Voices from the Fields:

# Women's Empowerment in Agriculture

## A study of selected APO members

Asian Productivity Organization

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# VOICES FROM THE FIELDS: WOMEN'S EMPOWERMENT IN AGRICULTURE

## A STUDY OF SELECTED APO MEMBERS

NOVEMBER 2025 | ASIAN PRODUCTIVITY ORGANIZATION

Voices from the Fields: Women's Empowerment in Agriculture
A Study of selected APO members

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First edition published in Japan
by the Asian Productivity Organization
1-24-1 Hongo, Bunkyo-ku
Tokyo 113-0033, Japan
www.apo-tokyo.org



Designed by Samvac LLP

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# FOREWORD

Agriculture, for many across the Asia-Pacific, is more than a livelihood; it is part of who they are, shaping communities, traditions, and the rhythm of everyday life. Within this space, women have long played vital roles. Whether cultivating land, contributing to food systems, or leading innovation behind the scenes, their efforts are often undervalued or overlooked. This publication shines a light on that reality. It underscores the belief of the Asian Productivity Organization (APO) that genuine progress in productivity must include everyone. Inclusive approaches lead to better outcomes for food security, rural development, and long-term sustainability, and highlighting that women's contributions to agriculture is essential for inclusivity and equity.

This research project is unique as it amplifies voices from the field. Eight national experts and one chief expert from eight APO member economies, namely Cambodia, the Republic of China (ROC), India, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam, took the lead in reaching out to local agricultural experts and 94 women aged between 19 and 67 working in the agriculture sector. These women generously offered their time, thoughts, experiences, and truths.

The stories, insights, and data gathered here reveal challenges that are still far too common, including limited access to resources, financial exclusion, and gaps in representation. But they also highlight resilience and innovation. In their own ways, these women are already shaping a better future for agriculture.

I would like to extend my heartfelt thanks to all who made this research possible, especially to those who generously participated in the qualitative surveys and in-depth interviews; their openness and dedication have given this report its authenticity and depth. The APO extends its sincere gratitude to the respondents whose names may never appear in the report, but whose voices and experiences resonate throughout its pages. This publication is dedicated to all of you.

I also wish to express my sincere appreciation to the chief expert, Professor Arosha Sarangie Adikaram, Senior Professor and Chair of Human Resources Management at the Faculty of Management and Finance, University of Colombo, Sri Lanka, for her outstanding leadership and invaluable contributions to this research, as well as to the eight national experts, the APO Secretariat team, and all those who will draw on the findings of this study to further advance women's empowerment across the Asia-Pacific region.

At the APO, we know that productivity is not only measured in numbers; it is seen in people, especially those who rise to challenges, adapt with creativity, and persist with purpose. Empowering women in agriculture is both the fair path forward and the most strategic choice we can make to build a more productive and resilient region with high sustainability.

Dr. Indra Pradana Singawinata
Secretary-General
Asian Productivity Organization
Tokyo, Japan

CHAPTER 1

# INTRODUCTION

## Background

Even as many countries transition to more service-based and industrialized economies, agriculture remains widespread, serving as the largest source of employment and livelihood for some. The agricultural workforce—broadly defined to include farming, forestry, fishing, and related activities—comprises about 26% of the total employment worldwide (FAO, 2024a; World Bank, 2021, 2023a, 2023b). Also, women accounted for 38% of all agricultural workers in crop, livestock, fisheries, and forestry globally in 2019 (FAO, 2023).

In Asia, agriculture accounts for an estimated 28.8% of total employment (FAO, 2024a; World Bank, 2021, 2023b). Women constitute a significant portion of this workforce, playing a pivotal and transformative role in agricultural growth and contributing to poverty reduction, improved household livelihoods, and food security. According to estimates, women comprise 40–50% of the farm labor force in East and Southeast Asia and about 30% in South Asia, with 70% of working women in South Asia being employed in the agriculture sector (FAO, 2023). In rural areas of many developing countries, agriculture is the most critical source of employment for women. This indicates how agriculture remains the primary source of livelihood for a majority of women workers in these regions, contributing to the economic growth and the well-being of their families, communities, and countries.

Nevertheless, women's contribution to agriculture is often overlooked and undervalued, and fraught with challenges. Numerous studies document that women earn less than men, are predominantly employed in the informal sector, often in part-time or seasonal work, and contribute significantly to agriculture as unpaid family workers. They face numerous barriers that limit their full and equitable participation and productivity, which contributes to the underperformance of the agricultural sectors of many developing countries.

Studies indicate that eliminating gender inequalities and empowering women in agricultural sectors by improving their access to resources, information, and finances, as well as enhancing their decision-making capabilities, can increase national agricultural productivity. Research also indicates that if women had equal access to productive resources as men, agricultural yields could rise by 20–30%, potentially lifting 100–150 million people out of hunger (FAO, 2011). Similarly, equal access to resources could increase the productive capacity of women-owned farms by 20–30% in developing countries (OECD, 2023), thereby raising total agricultural output by 2.5–4% (Anderson et al., 2021; FAO, 2011).

Increased agricultural output, in turn, leads to higher exports, greater food security, stronger economic growth, poverty reduction, lower food prices, and more sustainable resource use. Further, investing in women's empowerment in agriculture improves household food security and nutrition, promotes sustainable agriculture practices, and strengthens climate resilience, as

empowered women are more likely to adopt climate-smart agricultural practices (OECD, 2023; World Bank, 2021).

Against this backdrop, understanding the country-specific realities of women in agriculture, including the gender inequalities they face, the challenges, and drawbacks, is critical for identifying ways to empower women in agriculture, enhance their contribution, productivity, and engagement, as well as their well-being. This report brings together findings from eight APO member economies—Cambodia, the ROC, India, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam—on the nature and extent of women's roles and responsibilities in agriculture. It examines their involvement in decision-making, the responsibilities they hold, the level of control they have over resources and income, and their influence in community-level decisions. These countries represent a diverse mix of cultural, economic, and policy environments, offering rich comparative insights.

## Research Objectives and Questions

The main objective of this study is to explore the nature and extent of women's roles and responsibilities in agriculture in the eight APO member economies covered in this research. Within this framework, the national experts addressed the following sub-objectives:

- Examine gendered access to and control over productive resources.
- Assess women's decision-making power in agricultural production and income use.
- Investigate women's participation in economic and social organizations linked to agriculture.
- Analyze how women allocate and manage their time across productive and domestic work.
- Identify structural, social, and economic barriers to women's empowerment in agriculture.
- Propose actionable recommendations to enhance women's agency, productivity, and well-being.

Based on these objectives, each national expert considered the following key questions:

- Who makes agricultural decisions at the household or community level?
- What rights do women have to own or access land, livestock, credit, and technology?
- How is income distributed, and who controls household expenditure?
- What time burdens and work-life balance challenges do women face?
- To what extent do women participate in cooperatives, producer organizations, and local governance structures?
- What institutional and policy-level changes are needed to reduce gender-based barriers?

**TABLE 1**

**EXPLANATIONS RELATED TO THE RESEARCH OBJECTIVES.**

| Research Objective | Main Areas Explored |
|---|---|
| Examine gendered access to and control over productive resources | • What is the level of women's ownership of assets such as agricultural land, livestock, input, and farm equipment?<br>• What access and control do women have over these productive resources?<br>• How much decision-making power do women have over these productive resources?<br>• How much access do women have to credit, and how much do they get involved in decisions on credit, such as whether to obtain credit, from where, and how to use the credit obtained from various sources? |
| Assess women's decision-making power in agricultural production and income use | • What is the level of involvement of women related to decisions on areas such as what inputs to buy, what types of crops to grow for agricultural production, when or who would take crops to market, and whether to engage in livestock raising?<br>• How much autonomy do women feel they have in production?<br>• To what level do women get involved in the decisions regarding the purchase, sale, or transfer of land and assets<br>• How much control do women have over the money they earn from agricultural activities?<br>• - Who decides how agricultural income is used<br>• Are women involved in decisions about large or long-term expenditures (e.g., purchasing equipment, land, or animals)?<br>• Are they involved in budgeting or managing farm-related expenses? |
| Investigate women's participation in economic and social organizations linked to agriculture | • How much representation and voice do women have in micro-level and macro-level decisions related to agriculture?<br>º To what extent are women active members of cooperatives, associations, networks, and Self Help Groups (SHGs), as well as local government structures or producer organizations?<br>º Are women given opportunities to speak?<br>º Do women feel comfortable speaking in public?<br>º Do women feel heard?<br>º Do women hold sufficient leadership positions in these organizations, associations, and groups? |
| Analyze how women allocate and manage their time across productive and domestic work | • What is the time women allocate for farm/agriculture activities and household activities?<br>• To what extent are women satisfied with time use and work–life balance?<br>• How much time do women spend on leisure? |
| Identify structural, social, and economic barriers to women's empowerment in agriculture | • What are the gender specific institutional and policy-related limitations embedded in formal systems?<br>• What are the gender norms, roles, and expectations that influence women's agency and opportunities?<br>• What are the gender disparities in access to financial, productive, and market-related assets? |

**Source:** Alkire et al. (2013)

## Methodology

National experts from all eight economies participated in an exploratory study employing a qualitative research methodology, following standard guidelines and a research framework to ensure consistency and ease of comparison between the economies.

Accordingly, the national experts employed multiple data collection methods, which also assisted in triangulating the data, thereby increasing the trustworthiness of the studies and the overall project.

**Desk Review:** Review of existing statistics, documents, and publications, including reports of previous studies such as government, non-government, international, or civil society reports related to each economy.

**Interviews:** Semi-structured, one-on-one interviews were conducted by national experts with the following participants:

- Selected subject experts working with women farmers and women in agriculture, with specific knowledge of women's roles in agriculture.
- A cross-section of women engaged in agriculture from identified geographical areas in the member economies

Two standard interview guides were used: one for experts (see Annex 1) and one for women in agriculture (see Annex 2). National experts adapted these interview guides where necessary to suit country contexts. The interview guides were developed with reference to the domains and indicators of the Women's Empowerment in Agriculture Index (WEAI) (IFPRI, 2012).

## Analysis

Interviews, especially with women farmers, were mainly conducted in native languages and later translated into English. These were then transcribed and analyzed. The primary mode of analysis used by national experts was thematic analysis, in which documents from the desk review and the interviews were coded, categorized, and thematized following specific steps. Subsequently, the following themes related to the broader topics of study were identified:

- Roles and involvement of women in agriculture.
- Extension of engagement and contribution of women in agriculture.
- Structural, social, and economic barriers faced by women in agriculture.
- Measures to overcome these barriers and enhance women's contribution, productivity, engagement, and well-being.

### Ethical Considerations

All national experts were required to adhere to the ethical standards in their research. Accordingly, informed, voluntary consent was obtained from each interviewee and participant. The national experts also ensured confidentiality, anonymity, and privacy of the interviewees as well as their well-being during the interviews. Where interviews were recorded (with consent), an artificial intelligence-based

transcription tool was allowed to be used, and the original recording was destroyed after transcription. Identifiable information was excluded from transcripts and final reports. The collected data were securely managed and saved during the study and destroyed thereafter.

The country reports are presented as separate chapters.

## Country Overview

**Cambodia**

Cambodia is a lower-middle-income country in Southeast Asia with a land area of around 181,035 sq km. Its per capita Gross Domestic Product (GDP) was USD2,429.75 in 2023. According to the National Institute of Statistics (NIS), the country's population was estimated at 17.1 million in 2023, of which 76% resided in rural areas. Women accounted for 50.8% of the total population.

**Republic of China**

The ROC is an industrialized, export-driven economy in East Asia, with a land area of approximately 36,197 square kilometers. Its per capita GDP (nominal) is USD34,040. The country's population is estimated to be 23.4 million. As of October 2022, the ROC ranked as the 21st-largest economy in the world by nominal GDP.

**India**

India is a lower-middle-income country in South Asia with a land area of approximately 3,287,263 sq km and a per capita GDP of USD2480.80 in 2023. Its population is estimated at 1.4 billion, with women comprising 48%. India is the world's fifth-largest economy and one of the fastest-growing agrarian economies among developing nations.

**Pakistan**

Pakistan is a developing, lower-middle-income country in South Asia. With a land area of around 881,913 sq km, Pakistan is the 33rd-largest country by size. Its per capita GDP is USD1,588. The population of Pakistan is estimated at 254 million, with women constituting 48.5%. It is the fifth most populous country in the world.

**Philippines**

The Philippines is a newly industrialized, developing country in the Asia-Pacific region with a land area of approximately 300,000 sq km, of which 47% is classified as agricultural land. As of 2024, the total population of the Philippines stood at 119 million, with women comprising about 50%. Its per capita GDP stands at USD3,700.

**Sri Lanka**

Sri Lanka is a low-income, developing nation in South Asia with a total land area of approximately 65,610 sq km. The total population of the country is estimated to be 22 million, of which approximately 52% are women. Its per capita GDP stands at USD3,827.96.

**Thailand**

Thailand is an upper-middle-income, export-driven, industrialized country in Southeast Asia with a land area of approximately 513,120 sq km. It has a per capita GDP of USD7,496. The population of Thailand is estimated at 65.951 million, with about 51% of the population being women. Thailand is the second-largest economy in Southeast Asia.

**Vietnam**

Vietnam is a developing, lower-middle-income country in Southeast Asia with a land area of 331,000 sq km and a per capita GDP of USD4,282. The population of Vietnam is estimated at 100.3 million, of whom 50.1% are women.

More information about the eight APO member economies is provided in Tables 2 and 3.

**TABLE 2**

**COUNTRY RANKING IN GLOBAL GENDER GAP REPORT, 2024*.**

| Country | Regional Ranking | Global Ranking |
|---|---|---|
| Cambodia | 12 in Eastern Asia and the Pacific region | 102 |
| India | 5 in Asia | 129 |
| Pakistan | 7 in Asia | 145 |
| Philippines | 3 in Eastern Asia and the Pacific region | 25 |
| Sri Lanka | 3 in Asia | 122 |
| Thailand | 5 in Eastern Asia and the Pacific region | 65 |
| Vietnam | 6 in Eastern Asia and the Pacific region | 72 |

**Note:** * The ranking is out of 146 countries; ROC is not included in the Global Gender Gap report.
**Source:** World Economic Forum [WEF]. (2024). Global Gender Gap Report 2024. Retrieved from https://www.weforum.org/publications/global-gender-gap-report-2024/

**TABLE 3**

**THE COUNTRY STATISTICS.**

| | Cambodia | ROC | India | Pakistan | Philippines | Sri Lanka | Thailand | Vietnam |
|---|---|---|---|---|---|---|---|---|
| Agricultural land (% of the total land area) Global average: 38% | 34.6% | 25% | 63% | 47% | 47% | 43% | 47% | 39.3% |
| Composition of agricultural employees as a % of total employment | 37% | 4.3% | 45% | 37% | 23% | 26% | 30% | 27% |
| Gender wise labor force participation rate (2024) | Male: 86.5% Female: 74.0% | Male: 67.0% Female: 52.0% | Male: 77.1% Female: 32.8% | Male: 80.3% Female: 24.3% | Male: 72.3% Female: 49.9% | Male: 69.7% Female: 31.6% | Male: 75.0% Female: 59.0% | Male: 78.6% Female: 69.1% |
| Women's participation rate in the general agricultural workforce (2022-23) | 34% | - | 36.6% | 67% | 16% | 22% | 30% | 47% |

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| | Cambodia | ROC | India | Pakistan | Philippines | Sri Lanka | Thailand | Vietnam |
|---|---|---|---|---|---|---|---|---|
| Agriculture's contribution to GDP | 22–25% | 1.5% (2023) The combined added value generated by agriculture is 7% | 16% | 24% | 9% | 8% | 8–10% | 12% (2023) |
| Adult literacy rate among women (2022-23) | 78% | 99% | 70% | 46% | 97% | 93% | 91.5% | 95% |
| References/ sources | Business & Human Rights Resource Centre (2024); FAO (2024b); World Bank (2024a) | Ministry of Agriculture. (2024); Ministry of Labour (2024); Ministry of the Interior (2024) | Government of India (2023); World Bank (2024b) | Government of Pakistan, Ministry of Finance (2024); World Bank (2024c) | Philippine Statistics Authority (2022, 2024); World Bank (2024d) | Central Bank of Sri Lanka (2024); Department of Census and Statistics (2024); World Bank (2024e) | Office of Agricultural Economics (2024); World Bank (2024f) | General Statistics Office (2024); World Bank (2024g) |

## Chapter Outline

This publication comprises 10 chapters. Chapters 2–9 present the country reports, arranged in alphabetical order. Each chapter provides the country context, the methodology used, findings, and conclusions. Chapter 10 summarizes the findings across all country reports.

