.68
11	B:C on the basis of Cost A ₁	4.88	3.33	2.56	2.16	2.91
12	B:C on the basis of Cost C ₂	1.88	1.62	1.41	1.21	1.48

Source: survey data

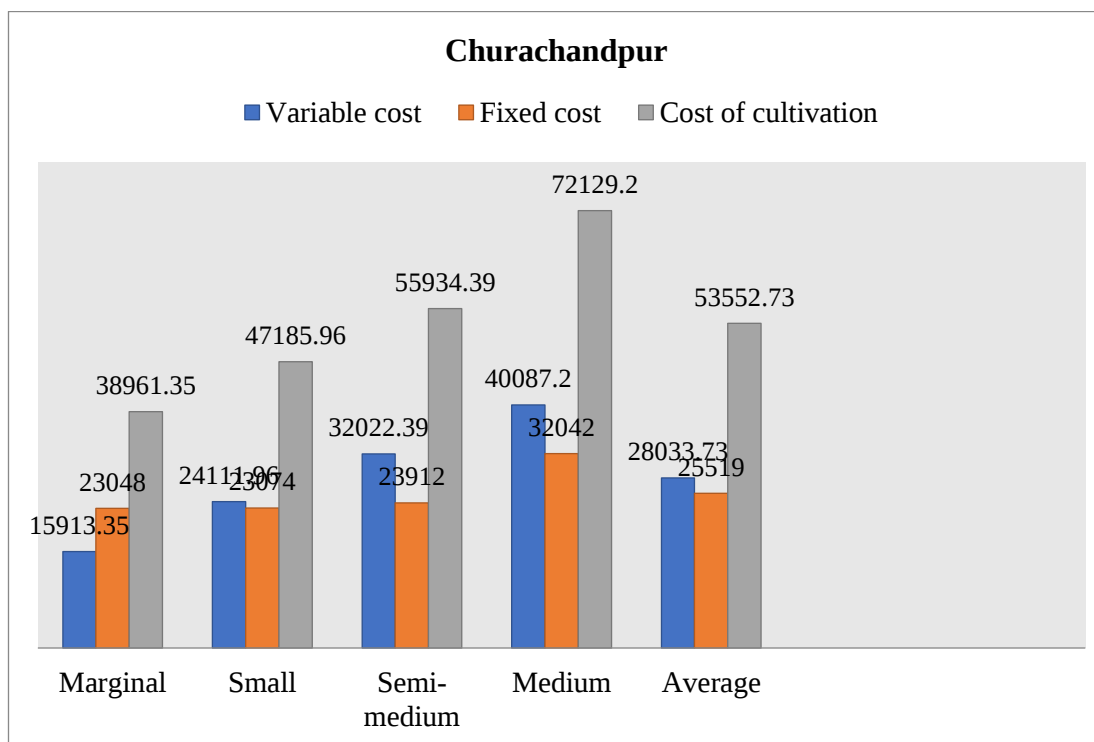


Fig 4.9. Graphical representation of Cost of cultivation of paddy by various size of farms

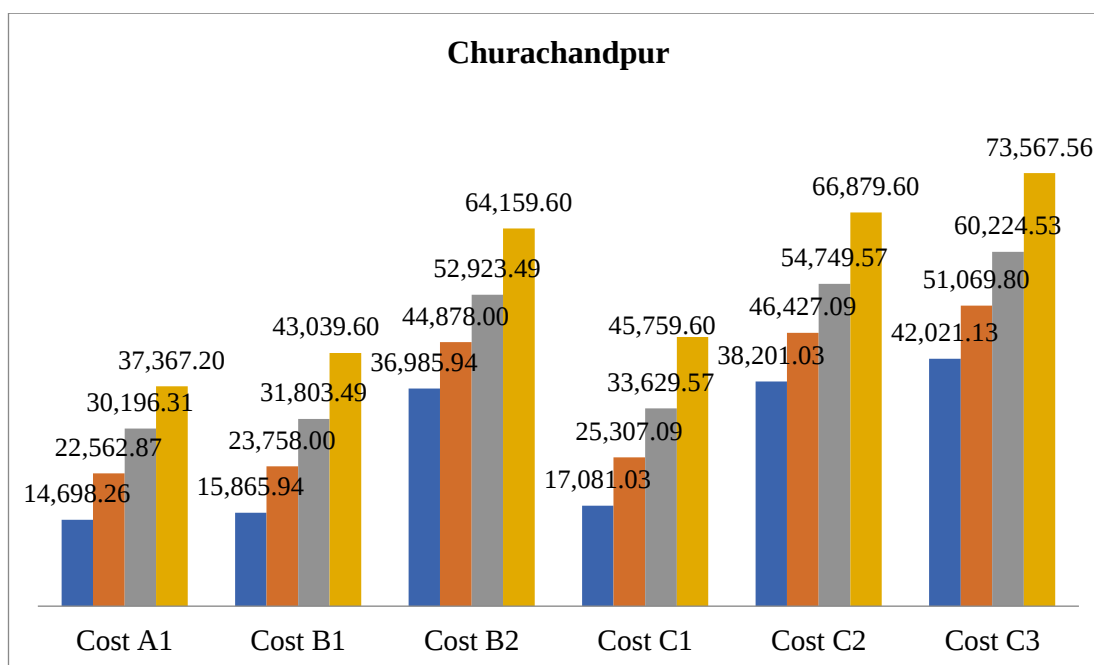


Fig 4.10 Graphical presentation of Cost concepts in paddy cultivation

4.2.2 Cost of cultivation and returns from Paddy in Chandel district

The detailed about the cost incurred as well as return perceived from paddy production in Chandel district are presented in Table 4.12. Similarly, in Chandel district, 160 respondents were surveyed, of whom 140 households reported involvement in paddy cultivation. Accordingly, the cost pertaining to paddy cultivation was computed using the primary data obtained from these households.

The total cost of paddy was accounted to be Rs 42,820.52 on marginal, Rs 53,690.14 on small, Rs 60,517.44 on semi-medium and Rs 73,583.86 on medium farmers. The break-up of total cost into fixed cost and variable costs indicated that the fixed cost were Rs 26,140 (61.05 per cent) on marginal, Rs 26,140 (48.69 per cent) on small, Rs 26,140 (43.20 per cent) on semi-medium and Rs 32,140 (43.68 per cent) on medium farms, while the variable costs were Rs 16,680.52 (38.95 per cent) on marginal, Rs 27,550.14 (51.31 per cent) on small, Rs 34,377.44 (56.80 per cent) on semi-medium and Rs 41,443.86 (56.32 per cent) on medium farms.

Among the variable cost, which includes operational cost and material cost the machinery labor bore the highest, similar findings was given by Nirmala and Muthuraman (2009) indicating that machinery labor accounted the highest, which amounted to Rs 5,188.33, Rs 9,083.33, Rs 13,472.22 and Rs 8,250.00 on marginal, small, semi-medium and medium farms, contributing 12.13 per cent, 16.92 per cent, 22.26 per cent and 11.21 per cent, respectively. The second major cost factor was cost of hired labour which accounted Rs 3,517.16, Rs 5,173.42, Rs 2,250.79 and Rs 3,125.00 on marginal, small, semi-medium and medium farmers with 8.21 per cent, 9.64 per cent, 3.72 per cent and 4.25 per cent respectively. Followed by cost incurred in purchasing fertilizer amounted to Rs 15,16.14 (3.54 per cent), Rs 3,751.65 (6.99 per cent), Rs 7,303.23 (12.07 per cent) and Rs 13,947.8 (18.95 per cent) on marginal, small, semi-medium and medium farmers, respectively. The cost incurred in plant protection accounted for Rs 2,073.33(4.84 per cent) on marginal, Rs 2,996.29 (5.58 per cent) on small, Rs 2,616.66 (4.32 per cent) on semi-medium and Rs 2,500 (3.40 per cent) on medium farmers. The cost incurred on miscellaneous charges accounted to Rs 1,475.00 (3.44 per cent) on marginal, Rs 1,900.00 (3.53 per cent) on small,

Table 4.12. Cost of cultivation of paddy crop in different size groups for Chandel district
(Rs/ha) Number of respondent =140

Sl. No.	Chandel district					
	(A) Operational cost	Category of farm size				
		Marginal	Small	Semi-medium	Medium	Overall
1	Family labour	1783.33 (4.16)	2185.18 (4.06)	2138.88 (3.53)	3812.50 (5.18)	2479.97 (4.30)
2	Hired labour	3517.16 (8.21)	5173.42 (9.64)	2250.79 (3.72)	3125.00 (4.25)	3516.59 (6.10)
3	Miscellaneous charges	1475.00 (3.44)	1900.00 (3.53)	2305.56 (3.81)	2312.50 (3.14)	1998.27 (3.47)
4	Interest on working capital @6per cent	433.90 (1.01)	738.79 (1.38)	938.99 (1.55)	1096.06 (1.49)	801.93 (1.39)
	Subtotal (A)	7209.39 (16.82)	9997.39 (18.61)	7634.22 (12.61)	10346.06 (14.06)	8796.76 (15.26)
(B) Material cost						
5	Seed	693.33 (1.62)	1721.48 (3.21)	3351.11 (5.54)	6400.00 (8.70)	3041.48 (5.28)
6	Fertilizer	1516.14 (3.54)	3751.65 (6.99)	7303.23 (12.07)	13947.80 (18.95)	6629.71 (11.50)
7	Plant protection	2073.33 (4.84)	2996.29 (5.58)	2616.66 (4.32)	2500.00 (3.40)	2546.57 (4.42)
8	Machinery labour	5188.33 (12.13)	9083.33 (16.92)	13472.22 (22.26)	8250.00 (11.21)	8998.47 (15.61)
	Sub total (B)	9471.13 (22.13)	17552.75 (32.70)	26743.22 (44.19)	31097.80 (42.26)	21216.23 (36.81)
	Total variable cost (A+B)	16680.52 (38.95)	27550.14 (51.31)	34377.44 (56.8)	41443.86 (56.32)	30012.99 (52.07)
(C) Fixed cost						
9	Depreciation	750.00 (1.75)	750.00 (1.40)	750.00 (1.24)	3750.00 (5.10)	1500.00 (2.60)
10	Interest on fixed capital @ 8 per cent	2990.00 (6.99)	2990.00 (5.57)	2990.00 (4.94)	5990.00 (8.14)	3740.00 (6.48)
11	Rental value of owned land	22400.00 (52.31)	22400.00 (41.72)	22400.00 (37.02)	22400.00 (30.44)	22400.00 (38.85)
	Sub total (c)	26140.00 (61.05)	26140.00 (48.69)	26140.00 (43.2)	32140.00 (43.68)	27640.00 (47.93)
	Total cost of cultivation	42,820.52 (100.00)	53,690.14 (100.00)	60,517.44 (100.00)	73,583.86 (100.00)	57,652.99 (100.00)

Source: Survey Data, *Figures in brackets are percentages of the total.

Rs. 2,305.56 (3.81 per cent) on semi-medium and Rs 2,312.5 (3.14 per cent) on medium farmers respectively. Other cost components contributed to the overall variable cost include cost of family labour which account to Rs 1,783.33 (4.16 per cent) on marginal, Rs 2,185.18 (4.06 per cent) on small, Rs 2,138.88 (3.53 per cent)

on semi-medium and Rs 3,812.5 (5.18 per cent) on medium farmers. Followed by cost of seed Rs 693.33 (1.62 per cent), Rs 1,721.48 (3.21 per cent), Rs 3,351.11 (5.54 per cent) and Rs 6,400.00 (8.70 per cent) on marginal, small, semi-medium and medium farmers respectively. The least cost was found on interest on working capital at 6 per cent which cost Rs 433.89 (1.01 per cent) on marginal, Rs 738.78 (1.38 per cent) on small, Rs 938.98 (1.55 per cent) on semi-medium and Rs 1,096.06 (1.49 per cent) on medium farmers respectively.

Among the fixed cost, the highest cost is borne by rental value on own land accounting Rs 22,400.00 which was found to be similar on all the farm category, that is on marginal, small, semi-medium and medium farms, which is followed by cost of interest value on fixed capital Rs 2,990.00 (6.99 per cent) on marginal farms, Rs 2,990.00 (5.57 per cent) on small farms, Rs 2,990.00 (4.94 per cent) on semi-medium and Rs 5,990.00 (8.14 per cent) on medium farmers. The cost for depreciation on building and equipment cost accounted to Rs 750.00 (1.75 per cent) on marginal farmer, Rs 750.00 (1.40 per cent) on small farmer, Rs 750.00 (1.24 per cent) on semi-medium farmers and Rs 3,750.00 (5.10 per cent) on medium farmers.

4.2.2 1 Cost of production for paddy growers

The cost of production of paddy according to cost concepts of Cost A₁, Cost B₁, Cost B₂, Cost C₁, Cost C₂ and Cost C₃ were worked out in this segment and presented in Table 4.13.

4.2.2.2 Cost A₁

Under marginal farmer, the average Cost A₁ was Rs 14897.19. Under small farmer, the average Cost A₁ was Rs 25364.96, for semi-medium farmer, the average Cost A₁ was Rs 32238.56 and for medium farmers, Cost A₁ was Rs 37,631.36, respectively.

4.2.2.3 Cost B₁

Under marginal farmer, the average Cost B₁ was Rs 17,887.19. Under small farmer, the average Cost B₁ was Rs 28,354.96, under semi-medium farmer, the average

Cost B_1 was Rs 35,228.56 and for medium farmer, Cost B_1 was Rs 43,621.36, respectively.

4.2.2.4 Cost B_2

Under marginal farmer, the average Cost B_2 was Rs 40,287.19. Under small farmer, the average Cost B_2 was Rs 50,754.96, under semi-medium farmer, the average Cost B_2 was Rs 57,628.56 and for medium farmer, Cost B_2 was Rs 66,021.36, respectively.

4.2.2.5 Cost C_1

Under marginal farmer, the average Cost C_1 was Rs 19,670.52. Under small farmer, the average Cost C_1 was Rs 30,540.14, under semi-medium farmer, the average Cost C_1 was Rs 37,367.44 and for medium farmers, Cost C_1 was Rs 47,433.86, respectively.

4.2.2.6 Cost C_2

Under marginal farmer, the average Cost C_2 was Rs 42,070.52. Under small farmer, the average Cost C_2 was Rs 52,940.14, under semi-medium farmer, the average Cost C_2 was Rs 59,767.44 and for medium farmers, Cost C_2 was Rs 69,833.86, respectively.

4.2.2.7 Cost C_3

Under marginal farmer, the average Cost C_3 was Rs 46,277.57. Under small farmer, the average Cost C_3 was Rs 58,234.15, under semi-medium farmer, the average Cost C_3 was Rs 65,744.18 and for medium farmers, Cost C_3 was Rs 76,817.24, respectively.

A comparable trend was also documented by Singh *et al.*(2016) indicating that as the land holding size increases the break-up cost also increases.

Table 4.13 Break-up Cost over different cost in paddy at the sample farm (Rs/ha) n=140

Sl. No.	Cost of Cultivation	Farm size groups				
		Marginal	Small	Semi-medium	Medium	Average (Rs/ha)
1	Cost A ₁	14897.19	25364.96	32238.56	37631.36	27533.01
2	Cost B ₁	17887.19	28354.96	35228.56	43621.36	31273.01
3	Cost B ₂	40287.19	50754.96	57628.56	66021.36	53673.01
4	Cost C ₁	19670.52	30540.14	37367.44	47433.86	33752.99
5	Cost C ₂	42070.52	52940.14	59767.44	69833.86	56152.99
6	Cost C ₃	46277.57	58234.15	65744.18	76817.24	61768.29

Source: Survey Data

4.2.2.5 Return from Paddy production

Table 4.14 represents the data on return per hectare of paddy. It was observed that the highest gross income per hectare in rice was obtained by medium size group Rs. 82,860 per ha followed by semi-medium size 78,950 Rs/ha, small size group 76,764 Rs/ha and Rs 72,900/ha by marginal farmers, with and overall average of Rs 77,868.50 on sample farm. It can be seen that in rice the highest net income was 30,829.48 Rs/ha for marginal farmers followed by small 23,823.86 Rs/ha then semi-medium farmers 19,182.56 Rs/ha and medium farm size Rs 13,026.14. The family labour income was found highest for marginal farmers 32,612.81 Rs/ha followed by small, semi- medium and medium farmers i.e. 26,009.04 Rs/ha, 21,321.44 Rs/ha and 16,838.64 Rs/ha respectively. Farm business income was also found to be highest in marginal farm category Rs 58,002.81 per ha.

Kumar *et al.*(2019), reported similar findings showing that marginal farm size had the highest family labour income and farm business income.

4.2.2.6 Benefit cost Ratio

The Table 4.14 indicated the Benifit cost Ratio of the four groups. On the basis of Cost A₁, Marginal farm generated a BCR of 1.63, small farm generated 1.37, BCR on semi-medium farm was 1.26 and BCR on medium farm was 1.07. On the

basis of Cost C₂, marginal farm generated a BCR of 1.73, small farm generated 1.45, semi-medium farm generated 1.32 and medium farm category generated 1.19. Thus, it can be concluded that all the farm business measures proved to financially feasible of marginal, small, semi-medium and medium farmers.

Table 4.14 Cost and returns of paddy cultivation for different size of sample respondent n=140

Sl. No.	Particulars	Farm size (Rs/ha)				
		Marginal	Small	Semi-medium	Medium	Average (Rs/ha)
1	Yield of main product(qtl/ha)	39.00	41.00	42.00	44.00	41.50
2	Yield of by product(qtl/ha)	1,600.00	1,600.00	1,600.00	1,600.00	1,600.00
3	Value of main product (Rs/qtl.)	62,400.00	65,600.00	67,200.00	70,400.00	66,400.00
4	Value of by product (Rs/qtl.)	52.50	55.82	58.75	62.30	57.34
5	Return of main product (Rs/ha.)	200.00	200.00	200.00	200.00	200.00
6	Return of by product (Rs/ha.)	10,500.00	11,164.00	11,750.00	12,460.00	11,468.50
7	Gross income (Rs/ha.)	72,900.00	76,764.00	78,950.00	82,860.00	77,868.50
8	Farm business income	58,002.81	51,399.04	46,711.44	45,228.64	50,335.49
9	Family labour income	32,612.81	26,009.04	21,321.44	16,838.64	24,195.49
10	Net income	30,829.48	23,823.86	19,182.56	13,026.14	21,715.51
11	B:C on the basis of Cost A ₁	4.89	3.03	2.45	2.20	2.83
12	B:C on the basis of Cost C ₂	1.73	1.45	1.32	1.19	1.39

Source: survey data

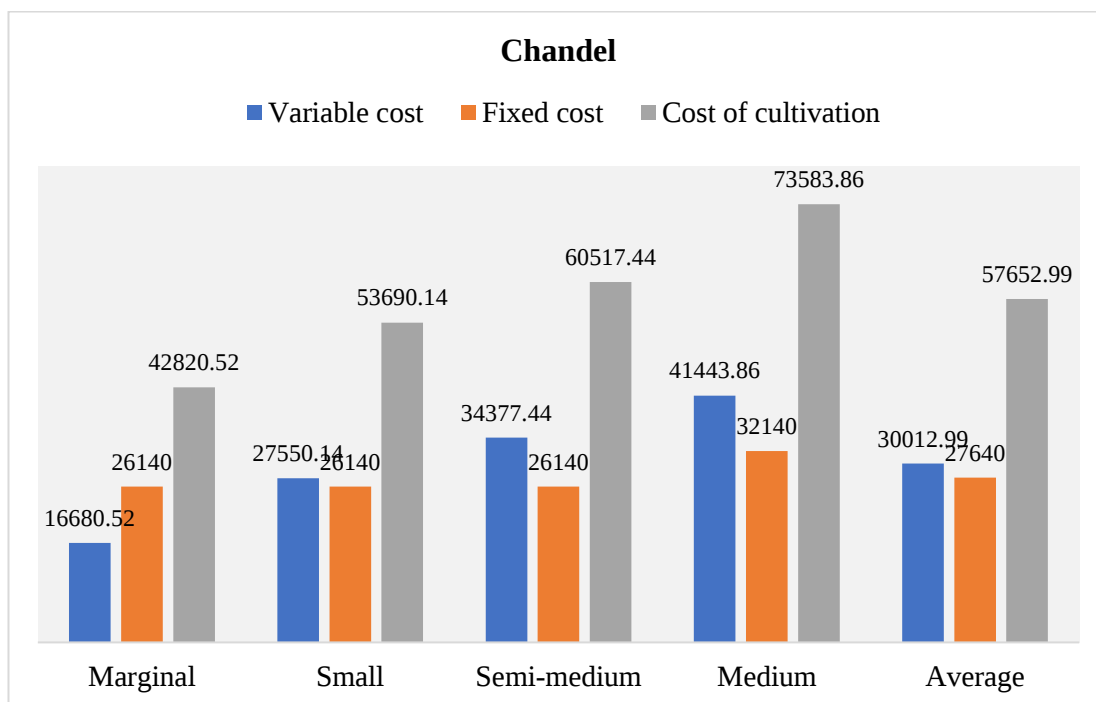


Fig 4.11 Cost of cultivation of paddy by various size of farms

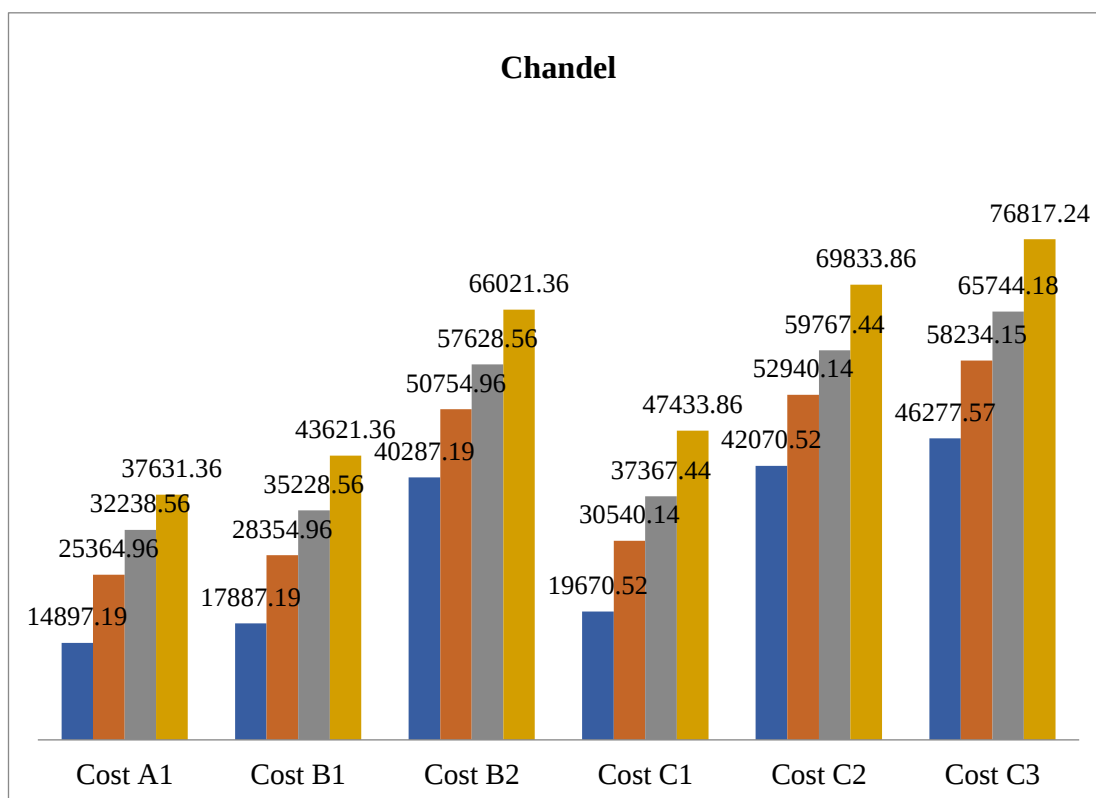


Fig 4.12 Graphical representation of cost concepts in paddy cultivation

4.2.3 Nature and extent of participation of rural women

To understand the nature and extent of women's participation, it was necessary to identify the specific activities that constitute these categories. Therefore, economic activities were further classified into paddy cultivation, vegetable cultivation, livestock rearing, agricultural wage labour, weaving, business, pickle making, and other income-generating activities. Similarly, non-economic activities comprised household and family-related tasks. The activity-wise analysis helped to identify the areas where women were most actively involved and provided a clearer understanding of their contribution within the broader economic and non-economic domains.