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CHAPTER 2

# CAMBODIA

## Background

Cambodia, situated on the Indochina Peninsula and bordered by Lao PDR, Thailand, and Vietnam, is a lower-middle-income country with a land area of 181,035 sq km. It is divided into four geographic zones: coastal, plain, plateau, mountain, and Tonle Sap (APCAS, 2010). As of 2023, Cambodia had a population of approximately 17.1 million, including 76% of the rural population, and 50.8% women (NIS, 2022). Most rural households are small-scale landholders managing less than 1.5 hectares, primarily engaged in rice farming, livestock raising, and forest product collection.

Cambodia has recorded notable economic growth over the past decade, with its Gross National Income per capita surpassing USD1,000 in 2013 and reaching USD1,500 by 2018 (World Bank, 2023). However, poverty remains widespread in rural regions, making Cambodia one of the poorest countries in Southeast Asia. Agriculture remains a central pillar of the Cambodian economy and society, accounting for 22–25% of the national GDP and employing nearly 30–40% of the population (World Bank, 2023; FAO, 2024).

Women are deeply embedded in the agricultural sector, particularly in rural areas. In 2021, 54.6% of employed rural women were engaged in agriculture, forestry, and fishing (NIS, 2022). Women's roles extend beyond farming to include livestock tending, food processing, water and fuel collection, and local trade. Despite these contributions, much of their labor is unpaid and unrecognized in national statistics. About 70% of unpaid family workers in agriculture are women (MAFF, 2023). As of 2021, women accounted for approximately 40% of the agricultural workforce, 99.8% of whom were in informal employment without access to labor protections (Business & Human Rights Resource Centre, 2024).

Although women constitute over 40% of Cambodia's waged agricultural workforce, they receive disproportionately low levels of agricultural financing. Limited access to credit impedes their ability to invest in farming equipment, technology, and productivity-enhancing inputs. Gender-responsive lending policies, financial literacy training, and expanded access to government credit programs are critical to narrowing this financing gap. While technological advancements and digital tools are increasingly essential for modern agriculture, Cambodian women face sharp digital divides. Only 35% of women have access to digital tools, such as smartphones and internet services, compared to 53% of men. Farm mechanization remains male-dominated, and women-headed households are significantly less likely to own or use plows, water pumps, hand tractors, threshers, or rice mills. On the contrary, men are seven times more likely to use hand tractors and twice as likely to own water pumps (UN, 2022).

Digital illiteracy compounds this divide. Only 26% of rural women have received formal ICT training, limiting their access to real-time market information, weather forecasts, financial platforms, and agricultural extension services. Increasing access to affordable, mobile-based agricultural solutions and inclusive ICT training will be crucial to enhancing women's participation in the digital economy. Cambodian women entrepreneurs and smallholder farmers also face barriers

to accessing formal markets. More than 70% of women rely on informal trade networks, which often have lower profit margins, while 60% cite transport difficulties as a major obstacle to accessing urban markets. Gender biases and limited negotiation power further restrict women's ability to secure favorable trade deals. Studies indicate that women are 30% less likely than men to secure competitive commercial agreements (UN, 2022).

Improving market access for women requires investment in gender-responsive infrastructure, inclusive value chains, and programs that build women's entrepreneurial and negotiation capacities. Measures such as creating women-only market spaces, subsidizing transport, and linking female producers with cooperatives or wholesale buyers can help reduce disparities. Women also face additional burdens from unpaid domestic and care work, which limits their time and opportunities for income generation and career advancement. Sustainable Development Goal (SDG) 5.4 underscores the importance of recognizing unpaid care and domestic work by investing in public services, infrastructure, and social protection. However, challenges remain, including exclusion from leadership roles and limited access to land and financial resources needed to expand agricultural activities.

Cambodia is highly vulnerable to climate-induced events such as floods, droughts, and insect infestations, which reduce crop yields and diminish household incomes. Rising temperatures, weather variability, and natural disasters affect both men and women farmers, but women face higher barriers in adopting new technologies for agricultural diversification and intensification. Climate change and land dispossession particularly impact indigenous women, pushing many into precarious urban labor. Despite these challenges, progress has been made in integrating gender into national policies and strategies. Government frameworks such as the Agricultural Sector Master Plan 2030, the Agriculture Strategic Development Plan, the Climate Change Strategic Plan, and the Gender Mainstreaming Strategy emphasize women's roles in environmental conservation and production processes. These address gender-specific vulnerabilities and promote inclusion in decision-making and resource management.

Broader frameworks such as the Cambodia Rectangular Strategy Phase IV, Cambodia Sustainable Development Goals, Neary Rattanak V (Ministry of Women's Affairs, 2019), and the Convention on the Elimination of All Forms of Discrimination Against Women also provide a foundation for gender mainstreaming at national and sub-national levels (Monin et al., 2021). These initiatives aim to reduce structural gender inequalities by promoting equal access to education, financial resources, leadership opportunities, and labor rights. Yet, women's economic empowerment remains constrained by cultural norms, weak institutional support, and limited policy enforcement. Effective gender-responsive agricultural policies must address barriers to land ownership, access to credit, technical training, and leadership roles.

Achieving SDG 5 on gender equality is critical to improving women's conditions in agriculture and ensuring their full participation in rural development and climate resilience strategies. Women must be recognized not only as laborers but also as decision-makers, innovators, and rights holders within the agricultural sector. Strengthening data collection on gender-disaggregated employment and resource access, promoting inclusive policy design, and investing in rural infrastructure and social services are key to advancing gender equality in Cambodia's agriculture sector.

In this context, this study examines the roles, challenges, and barriers that women in agriculture face in Cambodia, considering its unique social, cultural, and economic context. Based on these findings, policy and other recommendations are presented.

## Methodology

The study employs a qualitative research approach and utilizes multiple data collection methods.

**Desk Review**

As part of the review process, a range of documents was collected and examined to provide context and support for the analysis. These included national policy documents, strategic development plans, government reports, academic publications, and resources from development partners. Reviewing these materials helped clarify the priorities and strategies of the Royal Government of Cambodia, which directly informed the analysis and recommendations presented in this report.

**In-depth Interviews**

In-person interviews were conducted between December 2024 and January 2025 to gain a deeper understanding of the experiences and perspectives of two key groups: agricultural experts and women farmers. Notes from each interview were reviewed to ensure that the respondents' perspectives were accurately captured.

**Interviews with the Experts**

In-depth, in-person interviews with experts were conducted using a semi-structured guide provided for this research project. The interview guide covered the following themes:

- Background and contextual insights.
- Agricultural production decisions.
- Access to and control over productive resources.
- Income use and decision-making.
- Community leadership.
- Time allocation in agriculture.
- Policy and program effectiveness.
- Challenges, solutions, and recommendations.

The selected respondents had experience working with women in agriculture in Kampong Chhnang and Kandal provinces. Their background are presented in Table 1.

**Interviews with Women in Agriculture**

In-depth, in-person interviews were conducted with 11 women farmers from two provinces: three from Kampong Chhnang, about 95 km north of the capital Phnom Penh, and eight from Kandal, about 25 km south of Phnom Penh. Both provinces are major agricultural production areas, with year-round access to water irrigation from reservoirs, and have been confirmed as rice and vegetable production regions, as shown in Figure 1. Farms in Kandal are approximately 30 minutes by car from Phnom Penh, located along National Road No. 21. The interviews were conducted using a semi-structured guide.

The interview guide covered the following themes:

- Women's roles and involvement in agriculture.
- Access to decision-making power over productive resources.
- Control over income use.
- Leadership in the community.
- Time allocation for agricultural activities.
- Strategies to overcome barriers and enhance women's contribution, productivity, and well-being.

**TABLE 1**

**BACKGROUND OF THE INTERVIEWED EXPERTS.**

| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement/Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E1 | Male | Division of Research and Innovation, Royal University of Agriculture, Ministry of Agriculture, Forestry, and Fisheries (MAFF) | PhD in Postharvest Technology Director | • Leadership and management of research and extension programs<br>• Development and implementation of research and innovation policies<br>• Capacity building for agricultural research and technology transfer<br>• Collaboration with development partners and private sector stakeholders | 15 |
| E2 | Female | World VISION NGO worker | Bachelor's degree: General Management, Project Coordinator | • Leadership and management of research and extension programs<br>• Development and implementation of research and innovation policies<br>• Capacity building for agricultural research and technology transfer<br>• Collaboration with development partners and private sector stakeholders | 9 |

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| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement/Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E3 | Male | Cambodia Quality Horticulture | Master's degree: Project Coordinator | • Leadership and management of research and extension programs<br>• Development and implementation of research and innovation policies<br>• Capacity building for agricultural research and technology transfer<br>• Collaboration with development partners and private sector stakeholders | 15 |
| E4 | Female | NGO Worker | Bachelor's degree: Associate of Science in Nursing, Project Manager | • Deliver training to relevant stakeholders, including farmers and officials in the province | 10 |
| E5 | Female | Department of Agricultural Land Resources Management, General Directorate of Agriculture, MAFF | Master's degree: Agriculture Government official | • Facilitation of research activities on agro-ecology and conservation agriculture<br>• Training of relevant stakeholders, including farmers and officials of the province<br>• Collaboration with different partners on conducting research activities and scaling up practices in agriculture | 7 |
| E6 | Male | Freeland | Master's degree: Agriculture Freelance consultant | • Research in rural development<br>• Monitoring & Evaluation on rural development<br>• Monitoring & Evaluation on system development | 15 |

**Note:** E1, Expert 1; E2, Expert 2; ... E6, Expert 6.

**FIGURE 1**

**MAP OF CAMBODIA SHOWING THE STUDY AREA.**


**Source:** Country highlights. ASEAN Business Partners, (Kumar, 2023).

**TABLE 2**

**BACKGROUND OF THE PARTICIPATING WOMEN FARMERS.**

| Interviewees | Age | Educational level | Married status | No. of Children | Main commodity planted | Location |
|---|---|---|---|---|---|---|
| P1 | 50 | Grade 5 | Married | 4 | Vegetable | Kandal Province |
| P2 | 49 | Grade 12 | Married | 3 | Vegetable | Kandal Province |
| P3 | 42 | Grade 3 | Married | 3 | Vegetable | Kandal Province |
| P4 | 52 | Grade 7 | Married | 3 | Vegetable | Kandal Province |
| P5 | 42 | Grade 5 | Married | 6 | Vegetable | Kandal Province |
| P6 | 45 | Grade 5 | Married | 3 | Vegetable | Kandal Province |
| P7 | 32 | Grade 5 | Married | 2 | Vegetable | Kandal Province |
| P8 | 50 | Grade 7 | Married | 2 | Vegetable | Kandal Province |
| P9 | 48 | Grade 8 | Married | 2 | Vegetable Rice | Kampong Chhnang Province |
| P10 | 38 | Grade 3 | Single | 0 | Vegetable, rice | Kampong Chhnang Province |
| P11 | 34 | Grade 12 | Married | 2 | Vegetable Rice | Kampong Chhnang Province |

**Note:** P1, Respondent 1; P2, Respondent 2; ... P11, Respondent 11.

### Data Analysis

The study employed thematic analysis, following the approach outlined by Braun and Clarke (2006), to identify patterns in both the interview transcripts and reviewed documents. Words, ideas, and phrases that stood out or appeared repeatedly were used to create initial codes, which were then grouped by similarity. As patterns emerged, three broader themes were explored:

- Women's involvement in agriculture and the role they play.
- Structural, social, and economic challenges faced by women.
- Strategies women use to navigate these challenges, and ways to improve their productivity, well-being, and participation.

The analysis sought to remain as close as possible to the voices of the women and experts interviewed. Their stories and insights shaped the themes that were identified. This helped understand not just the barriers but also the strengths and potential within their everyday experiences.

**Ethical Considerations**

Informed consent was obtained from all participants in this research before the interview. Participation was voluntary, and respondents were informed that they could withdraw from the study at any time. They were briefed about the purpose of the research and the intended use of the data. Additionally, information collected was recorded in notebooks, and some photos were taken with consent during the interview. All information collected was kept confidential and used solely for this study.

## Findings

### Roles and Involvement of Women in Agriculture

Women are the backbone of agriculture, playing crucial roles in everything from growing crops to selling produce. They are involved at every stage, from planting to harvesting, processing, and marketing—showcasing both their skills and the challenges they face. They are engaged in planting, weeding, and harvesting, especially in vegetable and horticulture farming, as well as in post-harvest processing, making sure produce is cleaned, sorted, and packaged for sale.

In livestock management, women are often the primary caregivers, responsible for feeding, basic animal healthcare, and managing byproducts such as dairy and manure. They also play an active role in marketing and sales, either selling their goods directly in local markets or through intermediaries. In many cases, women negotiate prices and build relationships with buyers, influencing crop selection and how they are sold.

In Cambodia, women play a hands-on role in vegetable farming, from tending crops to harvesting and selling produce. In rice farming, however, their involvement has declined due to mechanization, though they still oversee financial matters and seek loans when needed. In households without male members, women step up as farm leaders, making key decisions about production and resource management.

Women's contributions extend beyond the fields into household responsibilities, balancing agricultural work with caregiving and domestic duties to ensure both the farm and family run smoothly. Despite their contributions, much of their labor often remains undervalued and unrecognized, highlighting the need for greater support and empowerment.

Over the years, women's roles in agriculture have expanded beyond traditional labor to include leadership and decision-making. More women are joining agricultural cooperatives and producer groups, stepping up as both members and leaders. This shift is partly linked to men's migration for employment, leaving women responsible for managing farming operations.

Nevertheless, their involvement in rice farming has declined in some regions due to mechanization, while their participation in vegetable farming remains significant.

### Decision-Making Contributions

In households and farming communities, decision-making on production is often influenced by traditional gender roles and cultural norms. Male heads of households usually take the lead in key production decisions, such as crop selection, planting, and harvesting, while women contribute through informal influence. As one respondent (P10) noted, "Mostly, my father makes the decision. Sometimes, my mother and I join the discussion with my father, but our ideas are still limited." Similarly, P1 explained that her husband plays the leading role in decision-making on crop management, livestock, land use, and pest control methods, while she assists him.

This dynamic is gradually changing, with women increasingly participating in decision-making processes, particularly in small-scale production and household-level farming. Women often influence decisions related to crop selection and labor allocation, drawing on their knowledge of market demand and household needs. Several participants (P2, P3, P4, and P6) indicated that they make decisions jointly. P2 asserted, "We jointly make decisions on seed selection, fertilizer, and pesticide use. I help with farming work and provide technical support, such as the use of pest control methods".

Despite this shift, women generally have less control over financial and strategic decisions, which continue to be dominated by men. The extent of women's influence over key production decisions depends on education, income, and access to resources. Women with higher education and greater economic independence tend to exercise more decision-making power. For example, in vegetable farming, where women play a significant role, they often decide on crop varieties and market-oriented production. However, decisions about technical aspects, such as the use of agricultural inputs and machinery, are typically made by men, who are often perceived as having greater expertise in these.

In some cases, decisions are made jointly, with both spouses discussing and agreeing on production plans. As noted by Dr. Buntong Borarin, Lay Chan, and Sopheap, the key factors include education, income, cultural norms, and access to resources. Women with higher education and economic independence tend to have greater decision-making power.

Several factors determine who makes production decisions in agricultural households. Overall, education and income levels are critical determinants of decision-making authority, while cultural norms reinforce gender roles and male dominance in strategic agricultural choices. Additionally, access to resources, such as training and agricultural inputs, can empower women to take on more active roles in decision-making. For instance, women who participate in capacity-building programs or community-based groups often gain the confidence and skills needed to influence production decisions.

### Access and Control Over Productive Resources

Women in agriculture face significant barriers to owning and accessing essential resources, such as land, livestock, farming equipment, information, technology, and markets. Traditional inheritance practices, gender-biased policies, and deep-rooted social norms often favor men, making it difficult for women to gain control over these assets. For example, inheritance laws typically prioritize male family members, leaving many women without direct land ownership.

In 2021, women owned only 11.3% (423,000 hectares) of Cambodia's total agricultural land, despite women heading 22% of all households (NIS, 2022). The high level of informality among female agricultural workers restricts their access to social protections, education, and decent work. In 2020, 58.8% of employed women were in vulnerable employment compared to 46.4% of men (FAO, 2024).

Only 10–20% of land titles in Cambodia are held by women, despite their active contributions to agricultural production and land management. According to the 2021 Cambodia Agricultural Survey, 98% of household agricultural holdings reported ownership or owner-like possession of land used for farming. However, women-headed households (22% of all households) own only 12.4% of agricultural land, reinforcing persistent gender inequality (NIS, 2022).