4.2.3.1 Nature and extent of participation of rural women in economic activities

4.2.3.1.1 Work participation in paddy production activities

The frequency and percentage distribution of men and women participating in various crop production activities are presented in Tables 4.15.

Table 4.15 illustrates that farm women participated in almost all rice farming activities, either independently or in collaboration with other family members, except for the more arduous tasks. Women predominantly performed activities such as transplanting, inter-culturing, harvesting, and post-harvesting operations. This trend is attributed to the fact that labor-intensive, tedious, hazardous, and low-prestige tasks are typically assigned to women, resulting in their higher participation in these activities compared to men.

The table revealed significant gender-based differences in the performance of farm operations, with varying degrees of men's, women's and their joint contribution.

In both districts, land preparation and ploughing remained predominantly men's domain. In Churachandpur district, 53.68 per cent of land preparation was carried out by men, while women contributed only 19.12 per cent with 27.21 per cent of activities undertaken jointly. A similar trend was observed in Chandel district, where 51.43 per cent of land preparation was carried out by men, and women's share was lower at 16.43 per cent. Notably, ploughing and puddling were performed entirely by men in Churachandpur (100.00 per cent), while in Chandel, men contributed 45.00

per cent and women 18.57 per cent with 36.43 per cent done jointly. This indicates that mechanized and physically intensive operations were largely dominated by men, although women in Chandel district showed higher participation compared to Churachandpur district. The results were in contrast to the findings of Farid *et al.*(2009), where he revealed that no women were involved in land preparation.

Women's involvement increased in sowing and seed treatment activities as we can observe in Churachandpur district, sowing was carried out by men (52.21 per cent), women (13.97 per cent), and jointly (33.82 per cent), while in Chandel district, the joint effort (29.29 per cent) was slightly lower, but women's participation was higher (18.57 per cent). For seed treatment, Churachandpur district showed 19.85 per cent women's involvement compared to 30.71 per cent in Chandel district.

Intercultural practices were women-intensive activities. In Churachandpur district, women contributed 62.50 per cent compared to only 13.97 per cent by men, while in Chandel district, women contributed 50.71 per cent and men 21.43 per cent. Similarly, integrated nutrient management involved more men in Churachandpur district (67.65 per cent), while in Chandel district, the activity was more balanced, with 47.86 per cent men, 17.86 per cent women, and 34.29 per cent joint efforts. This suggests that while men handled technical aspects of input use, women were highly engaged in repetitive, labor-intensive intercultural operations.

The study is pertinent to the research conducted by Shamna *et al.* (2018) in his work "Tribal farm women's participation in agriculture and factors influencing it: evidence from west Bengal, India". He observed that women participate more in intercultural practices such as weeding, transplanting, harvesting activities.

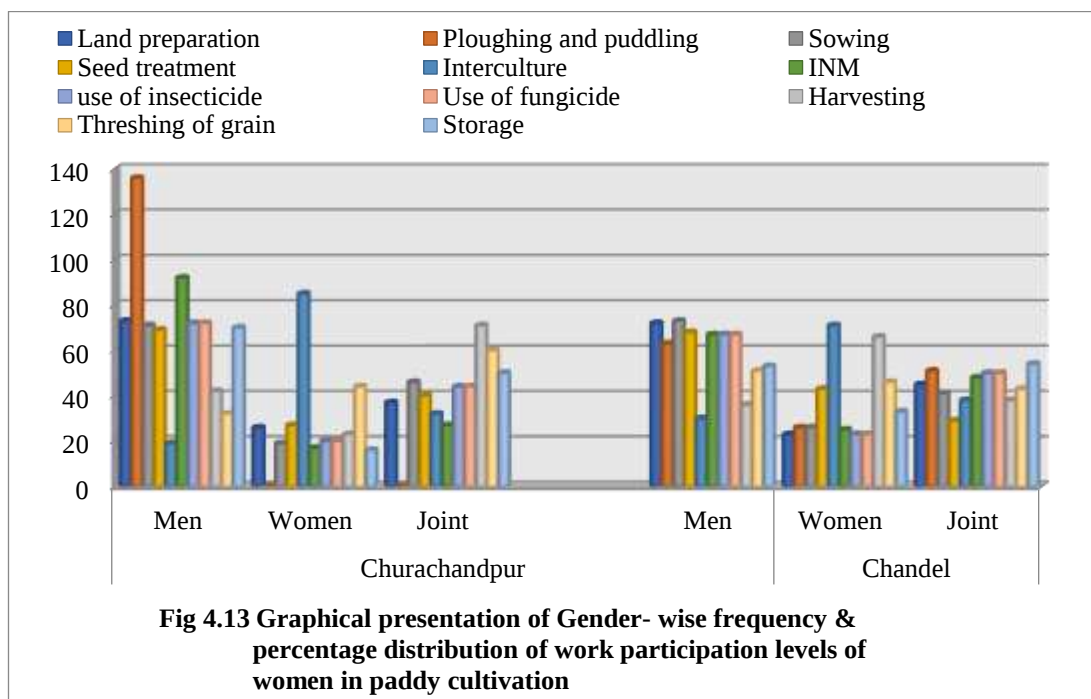
Application of insecticides and fungicides showed a mixed trend. In Churachandpur district, men accounted for 52.94 per cent of these tasks, while women contributed 14.71 per cent and the rest were shared. In Chandel district, men's involvement dropped to 47.86 per cent, and women's share slightly increased to 16.43 per cent, with a significant 35.71 per cent managed jointly. A similar pattern was reported by Kavyashree *et al.* (2022) showing that men were more involved in activities like spraying plant protections.

Table 4.15 Gender wise frequency & percentage distribution of work participation levels of women in rice farming activities

Sl. No.	Activities	Churachandpur (n=136)				Chandel (n=140)			
			Women	Men	Jointly		Women	Men	Jointly
1	Land preparation	f	26 (19.12)	73 (53.68)	37 (27.21)	f	23 (16.43)	72 (51.43)	45 (32.14)
2	Ploughing & puddling	f	0 (0.00)	136 (100.00)	0 (0.00)	f	26 (18.57)	63 (45.00)	51 (36.43)
3	Sowing	f	19 (13.97)	71 (52.21)	46 (33.82)	f	26 (18.57)	73 (52.14)	41 (29.29)
4	Seed treatment	f	27 (19.85)	69 (50.74)	40 (29.41)	f	43 (30.71)	68 (48.57)	29 (20.71)
5	Interculture	f	85 (62.50)	19 (13.97)	32 (23.53)	f	71 (50.71)	30 (21.43)	38 (27.14)
6	Integrated nutrient management	f	17 (12.50)	92 (67.65)	27 (19.85)	f	25 (17.86)	67 (47.86)	48 (34.29)
7	Integrated plant protection measures								
8	use of insecticides	f	20 (14.71)	72 (52.94)	44 (32.35)	f	23 (16.43)	67 (47.86)	50 (35.71)
9	use of fungicides	f	20 (14.71)	72 (52.94)	44 (32.35)	f	23 (16.43)	67 (47.86)	50 (35.71)
10	Harvesting	f	23 (16.91)	42 (30.88)	71 (52.21)	f	66 (47.14)	36 (25.71)	38 (27.14)
11	Post-harvesting								
12	a) threshing of grains	f	44 (32.35)	32 (23.53)	60 (44.12)	f	46 (32.86)	51 (36.43)	43 (30.71)
13	b) storage	f	16 (11.76)	70 (51.47)	50 (36.76)	f	33 (23.57)	53 (37.86)	54 (38.57)
	Overall average frequency in rice production activities	f	27 (19.85)	68 (50.00)	41 (30.15)	f	37 (26.30)	59 (42.01)	44 (31.62)

(Figures in parentheses indicate percentage), f=frequency

Harvesting was predominantly carried out jointly, with 52.21 per cent in Churachandpur district and 27.14 per cent in Chandel district. Women's independent contribution was higher in Chandel district (47.14 per cent) compared to Churachandpur district (16.91 per cent). Post-harvest activities, particularly threshing and storage, were heavily dominated by women. In Churachandpur district, 32.35 per



cent of threshing was carried out by women, while in Chandel district, women's participation reached 32.86 per cent. In storage, women's contribution was 11.76 per cent in Churachandpur district but higher at 23.57 per cent in Chandel district, with a considerable share of joint work in both districts.

Kumari, (2018) findings concur with the present study showing that women mainly engaged in inter-culturing, harvesting and post-harvesting operations.

4.2.3.1.2 Work Participation in vegetable farming activities

Table 4.16 illustrates that rural women in both districts participate in farm activities related to vegetable farming, and compared to rice farming the degree of women's involvement in vegetable cultivation is relatively higher.

In Vegetable cultivation, land preparation and ploughing were dominated by men in both districts as it is consider being arduous task. In Churachandpur district, men contributed 51.22 per cent in land preparation and 60.98 per cent in ploughing, with minimal participation from women (12.20 per cent and 0.00 per cent, respectively). A similar but stronger trend was found in Chandel district, where men's participation reached 58.54 per cent in land preparation and 67.07 per cent in

ploughing. This suggests that the initial heavy work in vegetable farming is largely the responsibility of men, with women's contribution being marginal, except when tasks are carried out jointly.

In both districts, seed treatment and sowing revealed higher levels of women's participation. In Churachandpur district, women accounted for 29.27 per cent of seed treatment and 53.66 per cent of sowing, surpassing men in these stages. Chandel district recorded even higher female involvement in seed treatment (39.02 per cent) and sowing (48.78 per cent). The greater participation of women in these operations reflects their accessibility, precision, and compatibility with household responsibilities. Moreover, sowing, being time-sensitive and detail-oriented, is often entrusted to women, highlighting their critical role in ensuring crop success.

Weeding and other intercultural practices were again dominated by women. In Churachandpur district, women contributed 48.78 per cent compared to 21.95 per cent by men, while in Chandel district, 45.12 per cent of intercultural tasks were done by women compared to 18.29 per cent by men. Joint participation was also significant (29.27 per cent in Churachandpur district and 36.59 per cent in Chandel district), indicating that intercultural activities demand collective effort due to their labor-intensive nature.

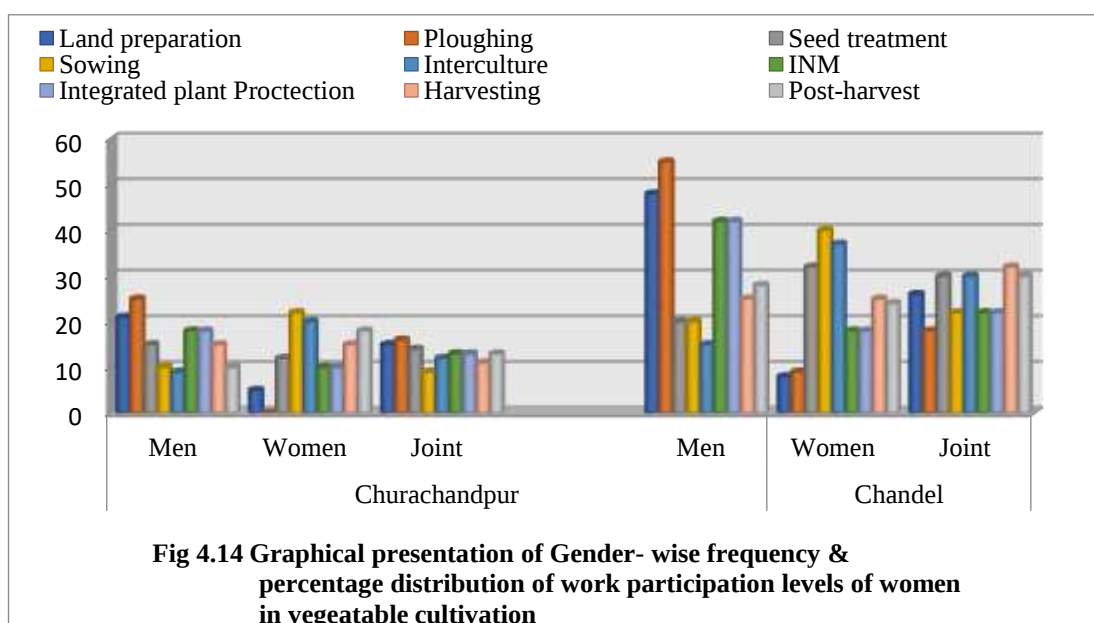
Nutrient management and plant protection measures were relatively more male-dominated, though women also participated meaningfully. In Churachandpur district, men's share was 43.90 per cent while women contributed 24.39 per cent in both nutrient and plant protection. Similarly, in Chandel district, men's contribution was higher (51.22 per cent) with women at 21.95 per cent.

Unlike rice, harvesting in vegetable farming involved balanced participation of both genders. In Churachandpur district, harvesting was equally shared between men and women (36.59 per cent each), while in Chandel district, both men and women contributed 30.49 per cent each, with the highest share coming from joint work (39.02 per cent). Post-harvest operations were more women-intensive. In Churachandpur district, women accounted for 43.90 per cent of post-harvest activities, compared to 24.39 per cent by men. In Chandel district, men (34.15 per cent) and women 29.27 per

Table 4.16 Gender- wise frequency & percentage distribution of work participation levels of women in vegetable farming activities

Sl. No.	Activities		Churachandpur (n=41)				Chandel (n=82)		
			Women	Men	Jointly		Women	Men	Jointly
1	Land preparation	<i>f</i>	5 (12.20)	21 (51.22)	15 (36.59)	<i>f</i>	8 (9.76)	48 (58.54)	26 (31.71)
2	Ploughing & puddling	<i>f</i>	0 (0.00)	25 (60.98)	16 (39.02)	<i>f</i>	9 (10.98)	55 (67.07)	18 (21.95)
3	Sowing	<i>f</i>	12 (29.27)	15 (36.59)	14 (34.15)	<i>f</i>	32 (39.02)	20 (24.39)	30 (36.59)
4	Seed treatment	<i>f</i>	22 (53.66)	10 (24.39)	9 (21.95)	<i>f</i>	40 (48.78)	20 (24.39)	22 (26.83)
5	Interculture	<i>f</i>	20 (48.78)	9 (21.95)	12 (29.27)	<i>f</i>	37 (45.12)	15 (18.29)	30 (36.59)
6	Integrated nutrient management	<i>f</i>	10 (24.39)	18 (43.90)	13 (31.71)	<i>f</i>	18 (21.95)	42 (51.22)	22 (26.83)
7	Integrated plant protection measures	<i>f</i>	10 (24.39)	18 (43.90)	13 (31.71)	<i>f</i>	18 (21.95)	42 (51.22)	22 (26.83)
8	Harvesting	<i>f</i>	15 (36.59)	15 (36.59)	11 (26.83)	<i>f</i>	25 (30.49)	25 (30.49)	32 (39.02)
9	Post-harvesting	<i>f</i>	18 (43.90)	10 (24.39)	13 (31.71)	<i>f</i>	24 (29.27)	28 (34.15)	30 (36.59)
	Over all average frequency in vegetable cultivation	<i>f</i>	12 (30.35)	16 (38.21)	13 (31.44)	<i>f</i>	23 (28.59)	33 (39.97)	26 (31.44)

(Figures within brackets (parentheses) indicate percentage, f=frequency)



cent) contributed almost equally, with 36.59 per cent of work done jointly.

The result concur with Kumar *et al.*(2025) indicating that men participate more in arduous work like land preparation, plant protection while women participate in preparation of nursery (45.00 per cent), intercultural practices (45.00 per cent), etc.

4.2.3.1.3 Work Participation in livestock management activities

Table 4.17 represents the gender-wise frequency and percentage of work participation in livestock management activities. The participation of men and women in livestock management in Churachandpur and Chandel district showed that this domain is largely women-oriented, although several activities are performed jointly or are dominated by men depending on the nature of the task. Kumari (2018) findings also indicate that rural women contribute significantly in livestock management activities.

In Churachandpur district, food preparation for animals was overwhelmingly a women's task, with 75.00 per cent participation by women compared to only 25.00 per cent by men. While In Chandel district, women's share was also higher (42.50 per cent) compared to men (32.50 per cent), though a significant portion (25.00 per cent) was done jointly. Feeding of animals further reflected women's dominance with women contributing 49.38 per cent compared to 36.25 per cent by men in Churachandpur district, while in Chandel district women's role rose to 53.13 per cent against 25.00 per cent by men. These findings confirm that daily feeding activities fall within women's primary responsibilities in both districts.

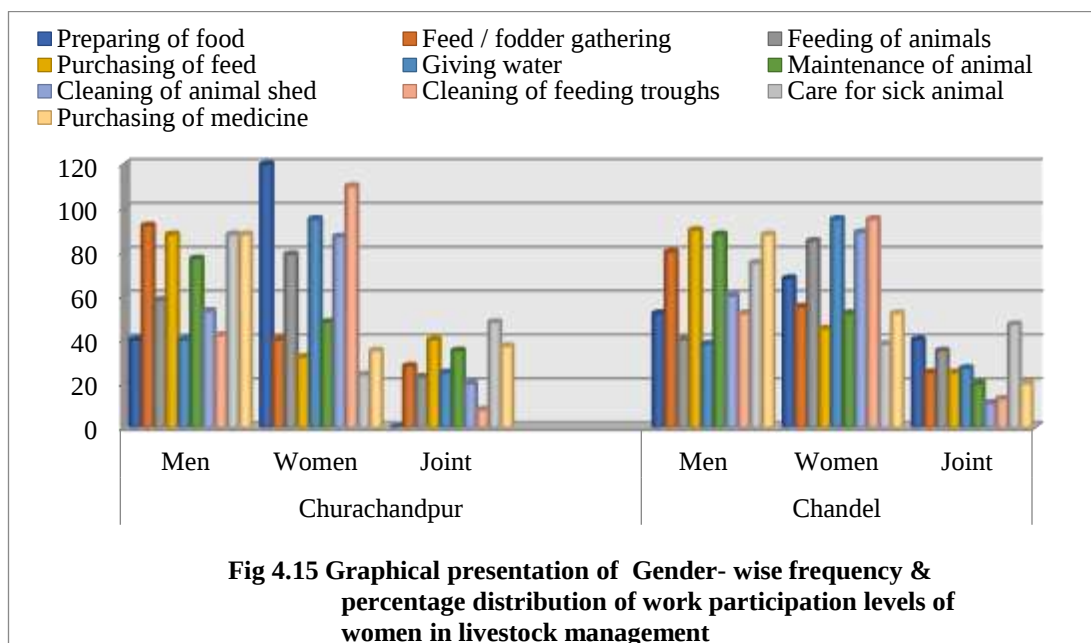
Fodder gathering showed more balanced participation, though men remained dominant. In Churachandpur district, men contributed 57.50 per cent and women 25.00 per cent while in Chandel district, men's participation was 50.00 per cent with women at 34.38 per cent. This suggests that physically demanding activities like fodder cutting and transport are still considered men's roles, though women also contribute substantially. Similarly, the purchase of feed was largely a male-driven task (55.00 per cent in Churachandpur district and 56.25 per cent in Chandel district), with women playing a supporting role.