Limited land ownership also affects women's ability to secure agricultural loans, as land is often required as collateral. Overall, just 18% of Cambodian women own registered land or property, making them largely ineligible for formal credit access (UN, 2022). As a result, many women farmers are forced to rely on informal lending networks with high interest rates, compromising long-term financial stability. This was illustrated during the interviews. P10 explained that she was unable to obtain formal credit because she lacked land ownership, despite her active engagement in farming and leadership in a local agricultural association. Similarly, P7, though a co-owner of farmland, could only manage a small-scale operation and could not expand due to financial constraints.

Women-headed households also face shortages of labor, financial support, and farming tools, making it difficult to scale up production. Besides, they juggle dual responsibilities of farm and household work, leaving them with less time and energy to expand agricultural activities.

Decision-making power over productive resources also remains unequal. Men generally have the final say, especially in large-scale farming and the use of machinery. At the same time, women exert relatively more influence in small-scale production and livestock management, where they often handle daily operations and sales. In many households, men make the major farming decisions, while women focus on managing household needs. These gendered roles are reinforced by cultural norms that position men as primary decision-makers and women as caregivers.

Despite these challenges, some women are successfully gaining more control over agricultural resources. Participation in farmer cooperatives, community-based groups, and microfinance programs has helped women access land, credit, and training. Support from NGOs and the implementation of gender-inclusive policies have also encouraged greater involvement of women in decision-making. Women who receive training and actively participate in farming communities tend to have more influence over how resources are used.

**BOX 1**

**CASE STUDY: SAING SIEM.**

Saing Siem, a 48-year-old married woman with two children, completed grade 8 and plays a leading role in agriculture, managing rice, vegetable, and livestock production. She is the primary decision-maker in crop and vegetable selection and shares responsibility for livestock with her husband. As a landowner, she exercises complete authority over the land and faces no barriers in decision-making.

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She had received extensive agricultural training from NGOs like World Vision and FIDR. Her skills and experience led to her selection as the director of a local agricultural association, where her leadership encouraged other women to participate more actively. She also engages in community decision-making and public speaking.

Siem controls agricultural income and daily expenses and is satisfied with her ability to manage time across farm work, domestic chores, and her duties at the association. Although she had not personally faced gender-based barriers, she recognizes broader cultural norms and a lack of education as limiting factors for women. She advocates greater support for technology and irrigation systems and believes that digital tools can enhance productivity and market access.

### Control Over the Use of Income

In households where women are engaged in agricultural production, control over farm income often reflects traditional gender roles. Men typically oversee larger financial decisions, while women manage day-to-day expenses. As one participant (P1) explained, "My husband controls the income generated from agricultural activities. He manages finances because he has a higher education. Additionally, he is a vegetable collector and sells them to the shop."

This dynamic, however, is gradually shifting in many communities, with women increasingly taking charge of the income generated by their farms. Many participants in this study reported managing the income from agricultural activities because they also handle all household and farm expenditures. Despite this progress, women's economic empowerment remains incomplete, as they often lack full control over savings, investments, and long-term financial planning. For instance, while women may manage income, they frequently lack knowledge of profit and loss or access to financial resources, which increases undue pressure on them.

Women generally have significant decision-making power over household expenses, particularly for family needs and children's education. However, their control over larger financial matters, such as savings, investments, or major purchases, is often limited. Decisions about significant expenditures usually require consultation with men, reflecting a joint approach to financial management. This collaborative dynamic ensures that both partners contribute to financial decisions. However, it also underscores the need for greater autonomy for women in managing income, especially when they contribute significantly to agricultural production.

Patterns of agricultural income use also differ by gender. Women tend to prioritize family needs, such as food, clothing, and children's education, while men often allocate income to farm expansion or personal expenses. This gendered approach to spending reflects societal expectations, where women are seen as caregivers and men as providers. Women's focus on family welfare often leads to better outcomes for household well-being, as their spending directly addresses immediate needs and long-term benefits, such as education.

Several strategies have proven effective in increasing women's control over agricultural income. Community savings groups and women-focused financial literacy programs are particularly impactful. These initiatives provide women with the knowledge and skills to manage family budgets, understand profit and loss, and make informed financial decisions. Additionally, promoting

women's leadership in agricultural production and integrating family financial management into agricultural programs can also help ensure that all family members understand income and expenses. Encouraging women's participation in market activities and providing access to banking services also strengthens their financial autonomy.

Social norms play a significant role in shaping women's control over income. In some communities, it is culturally accepted for women to manage household finances, which can be leveraged to promote greater financial empowerment.

**BOX 2**

**CASE STUDY: VONG CHAMREOUN.**

Vong Chamreoun, a 45-year-old woman farmer from Kandal Province, completed Grade 5 and is married. She engages in vegetable cultivation, including applying compost and fertilizers, preparing pesticides, watering, harvesting, packing, and selling. She also raises chickens and plays a key role in managing both household and farm expenses.

Land ownership is shared by both spouses, and decisions on seed selection and animal rearing are made jointly. However, Chamreoun takes the lead in pest control and chicken care, drawing on the agricultural training sessions she frequently attends. She reports feeling empowered in decision-making and has faced no barriers to participation.

Chamreoun is a member of the vegetable production group and is recognized as a model farmer. During community meetings and training sessions, she confidently shares her experiences. However, leadership roles in her community are primarily dominated by men due to limited women's participation, shyness, lack of experience, and household responsibilities.

She also faces challenges, such as long working hours, high input costs, and limited time for leisure or personal activities. Chamreoun emphasized the need for increased financial support, access to technology, and enhanced promotion of local products to improve women's productivity and reduce labor burdens.

### Leadership in the Community

Women continue to be underrepresented in agricultural cooperatives and decision-making bodies. Of the 1,200 park rangers in Cambodia, only 42 are women, reflecting their exclusion from formal leadership roles in land governance. Study participants (P3, P6, and P11) reported that community leadership roles remain male-dominated, citing factors such as shyness, lack of experience, and heavy domestic workloads. This aligns with national data showing that only a small proportion of leadership and cooperative roles are held by women, and women-headed households own just 12.4% of total agricultural land.

Experts (E1, E2, and E6) highlighted that gender norms, household burdens, and lack of confidence restrict women from taking leadership roles. Additionally, E3 and E4 noted that women often feel shy or are constrained by household responsibilities, which reduces their participation in meetings and training. The limited participation in training sessions, as seen in P7, further weakened women's public engagement and confidence in decision-making spaces. Restricted access to digital tools and mechanized equipment compounds these inequalities, leaving many reliant on labor-intensive methods.

Nevertheless, in some regions, women are active participants and often hold key leadership positions, particularly in financial management and advocacy. For example, in the vegetable sectors, women frequently lead organizations, whereas in some other sectors, such as rice cultivation, leadership roles tend to be dominated by men. In some cooperatives, structured leadership teams (chief, vice chief, and secretary) include significant female representation, sometimes reaching 60–70% of the team. However, women face several barriers that hinder their full participation in leadership roles, and they are often relegated to deputy or secretarial roles rather than serving as primary decision-makers.

Deeply rooted gender stereotypes contribute to low self-confidence, and many women feel hesitant to take on leadership responsibilities. Traditional household responsibilities, such as cooking, childcare, and caring for elderly family members, limit their time and energy for community leadership. Limited access to education, literacy challenges, lack of targeted training opportunities, travel constraints, and shyness further reduce women's participation in leadership positions.

Despite these challenges, several programs and policies have successfully promoted women's leadership in the agricultural sector. Capacity-building initiatives by NGOs, including those supported by the United States Agency for International Development (USAID), have empowered women through specialized training in leadership, report writing, supply chain management, and technical support. Positive examples from study participants (P9 and P11), who hold leadership positions in agricultural associations, illustrate the transformative potential of training, institutional support, and gender-responsive interventions in strengthening women's influence in agriculture.

Government policies, such as the MAFF's gender policy, and programs by the development partner have played a significant role in fostering leadership networks and highlighting the successes of women-led projects. Additionally, sector-specific programs, such as Agrisud's initiatives in Siem Reap and programs by organizations like Banteay Srei NGO, have focused on value chain development in vegetable production and food processing, areas where women show significant interest and potential.

**BOX 3**

### CASE STUDY: CHHUN SREYMOM.

Chhun Sreymom, 32, from Kandal province, is married and has studied up to grade 5. She is actively engaged in all stages of farming, including growing vegetables, applying compost, natural fertilizers, and pesticides, watering, harvesting, and selling products. She also raises ducks for only family consumption. Most of her time is spent on farm work rather than household or childcare responsibilities.

Land ownership is shared equally between her and her husband. She independently decides on crops and livestock based on market demand, while decisions on pest control methods and fertilizers are made jointly. She participates fully in both household and farm decisions.

Despite this autonomy, she faces challenges in accessing credit due to the small scale of her farm. She is a member of a vegetable farming group, but rarely attends training sessions and feels uncomfortable speaking in public. In her community, men continue to dominate leadership roles, with women's participation hindered by shyness, limited domestic duties, and experience.

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Her main challenges include high input costs, lack of access to finance, and time constraints. Sreymom expressed the need for greater access to training opportunities, digital markets, labor-saving technologies to enhance productivity and enable more women to succeed in agriculture.

### Time Use for Agriculture

Women in agriculture often bear the dual burden of farm work and household responsibilities, including childcare, cooking, and other domestic chores. This workload leaves them with limited time and energy, thereby reducing their agricultural productivity. Many women wake up early to prepare meals and get children ready for school before heading to the fields.

After a full day of farming, they return home to continue domestic tasks, often with minimal support from male family members. This imbalance not only affects their well-being but also limits their participation in training, meetings, or community activities. Addressing their issues requires initiatives that reduce women's workloads and promote shared household responsibilities.

## Barriers and Challenges for Women in Agriculture

Women in agriculture continue to face challenges in accessing resources, credit, and opportunities, which limit their ability to participate in agricultural decision-making. These challenges can be grouped into three main categories: structural, social and cultural, and economic.

### Structural Challenges

**Limited access to resources:** Women often face challenges in accessing essential agricultural resources, including land, credit, farming inputs, and technology. Without these resources, it is difficult for them to improve productivity, expand their farms, or compete in commercial agriculture.

**Lack of technical knowledge:** Lower levels of education restrict women's ability to make informed decisions in farming. Limited access to formal education and agricultural training limits their understanding of modern techniques, financial management, and market trends. Participant San Sambath highlighted this aspect: "My parent did not encourage me to join training; they said it was a waste of time."

**Time constraints:** Household responsibilities, such as childcare, cooking, and domestic work, leave women with little time to attend training sessions or participate in agricultural decision-making meetings. This restricts their ability to learn new farming methods or advocate for their needs. This was pointed out by participant Mey Leang Eng, "I do not have enough time for household chores and childcare because I spend much time on farms."

**Limited leadership opportunities:** Women remain underrepresented in agricultural leadership positions. Whether in cooperatives, producer groups, or policy-making bodies, decision-making roles are often dominated by men, making it harder for women to influence agricultural policies and practices. According to Dr. Borarin, "Cultural norms, lack of confidence, and limited access to education and training prevent women from becoming leaders."

**Limited access to education:** Many women lack formal education or specialized training in agriculture, preventing them from adopting advanced technologies or accessing valuable market

information. In rural areas, educational opportunities for women are scarce due to cultural norms, financial constraints, and inadequate infrastructure.

**Limited agricultural extension services:** Agricultural extension services, designed to provide training on new technologies and techniques to enhance agricultural production, remain inaccessible to many women. Women constitute more than 40% of Cambodia's waged agricultural workforce, yet they receive only 20% of agricultural extension services (UN, 2022).

Training programs are often designed without considering women's time constraints, literacy levels, and mobility challenges. As a result, women are often excluded from important knowledge-sharing on improved farming techniques, climate resilience, and sustainable agricultural practices.

**Restricted ownership of land and resources:** Traditional inheritance laws and cultural practices favor male land ownership, making it difficult for women to legally own land or other productive assets. Women who manage farms often lack legal land titles, which prevents them from securing loans or making long-term investments in their farms.

**Inadequate access to technology:** Women have limited access to modern farming tools and machinery, many of which are designed to match men's physical capabilities. Similarly, farm mechanization remains male-dominated, with less than 15% of women farmers having access to modern agricultural equipment. Digital illiteracy further compounds this challenge, as only 26% of women in rural areas have received any formal ICT training (UN, 2022). The lack of user-friendly, gender-sensitive technology makes it harder for women to engage in mechanized farming, further widening the productivity gap.

### Social and Cultural Challenges

**Gender norms and roles:** Cultural expectations position men as the primary decision-makers and leaders in agriculture, while women are often confined to supportive or unpaid roles. Women are frequently excluded from community decision-making platforms and leadership positions, limiting their ability to influence policies and agricultural development. As highlighted by Dr. Borarin, "Gender norms often restrict women from participating in decision-making processes and accessing leadership opportunities. Cultural expectations regarding household responsibilities also limit their involvement".

**Household responsibilities:** Women juggle both agricultural and household work, including cooking, childcare, and caregiving. This leaves them overburdened and with less time for training, market activities, or leadership roles in farming cooperatives. According to the interview, "As women farmers, they wake up early to handle household chores before going to the fields, but their work does not end there. After farming, they rush home to cook, care for their children, and manage the household. They work just as hard as men in agriculture, yet their contributions often go unnoticed."

**Mobility constraints:** Women often face travel restrictions due to safety concerns, social norms, or financial limitations. This limits their ability to attend training programs, agricultural meetings, or market transactions, reducing their access to resources and networking opportunities.

**Lack of women-friendly technology:** Most agricultural tools and machinery are designed for men, making mechanized farming difficult for women. The lack of gender-sensitive, ergonomic technology excludes many women from modern farming methods, further widening the productivity gap.

### Economic Challenges

**Lack of access to credit:** Many women struggle to secure loans because they lack collateral, such as land titles, which are often registered in the names of male family members. Additionally, financial institutions often exhibit gender biases, making it harder for women to access credit to purchase seeds and equipment or to expand their farms. Limited financial literacy also prevents many women from navigating loan processes and managing investments effectively. As a result, 70% of women farmers rely on informal lending sources, such as family, community lenders, or microfinance institutions, which often have higher interest rates (UN, 2022).

According to Saem, although she faced no formal barriers to accessing credit or other sources of finance for agricultural activities, she has never accessed credit. She explained that for a single person, obtaining credit was difficult due to banks' restrictive policies. Hence, they must ask siblings to become co-borrowers. She also noted that some women take illegal loans at high interest rates, calling them the worst option.

**Market access issues:** Poor infrastructure, including inadequate roads and transportation, limits women's ability to take their produce to markets. With limited negotiating power and market knowledge, women often sell their products at lower prices, reducing their profits. Many also depend on intermediaries, who take a large portion of the earnings, further limiting women's financial gains.

More than 70% of women entrepreneurs rely on informal trade networks, which offer lower profit margins compared with formal markets. Additionally, 60% of rural women entrepreneurs cite transport challenges as a major barrier to selling their products in urban centers. Gender biases also affect women's ability to engage in commercial negotiations, with studies showing that women are 30% less likely than men to secure favorable trade agreements (UN, 2022).

**Wage disparities:** In paid agricultural labor, women earn significantly less than men for doing similar work. This income gap reduces their financial independence and limits their ability to invest in better farming practices. Unequal pay also reinforces the perception that women's labor is less valuable, discouraging their participation in commercial farming. Participant Bun Channy observed: "She gets paid equally for the same work, while men get paid more than women due to different work that involves heavy physical labor."

## Policy Implications and Recommendations

### Government Policies and Programs Supporting Women in Agriculture

Cambodia has made significant progress in supporting women's involvement in agriculture through various government policies and programs. Initiatives such as the Women in Agriculture Initiative and international partnerships, including those funded by USAID, have created new opportunities for women in the sector.

The Government of Cambodia has taken active steps to promote gender equality, notably by establishing the Ministry of Women's Affairs, which supports women across all sectors, including agriculture. MAFF has set up gender-focused task groups to advocate for women's roles in farming, provide training, and share information on gender equity. Other government agencies have also formed women-led groups to strengthen gender roles and promote equality. As explained by experts, Dr. Borarin and Sopheap, programs such as Cambodia's Women in Agriculture Initiative

and international efforts, including those supported by USAID, have been instrumental in promoting women's involvement in agriculture.

Several ministries have established women-led groups to improve gender roles and support initiatives aimed at enhancing gender equality within their respective sectors. Training programs have also been implemented to strengthen women's participation in agriculture, with a focus on value chains, food processing, and leadership development. These initiatives provide women with the tools and knowledge needed to succeed. Civil society organizations are also contributing. As highlighted by Lay Chan, the program implemented by NGO Banteay Srei NGO empowers women in multiple sectors, including agriculture. At the same time, Agrisud in Siem Reap promotes the role of women in the vegetable value chain and food processing. Such initiatives are more attractive to women farmers.