Table 4.17 Gender- wise frequency & percentage distribution of work participation levels of women in livestock activities

Sl. No.	Activities	Churachandpur (n=160)				Chandel (n=160)			
			Women	Men	Jointly		Women	Men	Jointly
1	Preparing of food	f	120 (75.00)	40 (25.00)	0 (0.00)	f	68 (42.50)	52 (32.50)	40 (25.00)
2	Feed / fodder gathering	f	40 (25.00)	92 (57.50)	28 (17.50)	f	55 (34.38)	80 (50.00)	25 (15.63)
3	Feeding of animals	f	79 (49.38)	58 (36.25)	23 (14.38)	f	85 (53.13)	40 (25.00)	35 (21.88)
4	Purchasing of feed	f	32 (20.00)	88 (55.00)	40 (25.00)	f	45 (28.13)	90 (56.25)	25 (15.63)
5	Giving water	f	95 (59.38)	40 (25.00)	25 (15.63)	f	95 (59.38)	38 (23.75)	27 (16.88)
Management of animals									
6	A) Maintenance of animals	f	48 (30.00)	77 (48.13)	35 (21.88)	f	52 (32.50)	88 (55.00)	20 (12.50)
7	B) Cleaning of animal sheds	f	87 (54.38)	53 (33.13)	20 (12.50)	f	89 (55.63)	60 (37.50)	11 (6.88)
8	C) Cleaning of feeding troughs	f	110 (68.75)	42 (26.25)	8 (5.00)	f	95 (59.38)	52 (32.50)	13 (8.13)
Healthcare									
9	Care for sick animals	f	24 (15.00)	88 (55.00)	48 (30.00)	f	38 (23.75)	75 (46.88)	47 (29.38)
10	Purchasing of medicines	f	35 (21.88)	88 (55.00)	37 (23.13)	f	52 (32.50)	88 (55.00)	20 (12.50)
	Overall average frequency in livestock activities	f	67 (41.88)	66 (41.63)	26 (16.50)	f	67 (42.13)	66 (41.44)	26 (16.44)

(Figures within brackets (parentheses) indicate percentage, f=frequency)

Watering animals was more women-intensive. In both districts, women contributed equally at 59.38 per cent, while men's share was much lower (25.00 per cent in Churachandpur district and 23.75 per cent in Chandel district). In terms of broader animal management, men were more active in maintenance (48.13 per cent in Churachandpur district and 55.00 per cent in Chandel district), whereas women had a higher share in cleaning-related tasks. Such as, cleaning animal sheds involved 54.38 per cent women in Churachandpur district and 55.63 per cent in Chandel district, while men contributed 33.13 per cent and 37.50 per cent, respectively. Cleaning of feeding troughs was also predominantly handled by women, with 68.75 per cent in Churachandpur district and 59.38 per cent in Chandel district.



Healthcare tasks revealed a mixed pattern of responsibility. Care for sick animals was primarily undertaken by men (55.00 per cent in Churachandpur district and 46.88 per cent in Chandel district), though joint care was also significant (30.00 per cent and 29.38 per cent, respectively). Women's independent participation was relatively lower in this domain. Similarly, the purchase of medicines was largely managed by men (55.00 per cent in both districts), with women contributing 21.88 per cent in Churachandpur district and 32.50 per cent in Chandel district.

Arshad *et al.* (2010) also analyzed in their paper that women play an important role as livestock caretakers in many countries including Pakistan.

4.2.3.1.4 Work Participation in other Economic Activities

Table 4.18 illustrates the other income-generating activities in Churachandpur and Chandel district revealed that women's role was far more prominent than men's, particularly in household-based and traditional occupations such as weaving, pickle making, and agricultural wage labor. Men's involvement was limited, except in activities requiring external engagement such as business.

Agricultural wage work emerged as an important source of supplementary income for rural households. In Churachandpur district, women constituted the majority of participants (64.71 per cent) compared to 35.29 per cent men. Similarly,

in Chandel district, women accounted for 53.57 per cent while men contributed 46.43 per cent. This indicates that women are significantly engaged in wage labor, reflecting both their economic necessity and their acceptance as a major part of the rural agricultural workforce.

Table 4.18 Gender-wise frequency & percentage distribution of work participation levels of women in other Economic Activities

Sl. No.	Activities	Churachandpur					Chandel				
			Women	Men	Jointly	Pooled		Women	Men	Jointly	Pooled
1	Agricultural wage labourer	<i>f</i>	88 (64.71)	48 (35.29)	0 (0.00)	136 (100.00)	<i>f</i>	75 (53.57)	65 (46.43)	0 (0.00)	140 (100.00)
2	Pickle making	<i>f</i>	5 (100.00)	0 (0.00)	0 (0.00)	5 (100.00)	<i>f</i>	7 (100.00)	0 (0.00)	0 (0.00)	7 (100.00)
3	Weaving	<i>f</i>	112 (100.00)	0 (0.00)	0 (0.00)	112 (100.00)	<i>f</i>	127 (100.00)	0 (0.00)	0 (0.00)	127 (100.00)
4	Business	<i>f</i>	12 (36.36)	0 (0.00)	21 (63.64)	33 (100.00)	<i>f</i>	20 (43.48)	0 (0.00)	26 (56.52)	46 (100.00)
	Overall average frequency in various activities	<i>f</i>	54 (75.87)	12 (16.78)	5 (7.34)	72 (100.00)	<i>f</i>	57 (71.56)	16 (20.31)	7 (8.13)	80 (100.00)

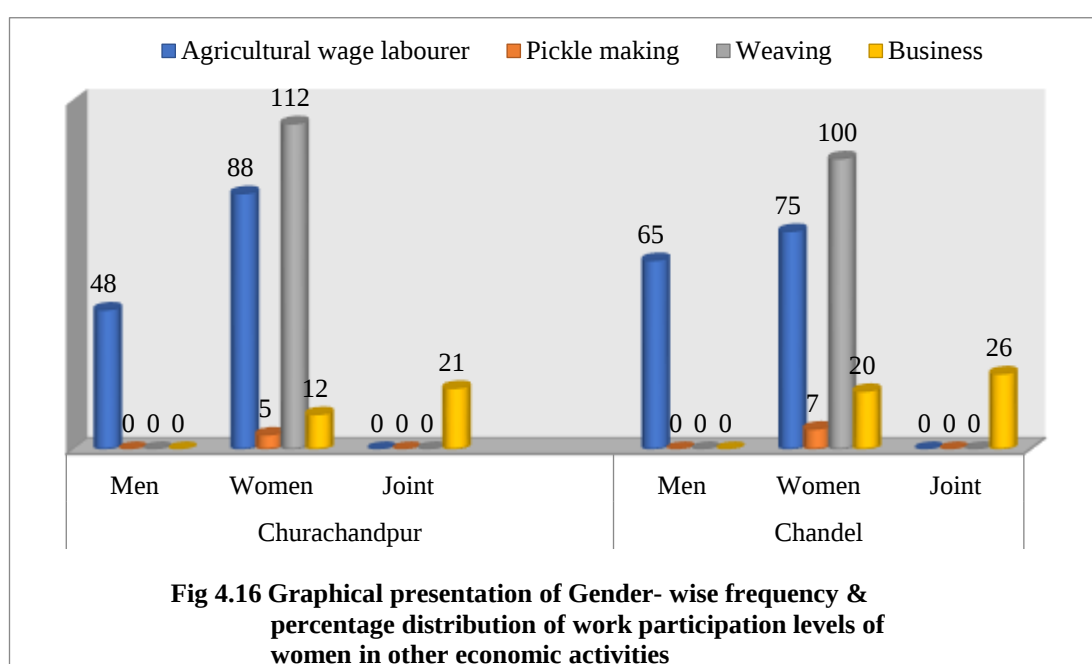
(Figures in parentheses shows percentage to total, *f*=frequency)

Pickle making was entirely a women-exclusive activity in both districts. In Churachandpur district, 100.00 per cent of participation came from women (5 cases), and similarly in Chandel district, pickle making was fully undertaken by women (7 cases).

Weaving was also a domain exclusively dominated by women. Weaving home-based income, it's a powerful tool for economic independence and empowering them. In Churachandpur district, all 112 respondents engaged in weaving were women, and in Chandel district, all 127 respondents were women. It highlights women's role in sustaining cultural practices while contributing financially to the household. Unlike

Shikre *et al.* (2025), who observed that weaving was rare with 77.33 per cent never involved in it, while the present study showed that women were highly involved in it.

Unlike household-based enterprises, business showed a higher level of joint participation. In Churachandpur district, 63.64 per cent of business activities were managed jointly by men and women, while women alone contributed 36.36 per cent. In Chandel district, joint business accounted for 56.52 per cent and women's independent contribution was 43.48 per cent.



4.2.3.2 Nature and extent of participation of rural women in non-economic activities

4.2.3.2.1 Work Participation in Non-economic Activities

Table 4.19 analyzed the non-economic activities in Churachandpur and Chandel districts highlighted the overwhelming burden of household and family care responsibilities borne by rural women. While men contributed minimally, their participation was higher in certain community or social roles. Overall, women's involvement in non-economic activities was significantly higher than men's across all categories.

The result showed that in both districts women fully participate in cooking with 75.00 per cent in Churachandpur and 84.38 per cent in Chandel district while joint contribution were also seen in both districts. It reflects traditional gender roles and household labour divisions.

Among the diverse domestic chores role of rural women Caring for children, the elderly, and other family members was primarily the responsibility of women in both districts. In Churachandpur districts, 75.00 per cent of family care was handled by women, with the remaining 25.00 per cent done jointly. Similarly, in Chandel districts, women's participation was even higher at 84.38 per cent, while joint efforts were only 15.63 per cent.

House cleaning and utensil washing were also largely women-driven activities. In Churachandpur districts, 53.13 per cent of house cleaning was carried out by women, with men contributing only 15.63 per cent and 31.25 per cent done jointly. A similar pattern was observed in Chandel districts, where women accounted for 56.25 per cent, men 17.50 per cent, and 26.25 per cent jointly. Cleaning utensils was almost exclusively performed by women, 87.50 per cent in Churachandpur districts and 78.13 per cent in Chandel districts, with minimal male participation (0.00 per cent and 6.25 per cent, respectively). This shows that domestic chores remain heavily feminized.

Washing clothes was an entirely women's domain in both districts. In Churachandpur districts, 100.00 per cent of the work was performed by women and jointly, with no male-only participation. In Chandel districts, women solely managed 100.00 per cent of this task, showing an even sharper gender divide.

Compound cleaning showed some male contribution compared to other domestic chores. In Churachandpur districts, 28.13 per cent of this activity was done by men, 59.38 per cent by women, and 12.50 per cent jointly. In Chandel districts, men's share was lower at 12.50 per cent, while women performed 71.88 per cent of the work and 15.63 per cent was carried out jointly.

Unlike household chores, social activities showed a more balanced pattern. In Churachandpur districts, men accounted for 42.50 per cent of participation in social activities, women 37.50 per cent and 20 per cent jointly. In Chandel districts, men

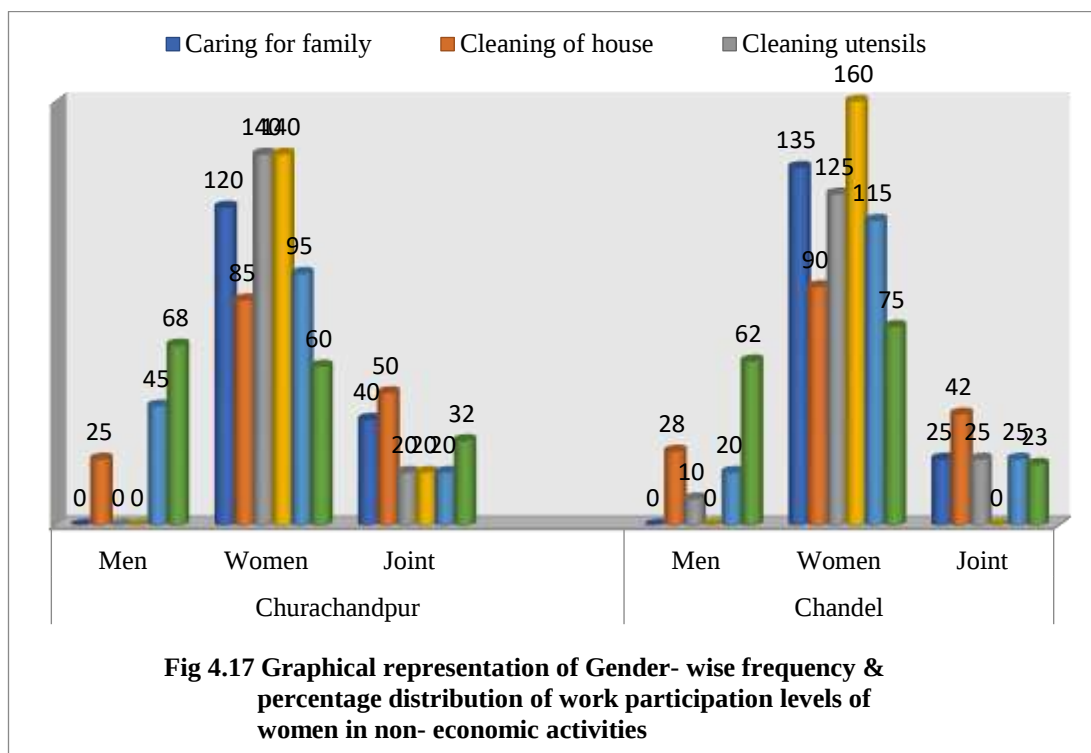
contributed 38.75 per cent and women 46.88 per cent, while 14.38 per cent were shared.

Anshu and Varma (2018) inferred in their study that women exclusively performed most of the household work with little participation of men.

Table 4.19 Gender- wise frequency & percentage distribution of work participation levels of women in non-economic activities

Sl. No.	Activities	Churachandpur (n=160)				Chandel (n=160)			
			Women	Men	Jointly		Women	Men	Jointly
1	Cooking	<i>f</i>	120 (75.00)	0 (0.00)	40 (25.00)	<i>f</i>	135 (84.38)	0 (0.00)	25 (15.63)
2	Caring for family	<i>f</i>	85 (53.13)	25 (15.63)	50 (31.25)	<i>f</i>	90 (56.25)	28 (17.50)	42 (26.25)
3	Cleaning of house	<i>f</i>	140 (87.50)	0 (0.00)	20 (12.50)	<i>f</i>	125 (78.13)	10 (6.25)	25 (15.63)
4	Cleaning utensils	<i>f</i>	140 (100.00)	0 (0.00)	20 (12.50)	<i>f</i>	160 (100.00)	0 (0.00)	0 (0.00)
5	Washing cloths	<i>f</i>	95 (59.38)	45 (28.13)	20 (12.50)	<i>f</i>	115 (71.88)	20 (12.50)	25 (15.63)
6	Cleaning of compound	<i>f</i>	60 (37.50)	68 (42.50)	32 (20.00)	<i>f</i>	75 (46.88)	62 (38.75)	23 (14.38)
7	Social activities	<i>f</i>	78 (48.75)	55 (34.38)	27 (16.88)	<i>f</i>	88 (55.00)	45 (28.13)	25 (15.63)
	Overall average frequency in different activities	<i>f</i>	103 (64.11)	28 (17.23)	30 (18.66)	<i>f</i>	113 (70.36)	24 (14.73)	24 (14.73)

Figures within brackets (parentheses) indicate percentage, *f*=frequency



4.2.3.6 Overall Work Participation level of women

Table 4.20 presents the overall analysis of work participation across different domains such as rice farming, vegetable cultivation, livestock management practices, other income-generating activities, and non-economic household responsibilities revealing the gendered patterns of labor division in Churachandpur and Chandel districts. Women continue to dominate in unpaid domestic and allied economic activities, while men show greater participation in rice-based and some vegetable farming operations. Joint participation remains significant in certain tasks, indicating cooperation in agricultural and livestock-related activities.

Rice-based Activities: In rice farming, men dominated participation, though women and joint efforts were also notable. In Churachandpur district, men accounted for 50.00 per cent of total work, women 19.85 per cent, and joint work 30.15 per cent. Similarly, in Chandel district, men contributed 42.01 per cent, women 26.30 per cent, and jointly performed 31.62 per cent. The results indicate that men continue to perform labor-intensive operations such as ploughing, irrigation, and harvesting, while women are more involved in transplanting, weeding, and post-harvest operations.

Vegetable Cultivation: Participation in vegetable activities was relatively balanced across genders, with joint efforts playing a substantial role. In Churachandpur district, men's share was 38.21 per cent, women 30.35 per cent, and joint work 31.44 per cent. Similarly, in Chandel district, men accounted for 39.97 per cent, women 28.59 per cent, and joint 31.44 per cent. This indicates that vegetable farming is a domain where both men and women contribute actively, often complementing each other's roles.

Livestock Management: Livestock rearing emerged as a highly gender-inclusive domain. In both districts, women's and men's contributions were almost equal, with joint work relatively less. In Churachandpur district, men's participation was 41.63 per cent and women's 41.88 per cent, while joint accounted for 16.50 per cent. Likewise, in Chandel district, men contributed 41.44 per cent, women 42.13 per cent, and joint 16.44 per cent. These findings highlight that livestock rearing is largely a shared responsibility, though women often take the lead in daily care, feeding, and milking.

Other Income-Generating Activities: Other activities such as wage labor, weaving, pickle making, and petty business were heavily dominated by women. In Churachandpur district, women contributed 75.87 per cent, men 16.78 per cent, and joint 7.34 per cent. A similar pattern was found in Chandel district, with women's participation at 71.56 per cent, men's at 20.31 per cent, and joint at 8.13 per cent. These findings show that women are highly engaged in supplementary economic activities that provide additional household income, though often undervalued in formal statistics.

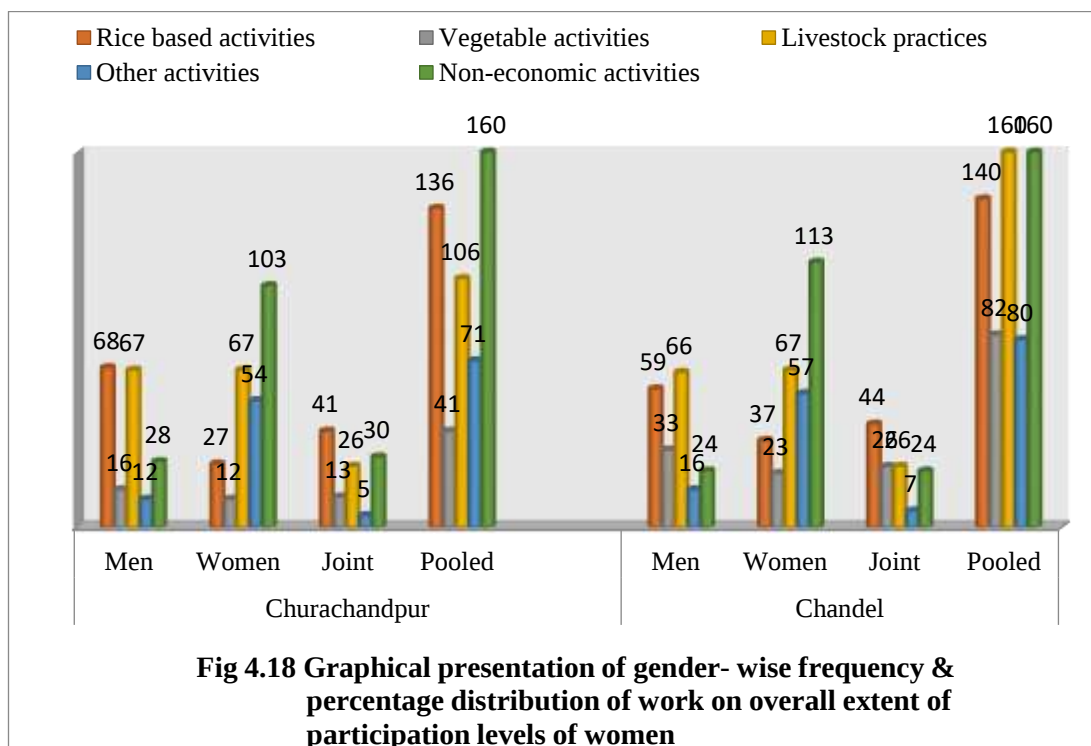
Non-Economic Activities: Domestic and social responsibilities were overwhelmingly carried out by women. In Churachandpur district, women's contribution was 64.11 per cent compared to 17.23 per cent by men and 18.66 per cent jointly. In Chandel district, women's share rose to 70.36 per cent, while men accounted for only 14.73 per cent, with 14.73 per cent performed jointly. These results clearly show the double burden of women, as they balance household chores with their contributions to farming and income-generating activities.

Overall Work Participation: When considering all domains together, women's participation was higher than men's in both districts. In Churachandpur district, women accounted for 46.31 per cent of overall activities, men 33.39 per cent, and joint work 20.30 per cent. In Chandel district, women's participation was 47.83 per cent, men's 31.79 per cent, and joint 20.33 per cent. This indicates that while men dominate in certain labor-intensive farming tasks, women's overall contributions—especially in livestock, income-generating, and household activities—make them the backbone of rural household economies.

Table 4.20 Gender- wise frequency & percentage distribution of work on overall extent of participation levels of women

Sl. No.	Activities	Churachandpur					Chandel				
			Women	Men	Jointly	Pooled		Women	Men	Jointly	Pooled
1	Rice based activities	<i>f</i>	27 (19.85)	68 (50.00)	41 (30.15)	136 (100.00)	<i>f</i>	37 (26.30)	59 (42.01)	44 (31.62)	140 (100.00)
2	Vegetable activities	<i>f</i>	12 (30.35)	16 (38.21)	13 (31.44)	41 (100.00)	<i>f</i>	23 (28.59)	33 (39.97)	26 (31.44)	82 (100.00)
3	Livestock practices	<i>f</i>	67 (41.88)	67 (41.63)	26 (16.50)	160 (100.00)	<i>f</i>	67 (42.13)	66 (41.44)	26 (16.44)	160 (100.00)
4	Other activities	<i>f</i>	54 (75.87)	12 (16.78)	5 (7.34)	71 (100.00)	<i>f</i>	57 (71.56)	16 (20.31)	7 (8.13)	80 (100.00)
5	Non-economic activities	<i>f</i>	103 (64.11)	28 (17.23)	30 (18.66)	160 (100.00)	<i>f</i>	113 (70.36)	24 (14.73)	24 (14.73)	160 (100.00)
	Overall average value	<i>f</i>	53 (46.31)	38 (33.39)	23 (20.30)	114 (100.00)	<i>f</i>	59 (47.83)	40 (31.79)	25 (20.33)	124 (100.00)

Figures within brackets (parentheses) indicate percentage, f=frequency



4.2.4 Time spent by rural women in economic and non- economic activities

4.2.4.1 Time utilization in economic activities

The time utilization pattern of rural women in economic activities in Churachandpur and Chandel districts provides a comprehensive representation of their contribution to agricultural and non-agricultural economic activities. Table 4.21 reveals that women in both districts are heavily engaged in multiple tasks daily, often extending beyond conventional household responsibilities.

Agriculture remained the backbone of women's time allocation. Rice farming activities dominated the schedule in both districts. Women in Churachandpur district devoted 644 hours/day (80.50 man-days), averaging 4.73 hours per individual per day, while in Chandel district, they spent 657 hours/day (82.13 man-days), averaging 4.69 hours per individual per day. This clearly indicates that rice cultivation is the most time-consuming agricultural task for rural women.

In vegetable cultivation, differences emerged between the two districts. Women in Churachandpur district spent 55.5 hours/day (11.1 man-days), averaging

1.35 hours per individual per day, whereas women in Chandel district spent almost double the time at 96 hours/day (12.00 man-days), averaging 1.17 hours per individual per day. This suggests that vegetable farming holds greater importance in Chandel district, likely due to better market opportunities, household dietary preferences, or agro-climatic suitability. Similar trends were found in the study conducted by Kumari (2020) showing that an average time women spend in home garden was eight hours per week.

Livestock practices also absorbed a considerable portion of women's time. In Churachandpur district, women spent 225.5 hours/day (28.19 man-days), averaging 1.41 hours per individual per day, compared to 174 hours/day (21.75 man-days) in Chandel district, averaging 1.09 hours per individual per day. This shows that animal husbandry, including rearing pigs, poultry, and cattle, is more significant in households belonging to Churachandpur district. Comparable studies were found by Vijayamba and Swaminathan (2024) showing that rural women participated in livestock raising and spent an average of 2 hrs per day.

Agricultural Wage labour absorbed a significant portion of women's time, with 268.5 hours/day (33.56 man-days) in Churachandpur district, averaging 1.97 hours per individual per day, and 286 hours/day (35.75 man-days) in Chandel district, averaging 2.04 hours per individual per day. This suggests that a considerable number of rural women engage in wage-based employment to supplement family income, particularly among resource-poor households.

Apart from agriculture, rural women were also actively engaged in non-farm activities that provided additional income and preserved cultural practices.

Weaving was one of the most important non-farm activities. Women in Churachandpur district spent 196 hours/day (24.50 man-days), averaging 1.75 hours per individual per day, while in Chandel district, they spent 187 hours/day (23.38 man-days), averaging 1.47 hours per individual per day. Weaving not only reflects the traditional craft of the region but also functions as a supplementary income source, particularly for household needs and empowers women.

Business activities accounted for 112.5 hours/day (14.06 man-days) in Churachandpur district, averaging 3.41 hours per individual, and 145 hours/day (18.13 man-days) in Chandel district, averaging 3.15 hours per individual. The relatively higher time allocation in Chandel district suggests stronger engagement of women in small-scale businesses, trading, and other petty economic ventures, highlighting women's shift towards entrepreneurial roles.

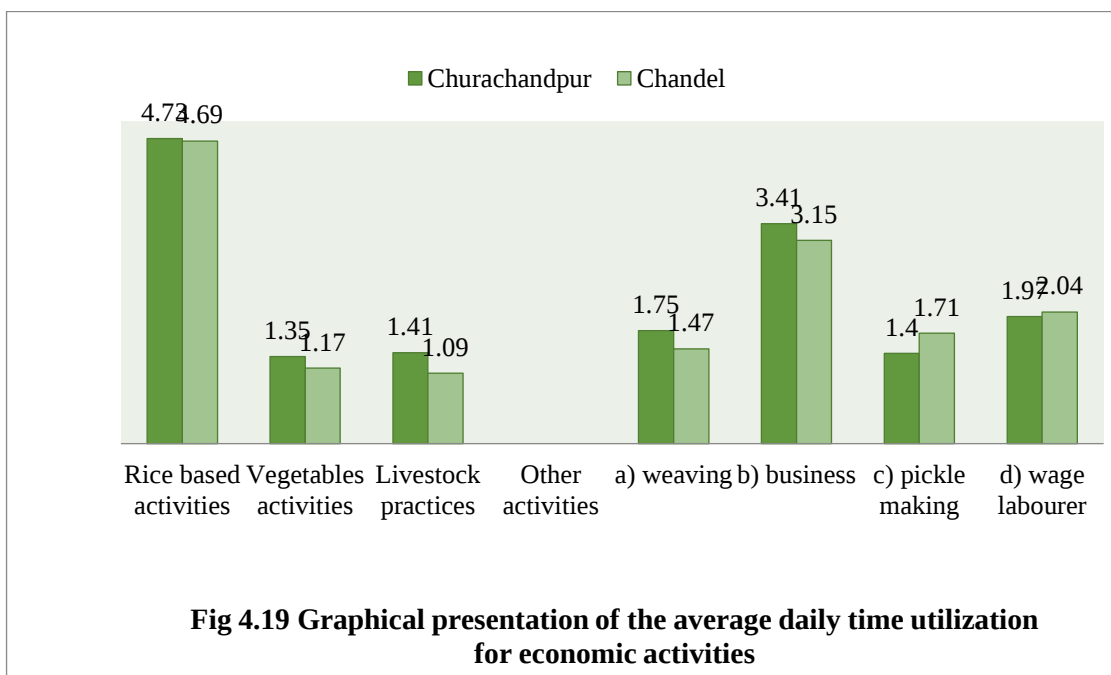
Pickle making, though less prominent, reflects women's effort in value addition. In Churachandpur district, they spent 7 hours/day (0.88man-days), averaging 1.4 hours per individual, while in Chandel district, women spent 12 hours/day (1.50 man-days), averaging 1.71 hours per individual. While small in terms of time, this activity plays a role in household income diversification and food preservation.

Table 4.21 The average daily time utilization for economic activities (hr)

Sl. No.	Activities	Churachandpur			Chandel		
		Total time spent by the respondents (hours/day)	Total man-days	Average time spent per individual /day	Total time spent by the respondents (hours/day)	Total man-days	Average time spent per individual/day
1	Rice based activities	644.00	80.50	4.73	657.00	82.13	4.69
2	Vegetables activities	55.50	6.94	1.35	96.00	12.00	1.17
3	Livestock practices	225.50	28.19	1.41	174.00	21.75	1.09
Other activities							
4	a) weaving	196.00	24.50	1.75	187.00	23.38	1.47
5	b) business	112.50	14.06	3.41	145.00	18.13	3.15
6	c) pickle making	7.00	0.88	1.40	12.00	1.50	1.71
7	d) wage labourer	268.50	33.56	1.97	286.00	35.75	2.04
overall activities		1509.00	188.63	9.43	1557.00	194.63	9.73

The overall time spent by women across all activities in Churachandpur district was 1509 hours/day, corresponding to 188.63 man-days with an average of 9.43 hours per individual per day. In Chandel district, the total time spent was slightly higher at 1557 hours/day, amounting to 194.63 man-days, with an average of 9.73

hours per individual per day. These findings highlight that rural women dedicate nearly 10 hours daily to productive and income-generating activities, reflecting a substantial workload.



4.2.4.2 Time utilization in non-economic activities

Table 4.22 illustrates the time utilization in non-economic activities in Churachandpur and Chandel district. It shows that the rural women in both districts contribute a significant proportion of their daily time to unpaid domestic work, on top of their economic contributions which reflects the dual burden of work borne by rural women. Although domestic chores are unpaid and often undervalued, they are vital for the sustenance of the family and community.

The data showed that, Cooking consumed the highest share of time in both districts. Women in Churachandpur district spent 264 hours/day (33.00 man-days), averaging 1.65 hours per individual in a day, while in Chandel district, women spent 256 hours/day (32.00 man-days), averaging 1.60 hours per individual. The observation aligns with the reports of Bariya and Thakkar (2002) which showed that cooking consumed the maximum time in completing household chores.

Caring for family members ranked second in importance. Churachandpur district women devoted 170.50 hours/day (21.31 man-days), averaging 1.07 hours per individual, compared to 205 hours/day (25.63 man-days) in Chandel district, averaging 1.28 hours per individual.

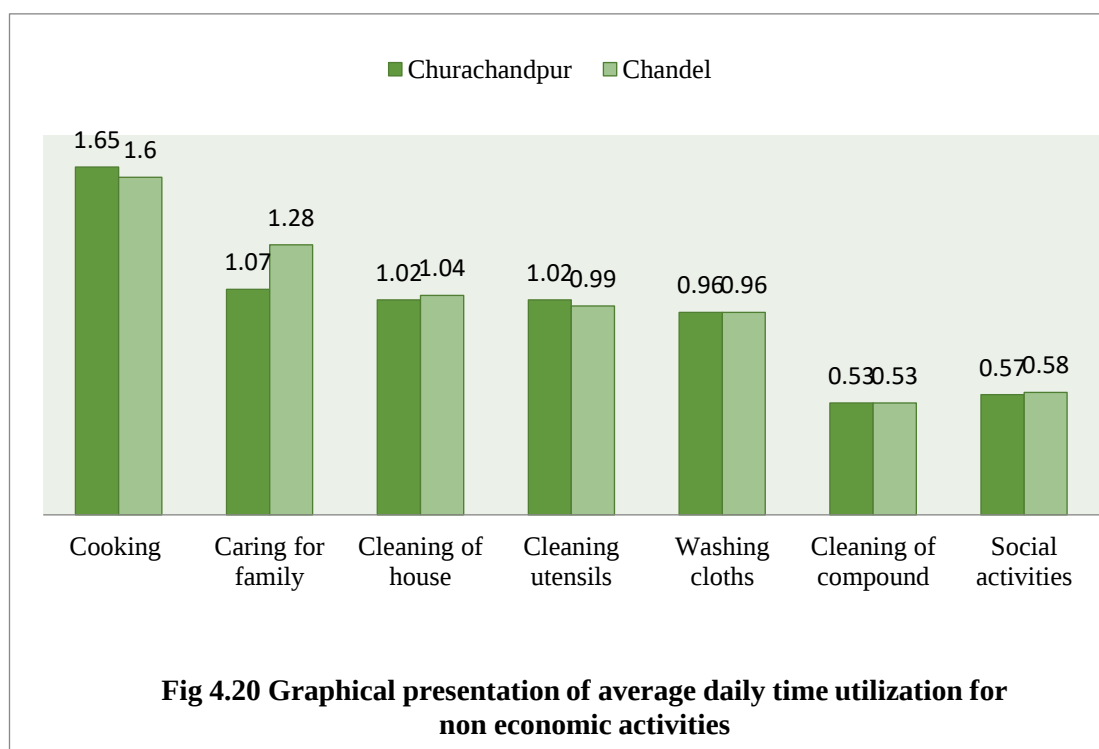
Cleaning activities also occupied a considerable share of women's time. In Churachandpur district, women spent 163 hours/day (20.38 man-days) on house cleaning, 162.50 hours/day (20.31 man-days) on cleaning utensils, and 153 hours/day (19.13 man-days) on washing clothes. Similar trends were observed in Chandel district, with 167 hours/day (20.88 man-days) on house cleaning, 159 hours/day (19.88 man-days) on utensils, and 154 hours/day (19.25 man-days) on clothes washing. The averages ranged from 0.96 to 1.04 hours per individual, indicating a nearly uniform distribution of household chores across the two districts. Cleaning of the compound took less time compared to other activities, with women in both districts spending around 0.53 hours per individual daily, showing that this task is secondary but still routine in rural households. In addition to household chores, women participated in social and community activities. Women in Churachandpur district spent 90.50 hours/day (11.31 man-days), averaging 0.57 hours per individual, while in Chandel district they spent 92 hours/day (11.50 man-days), and averaging 0.58 hours per individual. A similar pattern was seen in the study of Kaur and Mittal (2024) showing that women spent most of their time in kitchen work and other household work.

The overall time spent on household and social activities was 1089.00 hours/day in Churachandpur district, equivalent to 136.13 man-days, with an average of 6.81 hours per individual per day. In Chandel district, the figure was slightly higher at 1117.00 hours/day (139.63 man-days), with an average of 6.98 hours per individual per day. These results show that women in both districts devote around 7.00 hours daily to domestic and community-related tasks, in addition to the 9.00–10.00 hours spent in economic activities.

A study conducted by Khare (2020) indicated that rural women spent more time in household work as compare to agricultural operations.

Table 4.22 The average daily time utilization for non-economic activities (hr)

Sl. No.	Activities	Churachandpur			Chandel		
		Total time spent by the respondents (hours/day)	Total man-days	Average time spent per individual/day	Total time Spent by the respondents (hours/day)	Total man-days	Average time spent per individual/day
1	Cooking	264.00	33.00	1.65	256.00	32.00	1.60
2	Caring for family	170.50	21.31	1.07	205.00	25.63	1.28
3	Cleaning of house	163.00	20.38	1.02	167.00	20.88	1.04
4	Cleaning utensils	162.50	20.31	1.02	159.00	19.88	0.99
5	Washing cloths	153.00	19.13	0.96	154.00	19.25	0.96
6	Cleaning of compound	85.50	10.69	0.53	84.00	10.50	0.53
7	Social activities	90.50	11.31	0.57	92.00	11.50	0.58
Overall activities		1089.00	136.13	6.81	1117.00	139.63	6.98



4.2.4.3 Overall Time Allocation Pattern of rural women

Table 4.23 analyzed the overall time allocation pattern of rural women revealing that rural women perform a wide range of activities, balancing domestic responsibilities, agricultural work, non-farm activities and personal care. The findings clearly demonstrate the triple role of women: reproductive (household care), productive (economic activities), and community/social participation.

Women devoted a substantial share of their time to domestic and care-related activities. On average, 1.57 hours per day were spent on care work such as looking after children, the elderly, and the sick. Cooking emerged as one of the most time-intensive household tasks, absorbing 1.63 hours per day, while household chores such as cleaning, washing, maintaining the household took 3.00 hours per day. The result is supporting to the findings of Solunke and Rathod (2021), Bala and Singal (2003) and Bellurkar (2016) revealing that household work consumes time.

In addition, social activities required 1.11 hours per day, which, though smaller in comparison, highlight women's role in community cohesion and social obligations. Altogether, women spent 5.74 hours daily on domestic chores, which, when combined with care work, accounted for 7.31 hours per day spent inside the household. This shows that women's heavy involvement in unpaid and often unrecognized labour that ensures family well-being.

Alongside household work, rural women actively participated in productive labour. On average, 1.25 hours per day were spent in livestock activities, which serve as an important supplementary source of food and income. Bariya and Thakkar (2002) also showed women involvement in farm and livestock management. On-farm activities absorbed 4.73 hours per day, reflecting women's deep involvement in crop cultivation, particularly rice and related operations. Kitchen gardening and vegetable cultivation accounted for 1.23 hours per day, highlighting women's contribution to both household nutrition and market-oriented production.

Additionally, women spent 1.99 hours per day in other income-generating

activities, including wage labour and small-scale self-employment such as weaving, business and pickle-making. Together, these activities amounted to 9.2 hours per day of work outside the household, showing the extent of women's productive engagement beyond domestic chores.

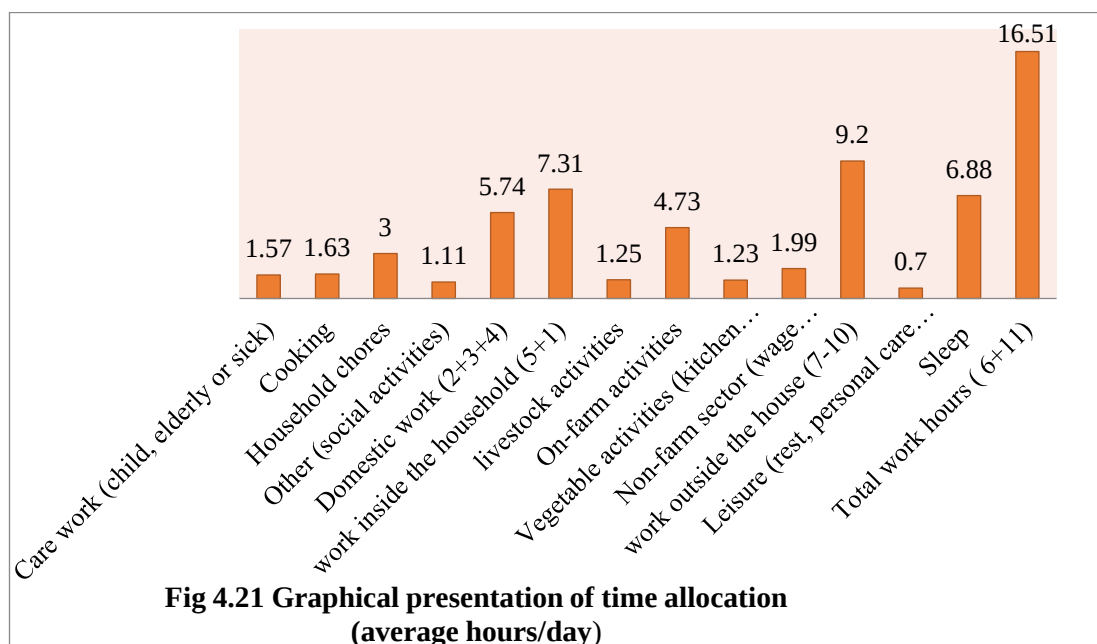
When combined, domestic work (7.31 hours per day) and economic activities (9.2 hours per day) amounted to a total workload of 16.51 hours per day. It highlights the dual burden of rural women, balancing long hours of unpaid domestic work with substantial contributions to agricultural and non-agricultural production.

Table 4.23 Rural women's time allocation pattern (hr)

Sl No.	Type of activities	Time spent (average hours/day)
1.	Care work (child, elderly or sick)	1.57
2.	Cooking	1.63
3.	Household chores	3.00
4.	Other (social activities)	1.11
5.	Domestic work (2+3+4)	5.74
6.	Work inside the household (5+1)	7.31
7.	Livestock activities	1.25
8.	On-farm activities	4.73
9.	Vegetable activities (kitchen garden)	1.23
10.	Non-farm sector (wage employment + self-employment)	1.99
11.	Work outside the house (7-10)	9.2
12.	Leisure (rest, personal care and others)	0.7
13.	Sleep	6.88
	Total work hours (6+11)	16.51

Despite their heavy workload, time available for personal well-being was limited. Women spent only 1.01 hours per day on leisure and personal care. Sleep accounted for 6.88 hours per day, which is below the recommended healthy average of 8 hours, indicating that rural women face high levels of physical and mental strain

due to long working hours and insufficient rest. Some evidence reveals that rural women are mostly confined to laborious household chores Arora (2015) and Taye and Tesfaye (2024).



4.2.4.4 Valuation of women's domestic work using Replacement Cost Method

“Economy of care” was termed by Elson (1995) which indicate women under the shadow of invisibility because of their predominance in unpaid household activities. The “unpaid household work” as acknowledged by the society is often not considered to be a productive activity or a work having an economic value attached to it. Nevertheless, unpaid domestic activities or work are indeed an important and an indispensable factor which contributes not only to the smooth functioning of a household, but also to the economy.

India, being a diverse country holds both men and women equal in order to create an egalitarian society. While some Indians respect the constitution, some still believes in the age-old patriarchal society. Even in the 21st century, people are of the opinion that women in general pose a liability to the family since they are believed to be unproductive and inferior as compared to men. Women are considered to perform all the household work and the day-to-day chores of the family. However, this tiring

work is given little to no social or economic value in the society.

Unpaid tasks are a significant part of any economic activity, which is indispensable for the overall and holistic development of the people as well as their standard of living, health and wellbeing. Nonetheless, unpaid employment has been overlooked in economic assessments and policy formulations, whether in the form of economic production of items for personal consumption or home services.

Unpaid domestic work consumes a major percentage of women's time. Women's creative contributions in maintaining household, providing for family needs, delivering and looking after the next generation are devalued, and the majority of women's labors go unnoticed. As a result, work performed by women and the economic value of their labor are undervalued. However, the study's importance is accompanied with considerable methodological challenges in its execution. In a country like India, just 22.00 per cent of women work, and about 70.00 per cent of them are involved in informal agriculture activities with meager recognition in the society, and almost no social protection.

In India, women spend more than 297 minutes on household activities, while men spend only 31 minutes (Collas 2007). During the search for a suitable method to assign economic value to women's work, many questions arose, including the wage assigned to these tasks, whether to assign wages based on the number of hours women work (and the manner in which multi-tasking is to be handled), and what wages to use in such calculations (Efroymson et al. 2007) This gender segregation in unpaid household activities reflects a set of cultural customs and assumptions about a "normal" home division of labour, as well as macroeconomic policies and practices that ignore the presence of unpaid domestic work and instead exacerbate the economic burden.

Here, a method has been used for measurement and imputation to recognized women's household work and appropriating the value of their unpaid work, including the domestic chores using Replacement value method.

Table 4.24 Calculating of women's unpaid household work with market wage rate.

Sl no.	Activities	Working hours per day (in hr)	Working days (monthly)	Value according to Government's minimum rate per hour (Rs)	Total unpaid contribution of women per month (Rs)
1.	Cooking	1.75	30	34.12	1791.56
2.	Family care	1.50	30	38.46	1730.77
3.	Cleaning house	1.00	30	28.12	843.75
4.	Washing utensils	1.00	30	28.12	843.60
5.	Washing cloths	1.00	30	123.00	3690.00
6.	Cleaning of compound	0.75	30	43.75	984.38
Total		7	180	267.45	9884.06

(Calculated by author)

Table 4.24 represents the valuation of women's unpaid domestic chores using the Replacement Cost Method, which assigns a monetary value to household work based on the government's minimum wage rate per hour. This method provides an approximate measure of the economic worth of women's contribution, which otherwise goes unrecognized in conventional economic statistics.