Despite these efforts, the sector still has a long way to go. More targeted policies and dedicated funds are required to expand gender-focused programs and ensure lasting change. By increasing investment in women's access to land and promoting financial literacy, credit, and leadership opportunities, Cambodia can build a more inclusive and equitable agricultural sector where women have the resources and recognition they deserve.

To empower women in agriculture, several key factors are essential:

- Gender-sensitive policies that promote equal land ownership and resource access.
- Education and training to build skills and confidence.
- Financial services and microloans tailored to support women farmers.
- Community awareness programs to challenge traditional gender roles.

### Challenges in Implementing Policies for Women

Despite efforts to empower women in agriculture, governments and organizations face several challenges in implementing policies. A significant issue is limited funding. Many programs designed to support women farmers often lack sufficient financial backing, which restricts their ability to expand or sustain their operations. Additionally, a lack of awareness is a significant barrier, as many women, especially in rural areas, are unaware of these policies and programs. This prevents them from taking advantage of available resources.

Women farmers often lack a platform to share their experiences or voice their needs. This lack of feedback mechanisms at the local level makes it difficult to adapt policies to deal with real challenges and ground realities. Cultural resistance and traditional gender roles also slow progress. In many communities, women are still expected to focus on household duties, making it harder for them to access training, funding, and leadership opportunities in agriculture.

Many programs aimed at supporting women farmers are not standalone initiatives but are part of broader agricultural policies. While this approach can be helpful, it often means that women-specific challenges get insufficient attention, resources, and focus, limiting their overall impact and scalability. For meaningful progress, more targeted funding, stronger outreach, improved local engagement, and dedicated programs are needed to support and uplift women in agriculture.

### Gaps in Current Agricultural Policies in Cambodia

Agricultural policies often overlook gender equity, leaving many women farmers without adequate support. While efforts have been made, there is still a lack of dedicated funding for programs that specifically empower women in agriculture. To achieve meaningful impact, the government needs to allocate a budget for gender-sensitive initiatives that promote women's leadership and ensure they have equal access to resources.

Many women farmers continue to face barriers in accessing training, finance, and decision-making opportunities. These challenges persist not because of a lack of ability, but because time constraints and household responsibilities make it difficult for them to participate. Furthermore, policies often fail to address practical barriers, such as childcare, transportation, and inclusive training environments, which could make it easier for women to get involved.

Closing these gaps requires a more targeted approach, one that removes barriers, provides direct support, and ensures that women farmers have a voice in agricultural development. A higher level of women's participation will not only benefit their families but also enhance the productivity and sustainability of the agriculture sector as a whole.

### Ensuring Women's Inclusion in Decision Making

Practical measures are required to ensure that women farmers have a meaningful voice in household and community decisions. One approach is to establish gender quotas and participatory platforms that allow women to share their perspectives and influence agricultural programs. Financial literacy and family budgeting are also key. When women gain the knowledge and confidence to manage household income, they can play a more active role in economic decisions, reducing dependence on male family members.

Leadership training for women and awareness programs for men can also make a big difference. By challenging cultural norms and encouraging shared decision-making, these initiatives can help create a more balanced and inclusive agricultural sector. Similarly, education and skills training are equally important: when women have access to knowledge and resources, they can participate more effectively in decision-making, not just at home, but in community meetings, cooperatives, and agricultural organizations. By breaking down barriers and creating more opportunities, women farmers can play a stronger role in shaping the future of agriculture.

### Enhancing Training and Capacity Building of Women

Expanding access to leadership training designed specifically for women is essential. Establishing women-only groups or safe spaces allows participants to build confidence, share experiences, and engage openly in discussions about leadership challenges and opportunities. Scheduling training sessions at times and in environments that are accessible and comfortable for women is crucial.

### Creating Supportive Policies and Dedicated Resources

Policies that explicitly support women in leadership roles are needed, including the allocation of a dedicated budget for women-led projects and community initiatives. Collaboration between government agencies and development partners is vital to promote gender equality by highlighting successful women-led projects and incorporating gender-sensitive approaches into all aspects of community development.

### Driving Community Engagement and Inclusive Participation

Promoting gender equality requires the involvement of the broader community, including men. Encouraging male participation in trainings and community activities can help change perceptions and promote supportive gender roles within families and communities.

### Adopting Tailored and Need-Based Approaches

Training programs should be tailored to the specific needs and potential of women in the agricultural sector. Providing opportunities for women to contribute to the planning, implementation, and evaluation of community projects enhances the quality of development outcomes. Support in areas such as developing master plans and managing budgets strengthens women's active participation.

### Providing Access to Agricultural Technology and Digital Platforms

Advancements in agricultural technology and digital platforms are reshaping how women engage in farming. Mobile apps and digital tools provide real-time market information, improved farming techniques, and networking opportunities, enabling women to boost productivity and make better business decisions.

Labor-saving technologies, such as drip irrigation, direct seeding machines, and drone-based fertilizer application, are reducing the physical workload for women farmers. This not only makes farming less labor-intensive but also allows them to spend more time on other income-generating activities or household responsibilities. Social media and digital marketplaces are other game-changers, enabling women to sell agricultural products online, expand their customer base, and increase profits.

However, to fully benefit from these technologies, women need adequate training and support. Hence, capacity-building programs are essential to ensure that women not only have access to these tools but also know how to use them effectively. By bridging this gap, digital innovation can empower more women in agriculture, leading to greater financial independence and stronger farming communities.

### Creating Innovative Approaches and Technologies

New technologies and creative approaches are helping women farmers increase productivity and take on bigger roles in agriculture. Labor-saving tools, such as plastic mulch and rain-spray irrigation, have made farming easier and more efficient, reducing the time and effort required for daily tasks.

Women-focused training programs and mobile financial services are giving women the knowledge and resources to manage their finances, invest in farms, and expand their businesses. With better access to financial tools, women are gaining more independence and confidence in agriculture. Encouraging women-led producer groups and agricultural cooperatives has also shown their capacity as leaders and innovators in the sector. These groups provide a platform for women to share knowledge, access markets, and collaborate on new farming techniques.

Another important step has been mainstreaming gender-sensitive practices into agricultural programs. By ensuring that women are included in every step of the farming process, from production to marketing, these initiatives are building a more inclusive and equitable agricultural sector. With the right tools, training, and support, women in agriculture are demonstrating that they are not only contributors but also leaders and change-makers.

### Introducing Initiatives to Help Women Manage Time Better

Several measures have been introduced to help women balance agricultural and household duties more effectively. Labor-saving technologies, such as drip irrigation and no-till planters, have significantly reduced the physical burden of farming, allowing women to save time and energy.

Programs promoting shared household responsibilities have encouraged men and other family members to contribute more to domestic tasks, creating a more equitable division of labor. Access to childcare services and support for elderly family members, such as grandparents, provides women with the flexibility to engage in farming and community activities. Training on time management and gender roles further empowers women to negotiate for greater support within families and communities.

### Introducing Initiatives for Women's Personal Well-Being

A range of programs have been implemented or proposed to support the personal well-being of women engaged in agriculture. These include better access to healthcare services, childcare support, and training in time management and financial literacy.

Programs that promote gender-sensitive agricultural practices and inclusive technologies have also been effective in reducing women's workload and improving their productivity. For example, initiatives like drip irrigation and conservation agriculture have enabled women to manage their farms more efficiently. Mainstreaming gender equality in agricultural policies and programs has encouraged greater investment in women's leadership and economic empowerment. Expanding these initiatives and ensuring their accessibility to women in rural areas can further enhance their well-being and productivity.

## Conclusion

Women are essential to Cambodia's agriculture sector, balancing farm work and household responsibilities. Despite all their contributions, women still face significant challenges that limit their ability to participate in decision-making. These include structural issues like unequal land ownership, social barriers such as gender roles, and economic limitations like lack of access to credit and training.

To tackle these challenges, targeted efforts such as gender-inclusive policies, financial literacy programs, and improved access to agricultural training and resources are needed. When women are supported and included, they can increase productivity, help grow rural economies, and promote gender equality, which benefits the entire community in the long run.

At the household level, men often retain decision-making power. However, this is gradually changing as women gain greater influence over crop selection and market-oriented farming. Providing women with better opportunities to learn, join training programs, and access to the tools they need can help expand their roles even further. Changing cultural norms and promoting equal roles in the household and community can further strengthen women's roles in agricultural decision-making.

Although women often manage household expenses and some farm income, they still have limited control over savings, investments, and major financial decisions. Bridging this gap needs targeted action, like expanding access to banking services, creating financial education

programs, and encouraging women's leadership in agriculture. Encouraging women to take charge of finances will help bridge the gender gap, strengthen families, and increase support for the economy.

Overall, while women are making progress and showing leadership in agriculture, challenges related to social norms, household duties, and education remain. More women can be encouraged to lead and grow in the sector by investing in capacity-building programs, adopting more inclusive policies, and supporting local women's involvement in community decision-making.

The workload of farming and household care often leaves women exhausted and less productive. However, some solutions are showing promise. These include labor-saving tools, shared household responsibilities, and access to childcare. Improving women's quality of life also requires accessible healthcare, tailored training, and agricultural programs that understand women's needs. Empowering women farmers is not only about increasing agricultural output but also about fairness, dignity, and building a better future for families and communities.

Women in agriculture continue to face structural, social, and economic barriers. Gender norms and outdated practices restrict their leadership and decision-making roles, while limited access to credit, market access, and fair wages exacerbate the situation. Overcoming these challenges requires smart policies, gender-sensitive innovations, and support systems that protect women's rights, enhance their skills, and provide them with the tools to succeed.

Women are more active in agriculture today than ever before, yet true gender equity still has a long way to go. With appropriate support, training, policies, and technology, women can thrive and reach their full potential. The goal is to ensure women have equal opportunities, a strong voice, and a fair share of resources. When women succeed, farms are more productive, families are stronger, and communities become more resilient.

Cambodia's agricultural future depends on women being recognized not just as helpers, but as leaders and change makers. Empowering women in agriculture requires more than one solution. It takes gender-aware policies, access to education and finance, and community programs that challenge outdated gender roles. By making these changes, the country can empower women to grow, lead, and build a more inclusive, productive agricultural sector.

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CHAPTER 3

# REPUBLIC OF CHINA

## Background

Taiwan is a mountainous island located in the tropical and subtropical zones, with farmland covering approximately one-quarter of its total land area of about 36,000 square kilometers. The subtropical climate provides favorable conditions for crop cultivation, allowing multiple rice harvests each year and abundant production of fruits and vegetables. In 2023, fruits accounted for the largest share of the ROC's agricultural output at 36.7%, followed by vegetables (29.8%), rice (12.7%), special crops (5.2%), and coarse grain (4.6%) (Ministry of Agriculture, 2024a). The country's agricultural land area totaled 779,000 hectares, supporting approximately 760,000 farm households, representing 8.26% of all households.

Across the region, the central area accounted for the largest share of farm households at 38.81%, followed by the southern region at 37.12%, the northern region at 19.90%, and the eastern region at 4.17%. The total population in these farm households was 2.339 million, representing 10.1% of the ROC's total population. The agricultural workforce comprised 509,000 individuals, making up 4.4% of the total employed population (Agriculture and Food Agency, Ministry of Agriculture, 2023). On average, each farming household managed approximately 0.72 hectares of farmland, highlighting the small-scale nature of agricultural operations. Most agricultural activities were carried out by part-time farmers (Executive Yuan, 2025).

In 2023, the ROC's primary agricultural sector contributed 1.5% to the national GDP (Executive Yuan, 2025). With continued economic development, Taiwan's agriculture has evolved from a production-centric model to a framework for the Sixth Industrialization. This concept involves integrating agriculture with food processing and retail to create new value-added products and stimulate greater consumption of the agricultural produce (Nakano, 2014). The combined added value generated by agriculture and the broader agri-food sector—including the traditional food production, agricultural processing, and the wholesale and retail of agricultural products—accounted for 7.3% of the national GDP (Ministry of Agriculture, 2024b).

In 2024, Taiwan's total population reached 23,400,220, with women accounting for 50.74% of the total. The demographic distribution comprised 11.72% of the young population (under 15 years), 69.10% of the working-age population (15-64 years), and 19.18% of the elderly population (65 years and above) (Directorate-General of Budget, Accounting and Statistics; Executive Yuan, 2024). The average life expectancy in Taiwan is 80.23 years, surpassing the global average. In 2025, the population aged 65 and above is projected to reach 20% of the total population, marking Taiwan's transition into a 'Super-Aged Society'.

Regarding the population structure of farming households, the proportion of individuals aged 65 and above in farm households reached 27.09% in 2020, significantly exceeding the national

average for the elderly population. The average age of farming household operators has reached 64.4 years. The proportion of primary operators aged 65 and above increased significantly from 15.28% in 1980 to 49.63% in 2020 (Institute of Sociology, Academia Sinica, 2021; Directorate-General of Budget, Accounting and Statistics; Executive Yuan, 2024). Overall, both farming households and the agricultural population in Taiwan are aging rapidly.

Taiwan's compulsory education spans nine years, covering both elementary and junior high school levels. In 2024, the literacy rate among individuals aged 15 and above reached 99.25%. Nearly half of the population (49.7%) held a college degree or higher, with a higher proportion among men (51.57%) compared to women (47.96%) (Ministry of the Interior, 2023). In economic terms, Taiwan's GDP per capita stood at USD34,040 (National Statistics, ROC Taiwan, 2025).

As of 2023, the labor force participation rate stood at 67.05% for men and 51.82% for women. Overall, employment among men was 43.39% in the secondary sector (industry), 50.94% in the tertiary sector (services), and just 5.67% in the primary sector (agriculture, forestry, fishing, and animal husbandry). For women, employment was primarily concentrated in the tertiary sector, accounting for 71.28%, followed by the secondary sector at 24.94%. The primary sector accounted for only 2.88% of women's employment (Ministry of Labor, 2024).

According to Taiwan's Agriculture, Forestry, Fishery, and Animal Husbandry Census, the proportion of female operators managing farm households increased from 16.8% in 2005 to 21.3% in 2020 (Directorate-General of Budget, Accounting and Statistics; Executive Yuan, 2005, 2023). During the same period, the adoption rate of eco-friendly farming practices—including reduced use of chemical fertilizers and synthetic pesticides—among female operators increased from 12.3% to 16.9%, surpassing that of their male counterparts, which rose from 8.1% to 13.0% (Hsu, 2023).

## Methodology

This qualitative study employed multiple research methods to collect comprehensive data, including document analysis, expert interviews, case interviews, and focus group discussions.

**Desk Review**

Relevant data were sourced from official reports and statistical databases of various government agencies. This study collected and analyzed data and research reports from the Agriculture and Food Agency, the Ministry of Agriculture, the Directorate-General of Budget, Accounting and Statistics, the Executive Yuan Gender Equality Committee, the Ministry of Labour, and the Ministry of the Interior.

**Interviews with the Experts**

Five experts with considerable experience and expertise in helping women in agriculture and women's empowerment were invited to participate in in-person, semi-structured interviews. Prior to the interviews, informed consent was obtained, and participants signed consent forms. The average interview lasted approximately 60 minutes. The background and agricultural expertise of the interviewed experts are presented in Table 1.