Monetary Value of Domestic Work:

The findings show that rural women dedicate significant time daily to domestic activities, which, when monetized, reflect a considerable contribution to the household economy.

Cooking emerged as the most time-intensive task, with women spending 1.75 hours per day, equivalent to 52.50 hours per month. At a government rate of ₹34.12 per hour, this activity alone contributed ₹1791.56 per month.

Family care, including looking after children, the elderly, and the sick, absorbed 1.50 hours daily, or 45.00 hours monthly, valued at ₹1730.77.

Cleaning the house and washing utensils, both requiring 1 hour daily, were valued at ₹843.75 and ₹843.60 per month respectively.

Washing clothes was valued significantly higher because of the higher wage equivalent rate (₹123 per hour), contributing ₹3690 per month despite requiring only 1 hour daily.

Cleaning the compound, requiring 0.75 hours per day (22.50 hours monthly), was valued at ₹984.38 per month.

In total, the estimated monetary value of unpaid domestic work carried out by rural women amounted to ₹9884.06 per month per individual. This figure highlights the substantial yet invisible contribution of women to the household economy, which remain unaccounted for in national income statistics.

Similar studies were also done by Yadav and Sharma (2021) on their paper valuation of unpaid household work of rural women: a case study of Ghazipur district of U.P and Thakare and Shivhare (2022) on measuring the economic value of women's household work.

These results emphasize that if women's domestic labor were compensated at the prevailing minimum wage rate, it would represent a significant income contribution to rural households. The high valuation of tasks such as washing clothes shows how certain domestic chores are undervalued socially but carries substantial replacement costs in the labor market.

The findings further point to the gendered division of labor, where women spend several hours daily in activities that are essential for household functioning but receive neither financial compensation nor social recognition. This undervaluation contributes to women's low socio-economic status and perpetuates gender inequality in both rural and national contexts.

4.3 To identify the factors influencing women's performance of opting different economic and non-economic activities

In order to determine the factors influencing women's performance in opting various economic and non-economic activities, patterns of rural women's time spent in activities at home performing domestic chores and time spent outside home involving in different income generating activities was regressed against several selected explanatory variables such as age, education, marital status, household size, landholding, access to credit, training, experiences, access to market, decision making, income contributed by both men and women (in1000's), social norms, social service, household size and family size on time spent by the rural women outside home (economic activities) and time spent by them at home (non-economic activities). The findings are presented in the Table 4.25 below:

4.3.1 Factors influencing time spent by rural women outside home (in hr) in Churachandpur district

Multiple regression models were computed in order to explore the relationship between selected dependent variables i.e. time spent by rural women outside their home for income-generating activities with their selected explanatory variables for Churachandpur district. Table 4.25 shows an R^2 value of 0.384 and an adjusted R^2 of 0.286, which means that about 38.40 per cent of the variation in time spent outside their home, was explained by the independent variables included in the model. It is evinced from the table 4.25 that overall model is statistically significant ($p < 0.001$), indicating that the selected factors jointly have a meaningful effect on women's participation in economic activities outside the household.

Table 4.25 shows that size of landholding ($p < 0.001$) significant at 1% level, had a strong positive influence, which shows that women belonging to households having larger landholdings were more involved in farm activities and other income generating work.

Table 4.25 Time spent by rural women outside home (in hr) in Churachandpur district

Model	Unstandardized Coefficient		Standardized Coefficient	't' Value	p-value
	B	Std. Error	Beta		
(Constant)	12.084	1.641		7.362	< 0.001
Age (years)	-0.076	0.046	-0.29	-1.66	0.099*
No.of children/dependent	-0.154	0.118	-0.104	-1.308	0.193
Land holding (in ha)	1.179	0.271	0.384	4.352	< 0.001***
Access to credit	0.573	0.397	0.106	1.444	0.151
Training	-0.428	0.429	-0.073	-0.996	0.321
Experience (in years)	-0.012	0.047	-0.039	-0.255	0.799
Access to market	-0.456	0.474	-0.084	-0.961	0.338
Decision making	-0.555	0.369	-0.109	-1.504	0.135
Income contributed by women (in1000's)	-0.369	0.123	-0.243	-2.99	0.003**
Health issue	0.659	0.686	0.121	0.96	0.339
Income contributed by men (in1000's)	-0.02	0.042	-0.047	-0.478	0.634
Dummy_Education_Primary	0.112	0.511	0.02	0.219	0.827
Dummy_Education_secondary HS/PU	0.473	0.511	0.091	0.926	0.356
Dummy_Education_> Graduate	-3.54	1.093	-0.263	-3.238	0.002**
Dummy_Marital_status_Ummarried	0.729	1.068	0.05	0.682	0.496
Dummy_Employment_type_wage_labourer	0.957	0.375	0.186	2.549	0.012*
Dummy_Social_norms_Restricted	-0.639	1.345	-0.034	-0.475	0.635
Dummy_Social_norms_Supportive	-0.449	0.579	-0.057	-0.775	0.439
Dummy_Social_services_Limited_involvement	0.096	0.428	0.016	0.224	0.823
Dummy_Family_support_less_support	-0.028	0.516	-0.004	-0.055	0.956
Dummy_Family_support_strong_support	-0.927	0.546	-0.138	-1.698	0.092*
Household size	0.171	0.114	0.119	1.494	0.137
*=significant at 10% **=significant at 5% ***=significant at 1% NS=not significant	$R^2 = 0.384$ Adjusted $R^2 = 0.286$ p-value = 0.000000450				

Dependent variable: Time spent by rural women outside home (hr)

(Source: Primary data processed)

Income contributed by women ($p = 0.003$) was also significant but negatively, signifying that women who earn more income for the family tend to spend more time at their home involving in more income generating activities, for the study area women were mostly involved in weaving, requiring them to involved outside home for other laborious work.

In case of education of the sampled respondent, it was observed that women with education above the graduate level ($p = 0.002$) were also found to be negatively significant resulting in spending less time outside their home. The reason maybe as education increases there is more awareness about better opportunities and also building their confidence in accessing a better work, rather than doing labor intensive work in the farm. The variable employment type (wage laborer) was also significant ($p = 0.012$), showing that wage laborers generally spend more time outside as their jobs require physical presence outdoors compared to women who are self-employed or unpaid family workers, as wage-based work is time intensive.

A strong family support showed a near-significant influence ($p = 0.092$), suggesting that depending upon the support shown by family members, women find it easier to engage in other productive activities be it at home or outside home which can provide additional income for the family.

Age was not statistically significant suggesting that women's time spent outside for work does not change consistently with age in the sample. Older women tend to spend less time outside the home. This might be because younger women are more active, mobile, or engaged in outside work, while older women may focus more on household responsibilities. Surprisingly, the number of dependent children did not significantly reduce time spent outside. This could indicate that women adjust their work schedules, receive help from other family members, or that childcare responsibilities are shared within extended households.

Access to credit was also found to be non-significant, suggesting that simply having the opportunity for loans or financial support does not automatically translate into more time spent in income-generating activities.

Formal training in agriculture or vocational skills did not show a significant effect. This may indicate that the available training programs are not well-aligned with practical income-generating activities, or that women do not have sufficient time or resources to apply the training effectively.

Experience in farming or work outside the home was not significant, which could suggest that accumulated experience alone is not enough to increase participation. Women's participation in household decision-making was non-significant. While empowerment is important, it may not directly translate into additional hours outside the home if other constraints, such as labor demand at home or lack of employment opportunities, exist.

Male income was also found to be non-significant and it had no effect on women's time spent outside. This suggests that women's participation in income-generating work is largely independent of male earnings in the household. Health status did not have a significant impact, which could reflect that most women in the sample are able to perform physical work despite minor health issues, or that major health constraints are rare.

In case of their Primary and secondary education, it was non-significant, indicating that lower levels of formal education may not substantially influence participation in outside work. Only higher education (>graduate) showed a significant positive effect.

Being unmarried did not significantly change time spent outside. This may reflect cultural or economic conditions where unmarried women either live in supportive households or have limited opportunities, balancing out any difference. Perceived social norms did not have a measurable impact, suggesting that women may find ways to engage in work outside the home regardless of societal expectations.

Limited participation in community social services was non-significant implying that social service involvement does not directly influence women's time allocation for income-generating activities. Weak family support did not show

significance, potentially because women adapt their routines to manage domestic and economic responsibilities, or because the majority of households provide at least minimal support. The number of household members also did not significantly affect women's time outside. Larger households may provide shared labor, balancing domestic demands, while smaller households may require women to divide time between home and income-generating work.

4.3.2 Factors influencing time spent by rural women outside home (in hr) in Chandel district

Analysis of the result in Table 4.26 indicates the factors influencing the time spent by rural women outside the home for income-generating activities in Chandel district. The result obtained an R^2 value of 0.417 and an adjusted R^2 of 0.328, indicating that about 41.70 per cent of the variation in the time spent outside home is explained by the independent variables selected.

Table 4.26 Time spent by rural women outside home (in hr) in Chandel district

Model	Unstandardized Coefficient		Standardized coefficient	't' value	p-value
	B	Std. Error	Beta		
(Constant)	5.741	1.077		5.331	< 0.001
Age (years)	0.044	0.023	0.306	1.883	0.062*
No.of children dependent	0.067	0.065	0.075	1.037	0.302
Land holding (in ha)	-0.729	0.17	-0.497	-4.287	< 0.001**
Access to credit	0.136	0.199	0.048	0.683	0.495
Training	-0.404	0.202	-0.141	-1.997	0.048**
Experience (in years)	-0.036	0.025	-0.203	-1.445	0.151
Access to market	0.36	0.239	0.114	1.509	0.134
Decision making	0.112	0.19	0.041	0.589	0.557
Income contributed by women (in1000's)	0.228	0.079	0.285	2.883	0.005**
Health issue	0.045	0.22	0.015	0.206	0.837
Income contributed by men (in 1000's)	0.021	0.047	0.061	0.442	0.659

Dummy_Education_Primary	0.008	0.254	0.003	0.031	0.975
Dummy_Education_secondary_HS/PU	0.355	0.25	0.123	1.421	0.158
Dummy_Education_>Graduate	0.079	0.587	0.01	0.135	0.893
Dummy_Marital_status_unmarried	0.184	0.306	0.046	0.602	0.548
Dummy_Employment_type_Wage_labourer	-0.413	0.268	-0.115	-1.543	0.125
Dummy_Social_norms_Restricted	0.055	0.315	0.019	0.174	0.862
Dummy_Social_services_Limited_involvement	-0.073	0.249	-0.021	-0.294	0.769
Dummy_Social_services_Active_involvement	-0.21	0.229	-0.065	-0.917	0.361
Household_size	0.54	0.235	0.17	2.3	0.023**
*=significant at 10% **=significant at 5% ***=significant at 1% NS=not significant	$R^2 = 0.417$ Adjusted $R^2 = 0.328$ p-value = 0.00000001				

Dependent variable: Time spent by rural women outside home (hr)

(Source: Primary data processed)

Table 4.26 showed that landholding size ($p < 0.001$) had a strong influence but negatively, suggesting that women with larger land holdings spend less time outside the home. This can possibly be that wealthier households with more land may not require women to work outside or may employ laborers instead reflecting economic comfort and reduced need for mobility. Training ($p = 0.048$) was also seen significant but negatively, indicating that women who have received some form of training tend to spend more time in home-based productive work rather than outdoor wage work. Training programs appear to enhance their skills, confidence, and opportunities for income generation.

The explanatory variable income contributed by women (in 1000's) with ($p = 0.005$) was another important factor, reflecting that as women's own contribution to household income increases, the more time they spend outside their home for earning purposes, which further highlights the direct link between women's income participation and their economic empowerment. The household size was statistically

significant ($p = 0.023$), implying that women belonging to larger households are more likely to spend extra time outside their home for more income-generating activities.

Other variables such as age, number of dependent children, access to credit, experience, market access, decision-making role, education, marital status, employment type, social norms, and social services were not found to be statistically significant. This suggests that these factors did not have a strong impact on the time rural women spent outside the home for income-generating activities in Chandel district.

The two district i.e Churachandpur and Chandel districts shows differences in the factors influencing the time spent by rural women outside their home for income-generating activities. In both districts, the overall models were found to be highly significant, indicating that the selected socio-economic and household factors together have a strong impact on women's participation in economic activities outside the household.

However, the explanatory variables that significantly influenced women's work participation differed between the two areas. In Churachandpur district, significant variables included were landholding size, education level (above graduate), income contributed by women, and employment type (wage labourer), along with family support being marginally significant. These results suggest that in Churachandpur, women's contribution is more affected by education, employment opportunities, and household support systems.

In contrast, in Chandel district, significant variables were landholding size, training, income contributed by women, and household size. Indicating that training and household structure played a more prominent role than education or employment type. This suggests that in Chandel, women's involvement in outside economic activities is more influenced by skill development programs and family composition, rather than formal education or wage-based employment as compare to churachandpur district. It can also be seen that landholding size and income contributed by women were significant in both districts, highlighting that economic resource ownership and

women's income contribution are consistent determinants of time spent outside home across regions, reflecting their motivation and capacity of women to participate in more income generating activities.

4.3.3 Factors influencing the overall time spent by rural women outside home (in hr) in both districts

The estimation of multiple regression model to identify the factors influencing the time spent by rural women outside their home for income-generating activities across both Churachandpur and Chandel districts was presented in Table 4.27. The model recorded an R^2 value of 0.233 and an adjusted R^2 of 0.174, indicating that about 23.30 per cent of the variation in the dependent variable is explained by the selected explanatory variables. Although the explanatory power is moderate, the overall model is highly significant ($p < 0.001$), showing that the variables taken together have a significant influence on women's participation in outside economic work.

Table 4.27 Overall Time spent by rural women outside home (in hr)

Model	Unstandardized Coefficient		Standardized Coefficient	't' value	p-value
	B	Std. Error	Beta		
(Constant)	11.26	1.039		10.833	< 0.001
Age (years)	-0.057	0.027	-0.239	-2.132	0.034**
No.of children dependent	0.012	0.078	0.009	0.156	0.876
Land holding (in ha)	0.054	0.175	0.021	0.308	0.758
Access to credit	0.472	0.253	0.097	1.867	0.063*
Training	-0.321	0.272	-0.064	-1.178	0.24
Experience (in years)	-0.022	0.032	-0.076	-0.694	0.488
Access to market	0.187	0.293	0.037	0.64	0.523
Decision making	0.007	0.243	0.001	0.027	0.978
Income contributed by women (in 1000's)	-0.051	0.083	-0.038	-0.612	0.541

Health issue	0.173	0.308	0.035	0.562	0.575
Income contributed by men (in 1000's)	0.01	0.034	0.022	0.287	0.774
Dummy_Education_Primary	-0.132	0.327	-0.027	-0.404	0.687
Dummy_Education_ secondary_HS/PU	0.284	0.315	0.059	0.901	0.368
Dummy_Education_> Graduate	-2.257	0.728	-0.178	-3.098	0.002**
Dummy_Marital_status_ widow	0.133	0.468	0.016	0.284	0.777
Dummy_Employment_type_ triple work burden	0.067	0.276	0.013	0.244	0.808
Dummy_Social_norms_ Restricted	-1.875	0.324	-0.384	-5.782	< 0.001**
Dummy_Social_norms_ Supportive	0.435	0.532	0.045	0.818	0.414
Dummy_Social_services_ Limited_involvement	0.115	0.281	0.025	0.409	0.683
Dummy_Social_services_ active_involvement	-0.536	0.406	-0.074	-1.319	0.188
Dummy_Family_support_ less_support	0.391	0.464	0.046	0.844	0.4
Dummy_Family_support_ Strong_support	0.169	0.316	0.03	0.535	0.593
Household_size	0.03	0.07	0.023	0.431	0.666
*=significant at 10% **=significant at 5% ***=significant at 1% NS=not significant	$R^2 = 0.233$ Adjusted $R^2 = 0.174$ p-value = 0.00000001				

Dependent variable: Time spent by rural women outside home (hr)

(Source: Primary data processed)

The education level above graduate, social norms (restricted), and age were found to be statistically significant. The variable education above graduate ($p = 0.002$) had a strong but negative relationship, suggesting that Women with higher education spend less time outside the home. This might indicate that more educated women are employed in indoor or professional work, or that they have greater access to technology and services that reduce the need to go out. Social norms (restricted) was also found to be highly significant ($p < 0.001$) but negatively associated with the dependent variable, reflecting that restrictive social norms tend to limit women's freedom and reduce the time they can spend outside their home for work. It highlights

the continuing influence of traditional norms and gender expectations on women's mobility and work participation in rural areas.

Age ($p = 0.034$) was significant at the 5 per cent level, suggesting that younger women are likely to spend more time outside compared to older women. This may be due to higher physical ability, motivation, and willingness among younger women to engage in economic activities. Other variables such as landholding size, access to credit, training, experience, access to market, income contribution (by both men and women), marital status, employment type, family support, social services, and household size were found to be statistically non-significant. This implies that these factors did not have a major influence on the time spent by women outside the home when both districts were considered together.

4.3.4 Factors influencing time spent by rural women at home (in hr) in Churachandpur districts

The results from Table 4.28 showed that among the several selected independent variable age, size of their landholding, income contributed by women, education (above graduate), and employment type (wage labourer) are the major factors influencing women's time spent at home. The model had an R^2 value of 0.391 and an adjusted R^2 of 0.293, which means that about 39.10 per cent of the variation in time spent at home can be explained by the variables included in the model. The overall model is highly significant ($p < 0.001$), showing that the selected variables together have an important effect on how much time women spend on domestic chores.

The result further showed that variable age ($p = 0.041$) was significant, suggesting that older women tend to spend more time at home doing household activities than younger women. As women grow older, they may become less involved in outside work and take on more responsibilities at home. A significant negative relationship was found between landholding size and time spent by women at home ($t = -4.157$, $p < 0.001$), indicating that as landholding size increases, the time women spend at home decreases, suggesting that women from larger farms are more engaged

engaged in agricultural or outdoor activities.

Table 4.28 Time spent by rural women at home (in hr) in Churachandpur district

Model	Unstandardized Coefficient		Standardized Coefficient	't' value	p-value
	B	Std. Error	Beta		
(Constant)	5.093	1.138		4.476	< 0.001
Age (years)	0.066	0.032	0.358	2.059	0.041**
No.of children dependent	0.121	0.081	0.118	1.485	0.14
Land holding (in ha)	-0.781	0.188	-0.365	-4.157	< 0.001**
Access to credit	-0.486	0.275	-0.129	-1.767	0.079*
Training	0.499	0.298	0.122	1.675	0.096*
Experience (in years)	-0.022	0.033	-0.1	-0.664	0.508
Access to market	0.098	0.329	0.026	0.299	0.766
Decision making	0.29	0.256	0.081	1.133	0.259
Income contributed by women (month/1000)	0.278	0.086	0.263	3.251	0.001**
Health issue	-0.471	0.476	-0.124	-0.989	0.324
Income contributed by men (in1000's)	0.032	0.029	0.11	1.115	0.267
Dummy_Education_Primary	-0.104	0.354	-0.027	-0.295	0.769
Dummy_Education_secondary_HS/PU	-0.446	0.354	-0.123	-1.261	0.209
Dummy_Education_>Graduate	2.33	0.758	0.249	3.074	0.003**
Dummy_Marital_status_Unmarried	-0.85	0.741	-0.083	-1.148	0.253
Dummy_Employment_type_wage labourer	-0.685	0.26	-0.191	-2.634	0.009**
Dummy_Social_norms_Restricted	0.594	0.932	0.045	0.637	0.525
Dummy_Social_norms_Supportive	0.581	0.401	0.106	1.448	0.15
Dummy_Social_services_Limited_involvement	-0.07	0.297	-0.017	-0.237	0.813
Dummy_Family_support_less_support	0.002	0.358	0.001	0.007	0.995
Dummy_Family_support_	0.291	0.378	0.062	0.77	0.443

Strong_support					
Household_size	-0.105	0.079	-0.105	-1.327	0.187
*=significant at 10% **=significant at 5% ***=significant at 1% NS=not significant	$R^2 = 0.391$ Adjusted $R^2 = 0.293$ p-value = 0.00000001				

Dependent variable: Time spent by rural women at home (hr)

(Source: Primary data processed)

Income contributed by women ($p = 0.001$) was also significant evincing that as women's income contribution increases, their time spent at home also rises, possibly due to greater involvement in home-based income-generating activities. Education above graduate level ($p = 0.003$) was another important factor. Highly educated women were found to spend more time at home, probably because they are more likely to be involved in professional or income-earning work rather than do field intensive work outside the home.

The variable employment type (wage labourer) was also significant ($p = 0.009$). Women working as wage labourers generally spend less time at home, as their work requires them to be away for longer periods. The variable access to credit were also slightly significant (but negatively) indicating that women with access to credit slightly reduce home time, possibly engaging in income-generating activities outside. And training was also slightly significant at 10% level of significance indicating that women who received training tend to spend slightly more time at home, likely applying their skills in home-based work.

The remaining variables viz, number of dependent children, access to credit, training, health issues, marital status, social norms, family support, and household size were found to be statistically non-significant. This means that these factors did not have a strong influence on the time spent at home by women in the study area.

4.3.5 Factors influencing time spent by rural women at home (in hr) in Chandel District

The estimated regression analysis of women time spent at home in household

chores and family care activities in Chandel district is shown in Table 4.29. The model recorded that about 42.30 per cent of the variation in women's time spent at home is explained by the variables included in the model. The overall model is highly significant ($p < 0.001$), showing that the selected factors together have a strong influence on women's household time allocation.