**TABLE 1**

**BACKGROUND OF THE INTERVIEWED EXPERTS.**

| Pseudonym | Gender | Agency/Association | Designation | Nature of Involvement/Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| Ling | Female | Foundation for Women's Rights Promotion and Development<br><br>Research Expertise:<br>• Gender and Policy<br>• Gender and Social Welfare<br>• Sexual Violence and Personal Safety | Deputy Executive Director | Over 25 years of experience implementing rural home economics extension programs, conducting professional capacity-building for agricultural extension personnel, and organizing gender awareness workshops for rural women. | 25+ years |
| Jhen | Female | Department of Finance and Cooperative Management, National Taipei University<br><br>Research Expertise:<br>• Agricultural Cooperation<br>• Agricultural Economics<br>• Organization and Guidance of Young Farmers | Professor | Assists the Ministry of Agriculture in implementing training programs to enhance the managerial capabilities of young farmers. She also served as a board member of The Co-operative League of the Republic of China, focusing on cooperative development and researching operational strategies in Taiwan. | 20+ years |
| Yu | Female | Department of Bio-Industry Communication and Development, National Taiwan University<br><br>Research Expertise:<br>• Migration and Rural Development<br>• Population, Marriage, and Family<br>• Community Studies | Associate Professor | Conducts research on demographic change and rural development, with a long-term emphasis on rural social structures, family transitions, and the impact of migration on rural labor. Since 2020, she has served as a board member of the Taiwan Agricultural Extension Association, where she participates in agricultural extension initiatives. In 2024, she served on the selection committee for the Ministry of Agriculture's Outstanding Home Economics Extension Personnel Award. | 20+ years |

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| Pseudonym | Gender | Agency/Association | Designation | Nature of Involvement/Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| Huei | Female | Taichung District Agricultural Research and Extension Station, MOA<br><br>Research Expertise:<br>• Home Economics Extension<br>• Education Rural Living<br>• Improvement Award 30th: Outstanding Agricultural Education and Extension Staff, MOA | Rural Living Research Senior Researcher (Retired) | Served at an agricultural research and extension institution, where she was responsible for home economics extension and conducted research and advisory work focused on empowering rural women. | 41 years |
| Guei | Female | Extension Department, Changhua County Farmers' Association<br><br>Expertise:<br>• Extension Services for Agriculture<br>• Extension Services: Rural Women and Young Farmers | Supervisor | She has served as a rural home economics extension advisor in the Changhua County Farmers' Association for nearly 20 years. Her work focuses on promoting and supporting rural home economics programs for women in farming communities. | Almost 20 years |

**Interviews with Women in Agriculture**

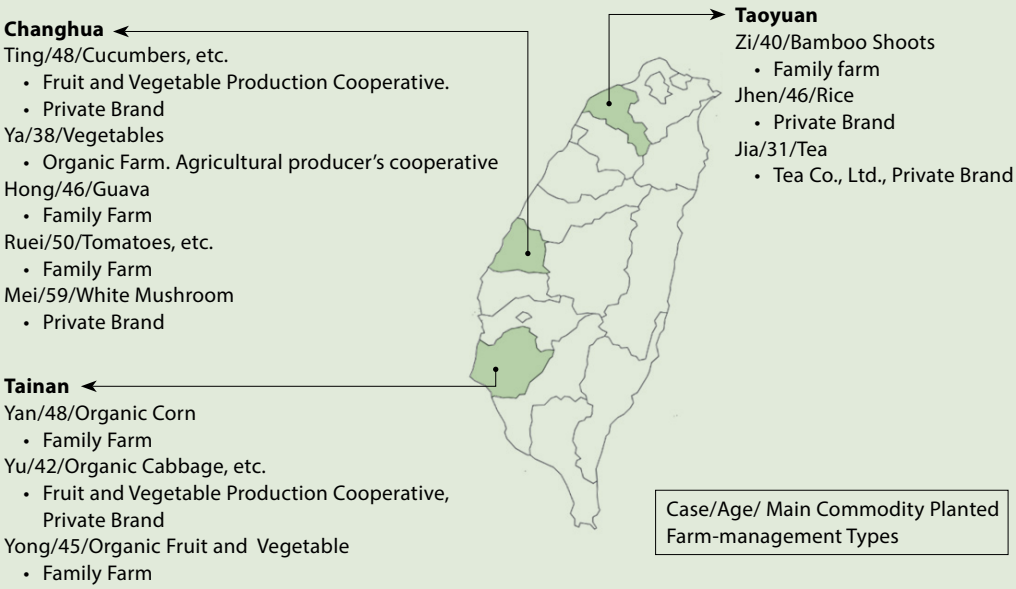
Taking into account regional distribution, crop types, and agricultural management models, eleven female farmers were interviewed. These interviews followed a semi-structured format. Before each interview, informed consent procedures were carried out, and all participants signed consent forms. The average interview lasted approximately 60 minutes.

The selection criteria for participants were as follows: women farmers from Taiwan's central and southern regions, where farm and livestock households are most concentrated; those cultivating major crops; and individuals who are active members of key farmer organizations, such as Young Farmers' Associations, Agricultural Production and Marketing Groups, and Home Economics Groups.

The study also ensured diversity in farm-management models—ranging from small family farms to agricultural producers' cooperatives—and in production methods, including eco-friendly cultivation, organic farming, and conventional practices. The basic profiles of the eleven interviewees, including their age, education, marital status, number of children, principal crop cultivated, farm-management type, and related data, are summarized in Table 2. Their regional distribution, age, crop cultivated, and farm-management types are illustrated in Figure 1.

**FIGURE 1**

**PROFILE OF WOMEN FARMERS IN THE ROC.**




**Data Analysis**

The study adopted a thematic-analysis approach consistent with the overall research framework (Kao, 2008). The interview guide focused on six key areas:

1. Tasks performed and experiences gained by women farmers
2. Decision-making processes and resource use in their agricultural activities
3. Allocation of time between farming and daily life
4. Experiences and influence gained through participation in agricultural organizations
5. Constraints faced and breakthroughs achieved as women farmers
6. Their views on and recommendations on current agricultural policies

Each interview was transcribed verbatim and analyzed. The transcripts were coded based on these core focal themes. Codes and categories were iteratively reviewed, refined, and validated until the major themes were confirmed. The final findings were then synthesized and documented in alignment with the study's analytical framework.

**TABLE 2**

**BACKGROUND OF THE PARTICIPATING WOMEN FARMERS.**

| Pseudonym | Age | Educational Level | Marital Status | No. of Children | Primary Commodity Planted | Other relevant information (Farm-management Types, Awards, Experience) |
|---|---|---|---|---|---|---|
| Zi | 42 | High school | Married | 2 | Bamboo shoots | • Second-generation farmer<br>• Family farm<br>• The 5th (2019) Top 100 Young Farmers<br>• Chairperson of the branch of the Taoyuan City Young Farmers' Association |
| Jhen | 46 | Undergraduate | Unmarried | 0 | Rice | • Fifth-generation farmer<br>• Private brand<br>• The 5th (2019) Top 100 Young Farmers |
| Jia | 31 | Undergraduate | Unmarried | 0 | Tea | • Fourth-generation farmers<br>• Tea Company Ltd.<br>• Private brand |
| Ting | 48 | Undergraduate | Married | 3 | Cucumber and tomato | • Second-generation farmer<br>• Fruit and Vegetable Production Cooperative<br>• Private brand |
| Ya | 38 | Undergraduate | Married | 2 | Vegetables and gourds | • Second-generation farmer<br>• Fruit and Vegetable Production and Marketing Cooperative<br>• The 2nd (2014) Top 100 Young Farmers |
| Hong | 46 | High school | Married | 3 | Guava | • Second-generation farmer<br>• Family farm<br>• The Champion of Premium Guava Fruit Evaluation in the central region |

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| Pseudonym | Age | Educational Level | Marital Status | No. of Children | Primary Commodity Planted | Other relevant information (Farm-management Types, Awards, Experience) |
|---|---|---|---|---|---|---|
| Ruei | 50 | Undergraduate | Married | 2 | Tomato, cantaloupe, and muskmelon | • Second-generation farmer<br>• Family farm<br>• The leader of a Home Economics Group of the Farmers' Association |
| Mei | 59 | High school | Married | 3 | White mushroom | • Second-generation farmer<br>• Agricultural Producer's Cooperative<br>• The leader of the Mushroom Production and Marketing Group<br>• Top 10 Agriculture Production and Marketing Groups of 2021, 2024<br>• The 32nd (2020) and 34th (2024) National Top Ten Outstanding Farmers Award and Model Farmers Award |
| Yan | 48 | Master's degree | Married | 2 | Organic corn | • Family Farm<br>• The 2024 National Agricultural Experts Elite Competition<br>• The Top 10 Domestic Grain Experience Routes of 2021 and 2022 |
| Yu | 42 | Master's degree | Unmarried | 0 | Organic Cabbage and cucumber | • Second-generation farmer<br>• Fruit and Vegetable Production Cooperative.<br>• The 5th and 6th President of Tainan Young Farmers' Association |

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| Pseudonym | Age | Educational Level | Marital Status | No. of Children | Primary Commodity Planted | Other relevant information (Farm-management Types, Awards, Experience) |
|---|---|---|---|---|---|---|
| Yong | 45 | Undergraduate | Married | 3 | Organic fruit and vegetables | • Second-generation farmer<br>• Family farm<br>• Top 10 Agriculture Production and Marketing Groups of 2019 |

## Findings

### Roles and Involvement of Women in Agriculture

#### Decisions about Agricultural Production

In Taiwanese family farms, major decisions about crop production are still made primarily by men—fathers, husbands, or brothers. However, as the agriculture sector evolves beyond cultivation into processing, retail, distribution, and agri-tourism, women's roles in areas such as product processing and marketing have steadily grown.

Increasingly, responsibilities are now often divided, with men and women each taking the lead in different aspects of farm operations. As a result, women now hold a significant share of joint decision-making power. According to expert Huei, even when women are officially described as assistants or co-deciders, male farmers often acknowledge that women contribute long, flexible working hours on the farm that are essential to sustaining farm productivity.

**BOX 1**

**CASE STUDY: YA**

Ya, 38 joined her family's farm business in 2009 after leaving her administrative job at a hospital due to labor shortage. Her father, the owner and primary decision-maker, manages both Vegetable Farm Co. Ltd. and the Vegetable Production Cooperative. Initially, Ya was responsible for handling orders and managing product shipments. Over time, her role expanded, and she now serves as the cooperative manager, overseeing crop breeding and traceability certification.

The family operates the farm with a business-oriented approach and a clearly defined division of responsibilities: her father and two brothers handle agricultural production; her mother manages finances; her sister oversees order management; while she focuses on crop breeding and traceability certification.

Recognized as one of the recipients in the second cohort of the Top 100 Young Farmers program in 2014, she continues to pursue professional growth—currently enrolled in an EMBA specializing in farm management. She is also assisting her father in planning and preparing to establish a fresh-cut vegetable processing plant, marking the family's strategic move toward value-added agricultural production.

The most common pattern observed is that male household members oversee production activities while women are primarily responsible for accounts and sales management. For instance, participant Ya works alongside her father, who specializes in vegetable cultivation. His innovative approach and rich experience in farm production have enabled him to make effective crop management decisions with the family's support. When he proposed a new project, such as the current plan to establish a vegetable processing factory, Ya took the lead in securing external resources and preparing grant applications to support its execution.

In jointly inherited family farms managed by siblings, a similar division of responsibilities is evident. Men typically handle agricultural production, while women focus on marketing and business management. For example, participant Jhen, who co-manages a rice farm with her brother, spearheaded the modernization of the family business by expanding the drying facility and developing a brand for their rice products. Within their partnership, her brother is responsible for farm work and factory operations, whereas Jhen oversees agricultural enterprise, marketing, and investments—often drawing on her own capital for strategic initiatives.

On larger-scale farms, the involvement of second- and third-generation family members often brings women into the operation as joint decision-makers. One such example is participant Mei, a member of the farm's second generation. Recognizing the enterprise's scale, stable performance, and strong future potential, she and her husband have encouraged their children—the third generation—to enter the family business. Their son now works alongside his father in managing professional mushroom cultivation, while their daughter and son-in-law, under Mei's guidance, are learning sales and order management. This succession strategy ensures the continued growth and sustainability of the family's mushroom farming business.

When the male member of a farm household holds a full-time job outside agriculture, women often gain greater authority over production-related decisions. In such cases, management responsibilities shift to the female member, who takes charge of day-to-day operations and strategic planning. For instance, because the husband of Participant Hong works elsewhere, she independently manages all aspects of their guava cultivation. Although her husband, who serves as a farm advisor at the local farmers' association, supports her efforts, his role is mainly limited to assisting with weekend market sales and contributing to discussions on pesticide use.

"My farm is not very large, and I manage it entirely on my own. I am particular about quality and want every guava I grow to meet the highest quality standards. My goal is to produce premium guavas for a select group of customers, ensuring a stable and reliable supply," she explained.

From a policy perspective, Taiwan's flagship initiative aimed at strengthening women's participation in farm management and decision-making is the nationwide Food and Agricultural Education program. Following the enactment of the Food and Agricultural Education Act in 2022, agricultural authorities in the ROC have actively encouraged local farms to develop rural food and agricultural educational experiences (Lin, 2022). On one such farm, participant Yan and her husband jointly manage the operations of their family farm under a shared decision-making model. Her husband oversees field management and pursues continuous learning in agricultural practices and food education, while Yan handles event planning and marketing. Over time, she has gained expertise in food and agricultural education, designing and leading interactive learning activities on the farm.

"My husband is in charge of crop cultivation, while my strength lies in designing educational programs. Our main approach is to grow crops in a way that allows consumers to experience and understand firsthand how food travels from farm to table," she explained.

**BOX 2**

**CASE STUDY: HONG.**

Hong, 46, left her job as a factory accountant in 2010 to pursue guava farming. Her decision was motivated by the need to care for her children and support her aging father-in-law, who required additional help on the farm. In the early stages, her insistence on a quality-first cultivation approach led to disagreements with her father-in-law. Over time, she gradually convinced him of its merits and now holds full decision-making authority over farm operations.

Although her farmland is relatively small, she manages all tasks independently and maintains a strong focus on quality. Despite being one of the few independent female farmers in her area, she has won multiple awards for guava quality in Changhua County and Central Taiwan. In recent years, her success has inspired her father and two brothers to transition from rice farming to guava cultivation. The modest size of her farm allows her to balance childcare, household responsibilities, farm work, and social activities.

### Access to and Decision-Making Power Over Productive Resources

Agricultural households in the ROC predominantly operate small-scale farms on land they fully own. On average, male operators manage 0.75 hectares per household, compared to 0.58 hectares managed by female operators. Women account for only 10.2% of agricultural heirs, compared with 89.8% for men, underscoring a significant gender disparity in the inheritance of agricultural management rights (Chou, 2019).

Traditional norms continue to shape ownership and inheritance patterns, with land titles overwhelmingly concentrated in men's names. This gender imbalance has broader implications for access to agricultural resources. For instance, formal membership in farmers' associations—an important gateway to loans, subsidies, and government support—requires land ownership. Consequently, women without land titles face considerable barriers in accessing institutional and financial assistance. However, women can more easily obtain land ownership and association membership when family holdings are large enough to be divided into separate household registrations. As one farmer, Yu, explained, the family-owned farmland is large enough to support separate household registrations, which allows her father, brother, and herself to all be official members of the local farmers' association.

Participating in government programs was a strategic decision for respondent farmer Yong and her family. Her husband applied for land under the nation's first publicly established Public Organic Agriculture Zone, which enabled her to pursue her goal of organic farming. Once the farm operations became stable, subsequent project applications and subsidy requests were filed under her name. Over time, she also took on a leadership role, serving as the deputy leader of the local organic production and marketing group. "At first, the land was leased under my husband's name. Once I became fully capable of managing everything on my own, he transferred the lease to me. After that, I joined the local organic production and marketing group, and now I am serving as the deputy leader," she explained.

To strengthen their competitiveness, several female farmers applied for the Top 100 Young Farmers program, which provided mentorship and funding support. Farmers Zi, Jhen, and Ya were all selected as awardees, enabling them to access government extension resources that allowed them to expand their family farms. For instance, during the application process, Zi received valuable guidance from a Farmers' Association advisor, which helped enhance her skills and confidence. Following her selection, she expressed a strong desire to use her experience to mentor other young farmers in applying for the program and gaining access to resources.

"I feel like I need to take it to the next level—I need access to more information. This area needs someone in the Top 100. I am already the president, and if even the president cannot make it into the Top 100, how can I expect others to succeed?" she remarked.

However, because the Young Farmer category is limited to individuals aged 18 to 45, women who surpass this age threshold automatically lose eligibility—and with it, access to critical funding and technical-assistance channels. Another persistent obstacle is the lack of land ownership, which prevents many women farmers from tapping into government resources. For example, when Hong was still eligible under the young-farmer status, she served as secretary-general of the Young Farmers' Association. After aging out of the program—and with her father-in-law, a long-time farmer, already holding the family's membership in the Farmers' Association—she no longer participates in any formal agricultural organizations.

### Control Over the Use of Income

The average hourly wage for women in the ROC was 85% of that of men. Among employees in the primary sector—agriculture, forestry, fishing, and animal husbandry—the average monthly salary was USD1,066, with men earning USD1,164 and women earning USD897. This indicates that women's monthly income was only 77.1% of men's, reflecting a gender pay gap of 22.9% (Ministry of Labour, 2024). Income level directly influences women's degree of control over how earnings are used.

According to Expert Jhen, rising educational attainment and professional skills among women have gradually strengthened their control over household and farm income. In many modern farm households, women now manage bookkeeping and accounting, giving them better control over financial management. For example, on Yu's family farm, she and her mother jointly handle bookkeeping, and Yu receives her share of the income. Once the accounts are tallied, profits are divided into three equal parts—one share each for her parents, her brother, and herself—so that each person controls an independent income stream.