Table 4.29 Time spent by rural women at home (in hr) in Chandel district

Model	Unstandardized Coefficient		Standardized Coefficient	't' value	p-value
	B	Std. Error	Beta		
(Constant)	11.289	1.57		7.192	< 0.001
Age (years)	-0.044	0.034	-0.21	-1.297	0.197
No.of children dependent	-0.082	0.094	-0.062	-0.866	0.388
Land holding (in ha)	0.868	0.248	0.404	3.505	0.001**
Access to credit	-0.041	0.29	-0.01	-0.143	0.887
Training	0.514	0.295	0.123	1.745	0.083*
Experience (in years)	0.018	0.036	0.07	0.503	0.616
Access to market	-0.557	0.348	-0.12	-1.602	0.111
Decision making	0.104	0.277	0.026	0.375	0.708
Income contributed by women (in 1000's)	-0.428	0.115	-0.365	-3.716	< 0.001**
Health issue	0.059	0.32	0.013	0.184	0.854
Income contributed by men (in1000's)	-0.011	0.068	-0.023	-0.167	0.868
Dummy_Education_Primary	0.037	0.369	0.009	0.101	0.92
Dummy_Education_Secondary_HS/PU	-0.439	0.364	-0.104	-1.206	0.23
Dummy_Education_>Graduate	-0.808	0.855	-0.07	-0.945	0.346
Dummy_Marital_status_Ummarried	-0.107	0.445	-0.018	-0.239	0.811
Dummy_Employment_type_Wage_labourer	0.83	0.39	0.157	2.128	0.035*
Dummy_Social_norms_Restricted	-0.209	0.459	-0.05	-0.456	0.649

Dummy_Social_services_ Limited_involvement	0.464	0.363	0.09	1.276	0.204
Dummy_Social_services_ Active_involvement	0.359	0.334	0.076	1.074	0.285
Dummy_Family_support_ Strong_support	-0.738	0.342	-0.158	- 2.157	0.033*
Household_size	0.009	0.079	0.008	0.114	0.909
*=significant at 10% **=significant at 5% ***=significant at 1% NS=not significant	$R^2 = 0.423$ Adjusted $R^2 = 0.336$ p-value = 0.000000005				

Dependent variable: Time spent by rural women at home (hr)

(Source: Primary data processed)

The variable landholding size ($p = 0.001$) had a positive and significant influence, indicating that women from households with larger landholdings tend to spend more time at home. This may be because such families are more economically stable and women may not need to engage as much in outside wage work.

Another variable Income contributed by women ($p < 0.001$) was also found to be statistically significant but with negatively associated, showing that women who contribute more income to the household spend less time at home. This is comprehensible, as women engaged in outside income-generating work have less time available for domestic chores and less time to nurture her family.

The employment type (wage labourer) was found to be statistically significant ($p = 0.035$) in the estimated model, suggesting that women working as wage labourers spend less time at home since their work requires them to be away for long hours. Training ($p = 0.083$) showed a near-significant influence, meaning that women who have received some kind of training tend to spend slightly more time at home, possibly because they are more involved in productive or skill-based activities outside. Family support (strong support) was also significant ($p = 0.033$) but negatively, implying that women who receive strong family support may be able to balance or delegate household responsibilities along with working outside more effectively, possibly allowing them more freedom to divide their time between domestic and outside activities.

Other variables such as age, number of dependent children, access to credit, experience, access to market, education, marital status, social norms, and social services were not found to be statistically significant. This means these factors do not have a major influence on women's time spent at home in this district.

4.3.6 Factors influencing the overall time spent by rural women at home (in hr) in both districts

The regression analysis was conducted to examine the factors influencing the time spent by rural women at home in household and family care activities for both Churachandpur and Chandel districts combined. The model recorded an R^2 value of 0.282 and an adjusted R^2 of 0.226, indicating that about 28.20 per cent of the variation in women's time spent at home is explained by the variables included in the model. The overall model was highly significant ($p < 0.001$), showing that the explanatory variables together have an important effect on how women divide their time for domestic work.

Table 4.30 Overall Time spent by rural women at home (in hr)

Model	Unstandardized Coefficient		Standardized Coefficient	't' value	p-value
	B	Std. Error	Beta		
(Constant)	5.453	1.001		5.445	< 0.001
Age (years)	0.059	0.026	0.248	2.278	0.023**
No.of children dependent	-0.052	0.075	-0.037	-0.688	0.492
Land holding (in ha)	0.268	0.169	0.103	1.587	0.114
Access to credit	-0.352	0.244	-0.073	-1.447	0.149
Training	0.425	0.262	0.085	1.618	0.107
Experience (in years)	0.003	0.031	0.011	0.1	0.92
Access to market	-0.44	0.282	-0.087	-1.559	0.12
Decision making	-0.047	0.234	-0.01	-0.201	0.841
Income contributed by women (in 1000's)	-0.097	0.08	-0.072	-1.215	0.225
Health issue	-0.302	0.297	-0.061	-1.016	0.31

Income contributed by men (in 1000's)	-0.008	0.033	-0.017	-0.229	0.819
Dummy_Education_Primary	0.197	0.315	0.04	0.624	0.533
Dummy_Education_secondary_HS /PU	-0.313	0.303	-0.066	-1.031	0.303
Dummy_Education_>Graduate	1.531	0.702	0.122	2.182	0.03**
Dummy_Marital_status_widow	0.025	0.451	0.003	0.054	0.957
Dummy_Employment_type_triple_ work_burden	0.343	0.266	0.069	1.289	0.199
Dummy_Social_norms_Restricted	2.023	0.312	0.416	6.476	< 0.001**
Dummy_Social_norms_Supportive	-0.35	0.513	-0.036	-0.683	0.495
Dummy_Social_services_Limited_ involvement	-0.127	0.271	-0.028	-0.468	0.64
Dummy_Social_services_active_ involvement	0.753	0.391	0.105	1.924	0.055*
Dummy_Family_support_moderate_ _ support	-0.549	0.447	-0.065	-1.229	0.22
Household_size	-0.568	0.305	-0.101	-1.865	0.063*
*=significant at 10% **=significant at 5% ***=significant at 1% NS=not significant	$R^2 = 0.282$ Adjusted $R^2 = 0.226$ p-value = 0.000000000008				

Dependent variable: Time spent by rural women at home (hr)

(Source: Primary data processed)

The variable age ($p = 0.023$) had a positive influence, suggesting that older women tend to spend more time at home compared to younger women as older women often take on greater responsibilities for household management and family care, while younger women are more active in outside income-generating work. Education above graduate level ($p = 0.03$) was also significant but positively associated with time spent at home suggesting that women with higher education levels are likely to spend more time doing household chores or family care, as they often have better access to professional or income-earning opportunities at home. Social norms (restricted) was highly significant ($p < 0.001$) and positively related, indicating that in households or

communities where social norms are more restrictive, women tend to spend more time at home.

The variable household size ($p = 0.063$) show negative weak significant, suggesting that Larger households are associated with slightly less time spent at home, maybe because responsibilities are shared or women engage in activities outside home. and social services (active involvement) ($p = 0.055$) were close to being significant, suggesting that active participation in social services may have a slight influence on women's domestic time, but not strongly enough to be conclusive.

The remaining variables such as were found to be not statistically significant, implying that they did not have a major effect on the time women spent on household chores and caregiving in the combined sample.

Overall, the results suggest that age, education, and social norms are the most important factors influencing the time women spend at home. Older and less educated women, especially those living under more restrictive social conditions, tend to spend more time on domestic and family care activities. On the other hand, women with higher education and greater social participation are more likely to balance or reduce their time spent at home through involvement in outside work or community activities.

The coefficient of determination (R^2) obtained from the above regression models explaining time spent by rural women at home (hrs) and outside the home (hrs) was observed to be below 50 per cent. This indicates that the explanatory variables included in the model account for less than fifty % of the variation in women's time allocation. However, this does not undermine the validity of the model. Time-use behavior of rural women is influenced by a wide range of socio-economic, cultural, psychological, institutional and household specific factors, many of which are difficult to quantify and hence could not be incorporated into the model. Moreover, time allocation decisions are highly variable and subject to seasonal fluctuations, household responsibilities, and social norms prevalent in the study area. Furthermore, in social science and gender studies, particularly those dealing with behavioral and time-use data, lower R^2 values are found to be common. Despite the lower explanatory power,

the present study showed several explanatory variables to be statistically significant and are consistent with theoretical expectations, indicating their relevance in influencing rural women's participation in economic and non-economic activities.

The coefficient of determination (R^2) and adjusted R^2 values obtained in the above tables were relatively low, indicating that only a modest proportion of the variation in the dependent variable was explained by the selected variables. However, according to Ozili, P.K. (2022), low R^2 values are common and acceptable in social science research, particularly when the objective is to identify significant relationships. Therefore, the model is considered adequate as some of the explanatory variables were statistically significant and theoretically relevant.

4.4 Comparison of economic variables between Churachandpur and Chandel district.

An independent sample t-test was conducted to examine whether significant differences existed between Churachandpur and Chandel districts with respect to selected economic variables of rural women. The results are presented in table 4.31

Table 4.31 Comparison of economic variables between Churachandpur and Chandel

Particulars	Mean (Churachandpur)	Mean (Chandel)	t-value	p-value	Result
Total household income (Rs/ annum)	325009.43	305417.08	2.04**	0.04	S
Farm income (Rs/annum)	294392.55	267142.08	2.84*	0.00	S
Non-farm income(Rs/annum)	30616.88	38275.00	-2.74*	0.01	S
Hours spent in economic activities per day by women (hr/ day)	9.35	9.63	-1.07	0.284	Ns
Hours spent in non-economic activities per day by women (hr/day)	7.21	7.06	1.30	0.19	Ns

Source: calculated by author *, ** significance at 1% and 5% level respectively. (S=significant, NS=not significant)

The result revealed significant differences between Churachandpur and Chandel districts with respect to total household income, farm income, and non-farm income. Churachandpur district recorded higher total household income which showed statistically significant at 5% level ($t = 2.04$, $p = 0.04$) and farm income with calculated t -value (2.84) and p -value (0.00). This may be attributed to better agricultural productivity, improved market opportunities or higher returns from agricultural activities. While women in Chandel district showed higher non-farm income indicating a statistically significant result ($t = -2.74$, $p = 0.01$), which attributed to better returns from non-farm livelihood activities, that may be business related enterprises. The findings were in line with Islam *et al.* (2021) indicating that more income comes from off-farming activities rather farming activities. However, no significant difference was observed in the hours spent in economic and non-economic activities per day by women, indicating similar work participation patterns in both districts. Women in both districts devoted approximately 9–10 hours per day to economic activities and about 7 hours per day to non-economic activities. The non-significant t -test results indicate similar work participation and time-use patterns among rural women across the two districts. This suggests that differences in income levels are likely due to variations in the returns from livelihood activities rather than differences in the amount of time spent on work.

The findings of the study revealed that several socio-economic, demographic, and institutional factors significantly influenced the participation and time allocation of rural women in various economic and non-economic activities. The results further demonstrated significant variations in income levels, activity participation, and the determinants affecting women's involvement in different domains. Therefore, the null hypothesis (H_0), which stated that the selected socio-economic, demographic, and institutional factors do not significantly influence the participation and time spent by rural women in economic and non-economic activities, was rejected. Consequently, the alternative hypothesis (H_1) was accepted, indicating that these factors exert a significant influence on the domain of rural women and their engagement in economic and non-economic activities in the study area.

4.5 Constraints faced and formulate strategy for promoting more Economic Activities by the women for increasing income

4.5.1 Constraints faced by rural women

An attempt has been made to identify the constraints which were faced by the rural women. The details about these constraints are presented below in Table 4.32. The data was collected through structured interviews and were analyzed using Garrett Ranking. The constraints faced by the respondents have been categorized into personal, social, economic and technical constraint.

Table 4.32(A) indicates that the rank order of personal constraints as perceived by the rural women, in which dual responsibility at home and farm was ranked I with per cent position of 94.44, similar observations have been highlighted in the study conducted by Gupta and Garima (2019) and Vishwakarma *et al.* (2020) , followed by Women's role in child care practices as ranked II with (83.33 per cent), more engagement in household work as ranked III (72.22 per cent), Lack of education resulting to low awareness among women as ranked IV (61.11 per cent), Lack of awareness due to dependency on male as ranked V with (50.00 per cent), Low physical strength for agriculture activities as ranked VI with (38.88 per cent), Health and mal-nutrition as ranked VII with (27.78 per cent), Lack of free time / personal care as ranked VIII with (16.67 per cent) and Lack of family support and guidance as ranked IX with (5.56 per cent), respectively.

Table 4.32(B) shows the rank order of social constraints faced by the respondents, Unequal distribution of housework work was ranked I with (91.67 per cent position), followed by Lack of motivation among rural women as rank II (75.00 per cent position), Lack of access to Land and other productive resources as rank III (58.33 per cent), Women are overlooked in decision making process as rank IV with (41.67 per cent position), Non-recognition of women's contribution as rank V with (25.00 per cent position) and Social customs and traditional beliefs as rank VI with (8.33 per cent position), respectively.

Table 4.32(C) shows the rank order of economic constraints faced by the respondents, it was reposted that lack of financial independence of women among the

respondents were rank I with 87.50 per cent position. Followed by Financial dependency on men as rank II with 62.50 per cent position. Similar findings were also reported by Chauhan *et al.* (2024). Costly agricultural tools as ranked III with per cent position of 37.50 and lack of access to credit as rank IV with per cent position of 12.50), respectively.

Table 4.32(D) shows the rank order of technical constraints faced by the respondents, it indicates that Lack of training program was rank I with average mean score (100.15), which is in conformity with the study conducted by Chauhan *et al.* (2024). Followed by Lack of technical knowledge with per cent position of 62.50 placed at rank II, with Non access to gender friendly tools as rank III with average mean score of (101.19) and Inadequate awareness and orientation as rank IV with average mean score (103.02), respectively.

Table 4.32 Constraints faced by the respondent (n=320)

SL NO	CONSTRAINTS	Average score	Percent position	Rank
A	PERSONAL CONSTRAINTS			
1	Dual responsibility at home and farm	249.18	94.44	I
2	Women's role in child care practices	220.18	83.33	II
3	More engagement in household work	174.83	72.22	III
4	Lack of education resulting to low awareness among women	234.19	61.11	IV
5	Lack of awareness due to dependency on male	237.41	50.00	V
6	Low physical strength for agriculture activities	167.33	38.88	VI
7	Health and mal-nutrition	228.46	27.78	VII
8	Lack of free time / personal care	167.34	16.67	VIII
9	Lack of family support and guidance	128.91	5.56	IX
B	SOCIAL CONSTRAINTS			
1	Unequal distribution of housework work	155.73	91.67	I
2	Lack of motivation among rural women	130.07	75.00	II

3	Lack of access to Land and other productive resources	141.96	58.33	III
4	Women are overlooked in decision making process	132.23	41.67	IV
5	Non-recognition of women's contribution	130.54	25.00	V
6	Social customs and traditional beliefs	168.27	8.33	VI
C	ECONOMIC CONSTRAINTS			
1	Lack of financial independence of women	117.45	87.50	I
2	Financial dependency on men	100.45	62.50	II
3	Costly agricultural tools	112.91	37.50	III
4	Lack of access to credit	103.94	12.50	IV
D	TECHNOLOGICAL CONSTRAINTS			
1	Lack of training program	100.15	87.50	I
2	Lack of technical knowledge	101.67	62.50	II
3	Non access to gender friendly tools	101.19	37.50	III
4	Inadequate awareness and orientation	103.02	12.50	IV

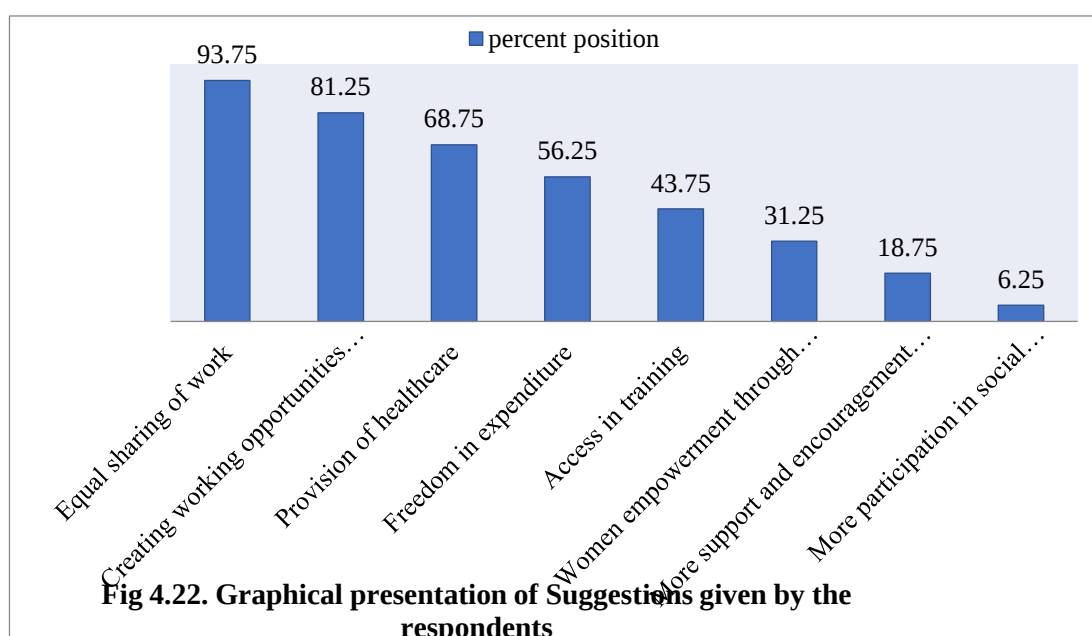
4.5.2 Suggestions provided by rural women

Table 4.33 shows the suggestions provided by rural women regarding their involvement in both economic and non-economic activities revealed their aspirations for healthier support, acknowledgment and capacity-building. These suggestions reflect their lived experiences, challenges and the changes they perceive as necessary to enhance their participation and productivity. From the Table 4.33, it could be concluded that equal sharing of work was ranked I with 93.75 per cent position. Sonkar *et al.* (2025) had mentioned similar results, indicating the need for fair treatment and inclusions of women. Followed by creating working opportunities during off-season as ranked II with 81.25 per cent position, provision of healthcare as rank III with 68.75 per cent position, Freedom in expenditure as rank IV with 56.25 per cent position,

access in training as rank V with 43.75 per cent position, Women empowerment through self help group as rank VI with 31.25 per cent position, More support and encouragement from husband and family as rank VII with 18.75 per cent position and More participation in social activities as ranked VIII with per cent position of 6.25, respectively.

Table 4.33 Suggestions provided by rural women

Sl. No.	SUGGESTIONS	Average score	Percent position	Rank
(A) Economic activities				
1	Equal sharing of work	211.65	93.75	I
2	Creating working opportunities during off-season	197.40	81.25	II
3	Freedom in expenditure	153.73	56.25	IV
4	Access in training	171.43	43.75	V
5	Women empowerment through self help group	200.32	31.25	VI
(B) Non-economic activities				
1	Provision of healthcare	148.00	68.75	III
2	More support and encouragement from husband and family	199.93	18.75	VII
3	More participation in social activities	183.05	6.25	VIII



4.5.3 Strategy for promoting more economic activities for increasing income

The strategies for promoting economic activities among rural women were identified based on the responses of the respondents regarding factors that could enhance their income-generation potential in the study area. The strategies are discussed below:

1. Creation of off-season employment opportunities:

Rural household often depends on seasonal agriculture, causing income gaps during lean periods. Promoting activities such as mushroom cultivation, poultry farming, embroidery, candle making, soap making, food processing, tailoring, etc can provide year round employment. This strategy can improve income of the household and reduce dependence on single source of livelihood.

2. Skill development and access to training:

Another effective ways to enhance rural women income can be by promoting skill development programs and trainings. Many tribal women have traditional knowledge, but they lack training to turn it into profitable activities. Hence, short term technical training with practical demonstration on areas such as tailoring, knitting, food processing, mushroom cultivation, poultry farming, etc can be offered which can directly transform into income-generating activities. By learning new skills, women can diversify their sources of income and explore new opportunities.

3. Strengthening Self-Help Groups (SHGs):

SHGs encourage saving, provide access to microcredits, which in turn can support small income generating activities. Among the challenges faced by rural women, lack of money is one of it. Thereby, strengthening Self-Help Groups (SHGs) in the study area can encourage women to save better and can also take small loans collectively, which can be used to purchase equipments, raw materials or expand their business. Financial literacy sessions can also be provided to help women manage income and save better.

4. Market Linkages:

The women in the study area possess weaving skill. In order to enhance their income through it, a proper market access can be provided. It can be achieved by

linking the women with local markets, cooperatives, and online platforms. Providing collective selling points, transport support, and training in packaging, pricing, and marketing will help them reach wider markets and increase their income.

5. Support from family and community.

Encouraging equal participation of men and women in productive activities. Family and community support also play a vital role in enhancing women's participation. Awareness programs can be conducted for families and communities to inculcate the benefits of women's economic participation.

6. Encouraging Non-Farm Activities and motivation among the rural women:

At times agriculture alone does not provide enough income as it is seasonal. So, activities that will aid income is to promoted such as allied activities like poultry farming, dairy, beekeeping, handicrafts, mushroom cultivation, baking etc. Women can learn value addition, turning raw materials into sellable products. Peer learning can also be enhanced, like women who possess skill in weaving can teach other women. This will strengthen their bonding and also earn income.

CHAPTER V

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

This chapter provides a summary of the results of the present study on **“Domain of rural women on economic and non-economic activities in Manipur”** conducted in two districts, namely, Churachandpur and Chandel of Manipur state. A total of 4 blocks with 10 villages each were selected from which 8 respondents were selected from each village comprising of 320 respondents. The present study was undertaken with the primary objective of examining their socio-economic profile of the selected respondents, their nature and extent of participation levels and time spent by the rural women on economic and non-economic activities in the study area, factors influencing their performance and constraints faced by rural women in both economic and non-economic activities. The analysis of their socio-economic status, extent of participation, and time use patterns therefore provides a comprehensive understanding of their multifaceted role in sustaining rural livelihoods.

5.1 To study the socio-economic status of rural women in the study area,

Based on landholding size, the study reveals that majority of households belong to the marginal and small farmer categories. Marginal farmers (below 1.00 ha) constituted the largest share with 42.20 per cent, followed closely by small farmers (1.00–2.00 ha) at 40.30 per cent. Semi-medium farmers (2.00–4.00 ha) comprised 13.40 per cent, while medium farmers (4.00–10.00 ha) formed only 4.1.00 per cent. Notably, no respondents were found in the large farm category (above 10.00 ha).

Based on marital status, married women dominated across all categories, constituting 91.56 per cent of the total respondents. Unmarried women formed only 0.93 per cent, while widows accounted for 7.60 per cent. Among widows, the largest share was found in marginal farms (50.00 per cent), followed by small farms (45.80 per cent), and a very small proportion in semi-medium farms (4.20 per cent). No widows were recorded in the medium category.

Distribution of respondents according to age indicates that respondent belonging to Medium age group, ranging from 34-53 years of age were found to be

highest with 57.50 per cent, followed by higher age group of 53 years and above with 22.81 per cent and 19.69 per cent with lower age group (below 34 years of age).

As far as educational level is concerned, it was seen that the highest 36.87 per cent was found to be in high school level of education. More than half of the populations were found to be literate. It could be seen that only 27.50 per cent of the respondent were found to be illiterate.

According to the study, majority of the respondent had a medium family size consisting of 4-6 family members, i.e. 63.44 per cent. While large family size (above 6 members) families had 19.60 per cent and small family size (upto 3 members) had 17.50 per cent.

More than 50.00 per cent of the respondent took agriculture alone as their primary occupation (72.51 per cent), while 26.56 per cent were engaged in agriculture along with business in order to supplement their source of income.

The respondent were also categorized according to their family type, where it was found that 236 (73.75 per cent) household had nuclear family, while 84 household (26.25 per cent) had a joint family.

It was also found that female members were more (52.36 per cent) as compared to male members (47.64 per cent). Almost all the sampled populations were also involved in rearing livestock.

5.2 To study the nature and extent of participation of rural women and also workout the time spent by the women in economic and non-economic activities

5.2.1 Economics of paddy production in Churachandpur district

Based on the study conducted under Churachandpur district for paddy cultivation, it was observed that out of the total variable cost of Rs 28,033.73 per ha, machinery labour was found highest with an overall value of Rs 6,818.12 (12.73 per cent), followed by fertilizer accounting for Rs 6,648.04 (12.41 per cent).

In terms of operational costs (Rs 8,180.43 per ha), the largest component was: found to be in Hired labour, which cost Rs 3,729 (6.96 per cent), followed by Family labour at Rs 1,827.57 (3.41 per cent). Overall, variable costs made up 52.34 per cent of the total cultivation cost, indicating that more than half of the farming expenditure is tied to recurring inputs and operations that vary with the scale and intensity of cultivation.

On the other hand, the fixed costs amounted to an average value of Rs 25,519 per ha, contributing 47.66 per cent of the total cost. The largest component here was the rental value of owned land, which stood at an average value of 39.44 per cent of the total cost of cultivation, which was followed by Interest on fixed capital at Rs 2,410.50 (4.51 per cent). With regard to returns, the gross income per ha was calculated at an average of Rs 76,237, derived from the main product yield at an average of 40.50 quintals/ha at Rs 1,600 per quintal (Rs 64,800), and the average by-product yield of 57.19 quintals/ha at Rs 200 /q (Rs 11,437).

The average Benefit-Cost (BCR) at C_2 stood at 1.48, implying that for every rupee spent, there was a return of ₹1.48, indicating a moderately profitable farming enterprise.

5.2.2 Economics of paddy production in Chandel district

Based on the study conducted under Chandel district for paddy cultivation, it was observed that out of the total cost of cultivation, variable cost accounted for an average of 52.07 per cent of the total cost of Rs 30,012.99 per ha, in which machinery labour was found highest with an average value of Rs 8,998.47 (15.61 per cent), followed by fertilizer accounting for Rs 6,629.71 (11.50 per cent).

In terms of operational costs (Rs 8,796.76 per ha), the largest component was: found to be in hired labour, which cost Rs 3,516.59 (6.10 per cent), followed by family labour at Rs 2,479.97 (4.30 per cent.)

The fixed costs amounted to an average value of Rs 27,640 per ha, contributing 47.93 per cent of the total cost. The largest component here was the rental value of owned land, which stood at an average value of 38.85 per cent of the total cost of cultivation, which was followed by Interest on fixed capital at Rs 3,740 (6.48 per cent) and Depreciation at Rs 1,500 (2.60 per cent).

With regard to returns, the gross income per ha was calculated at an average of Rs 77,868.50, derived from the main product yield at an average of 41.50 q/ha at Rs 1,600 /q (Rs 66,400), and the average by-product yield of 57.34 q/ha at Rs 200 /q (Rs 11,468.50).

The average Benefit-Cost (BCR) (over Cost C₂) stood at 1.39, implying that for every rupee spent, there was a return of ₹1.39, indicating a moderately profitable farming enterprise.

5.2.3 Nature and extent of participation of rural women

5.2.3.1 Work participation in farm activities

The data highlights gender-wise participation in rice production activities across two districts: Churachandpur and Chandel. It examines how men, women, and joint efforts contribute at different stages, offering insights into labor distribution in traditional agricultural practices.

In land preparation, both districts show that men are the primary contributors, with 53.68 per cent in Churachandpur and 51.43 per cent in Chandel. Joint efforts also play a considerable role, especially in Chandel (32.14 per cent).

During ploughing and puddling, Churachandpur stands out with men accounting for 100.00 per cent of the labor. In contrast, Chandel shows more diverse participation with 45.00 per cent by men, 36.43 per cent by joint efforts, and 18.57 per cent by women.

For sowing and seed treatment, men again take the lead in both districts. However, there is notable joint participation: 33.82 per cent and 29.41 per cent in Churachandpur, and 29.29 per cent and 20.71 per cent in Chandel for sowing and seed treatment, respectively. Women also show a stronger presence in seed treatment in Chandel (30.71 per cent), reflecting their involvement in detail-oriented tasks.

The intercultural operations, which include activities like weeding, see a reversal in gender dominance. Women take on the majority of this work, especially in Churachandpur (62.50 per cent) and Chandel (50.71 per cent) requiring continuous attention and physical labor but are often managed within the village premises, aligning with women's accessibility and roles.

In the area of integrated nutrient management, men dominate in Churachandpur (67.65 per cent), whereas Chandel again shows a more balanced approach with 47.86 per cent male and 34.29 per cent joint participation.

Regarding integrated plant protection, particularly the use of insecticides and fungicides, Churachandpur shows that men contribute over half the effort (52.94 per cent), with joint participation accounting for about a third. In Chandel, male involvement is slightly lower (47.86 per cent), but joint contribution is higher (35.71 per cent), again reflecting more collaborative patterns.

When it comes to harvesting, Churachandpur reports 52.21 per cent of work done jointly, while in Chandel, women perform the largest share (47.14 per cent), showing that harvesting is a more gender-inclusive task and often managed by family units.

Post-harvesting activities, such as threshing and storage, display a relatively even distribution of labor. In threshing, Churachandpur has higher joint effort (44.12 per cent), while Chandel sees balanced participation among men (36.43 per cent), women (32.86 per cent), and joint (30.71 per cent). For storage, both districts reflect collaborative participation, although men slightly lead in Churachandpur and joint efforts dominate in Chandel. Looking at overall average rice production activities, men

contribute the most in both districts (50.00 per cent in Churachandpur, 42.01 per cent in Chandel).

5.2.3.2 Work participation in vegetable farming activities

The data provides a gender-wise breakdown of participation in various vegetable production activities across the Churachandpur and Chandel districts.

In land preparation, men dominate in both districts. In Churachandpur, 51.22 per cent of the work is done by men, followed by 36.59 per cent jointly and only 12.20 per cent by women. Chandel sees even higher male participation at 58.54 per cent, with 31.71 per cent done jointly and just 9.76 per cent by women. This suggests that the initial labor-intensive tasks are largely male-led, though joint efforts are not insignificant.

Ploughing further emphasizes male dominance, particularly in Chandel where men undertake 67.07 per cent of the task. In Churachandpur, 60.98 per cent of ploughing is done by men and 39.02 per cent jointly, with no female participation reported. This reflects traditional gender roles where ploughing is considered a physically intensive male responsibility.

Seed treatment is more inclusive, especially in Chandel. Women in Chandel contribute 39.02 per cent, compared to 24.39 per cent by men, showing their involvement in preparatory tasks. In Churachandpur, the activity is more evenly distributed: men (36.59 per cent), women (29.27 per cent), and joint (34.15 per cent), suggesting a relatively balanced division of labor.

The task of sowing is led by women in both districts. Churachandpur sees 53.66 per cent female participation, while in Chandel, women account for 48.78 per cent. Men's involvement in both districts is comparatively low (24.39 per cent), while joint participation stands around 22.00–27.00 per cent. This indicates that women are the main contributors to this vital phase of planting crops.

In intercultural operations such as weeding, women again play a leading role. In Churachandpur, women account for 48.78 per cent and in Chandel 45.12 per cent. Joint participation is slightly higher in Chandel (36.59 per cent) than in Churachandpur (29.27 per cent), while men have the lowest contribution in both regions.

For integrated nutrient management and plant protection measures, men again dominate. Churachandpur records 43.90 per cent male participation in both activities, with women contributing 24.39 per cent, and the rest handled jointly. Chandel shows even greater male involvement at 51.22 per cent, suggesting these technical or input-related tasks are perceived as male responsibilities.

Harvesting sees a more balanced division in both districts. In Churachandpur, men and women each contribute 36.59 per cent, while joint work covers 26.83 per cent. In Chandel, joint participation is even higher (39.02 per cent), with men and women each contributing 30.49 per cent. This balance suggests harvesting is considered a collaborative family or community activity.

Post-harvesting tasks like cleaning, packing, and transporting are also more balanced. In Churachandpur, women lead with 43.90 per cent participation, while in Chandel, joint efforts are highest at 36.59 per cent, followed by men (34.15 per cent) and women (29.27 per cent). This highlights the increasing role of women and collective efforts after the main fieldwork.

Looking at overall average vegetable production activities, both districts report fairly balanced involvement. In Churachandpur, men's participation is 38.21 per cent, women 30.35 per cent, and joint 31.44 per cent. In Chandel, the distribution is similar: men 39.97 per cent, women 28.59 per cent, and joint 31.44 per cent.

5.2.3.3 Work participation in Livestock management activities

It presents a gender-disaggregated analysis of livestock-related activities in the Churachandpur and Chandel districts. The data provides insights into whom men, women, or both jointly are primarily involved in each activity related to animal care, from food preparation to healthcare.

The activity of preparing food for the family is overwhelmingly carried out by women in both districts. In Churachandpur, women perform 75.00 per cent of this task, with men contributing only 25.00 per cent, and no joint participation recorded. In Chandel, the distribution is more balanced: women (42.50 per cent), men (32.50 per cent), and joint efforts (25.00 per cent), reflecting greater male and collaborative involvement compared to Churachandpur.

In feed and fodder gathering, men take the lead in both districts, contributing 57.50 per cent in Churachandpur and 50.00 per cent in Chandel. Women also participate substantially, 25.00 per cent and 34.38 per cent, respectively, while joint efforts remain relatively lower. This indicates that the physically demanding task of gathering feed is still a male-dominated domain but not exclusive to men.

The feeding of animals is more equitably distributed, especially among women. In Churachandpur, women contribute the highest share (49.38 per cent), followed by men (36.25 per cent) and joint efforts (14.38 per cent). A similar trend is seen in Chandel, with women again leading at 53.13 per cent, men at 25.00 per cent, and joint efforts increasing to 21.88 per cent. This reflects women's central role in daily animal care routines.

Purchasing of feed remains predominantly a male task in both districts, with 55.00 per cent (Churachandpur) and 56.25 per cent (Chandel) male involvement. Joint participation is higher in Churachandpur (25.00 per cent) than in Chandel (15.63 per cent), while women contribute 20.00 per cent and 28.13 per cent respectively. This suggests that market-related tasks are still largely handled by men, but with growing involvement from women and joint decisions.

Giving water to animals is largely performed by women in both areas (59.38 per cent each), while men's contribution remains lower at 25.00 per cent (Churachandpur) and 23.75 per cent (Chandel). Joint efforts are also notable (around 15.00–17.00 per cent), underscoring women's essential role in basic animal care.

When it comes to animal management, including maintenance and cleanliness, the responsibilities are more shared but still reflect gendered trends. In maintenance of animals, men dominate in both districts, especially in Chandel (55.00 per cent), while women contribute 30.00–32.50 per cent, and joint participation is more prominent in Churachandpur (21.88 per cent) than in Chandel (12.50 per cent).

For cleaning animal sheds, women lead with 54.38 per cent in Churachandpur and 55.63 per cent in Chandel, while men contribute 33.13 per cent and 37.50 per cent respectively. This task is more traditionally aligned with women's roles in both regions. Similarly, cleaning of feeding troughs is predominantly done by women, especially in Churachandpur (68.75 per cent) compared to 59.38 per cent in Chandel.

In terms of healthcare activities, particularly care for sick animals, men dominate in Churachandpur (55.00 per cent) but less so in Chandel (46.88 per cent), where joint care is also quite high (29.38 per cent). Women are involved but to a lesser extent. When it comes to purchasing medicines, men again lead at 55.00 per cent in both districts, though women's contribution is higher in Chandel (32.50 per cent) than in Churachandpur (21.88 per cent), showing a slightly more inclusive approach to health-related decision-making.

The overall average livestock-related activities showed that there is a remarkable uniformity in both districts. Men and women each contribute around 41.50–42.00 per cent, with joint efforts making up about 16.50 per cent.

5.2.3.4 Work participation in other economic activities

The data presents gender-wise involvement in selected non-farm and off-farm livelihood activities across the Churachandpur and Chandel districts. These activities include agricultural wage labor, pickle making, weaving, and business-related work. The data also provides an overall picture of participation in all such activities combined.

In the role of agricultural wage labourers, both men and women participate actively, but women take a larger share in both districts. In Churachandpur, women

make up 64.71 per cent of the total wage laborers, while men account for 35.29 per cent. In Chandel, the gap is narrower but still significant, with 53.57 per cent women and 46.43 per cent men. Notably, there is no joint participation reported in either district, suggesting that this work is done individually rather than collaboratively.

Pickle making is a small-scale but entirely women-led activity. In Churachandpur, all 5 individuals involved are women, and in Chandel, all 7 participants are also women. This 100.00 per cent female involvement reflects the traditional association of food preservation and home-based value addition with women's roles. It also shows how women engage in micro-enterprise, even if on a small scale.

Weaving is another area of complete female participation. In Churachandpur, 112 women are involved, while Chandel records even higher numbers with 127 women. No men or joint involvement is noted in either district. This emphasizes the cultural and economic significance of weaving as a women-dominated craft, often rooted in tradition and household-level production systems.

Business activities, on the other hand, reflect a shift toward joint participation. While no men individually engage in business activities in either district, women do 36.36 per cent in Churachandpur and 43.48 per cent in Chandel. However, the majority of business operations are carried out jointly, with 63.64 per cent of business in Churachandpur and 56.52 per cent in Chandel involving both men and women. This suggests that economic ventures in the business domain often rely on household or spousal collaboration.

Looking at overall average off-farm activities, women contribute the most in both districts 75.87 per cent in Churachandpur and 71.56 per cent in Chandel. This overall pattern highlights that women play a dominant role in non-farm and off-farm income-generating work, especially in traditional crafts and food-related enterprises. However, business activities show a growing trend of gender collaboration.

5.2.3.5 Work participation in non-economic activities

The data provides insights into the gendered division of domestic and social responsibilities in Churachandpur and Chandel districts. Activities considered include caring for the family, household chores (like cleaning, washing and cooking-related tasks), cleaning the surroundings, participation in social activities, and overall engagement in domestic roles. It also reflects a clear predominance of women in domestic duties, with varying degrees of male and joint participation.

In the activity of caring for the family, women overwhelmingly take the lead. In Churachandpur, 75.00 per cent of caregiving is done by women and the remaining 25.00 per cent is carried out jointly no male-only involvement is recorded. Chandel follows a similar pattern but with an even higher 84.38 per cent female contribution and only 15.63 per cent joint participation. This clearly reinforces the deeply embedded role of women as primary caregivers within families.

Cleaning the house sees a more diversified participation pattern. In Churachandpur, women contribute 53.13 per cent, men 15.63 per cent, and joint efforts account for 31.25 per cent. Chandel presents similar figures i.e. 56.25 per cent women, 17.50 per cent men, and 26.25 per cent jointly. While women remain the main contributors, the relatively significant proportion of joint efforts indicates some shifting dynamics towards shared domestic responsibilities.

For cleaning utensils, women again dominate. In Churachandpur, 87.50 per cent of this work is done by women, with 12.50 per cent jointly, and no men involved alone. In Chandel, while still highly female-driven (78.13 per cent), men contribute 6.25 per cent, and joint involvement stands at 15.63 per cent. This indicates that while men rarely perform this task alone, there is some level of collaboration in both districts.

Washing clothes is an activity carried out entirely by women in both districts. In Churachandpur, 100.00 per cent of the task is completed by women. In Chandel, it is clearly 100.00 per cent female participation, reinforcing the conventional role of women in laundry related chores.

The task of cleaning the compound (outdoor area) shows more male involvement. In Churachandpur, 28.13 per cent of this work is done by men, while women contribute 59.38 per cent, and 12.50 per cent is performed jointly. In Chandel, male participation drops to 12.50 per cent, while female involvement increases to 71.88 per cent, with 15.63 per cent joint participation. This suggests that while cleaning the surroundings is more likely to involve men than other domestic tasks, women still dominate.

When it comes to social activities, the gender gap narrows. In Churachandpur, men contribute 42.50 per cent, women 37.50 per cent, and joint involvement makes up 20.00 per cent. In Chandel, women take the lead with 46.88 per cent, men at 38.75 per cent, and joint participation at 14.38 per cent. This indicates that social engagements, unlike domestic chores, are more evenly distributed and reflect broader community participation.

Looking at overall average domestic and social activities, women are the primary contributors in both districts. In Churachandpur, 48.75 per cent of the total work is done by women, 34.38 per cent by men, and 16.88 per cent jointly. In Chandel, women's contribution is higher at 55.00 per cent, men's at 28.13 per cent, and joint efforts at 15.63 per cent, highlighting the central role women play in the daily functioning of households and communities, with some growing but still limited male and joint involvement.

5.2.3.6 Overall work-participation level

Finally, in the overall average distribution of all activities, women have the highest share of work. In Churachandpur, women account for 46.31 per cent, men for 33.39 per cent, and joint participation is 20.30 per cent. In Chandel, women lead with 47.83 per cent, men contribute 31.79 per cent, and joint participation remains close at 20.33 per cent, which confirm that women are the backbone of both the economic and non-economic activities, and joint contribution while growing is still limited.

5.2.4 Time spent by rural women in economic and non- economic activities

5.2.4.1 Time utilization in economic activities

The time-use analysis of various livelihood activities in Churachandpur and Chandel districts reveals that both regions invest a significant portion of their day in economic activities, with Chandel slightly exceeding Churachandpur in total and average time spent. In both districts, rice-based activities dominate the daily schedule, accounting for 644 hours/day (4.73 hrs/person) in Churachandpur and 657 hours/day (4.69 hrs/person) in Chandel. Vegetable cultivation requires comparatively less time, with Churachandpur spending 55.5 hours/day and Chandel 96 hours/day, though average individual time remains close in both.

Livestock practices occupy a moderate share of the day, slightly higher in Churachandpur at 225.5 hours/day (1.41 hrs/person) compared to 174 hours/day (1.09 hrs/person) in Chandel. Among other activities, weaving and business show high per-individual time investment, especially in Churachandpur where weaving averages 1.75 hrs/person and business 3.41 hrs/person. Pickle making remains a low-time activity overall, though individuals involved in Chandel spend slightly more time (1.71 hrs/person). Wage labor is time-intensive in both districts, with Chandel averaging slightly higher at 2.04 hrs/person than Churachandpur's 1.97 hrs/person.

Overall, Chandel records higher total time spent at 1557 hours/day (311.4 man-days) with an average of 9.73 hours per individual, while Churachandpur logs 1509 hours/day (301.8 man-days) at 9.43 hours per person. This indicates a slightly greater daily workload in Chandel, with both districts reflecting a heavy reliance on agricultural and labor-based livelihoods.

5.2.4.2 Time utilization in non-economic activities

The data on time spent in domestic and social activities in Churachandpur and Chandel districts highlights the significant contribution of household labor to daily routines, particularly by women. In both districts, cooking takes the most time, with Churachandpur logging 264 hours/day (1.65 hrs/person) and Chandel slightly lower at

256 hours/day (1.60 hrs/person). This is followed by caring for family, where Chandel shows a higher time commitment (205 hours/day) compared to Churachandpur (170.5 hours/day), reflecting an average of 1.28 hrs/person in Chandel and 1.07 hrs/person in Churachandpur.

Other daily household tasks like cleaning the house, cleaning utensils, and washing clothes demand roughly similar time in both districts, with each task averaging around 1 hour per person per day. Cleaning the compound and social activities take relatively less time, about 0.5–0.6 hours per person daily across both locations.

In total, Chandel slightly surpasses Churachandpur in overall time spent on domestic and social duties, with 1117 hours/day (6.98 hrs/person) compared to 1089 hours/day (6.81 hrs/person) in Churachandpur. It indicates that a substantial part of the day nearly 7 hours is devoted to unpaid domestic work, underscoring the invisible labor burden carried largely within households, especially by women.