"My mother is the bookkeeper. Whenever we receive money, I give it to her to record. We split the profits three ways: one share for my parents, one for me, and one for my brother," Yu explained.

In most small-scale Taiwanese family farms, household and farm finances are managed jointly rather than separately. However, when second-generation family members return to participate in farm operations, they often bring new changes to financial management. For instance, participating farmer Ruei has long advocated for a structured financial management system that clearly distinguishes farm income and expenses from household finances to ensure long-term sustainability. About a year ago, her husband, motivated by their son's decision to join farming, considered scaling up their operations.

Participant Ruei, however, urged caution, advocating the need for stability before pursuing any major investments. She firmly believes that maintaining separate financial records is essential to managing farm finances independently of the family budget. "Before our son joined the farm, I told my husband we needed a separate farm account to record every expense and all revenue accurately. If things remain vague like before, the business will not last," Ruei argued.

### Leadership in the Community

For women farmers in the ROC, two of the most influential community-network organizations are the Home Economics Groups established under the rural extension programs and the Young Farmers' Association. Since the mid-1950s, the Ministry of Agriculture has established Home Economics Extension Departments within farmers' associations across Taiwan, thereby integrating rural women into the agricultural extension system. These Home Economics Groups have become a vital platform for rural women to acquire new knowledge and skills.

Under the guidance of home economics instructors, women farmers are trained to improve household sanitation, dietary habits, and nutrition. Overall, the home economics extension system has played an important role in enhancing rural women's social participation (Lin, 2023). According to Expert Huei, many rural women, in addition to handling household duties and assisting with farm work, participate in Home Economics Group activities during their spare time. These classes provide opportunities for learning and engagement, helping women expand their social networks and strengthen their capacities. Some women who began as group participants have even gone on to take up leadership positions within their community, including roles such as village chiefs and local association leaders.

The Ministry of Agriculture encourages local governments and farmers' organizations to support young farmers at the grassroots level by setting up Young Farmers' Associations and running the Top 100 Young Farmers program. These initiatives are designed to create platforms for local young producers to network, share ideas, and access agricultural resources. Expert Jhen, who has long mentored emerging farmers, observed that most women recognized under the Top 100 Young Farmers program are either second-generation farmers or married to those from farming families. Women in the program are often described as open-minded, communicative, and proactive.

For instance, farmer Zi actively advocated for the establishment of a branch of the City Young Farmers' Association. Her motivation stemmed from the fact that young farmers in the area were unable to join the production and marketing groups of the Farmers' Association, limiting their access to agricultural subsidies and information. She believed that forming a local branch would create new avenues for support and strengthen peer collaboration among young farmers. Her broader aim was to promote regional agricultural development and address the challenges faced by women who, without formal Farmers' Association membership, are ineligible to apply directly for loans or subsidies.

"I just want our young farmers to have a way to access information. Since we cannot join the production and marketing groups of the Farmers' Association, there is no way for us to get the information we need," Zi explained.

When women farmers first join local agricultural organizations, they seldom have a strong voice in decision-making. However, sustained participation and visible contributions often pave the way for them to assume leadership roles and serve as representatives of their groups. For example,

when Yu initially ran for president of a branch of the City Young Farmers' Association, she met key members of the local community. However, she faced challenges due to gender biases, often being overlooked as a serious contender because she was a woman. Over time, through consistent social engagement and networking, she gradually gained recognition and acceptance. She eventually broke through local gender barriers and was recognized as the Young Farmers' Association branch president.

"When I first became the president, farmers were more accustomed to speaking with the male vice president. It was only after more interactions and offering assistance that I gradually gained their trust," she explained.

**BOX 3**

**CASE STUDY: YONG.**

Yong, 45, was raising her child and working in another city when her husband first relocated to start farming. After a year, she quit her job and joined him, taking an active role in organic farming and managing a plot of land her husband had leased within the Organic Agriculture Plantation area. When faced with risks inherent in organic farming, her husband initially applied for subsidies to cover losses. Over time, she became more involved in farm management and joined the Young Farmers' Association, became vice leader of the Organic Agriculture Plantation and Production and Marketing Group, and contributed to food and agriculture education efforts. These efforts helped her become one of the leaders in the local agricultural community.

### Time Use for Agriculture

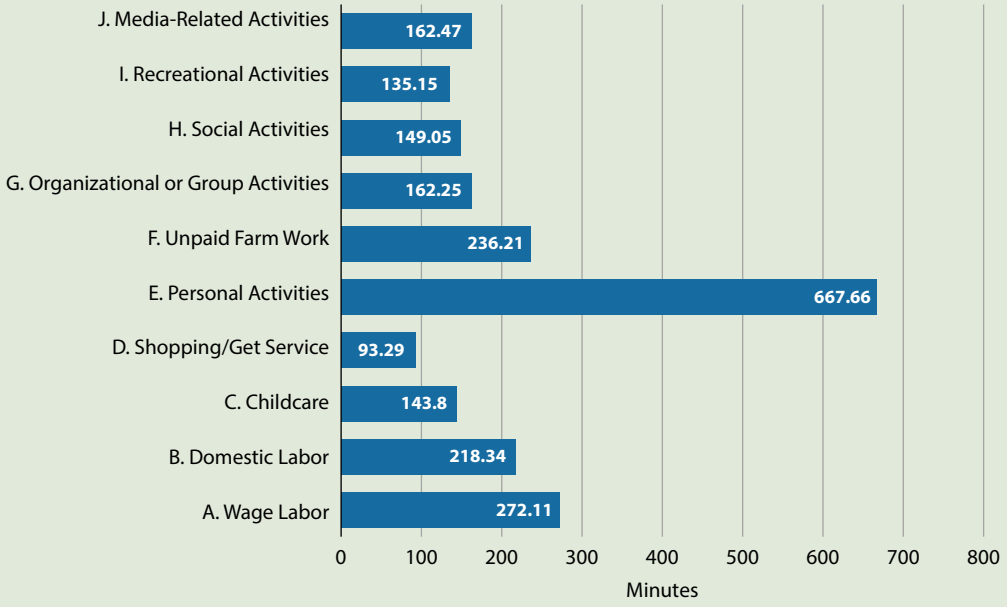
According to the Directorate-General of Budget, Accounting and Statistics, Executive Yuan (2016), married or cohabiting women in the ROC spent an average of 3.81 hours per day on unpaid caregiving tasks. The largest share of this time was dedicated to household chores, averaging 2.19 hours per day, followed by 1.11 hours spent caring for children. In contrast, husbands spent only 1.13 hours per day on unpaid caregiving tasks. These figures highlight that women continue to serve as the primary caregivers within households.

Beyond personal time, rural women's time-use patterns reveal that they spend a significant portion of their time on paid and unpaid labor, including household chores and assisting with farm work. The time spent assisting with farm work (unpaid) is nearly equivalent to that devoted to paid labor. On average, women engaged in paid agricultural labor spend 272.11 minutes per day, while those assisting with unpaid farm work spend 236.21 minutes per day. This indicates that rural women in the ROC contribute significant unpaid labor to family farms. Moreover, it highlights the characteristics of family-based agriculture in Taiwan, where rural women play a vital role as key family workers and agricultural labor is often regarded as an extension of household work (Ministry of Agriculture, 2015).

As the interviews revealed, married women farmers in the ROC typically balance farm and household responsibilities by maintaining a structured daily routine. The experiences of Ruei and Yan illustrate a typical pattern among women farmers: weekdays are spent mainly on agricultural work during daylight hours, while domestic tasks are carried out during the midday break and in the evening. For instance, farmer Ruei's daily schedule revolves around the demands of the family farm—she spends 7–8 hours assisting with agricultural tasks or handling orders, 2–3 hours on household chores, and sets aside 4–5 hours for leisure and rest.

**FIGURE 2**

**TIME UTILIZATION BY WOMEN FARMERS IN THE ROC.**




**Source:** Reproduced with permission from Research Project on the Utilization of Rural Women's Labor Time (Ministry of Agriculture, 2015).

There are different patterns of weekend time use. The flexibility of agricultural work allows women farmers to plan their weekend schedules more freely compared to fixed-hour wage employment. Farmer Zi observed that this freedom of farming allows her family to enjoy more leisure time together. "Our whole family works together on weekends. We first agree on the amount of work to be done for the day—once it is done, we rest, no matter what time it is. I want my children to understand that by working efficiently, they can earn time for themselves. Once the work is done, we can go home or have fun," Zi explained.

Since participant Yan's farm emphasizes hosting food and agricultural education activities, most of which are scheduled on weekends, her work extends across the entire week. Her weekday mornings are dedicated to farm operations. At the same time, afternoons and evenings are flexibly allocated to agricultural sales, order fulfillment and delivery, and the preparation of educational events. On weekends, she devotes about half of her time to conducting food and agricultural education programs at the family farm.

The balance between farm work and family responsibilities often shifts with the family's developmental stage. For instance, on farmer Ting's family farm, accommodating her child's elementary school schedule prompted a change in cultivation practices—from growing cilantro, which requires frequent relocation of planting sites, to cultivating cherry tomatoes. This shift allowed her to manage school drop-off and pick-up more easily. "In the beginning, we grew cilantro. After our child was born, we took them along wherever we moved between different plots for farming. We had no weekends and fully adapted our schedule to farm work. Once our child started elementary school and needed a stable routine, we switched to growing cherry tomatoes," Ting explained.

Younger or unmarried women farmers are more inclined towards maintaining a balance between farm work and personal leisure. Farmer Yu, for instance, shared that although she still handles some farm tasks on weekends, she makes it a point to set aside time for rest, just like people in other professions do. On weekdays, she spends approximately eight to 10 hours on farm work, while on weekends she spends around three hours each day.

Women farmers are generally adept at balancing their time across personal, agricultural, and household responsibilities, and can switch flexibly between roles. Expert Huei noted that women in the Home Economics Group demonstrate strong time management skills, frequently attending classes or activities at the farmers' association in between their farming tasks. These groups serve as important social spaces for rural women. Participating in these groups not only expands their knowledge, but it also offers them a chance to relax and enjoy leisure time.

**BOX 4**

**CASE STUDY: TING.**

Ting, 48, and her husband both studied farm management in college and returned to their hometown to begin farming in 2000. Initially, her mother was unsupportive, believing that agricultural work was too physically demanding for women. In the early stages of their farming career, the couple cultivated cilantro, a locally common crop. However, after having children, they switched to growing cherry tomatoes to better balance childcare responsibilities and establish a more stable daily routine. Over time, they transitioned to greenhouse cultivation.

Although the farmland lease and the Fruit and Vegetable Cooperative are under her husband's name, the couple jointly manages production activities. She plays a key role on the family farm, overseeing order coordination and cooperative management. She liaises with Fruit and Vegetable Cooperative members, supervises operations, and shares responsibilities for all major production and business decisions with her husband.

## Barriers and Challenges for Women in Agriculture

### Limited Access to Land and Membership in Farmers' Association

In the ROC, cultural traditions surrounding land inheritance and ownership have historically been dominated by men, restricting many women farmers from obtaining official membership in farmers' associations. This inheritance norm, deeply rooted in Chinese cultural traditions, remains a fundamental barrier to women's participation in agriculture. This practice of male inheritance means a lower proportion of women have land ownership and managerial rights. Most women enter the agricultural workforce through marriage, following their husbands into farming, while cases of women independently inheriting and managing farmland remain relatively rare.

Farmer Yu shared that her family's land was large enough to be divided into separate household registrations, allowing her, her father, and her brother to become eligible for membership in the Farmers' Association. However, she acknowledged that this remains relatively uncommon for women. "Because our household registrations are split, my father and I are listed under different addresses. My brother's registration is tied to another residence, so all of us are eligible to join the farmers' association," she explained.

There are still cases in which women farmers actively participate in professional agricultural discussions and share valuable insights, yet their contributions are often unrecognized within the

family farm context. This reflects the ongoing technical disadvantage that women face in agricultural production. Farmer Ruei reflected on her experience: "Eventually, I stopped offering suggestions... I go along with whatever he decides. I used to speak up, but over time, I realized he was not receptive. So, I figured, I will help instead."

The predominant agricultural operational model in the ROC is the family farm. The farmers' association plays a key role in ensuring the sector's stability and development. Farmers must hold official membership status to be eligible to vote, be elected, and serve as officials within the organization. However, membership in the association is regulated by the Regulations for the Certification of Qualified Members and Screening Procedures of Base-level Farmers Association, which restricts each household to one official member. As a result, one of the most significant challenges faced by women farmers is gaining full access to the rights and resources associated with formal farmer status.

Expert Yu observed that most national policies still treat farmers as an identity rather than a profession. Within the prevailing gender structure, that identity is almost always assigned to men. The critical turning point, she suggested, would be to recognize farming as a professional occupation, allowing women to gain access to that role through education and demonstrable expertise.

### Securing Government Resources to Advance Sixth-Industrialization Agricultural Development

Taiwan is actively promoting the sixth industrialization of agriculture, integrating production, processing, and marketing to enhance value creation. However, traditional farmers often lack the necessary skills in communication, marketing, and information management. To address this, the government provides capacity-building programs through training courses, resources, and funding subsidies. For women farmers, one of the most effective ways to access these resources is through participation in the Top 100 Young Farmers program. Expert Jhen observed that female awardees of this program commonly exhibit strong communication skills and a willingness to express themselves. Over the years, female recipients of the Top 100 Young Farmers have demonstrated strengths across different aspects of agriculture, including production, marketing, and farm management. This challenge, however, has become an advantage for women farmers.

Expert Huei observed that among the younger generation, higher education levels and technological proficiency—especially in digital tools—have become distinct advantages for women returning to farming. For example, since the government promotes a traceability system for farm produce, online applications and data uploads have become integral to agricultural operations—areas where younger women often take the lead. For instance, participant Ya returned to her family farm to help manage the newly required digital processes.

"At the time, the government was promoting traceability systems. One of our farm employees had left, and my mom did not know how to use a computer. So, I came back to help. At first, I was only assisting in organizing the field records. Gradually, I started working in the fields as well," Ya explained.

Farmer Mei drew on the extensive management expertise from her previous career to establish a successful mushroom cultivation business after relocating to a rural area with her husband. She upgraded the farm infrastructure and led its business strategy, eventually earning multiple national awards. "My husband handles the technical side of mushroom cultivation. I run the business. When I returned to farming, I told myself that if I were going to do this, I would do it right. People did not think I could make it. However, I proved them wrong. Now, they come to me for advice."

In addition, traits often nurtured through women's socialization—such as attention to detail and strong interpersonal skills—have also been instrumental in empowering women farmers. Expert Jhen observed that female farmers who are highly engaged in farm management and hold decision-making power tend to be open and communicative, and often participate in food and agriculture education. They are articulate and confident in sharing their management approaches and problem-solving strategies. For example, farmer Ting is more detail-oriented and patient than her husband, and takes the lead in drafting project proposals and applying for subsidies. "I think women have an advantage… things like attentiveness, patience, and approachability. When it comes to writing projects or reports, it really must be women. Men do not have the patience," she pointed out.

Overall, as the agriculture sector in the ROC advances toward sixth industrialization, it requires a more specialized division of labor and collaboration among professionals with diverse expertise. Women's strength in communication and coordination can significantly contribute to this process. Equally important is ensuring that women gain opportunities to acquire managerial and IT-related skills, enabling them to fully leverage their capabilities and help family farms adapt to emerging challenges.

### Challenges in the Agricultural Work Environment and Equipment Use

Different crops require different agricultural tasks, which in turn affect the division of labor in farming. For example, green bamboo shoots are typically cultivated on sloped terrain, where the land is uneven and hilly. Due to physical differences such as shorter average height, women often face challenges in harvesting bamboo shoots and require additional support. Farmer Zi recalled, "When I first started harvesting bamboo shoots, I had to spend a long time digging steps into the steep terrain before I could begin harvesting. Later, my husband helped carve pathways in advance, making the work more manageable."

Similarly, farmer Jia shared her experience of replacing agricultural tools to better suit women.

"Due to geographical constraints, large-scale mechanization is not feasible. However, we replaced traditional harvesting machines with single-handed cutting machines that women can operate independently. Additionally, we introduced lighter tea-processing machines and weeding tools, enabling female farmers to manage the tasks on their own," she informed.

These cases illustrate that although physical differences exist between men and women, technological adaptations and automation can serve as equalizing factors, allowing women to participate in agricultural labor fully. This is echoed by farmer Yan, who remarked that modern farming equipment can help overcome specific challenges. "Women are quite strong nowadays, and they can overcome most of the challenges, especially because modern farming equipment is good. For example, carts are now electric, which makes the work much easier."