5.2.4.3 Overall time allocation pattern of rural women

On average, individuals spend 7.31 hours working inside the household, which includes care work (1.57 hours), cooking (1.63 hours), household chores (3 hours), and other social activities (1.11 hours). Livestock activities take up about 1.25 hours, while on-farm agricultural work consumes 3.33 hours. Time dedicated to vegetable or kitchen garden activities averages 1.23 hours, and involvement in the non-farm sector (wage and self-employment) accounts for 1.99 hours daily.

Overall, work outside the house, which includes livestock, farming, vegetable growing, and non-farm employment, totals around 7.8 hours per day. Combined with household work, this amounts to a demanding 15.12 hours of total work daily.

In addition to work, individuals spend approximately 1.01 hours on leisure activities (rest, personal care, etc.) and 6.88 hours sleeping, highlighting a tightly packed daily schedule balancing labor-intensive work and minimal rest.

5.2.4.4 Valuation of women's domestic work using Replacement Cost Method

Women dedicate an average of 6 hours per day across various domestic tasks such as cooking (1.75 hours), family care (1.5 hours), cleaning the house (1 hour), washing utensils (1 hour), washing clothes (1 hour), and cleaning the compound (0.75 hours). Assuming these activities are carried out every day in a month (30 days), this amounts to a substantial number of working hours.

When these hours are valued at the government's minimum wage rate for each specific activity, the total economic value of women's unpaid domestic contribution sums up to Rs. 9,884.06 per month. This figure demonstrates that, although these efforts are unpaid and often invisible in traditional economic measures, they represent a significant input equivalent to nearly ten thousand rupees monthly.

This valuation underscores the critical role women play in sustaining households and communities through their unpaid labor, highlighting the need for greater recognition and support for domestic work within economic and social policies.

5.3 To identify the factors influencing women's performance of opting different economic and non-economic activities

5.3.1 Factors influencing time spent by rural women outside home (in hr) in Churachandpur district

A multiple regression analysis was conducted to understand the factors influencing the time rural women in Churachandpur district spend outside their homes on income-generating activities. The model revealed an R^2 value of 0.384 and an adjusted R^2 of 0.286, indicating that approximately 38.40 per cent of the variation in time spent outside the home is explained by the selected independent variables.

Among the significant variables, landholding size ($p < 0.001$) showed a strong positive influence, suggesting that women from households with larger landholdings are more involved in farming and related income activities. Women's personal income contribution ($p = 0.003$) was also a significant factor but negatively, indicating that

higher-earning women are more engaged at home-based income generating activities. Education above the graduate level ($p = 0.002$) were also found to be negatively significant resulting in spending less time outside their home. Employment type (wage labourers) ($p = 0.012$) showing that wage laborers generally spend more time outside as their jobs require physical presence outdoors. Family support showed a near-significant impact ($p = 0.092$), suggesting that supportive households enable women to take up productive work outside.

Conversely, several variables were found to be statistically non-significant. The findings imply that while these personal, social, or demographic factors may be relevant in other contexts, they do not directly impact the amount of time women spend outside the home for income-related work in this particular district.

5.3.2 Factors influencing time spent by rural women outside home (in hr) in Chandel district

The regression analysis in Table 4.22 explores the factors influencing rural women's time spent outside the home for income-generating activities in Chandel district. The model yielded an R^2 value of 0.417 and an adjusted R^2 of 0.328, indicating that about 41.70 per cent of the variation in time spent outside the home is explained by the selected independent variables. The model is highly significant ($p < 0.001$), confirming that the selected socio-economic and household factors jointly influence women's participation in external economic activities.

Among the significant factors in Chandel, landholding size ($p < 0.001$) had a strong impact but negatively, suggesting that women with larger land holdings spend less time outside the home. Training ($p = 0.048$) was another important factor, indicating that women who received training were more likely to spend time in productive work, suggesting the value of skill-building initiatives in enhancing women's economic engagement. Additionally, women's income contribution ($p = 0.005$) showed a significant positive effect, reinforcing the idea that as women earn more, they participate more in work outside the home. Household size ($p = 0.023$) was

also significant, implying that larger families may allow women greater flexibility to engage in external income activities due to shared domestic responsibilities.

Other variables including age, number of dependent children, access to credit, work experience, market access, education, marital status, employment type, decision-making role, social norms, and community service participation were not statistically significant. This indicates that these factors had no strong or consistent impact on the time women spent outside their homes for income purposes in Chandel district.

5.3.3 Factors influencing the overall time spent by rural women outside home (in hr) in both districts

The results of a multiple regression model estimating the factors that influence the time rural women spend outside their homes for income-generating activities across both Churachandpur and Chandel districts. The model yielded an R^2 value of 0.233 and an adjusted R^2 of 0.174, indicating that around 23.30 per cent of the variation in time spent outside is explained by the selected explanatory variables

Among the significant predictors in the combined model, education level above graduate ($p = 0.002$) showed a strong negative association with time spent outside the home, suggesting that Women with higher education spend less time outside the home. Social norms (restricted) were also found to be highly significant ($p < 0.001$) but negatively correlated with the dependent variable. This implies that restrictive gender norms and societal expectations limit women's mobility and reduce their ability to engage in outside work. These findings highlight the enduring influence of traditional norms and cultural constraints on rural women's economic behavior. Age ($p = 0.034$) was also significant, with younger women more likely to spend time outside the home, possibly due to greater physical capability, motivation, and openness to income-generating opportunities. The other variables were found to have non-significance effect.

5.3.4 Factors influencing time spent by rural women at home (in hr) in Churachandpur districts

The results indicate that age, landholding size, income contributed by women, education level (above graduate), and employment type (wage labourer) are the major factors influencing the time rural women spend at home. The regression model showed an R^2 of 0.391 and adjusted R^2 of 0.293, meaning that about 39.10 per cent of the variation in time spent at home is explained by these variables. The overall model is highly significant ($p < 0.001$).

Age was significant ($p = 0.041$), suggesting that older women spend more time at home, possibly because they reduce their involvement in outside work over time. Similarly, landholding size had a strong negative relationship ($p < 0.001$), indicating that women in families with more land and likely higher income are more engaged in agricultural or outdoor activities.

In contrast, income contributed by women had a significant effect ($p = 0.001$), showing that women earning more tend to spend more time on home-based work. Higher education levels ($p = 0.003$) were also linked to spending more time at home, likely because educated women are more involved in skilful home-based income-generating work. Women employed as wage labourers also spent less time at home ($p = 0.009$) due to the nature of their work.

Other variables, such as number of dependent children, access to credit, training, health issues, marital status, social norms, family support, and household size, were not statistically significant and had little influence on domestic time use.

5.3.5 Factors influencing time spent by rural women at home (in hr) in Chandel district

The model explains 42.30 per cent of the variation in time spent at home, with the overall model being highly significant ($p < 0.001$). This indicates that the selected variables collectively have a strong influence on women's allocation of time to domestic responsibilities.

Among the variables, landholding size was found to be positive and significant ($p = 0.001$). Women from households with larger landholdings tend to spend more time at home, possibly due to greater financial stability and reduced need to engage in wage labour.

The income contributed by women was negatively associated and highly significant ($p < 0.001$). This suggests that women who contribute more to household income spend less time at home, likely because they are more involved in income-generating work outside the household.

Employment type (wage labourer) also showed a significant negative influence ($p = 0.035$), indicating that women working as wage labourers spend less time at home due to the demands of their work, which often keeps them away for extended hours.

The variable training showed a near-significant effect ($p = 0.083$). Women who had received some form of training tend to spend slightly more time at home, possibly because they are more involved in productive or skill-based activities outside.

Family support (specifically, strong support) was found to be significant ($p = 0.033$). This suggests that women with strong family support can better balance or delegate household tasks, giving them more flexibility to divide time between home and outside work.

Other variables such as age, number of dependent children, access to credit, experience, access to market, education, marital status, social norms, and social services were not statistically significant. This indicates that these factors did not have a notable impact on the time women spent on domestic activities in the study area.

5.3.6 Factors influencing the overall time spent by rural women at home (in hr) in both districts

A regression analysis was conducted to examine the factors influencing the time rural women spend at home on household and family care activities in both Churachandpur and Chandel districts combined. The model reported an R^2 value of 0.282 and an adjusted R^2 of 0.226, indicating that approximately 28.20 per cent of the variation in women's domestic time is explained by the variables included. The model was highly significant ($p < 0.001$), suggesting a strong overall influence of the explanatory variables on women's time use at home.

Among the significant variables, age had a positive influence ($p = 0.023$), meaning older women tend to spend more time at home. This could be because older women are more likely to handle household responsibilities, while younger women may be more engaged in outside work or income-generating activities.

Education above graduate level ($p = 0.03$) was also significant but positively associated with time spent at home. This means that women with higher education levels are likely to spend more time doing household chores or family care, as they often have better access to professional or income-earning opportunities at home.

The variable social norms (restricted) was highly significant ($p < 0.001$) and positively associated with time spent at home. This suggests that in communities where traditional or restrictive social norms persist, women are more confined to domestic roles, limiting their participation in outside economic or social activities.

Two other variables household size ($p = 0.063$) and active involvement in social services ($p = 0.055$) were near-significant, indicating they might have a modest effect on domestic time use, but the evidence is not strong enough to draw firm conclusions.

The remaining variables included in the model were not statistically significant, implying they did not have a meaningful effect on how much time women

devoted to household chores and caregiving.

5.3.7 Comparison of economic variables between Churachandpur and Chandel district.

The t-test analysis showed significant differences in household, farm, and non-farm income between Churachandpur and Chandel districts. Churachandpur recorded significantly higher household income ($p=0.04$) and farm incomes ($p=0.00$), while Chandel had significantly higher non-farm income ($p=0.01$). However, no significant difference was observed in the time spent by women on economic ($p=0.284$) and non-economic activities ($p=0.190$), indicating similar work participation patterns in both districts. Overall, income levels varied between the districts, but women's time allocation remained largely comparable.

Based on the overall results of the study, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. The study established that socio-economic, demographic, and institutional factors significantly influence the extent of participation, time spent of rural women in both economic and non-economic activities. Thus, the domain of rural women in Manipur is shaped by a combination of personal, household, and institutional factors that determine their level of involvement and contribution to various livelihood and household activities.

5.4 To examine the constraints face by the rural women and formulate the strategy for promoting more economic activities by the women for increasing income.

Table 5.4.1 reveals the challenges faced by the rural women in the study area across the different domain viz, personal, social, economic and technological domain. Among the personal constraints, dual responsibility at home and farm ranked first with the highest average score 249.18 and per cent position 94.44, indicating that balancing domestic duties with farm work poses a significant burden on women.

Under social constraints, the major issue identified was unequal distribution of housework with an average score 155.73 and per cent position 91.67, highlighting persistent gender disparities in household labor.

In the category of economic constraints, poor economic condition emerged as the primary problem with 87.50 per cent position, suggesting that limited financial resources restrict women's ability to invest in improved agricultural or livelihood practices.

Regarding technological constraints, lack of training programs was ranked first 83.33 per cent position, emphasizing the need for skill development and access to appropriate technologies for enhancing productivity and efficiency.

Table 5.4.2 reveal that among the various suggestions given by rural women, equal sharing of work secured the first rank with the highest average score 211.65 and per cent position 93.75, indicating that women strongly emphasize the need for gender equality in workload distribution within both household as well as agricultural/economic activities. The second most preferred was creating working opportunities during the off-season with an average score 197.40 and 81.25 per cent position, reflecting the importance of year-round employment for income stability. Followed by provision of healthcare with 68.75 per cent position. On the other hand, more support and encouragement from husband and family and more participation in social activities received lower ranks VII and VIII respectively with 18.75 and 6.25 per cent position respectively, showing that while these factors are recognized, they are perceived as less immediate priorities compared to economic and workload-related concerns.

Some strategies to promote economic activities among rural women to enhance their income-generation potential in the study area are discussed below:

- Creation of off-season employment opportunities
- Skill development and access to training
- Strengthening Self-Help Groups (SHGs)
- Market linkages

- Support from family and community
- Encouraging Non-Farm Activities and motivation among the rural women

CONCLUSION

The study concludes that rural women in the selected region play a vital role in sustaining household livelihoods through their active participation in both economic and non-economic activities. Despite their significant contributions to agriculture, livestock rearing, household management, and family care, much of their work remains unrecognized and undervalued. The majority of the respondents belonged to marginal farm households and was actively engaged in agricultural and allied activities, while simultaneously carrying substantial domestic responsibilities.

The findings revealed that women contributed nearly half of the total labour requirement in economic and non-economic activities and devoted a considerable amount of time daily to it. The valuation of their unpaid labour further highlights their substantial economic contribution to the household economy. Education, age, and prevailing social norms were found to significantly influence women's participation in economic and household activities. Higher educational attainment encouraged greater involvement in activities outside the home, whereas restrictive social norms limited women's mobility and participation.

The study also identified several challenges faced by rural women, including the burden of dual responsibilities at home and farm, unequal distribution of household work, poor economic conditions, and inadequate access to training and skill-development programmes. These constraints restrict their productivity, income-generating opportunities, and overall empowerment.

Based on the findings, the study emphasizes the need for greater recognition of women's contributions, equitable sharing of household responsibilities, improved access to training and income-generating opportunities, and supportive policies aimed at reducing gender-based constraints. Strengthening women's economic participation and decision-making capacity can significantly contribute to household welfare,

agricultural development, and rural economic growth in Manipur. Thus, empowering rural women through education, skill development, institutional support, and social awareness is essential for achieving sustainable and inclusive rural development.

Recommendation:

Based on the findings the following recommendations are suggested:

1. The respondents should be encouraged to engage in diversified income-generating activities and provision of training programmes should be arranged such as weaving, tailoring, livestock rearing for commercial purpose, food processing, to developed their skills and improve household income.
2. The study revealed that rural women face challenges in carrying out household activities. Therefore, knowledge should be specified among family members to encourage cooperation and shared responsibility in domestic work.
3. SHGs can serve as an effective platform for collective action and economic empowerment. Support should be provided for capacity building, leadership training, and access to microcredit and markets.
4. The sampled respondents should also be provided with better market linkages, transportation facilities, exhibitions, cooperatives marketing systems and digital platforms to help them sell their weaving and other products at fair prices and increase income.
5. Awareness campaigns should be organized to educate women about government schemes related to employment, women empowerment, healthcare, educations, etc. so they can fully utilize available benefits.
6. Guidance should be provided on mobile applications, digital banking, online transactions and financial literacy to improve women's knowledge on financial inclusion and access to economic opportunities.

Future scope of Research:

The following future scopes are suggested based on the study:

1. Expansion of Geographical coverage

The state undertaken for the study i.e. Manipur has 16 districts, out of which only 2 districts viz, Churachandpur and Chandel was choose for the present study. Thus, future studies may include other districts to obtain a broader understanding of the socio-economic conditions and participation patterns of rural women across different regions and communities.

2. Comparative study between districts or communities

Comparative research can be conducted among tribals and non-tribal communities or between hills and valley districts to identify variations in women's economic and non-economic activities.

3. Sector specific research

Further research may also focus on specific component like economic activities such as agriculture, vegetable production, livestock rearing and other income generating activities and non-economic activities on women's time allocation in household work, child and elder care to better understand unpaid labour burden.

4. Inclusion of larger sample size

Future study with larger sample sizes and more representative sampling methods can also be undertaken. This may provide more comprehensive and generalized findings regarding rural women in Manipur.

5. Inclusion of Male Respondents

Future studies may incorporate information from male respondents as well to obtain a more comprehensive understanding and improve the accuracy of data.

CHAPTER VI
APPENDICES

SURVEY SCHEDULE
ON
DOMAIN OF RURAL WOMEN FOR ECONOMIC AND
NON-ECONOMIC ACTIVITIES IN MANIPUR

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2023

Personal Profile:

- Name of the Respondent:
- Name of the Village:
- Name of the Block:
- Name of the District:

1. Socio-Economic profile of the rural women:

(a) Family Members :

i) Male :

ii) Female :

(b) Age of the respondent:

(c) Family type :

(i) Nuclear :

(ii) Joint :

(d) Size of family :

(i) Up to 3 members :

(ii) Between 4-6 :

(iii) More than 6 members :

(e) Marital status :

(i) Married :

(ii) Unmarried ::

(iii) Widow :

(f) Educational qualification of the respondent:

Sl no.	Illiterate	Literate		
		Primary	Secondary (HS/PU)	Graduate

(g) Land holding (ha): Tick (✓) whichever is applicable

(i) Marginal (below 1.00 ha) :

(ii) Small (1.01 – 2.00 ha) :

(iii) Semi- Medium (2.01 – 4.00 ha) :

(iv) Medium (4.01-10.00 ha).

(v) Large (above 10.01 ha) :

(h) Operational Holding of the sample respondent in (ha):

(i) Owned land :

(ii) Leased in land :

(iii) Leased out land :

(j) Occupation:

(i) Agriculture :

(ii) Services :

(iii) Business :

(iv) Any other:

(k) Income:

Occupation	Annual Income (Rs)	
	Men	Women
Agriculture		
Services		
Business		
Others		

(l) Working Force of the sample respondent:

Sl. no.	Activities	Number	Number of days engaged (monthly)	Hours spent per day	Rate(Rs/day)
1.	Hired labour				
2.	Family labour				

(m) Livestock:

Sl no.	Animal	No. of it
1	Poultry	
2	Duck	
3	Cow	
4	Pig	
5	Goat	
6	Birds	
7	Dog	
8	Cat	
9	Any others	

2. Participation of Women in Agricultural Operations:

(i) Nature and extent of involvement of rural women and time spent in economic activities:

A) Activities of Crop Cultivation	Number of days engaged (monthly)	Hours spent per day	Rate (Rs/day)	Participation level		
Pre-sowing and sowing activities				Men	Women	Jointly
Land preparation						
Manuring of fields						
Sowing/ planting seedlings						
Transplanting						
Up rooting						
Weeding						
Fertilizer/Manure application						

Irrigation						
Homestead gardening						
Fencing						
Plant protection						
Harvesting						
Post-harvest activities						
Transportation of produce to threshing floor						
Threshing						
Winnowing and cleaning						
Grain Drying						
Weighing and bagging						
Storage						
Marketing						

(ii) Nature and extent of participation of rural women and time spent in vegetables/kitchen garden activities

A) Activities of Crop Cultivation	Number of days engaged (monthly)	Hours spent per day	Rate (Rs/day)	Participation level		
Pre-sowing and sowing activities				Men	Women	Jointly
Land preparation						
Manuring of fields						

Sowing/ planting seedlings						
Transplanting						
Up rooting						
Weeding						
Fertilizer/Manure application						
Irrigation						
Homestead gardening						
Fencing						
Plant protection						
Harvesting						

(iii) Nature and extent of participation of rural women and time spent in animal husbandry activities:

Activities	Number of days engaged (monthly)	Hours spent per day	Rate (Rs/day)	Participation level		
				Men	Women	Jointly
Rearing of poultry/birds						
Rearing of livestock						
Fishery						
Rearing of domestic animals(dog/cat/others)						
Fodder collection						
Preparing food/feeding						
Grazing of animals						
Offering water						

Cleaning animal						
Cleaning shed/utensils						
Healthcare						
Milking						
Caring of sick animals						

(iv) Nature and extent of participation of rural women and time spent in other economic activities:

iv) Activities	Number of days engaged	hours spent per day	Rate (rs/day)
Wage labourer			
Weaving			
Pickle making			
Hand knitting			
Machine knitting			
Stitching of cloths			
Basket making			
Others			

(v) Nature and extent of participation of rural women and time spent in non-economic activities:

v) Activities	Number of days engaged (monthly)	Hours spent per day	Rate(Rs/day)
Cooking of food			
Care for children			
Care for sick, elderly, disabled.			
Buying groceries			
Sweeping and mopping			
Cleaning utensils			
Washing cloths			
Serving food			
Community services			
Others			

3. Factors influencing Women's performance of opting different economic and non-economic activities

(a) To what extent do the following factors affect your participation in work (economic or non-economic)?

(i) Do you have access to credit/loans?

☐ Yes ☐ No

(ii) Monthly income:

(iii) Work experience:(in years)

(iv) Access to market: ☐ Yes ☐ No

(v) Do you participate in any training? ☐ Yes ☐ No

(vi) Do you have any health issue? ☐ No ☐ minor ☐ chronic

(vii) Are there any social services?

☐ limited ☐ No ☐ full

(viii) Do your family members support you?

☐ Somewhat support ☐ Neutral ☐ Strongly support

(ix) Are there any social norms that affect you?

☐ Restrictive ☐ Neutral ☐ Supportive

(x) Do you feel your opinions are valued in decision making?

☐ Yes ☐ No

4. Constraints faced by respondents and suggest possible remedies

1. Rank the problems according to their severity from your viewpoint.

Sl. No.	Problems / Factors	Rank the problem
1.	Women's role in child care practices	
2.	Dual responsibility at home and farm	
3.	Social customs and traditional belief	
4.	Poor economic condition	
5.	Health and mal-nutrition problem	
6.	Non- recognition of women's contribution	
7.	Illiteracy among the rural women	
8.	Lack of family support	
9.	Lack of access to credit	
11.	Low physical strength for agriculture activities	
12.	Lack of access to land and other productive resources	
13.	Lack of free time	
14.	Secondary status in decision making	
15.	Less time for personal care	
16.	Lack of motivation among the rural women	

2. Suggestions for farm women :

Sl. No.	Suggestions	Rank the problem
1.	More support and encouragement from husband and family	
2.	Access to trainings	
3.	More exposures to mass media	
4.	Provision of healthcare	
5.	Equal Sharing of work	
6.	Creating working opportunities during off season	
7.	Women empowerment through self help group	
8.	Freedom in expenditure	
9.	Improve the knowledge of rural women about agricultural activities and new agricultural tools	
10.	More participation in social activities	
11.	Others	

CHAPTER VII

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Some picture from the survey:



Plate 1: Data collection



Plate 2: Women involved in economic activities (farm)



Plate 3: Women involved in Economic activities (non-farm)



Plate 4: Women involved in non-economic activities



Plate 5: Women involved in rearing livestock