## Policy Implications and Recommendations

**Resource allocation and support for the "sixth industrialization of agriculture" to encourage women's participation and enhance overall competitiveness**

Many interviewees noted that Taiwan's agricultural policies, subsidies, and application processes are gender-neutral, without explicit differences in eligibility criteria. However, major national agricultural awards, such as the Top Ten Outstanding Award and the Top 100 Young Farmers Award, continue to rely heavily on indicators such as production value and yield. When government

policies and subsidies are still determined by formal status and farm scale, women remain at a disadvantage due to their limited land ownership, smaller farm sizes, and lower decision-making power in production.

To address this imbalance, program subsidies and award evaluations should be recalibrated to align with broader policy goals, incorporating differentiated categories or weighted components that recognize diverse contributions across production, processing, and marketing. At the 6th National Agricultural Conference in 2018, key national agricultural development priorities were outlined, including the need to strengthen farmer organization guidance and transformation mechanisms while promoting a sixth industrialization of agriculture. These priorities should be fully integrated into policymaking, ensuring a comprehensive approach when designing agricultural policies and welfare services.

When designing agricultural policies and welfare programs, it is essential to consider not only technical agricultural training but also in areas such as product processing, marketing, and sales. Each segment of the supply chain—production, processing, and retail—plays a crucial role in agricultural growth. Therefore, government programs and awards should adopt a more holistic evaluation framework to increase incentives and support for women leveraging government resources to advance their agricultural careers.

**Enhancing pathways for female farmers to participate in agricultural organizations**

The Farmers' Association is a key institution supporting the stable development of the agricultural sector in the ROC. Farmers must hold official membership status to be eligible to vote, be elected, and serve as officials within the organization. However, under the current Regulations on the Qualification Review and Recognition of Basic-Level Farmers' Association Members, each household is limited to one official member. Because land inheritance and ownership in the ROC remain predominantly male-dominated, most women farmers are unable to obtain official membership status in the Farmers' Association. As a result, women farmers often participate through alternative organizations such as the Young Farmers' Association, which, however, is restricted to individuals aged 45 and under.

Another key agricultural policy through which the government supports young farmers is the Top 100 Young Farmers program. Launched in 2013, the program aims to nurture young farmers, enhance the quality of agricultural labor, and improve the demographic structure of the agricultural workforce. Under this initiative, 100 young farmers are selected annually and provided with technical guidance, farmland leasing opportunities, entrepreneurial loans, training, and the opportunity to form peer-learning and mutual-support communities.

Despite this progress, women's participation in this program remains limited. The proportion of female awardees among the Top 100 Young Farmers increased from 5% in 2013 to only 20.6% in 2024, still significantly lower than that of men. Moreover, the age restriction on the youth-oriented program excludes farmers above 45 years, preventing them from accessing leadership roles or participating in key decision-making processes, even though they can remain honorary members. This also means they are excluded from discussions and decision-making on important issues.

To promote greater inclusion, policy adjustments and institutional reforms are needed to expand women's access to official agricultural organizations. Revising membership regulations and establishing gender-inclusive mechanisms would allow more women to qualify as official members.

This, in turn, would enhance their access to governmental agricultural services, welfare benefits, and opportunities to participate in public affairs within the formal agricultural system.

**Focusing on the unique career characteristics of rural women: Balancing family and agricultural roles**

Taiwanese women navigate their lives within an interconnected Society-Family-Individual framework. At the individual level, their roles evolve across different ages and life stages. At the family level, responsibilities shift with the family's developmental stage. At the societal and cultural levels, varying expectations are placed on women's multiple roles, which shape the daily lives of female farmers.

Policymaking should therefore address the fundamental challenges Taiwanese women face as they balance family and agricultural work. Flexible and context-sensitive support measures should be developed to reflect the distinctive needs of women farmers. For instance, current childcare support services in the ROC are designed primarily around the schedules of wage and office workers. However, the nature of agricultural work requires greater flexibility in scheduling and work arrangements. Therefore, family and childcare policies should be tailored to account for the unique demands of agricultural work. In addition, the government should develop education and training programs specifically tailored for women farmers to help them enhance their professional skills and access greater opportunities for advancement within their existing career paths.

## Conclusion

Although some cases show women holding farm management authority, the primary challenges faced by female farmers in Taiwan stem from their initial entry into agriculture, where they often assume a subordinate role, typically as passive participants following their spouse's career development. The proportion of women who own land remains low, as social norms continue to prioritize male inheritance. In agriculture-related professional work and farm management, decision-making and responsibility distribution are often shared among family members. However, decision-making power still tends to rest with men.

Moreover, the agricultural work environment and farming equipment are also not sufficiently gender-responsive. There is a need for greater mechanization and improved working conditions to reduce the physical limitations women face. In addition, as agriculture moves toward its sixth industrial revolution, female farmers require greater support and resources to strengthen their professional capabilities.

Since 2015, the government has implemented the Government-Funded Agricultural University Programs to nurture innovative and capable new farmers. The share of female graduates has risen from 13% among the first cohort to 52% in 2023, demonstrating both equitable access to agricultural training resources and women's growing interest in seeking and utilizing these opportunities for professional learning.

This study identifies three priority policy directions.

1. **Equitable resource allocation and support:** Resources should be expanded and more equitably distributed across all aspects of the sixth industrialization of agriculture. This would enable female farmers, who are often responsible for sales and farm management, to access more resources and participate more actively in decision-making processes.

2. **Enhanced participation in agricultural organizations:** Institutional pathways for women to participate in agricultural organizations should be strengthened. When women are given opportunities to join and, especially, to take on leadership roles, they gain greater access to professional development and visibility to showcase their expertise.

3. **Support for balancing family and farming roles:** Policies must consider the career characteristics of agricultural work and support women in balancing their dual roles in farming and family. This is particularly important in the context of traditional Chinese cultural expectations, where women are often tasked with both household and professional responsibilities. Providing more flexibility and autonomy can empower women to engage more fully in agricultural work.

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CHAPTER 4

# INDIA

## Background

India is recognized globally as one of the fastest-growing agrarian economies among developing nations. The country's GDP is projected to grow at 9.7% in 2024–25 (PIB, 2025). It is the world's fifth-largest economy with an estimated nominal GDP of USD4.27 trillion and the third-largest in terms of purchasing power parity, at USD17.36 trillion (IMF, 2025). Covering a geographical area of 328 million hectares, of which 54.8% is agricultural land, India is home to approximately 1.408 billion people, with a per capita GDP of USD2,480.8 (World Bank, 2023a; Department of Agriculture and Farmers Welfare, 2024).

Over the past two decades, sustained economic growth has contributed to a significant reduction in poverty. It is estimated that between 2011 and 2019, half of the country's population emerged from extreme poverty (World Bank, 2023b). The country's literacy rate stands at 73%, and life expectancy averages 69.4 years, reflecting improvements in education and healthcare (Census of India, 2011).

Agriculture is the backbone of the Indian economy and plays a crucial role in ensuring food and nutritional security for millions of households. Agriculture in India is predominantly rain-fed, covering 63% of cultivated land and accounting for half of the country's total food production. The sector contributes 16% of GDP and provides livelihood and sustenance for more than 58% of its population (Government of India, 2023). With the world's second-largest arable land area, India is the largest producer of milk, pulses, and spices, and has the largest acreage under wheat, rice, and cotton. It is also the second-largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep, and goat meat, as well as fruits, vegetables, and tea. India leads globally in the production of mangoes, bananas, guavas, papayas, sapotas, pomegranates, limes, and *aonlas* (Indian gooseberries), and is the second-largest producer of fruits and vegetables overall.

India's agricultural exports have grown significantly, rising from USD7 billion in 2003 to USD49 billion in 2023, while imports increased from USD3.9 billion to USD31.7 billion (Chaturvedi, 2024). In 2023, agricultural exports accounted for 11.36% of total exports, while imports accounted for 4.73% (Chaturvedi, 2024). Globally, India ranks first in the exports of both basmati and non-basmati rice and sesame seeds. Additionally, wheat, pulses, fruits, vegetables, floriculture, and agrochemicals are other major export items. Some of the important social and economic indicators are presented in Table 1.

**TABLE 1**

**INDIAN ECONOMY AT A GLANCE.**

| Indicators | Year | Unit | Value | Source |
|---|---|---|---|---|
| GDP at constant prices | 2024–25 | USD trillion | 184.88 | World Bank |
| Per capita income at current prices | 2023 | USD | 2480.8 | World Bank |
| Total geographical area | 2023 | Mha | 328.75 | MoA&FW, GoI |

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| Indicators | Year | Unit | Value | Source |
|---|---|---|---|---|
| Total cropped area | 2023 | Mha | 219.16 | MoA&FW, GoI |
| Food grain production | 2023–24 | Million Ton | 332.29 | MoA&FW, GoI |
| Population | 2023 | Million | 1438 | WHO |
| Life expectancy at birth | 2021 | Year | 67.3 | WHO |
| • Male | 2021 | Year | 65.8 | WHO |
| • Female | 2021 | Year | 69 | WHO |
| Birth Rate | 2019 | Per 1,000 | 19.5 | Economic Survey, 2024–25 |
| Death Rate | 2019 | Per 1,000 | 6 | Economic Survey, 2024–25 |
| Global gender gap | 2024 | Rank | 129 | WEF |
| Share of women in the labor force | 2023–24 | % | 41.7 | Periodic Labour Force Survey, 2023–24 |
| Worker population ratio | 2023–24 | % | 58.2 | Periodic Labour Force Survey, 2023–24 |
| • Male | 2023–24 | % | 76.3 | Periodic Labour Force Survey, 2023–24 |
| • Female | 2023–24 | % | 40.3 | Periodic Labour Force Survey, 2023–24 |
| Literacy Rate | 2010–11 | % | 73 | Census of India |
| • Male | 2010–11 | % | 82.1 | Census of India |
| • Female | 2010–11 | % | 62.5 | Census of India |

**Note:** MoA&FW, Ministry of Agriculture and Farmers Welfare; GoI, Government of India.
**Source:** Compiled by the national expert for India.

### Status of Women's Participation in Agriculture

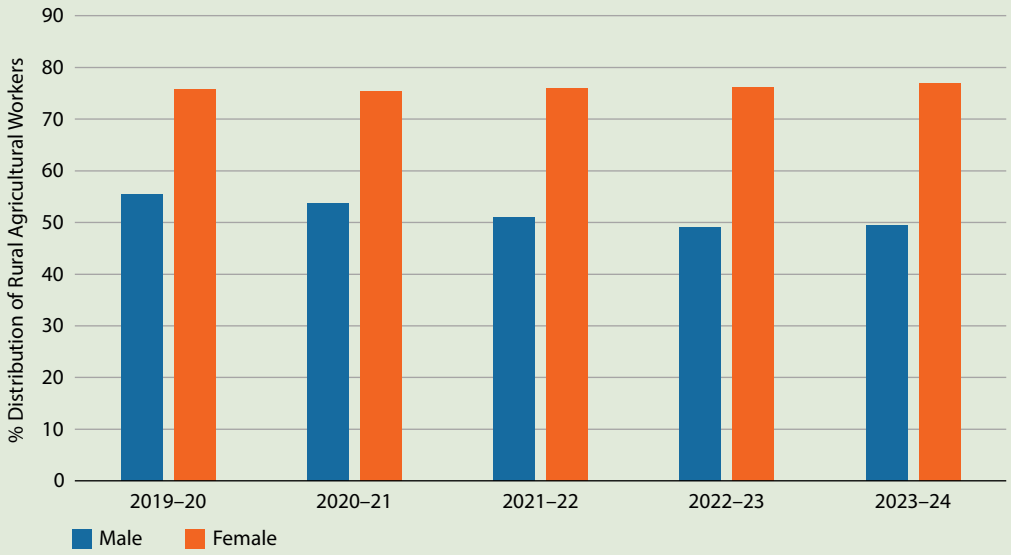
Women play a pivotal role in agriculture, contributing to farm operations and post-harvest processing, while managing household and reproductive responsibilities. They are key contributors to food production in India, in terms of value, output, and time invested. While 78% of women are engaged in agriculture, only 63% of economically active men participate in this sector (Maheshwari & Mangtani, 2018). As farmers, laborers, and entrepreneurs, women form the backbone of India's rural and agricultural economy. Globally, India represents the most feminized agricultural sector, with 84% of rural women dependent on agriculture for their livelihoods (ICAR-CIWA, 2016). Women also play a critical role in conserving essential life-support systems, such as soil, water, flora, and fauna, by maintaining soil health through organic recycling and promoting crop security through genetic diversity and varietal conservation.

Agriculture and allied sectors account for the largest share of labor participation in India, engaging 45.5% of the workforce. Women constitute a significant part of this labor force. Between 2019 and 2023, the share of women in the rural labor force increased slightly, from 75.7% to 76.9%, while the share of men declined (see Figure 1). In rural areas, women participate in all stages of agricultural activities, including sowing, transplanting, irrigation, fertilizer application, weeding, and harvesting. They also engage in supply chain functions such as cleaning, grading, and packaging.

Over time, the ratio of male to female workers in agriculture has declined, primarily due to the migration of men for urban or industrial jobs. This shift has increased women's presence in agriculture and, indirectly, contributed to higher GDP per capita in rural regions (Pingali et al., 2019). It is estimated that providing women with equal access to resources, skills development, and agricultural opportunities could increase agricultural output by 2.5–4% in developing countries (Verveer, 2011).

**FIGURE 1**

**DISTRIBUTION OF RURAL AGRICULTURAL WORKFORCE IN INDIA (IN %).**




**Source:** Periodic Labour Force Survey, Ministry of Statistics and Programme Implementation (MoSPI), GoI.

Agriculture in India is gradually shifting toward feminization, with women increasingly taking on farming activities. The Agriculture Census 2015–16 reveals that women operated approximately 11.72% of the total agricultural land in India, and their involvement in farming has steadily increased over time. The census also highlighted significant heterogeneity in operational holdings between men and women across states. Andhra Pradesh recorded the highest number of female operational holders, followed by Maharashtra, Bihar, Uttar Pradesh, and Karnataka (Agriculture Census, 2015–2016).

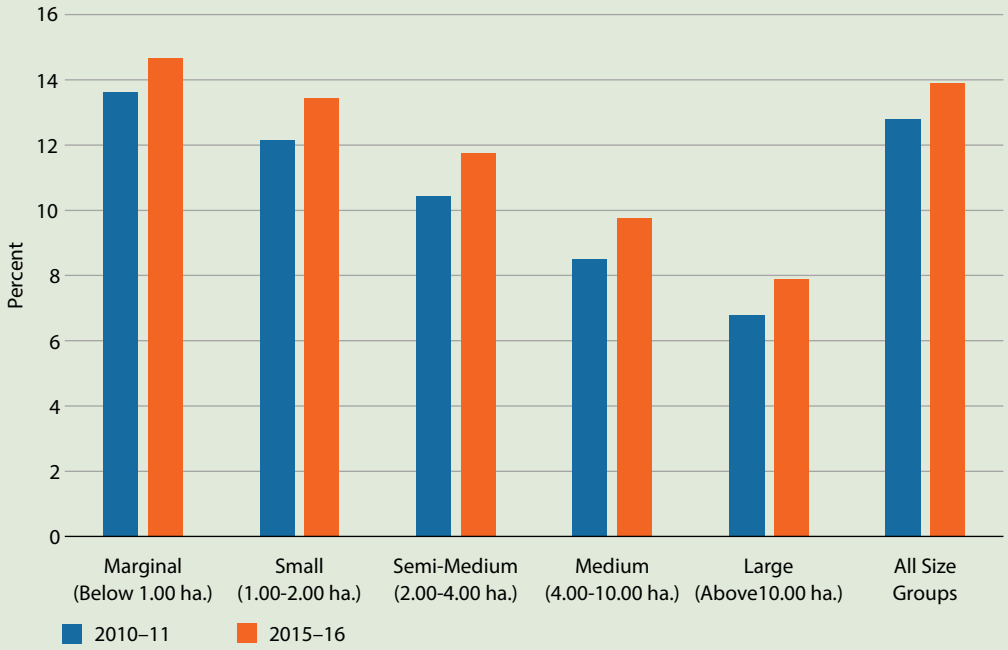
Several factors have contributed to this trend, including skill development, government initiatives, such as scheme reforms, and men's migration to urban areas for work. From 2010–11 to 2015–16, the size of female operational holdings increased 1.12% across all size groups (see Figure 2). However, most female operational holders predominantly manage small and marginal farms. Overall, the highest increase in women's ownership was observed in the semi-medium class, followed by small and medium farmers, while the marginal farmer categories recorded the least change.

The growth in women's participation in agriculture is linked mainly to the rising number of fragmented small and marginal holdings (Satyavathi et al., 2011) and the spread of mechanization (Headey et. al, 2011). However, the feminization of agriculture in India is often seen as distress-driven (Pattnaik et al., 2018). Men generally remain engaged in farming when sufficient land,

irrigation, and credit are available. Conversely, women often take up farming under challenging circumstances, characterized by limited resources and unfavorable conditions. Increasingly, the burden of small and marginal farms frequently falls on women as men migrate to urban areas in search of better employment opportunities, leaving families behind to manage agricultural work (The Hindu Business Line, 2022).

**FIGURE 2**

**FEMALE OPERATIONAL HOLDINGS BY LAND SIZE CLASSIFICATION (IN %).**




**Source:** Agriculture Census 2015–16 and 2010–11, Ministry of Agriculture and Farmers Welfare, GoI.

Over the years, labor force participation across agriculture and allied sectors has undergone a significant shift, with both men and women transitioning from cultivation to non-agricultural occupations (GoI, 2011). The proportion of primary cultivators declined for both genders between 1991 and 2011, with a sharper reduction among marginal cultivators. Notably, while most cultivators were part-time in 1991, by 2011 this trend had reversed, with the majority working at least 183 days annually in cultivation-related activities. This change was particularly pronounced for women, whose share as marginal cultivators decreased from about 50% to 22% between 1991 and 2011. On the other hand, agricultural labor increasingly became a marginal occupation during this period, with half of all marginal workers, regardless of gender, being employed as agricultural laborers. This shift reflects the casualization of agricultural laborers and the professionalization among women who remain in cultivation, reflecting a more stable engagement in agricultural production.

In the rural economy, women play a crucial role in increasing household income and supporting family well-being. Recognizing this, the GoI has implemented several reforms to improve the livelihoods of rural women, promote empowerment, and ensure socio-economic and health security. On the 75th Independence Day of India, the Azaadi Ka Amrit Mahotsav campaign promulgated the mission of "Empowered Women, Empowered Nation," highlighting the importance of gender equality in national development. Various schemes, such as the Prime Minister's Employment

Generation Programme, National Rural Livelihoods Mission (NRLM), Deen Dayal Upadhyaya Grameen Kaushalya Yojana, Pradhan Mantri Kaushal Vikas Yojana, Beti Bachao Beti Padhao, and Pradhan Mantri Matru Vandana Yojana, have contributed to advancing gender parity and socio-economic empowerment of women in India.

Aligned with the vision of *Aatma Nirbhar Bharat* (self-reliant India), the government has prioritized gender mainstreaming in agriculture to ensure equitable access to resources and support for women engaged in agriculture and allied activities. The Department of Agriculture and Farmers' Welfare has implemented targeted programs requiring states and implementing agencies to allocate at least 30% of expenditure specifically for women farmers, thereby fostering their active participation and empowerment in agricultural activities (Patel & Sethi, 2021). The Indian Council of Agricultural Research-Central Institute for Women in Agriculture (ICAR-CIWA) has also led the project to enhance women's participation in rural agriculture. This program aims to enhance women's engagement in the farming sector through technology testing, refinement, and gender-sensitive extension approaches. As a result, women's participation in training sessions has increased, and gender-specific interventions are gaining traction. Under one such program, 58,000 Krishi Sakhis were trained, and 1.23 lakh women farmers participated in training sessions organized by Krishi Vigyan Kendras (MoA&FW, 2024).

Against this backdrop, the main aim of this report is to examine in more detail the role, context, and challenges of women in agriculture in India. Specifically, this study seeks to address the following objectives.

- Explore the roles and involvement of women in agriculture.
- Identify structural, social, and economic barriers faced by women in agriculture.
- Examine ways to overcome these obstacles and enhance women's contribution, productivity, engagement, and personal well-being.

## Methodology

The study employed a qualitative approach to gain deeper insights into the role of women in agriculture in India and the challenges and barriers they face. To achieve the objectives, the study employed multiple data collection methods, including interviews with experts and women farmers, as well as a desk review.

**Desk Review**

This study drew on a diverse range of sources to collect comprehensive data, including government reports, secondary data, survey data, annual reports, peer-reviewed research papers, and newspaper articles. To identify relevant peer-reviewed research articles, the keywords ''gender" and "agriculture" were used, combined with the "OR" operator to ensure a broad spectrum of relevant studies. This strategy enabled the inclusion of diverse research on gender dynamics within the agricultural and livestock sectors.

**Interviews with Women in Agriculture**

For the study, 10 women farmers were interviewed in Himachal Pradesh. Semi-structured, one-on-one interviews were conducted, ensuring a comfortable environment for participants to express

their views. The interviews were held at respondents' homes or farms and conducted in the local language. Verbal informed consent was obtained from all participants before the interviews, and participation was entirely voluntary. No audio recordings were made. Instead, detailed notes were taken manually during the interviews.

**Selection of the Participants**

For primary data collection, Himachal Pradesh was selected as the study site. Women in the state play significant roles in agriculture, including land ownership, livestock management, and natural farming (ICAR, 2013). Women in Himachal Pradesh often have more control over land resources than men in their families (Minocha, 2015). The active participation of women in economic activity in Himachal Pradesh is 54.8%, which is significantly higher than the all-India level of 37% (Tribune India, 2024). Women also make up over 60% of farmers trained in natural farming techniques, a low-cost, non-chemical technique that uses farm inputs like cow dung and urine. Each interview lasted between 60–90 minutes.

Table 2 presents the socioeconomic status of selected respondents. Most were married, aged 30–50 years, with formal education (often up to secondary level), and predominantly engaged in farming. A majority of these women belonged to marginal and small farmer categories, reflecting their limited landholdings.

**TABLE 2**

**BACKGROUND OF THE PARTICIPATING WOMEN FARMERS.**

| Interviewees | Age | Educational Level | Marital Status | No. of Children | Major Crops Cultivated |
|---|---|---|---|---|---|
| P1 | 28 | Above secondary education | Single | 0 | Vegetables |
| P2 | 30 | Above secondary education | Single | 0 | Vegetables, Fodder crops |
| P3 | 55 | Primary education | Married | 4 | Food grains and Pulses, Fruits crops, Fodder crops |
| P4 | 45 | Primary education | Married | 3 | Fodder crops |
| P5 | 54 | Secondary education | Married | 4 | Food grains and Pulses, Vegetables, Fodder crops |
| P6 | 53 | Secondary education | Married | 2 | Food grains and Pulses, Vegetables, Fodder crops |
| P7 | 48 | Above secondary education | Married | 3 | Vegetables |
| P8 | 49 | Above secondary education | Married | 2 | Fodder crops |
| P9 | 47 | Above secondary education | Married | 3 | Vegetables |
| P10 | 48 | Above secondary education | Married | 1 | Fruits crops |

**Note:** P1, Respondent 1; P2, Respondent 2; ... P10, Respondent 10.

**Interviews with the Experts**

A list of experts from diverse institutions was prepared for interviews. In total, five experts participated in semi-structured discussions, each lasting 50–60 minutes. The experts represented

international research organizations and state agricultural universities. Table 3 provides the basic information and agricultural background of these experts.

**TABLE 3**

**BACKGROUND OF THE INTERVIEWED EXPERTS.**

| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement/ Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E1 | Male | State Agricultural University | Assistant Professor | Working with women farmers to provide training and extension on technology awareness | 6 |
| E2 | Female | International Research Institute | Assistant Scientist | Working with small and marginal women farmers on the socio-economic aspect | 4 |
| E3 | Male | State Agricultural University | Assistant Professor | Training and awareness about natural farming practices with women | 8 |
| E4 | Male | State Agricultural University | Assistant Professor | Training and awareness about natural farming practices with women | 5 |
| E5 | Male | State Agricultural University | Assistant Professor | Working with women farmers to provide training and extension on technology awareness | 4 |

**Note:** E1, Expert 1; E2, Expert 2; ... E5, Expert 5.

### Data Analysis

The qualitative data analysis software NVivo 15 was used to code and analyze three data sources: 27 published research papers, responses from 10 women farmers, and insights from five experts. Content analysis, a systematic method for identifying recurring themes, concepts, and keywords within qualitative data, was employed to extract key insights (Eriyanto, 2011). NVivo facilitated the classification, organization, and analysis of textual material, enabling the identification of meaningful connections between themes and codes.

The analysis was conducted in multiple phases to ensure a structured approach. This allowed for easy integration of bibliographic data and article contents into the analytical framework. Data was categorized into codes aligned with emerging themes, using visual aids such as coding stripes and highlights to distinguish thematic patterns clearly.

### Ethical Considerations

The participants were informed of the research objectives and ethical considerations, and all interviews were conducted voluntarily. Informed consent was obtained before conducting the interviews. The identities of participants were anonymized, and all collected information was handled with strict confidentiality.

## Findings

### Roles and Involvement of Women in Agriculture

Women contribute significantly to farming activities such as planting, weeding, and post-harvest processes, including cleaning, grading, drying, washing, and packaging. Post-harvest work is often perceived as an extension of traditional household responsibilities, reinforcing gendered divisions of labor. In addition to farming, women play a crucial role in livestock management. They are also responsible for feeding, milking, and caring for cattle and goats in rural households. This involvement in animal husbandry provides essential financial support to families. However, since livestock management is often categorized as informal work, women's substantial contributions to this sector are often unrecognized and undervalued.

Nevertheless, women's participation in agriculture varies significantly across types of cultivation. They are particularly active in cultivating rice, wheat, fodder, and vegetables, which are highly labor-intensive. Their primary responsibilities include sowing, weeding, harvesting, and post-harvest processing. As several respondents explained, women mostly work in vegetable fields, grasslands, and wheat crops. They also have to work while taking care of the livestock. The respondents further added that most of the work involved weeding, removing grass, harvesting vegetables, cleaning, and packing them in crates for the market.

### Socioeconomic Status and Decision about Agricultural Production

Key decisions in agricultural production typically involve the allocation of land to crops, the use of inputs, crop variety selection, timing of sowing and harvesting, and livestock management. Despite women playing a central role across all stages of agricultural production, the decision-making continues to be largely male-dominated. Socioeconomic factors, such as education, ownership, cultural norms, and geographical regions, strongly influence women's participation, access to resources, and decision-making power. For instance, a study by Chayal et al. (2013) found that women's involvement in agricultural production-related decisions was very low. Overall, it has been found that men typically make all the decisions related to cropping pattern, marketing, use and selection of inputs, and technology (Tsegaye et al., 2012).

Conversely, women often take the lead in decisions related to livestock management. Studies have also shown that women may participate in both independent and joint decision-making processes in certain agricultural activities. Research has highlighted that women are involved in decision-making related to the quantity of produce retained for consumption, livestock management, allocation of area under different crops, time of sowing, and selection of crop activities. However, women's decision-making is constrained by inadequate access to information, technology, and credit facilities (Rao, 2006; Chayal et al., 2013). Their level of participation also varies depending on the type of farming system adopted.

During the interviews, it was observed that many women are actively involved in livestock-related decisions, mainly because of their active involvement in animal feeding, breeding, and healthcare. Studies also indicate that women dominate livestock management, particularly in small-scale farming (Kristjanson et al., 2014). Similarly, women are significantly engaged in making household decisions. In households where men are away for work, women also assume responsibilities for field-related decisions, such as irrigation and crop management.

Women's decision-making power in agricultural production is primarily determined by land ownership, access to resources, education, and cultural norms. Most women balance farming activities with day-to-day household responsibilities. Among them, fewer women engage in agricultural

activities in the forenoon, while the majority work in the afternoon, with many involved in both periods. Expert interviews further revealed that women's roles in farming have expanded over the years, particularly in input management and marketing decisions. However, traditional roles, such as manual labor, remain prevalent, especially in rural and less economically developed areas.

### Access to Decision-Making Power over Productive Resources

Women in agriculture continue to face significant barriers to accessing and owning productive resources. Although rural women account for nearly 75% of the agricultural workforce in India, only 13.9% of operational holdings are owned by them (Agriculture census, 2015–16). Social and legal barriers that limit women's inheritance rights further marginalize them from accessing critical resources (Agarwal, 2003). Research also highlights that women farmers have limited access to land ownership, credit, information, formal extension services, and time, which constrains the adoption of climate-smart practices (Barooah et al., 2023).

Additionally, the caste system (Karthick & Madheswaran, 2018; Kumar & Venkatachalam, 2019) and social identity also play an important role in determining access to formal credit, and disparity in credit-seeking behavior is widely documented. Much of this arises from structural inequalities, such as inadequate access to land as collateral and awareness of credit schemes, but there is also evidence of discrimination in loan approvals (Kumar & Venkatachalam, 2019).

During the interview, some women farmers reported independently attempting to acquire livestock. However, decision-making power over productive resources remains largely male-dominated, potentially limiting women's autonomy. Financial constraints further restrict their ability to make independent decisions regarding land or livestock investments. Although very few women reported engaging in joint decision-making with their families, this remains an exception rather than the norm. In conclusion, land ownership emerged as a critical factor linked to greater control over productive resources. However, gender roles and financial barriers continue to influence decision-making power, particularly for women seeking independent ownership. Although most women reported having access to agricultural equipment and productive resources, some of them still lacked access, which may directly impact their efficiency in agricultural activities. Addressing these challenges is crucial to promoting more equitable access to productive assets and enhancing individual autonomy in resource utilization.

Financial constraints remain the most significant challenge for women farmers in the agricultural sector. Limited awareness about available resources and how to access them presents an additional barrier. Only a small proportion of women reported facing no significant challenges at all. Restricted access directly affects women's productivity, limiting their ability to contribute effectively to agriculture. Financial and knowledge barriers further reduce autonomy, particularly for those without direct control over finances. The lack of financial independence and information prevents many women from making independent decisions on resource use. While most women indicated that they could access agricultural equipment and resources, they continue to face financial constraints.

### Control over Income and Expenditure

Income and expenditure decisions in agricultural households typically rest with the men. Women often do not participate in the decision-making process regarding expenditure activities and have minimal control over income, even if they earn. Research indicates that only 44% of women had partial control over their income, while more than half reported being involved partially or having given opinions on major household purchasing decisions (Gupta et al., 2016).

The study highlights a significant gender disparity in the control of income and expenditure in agricultural operations. Men retain a dominant control over earnings compared to women. Despite their contributions to agricultural work, women often have limited financial autonomy. As one respondent explained, "We have to adjust to this system because of our cultural and social norms. We often do not have the freedom to make those decisions ourselves." It was also observed that salary disparity compounds the issue. Women continue to receive lower wages than men, with the gap often justified based on physical capacities and the nature of work, factors shaped by conventional gender roles rather than objective productivity metrics.

### Leadership in the Community

Women contribute between 60–80% of total food production, particularly in developing countries, yet their membership in local institutions remains low compared to men (WEF, 2024). In India, women cooperatives account for only 2% of total cooperatives, with 21,493 women-led cooperatives representing just over 0.2 million members, which is significantly lower compared to the 290 million total cooperative society memberships nationwide. However, women's participation in social and economic groups is steadily increasing, particularly through SHGs, women farmer-producer organizations (FPOs), and agricultural co-operatives (Mishra et al., 2023).

An SHG typically comprises 10–12 women from the same community and similar socioeconomic backgrounds. According to data released in December 2023 by the Deen Dayal Antyodaya Yojana-NRLM, India has nine million SHGs, representing nearly 100 million women members. Additionally, there are 144,396 dairy cooperatives across the country, with significant participation from rural women, contributing to the growth of the dairy sector. To further promote women's participation, the government and other agencies encourage the establishment of women-based FPOs. The National Bank for Agriculture and Rural Development has supported 36 women-led FPOs, with some reporting more than 90% of their shareholders as women.

Most women farmers selected for the interviews reported active involvement in agricultural cooperatives or groups, and a few also participated in platforms such as the Mahila Manch and SHGs. However, personal and family disputes emerged as one of the major barriers limiting women's participation. Male dominance was mentioned as a constraint, though less frequently, with only a few respondents identifying it as a challenge. Nearly all the women farmers stated that they feel comfortable attending public meetings. While some women reported a very high level of confidence in participating and speaking in front of members, others reported only moderate and very low levels of comfort.

**BOX 1**

**CASE STUDY: BHARTI BHORIA.**

Bharti Bhoria, a young agricultural entrepreneur from Dhoran village in Kangra, Himachal Pradesh, is transforming farming through precision vertical farming. Driven by a passion for innovation, she translated her research into practice by establishing a successful farm with the support of her family and the Department of Horticulture.

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On her farm, she cultivates high-value crops like strawberries, lettuce, capsicum, and basil. She leverages social media platforms for direct sales and makes a good profit. In addition to managing her own enterprise, she also guides fellow farmers in adopting smart farming techniques.

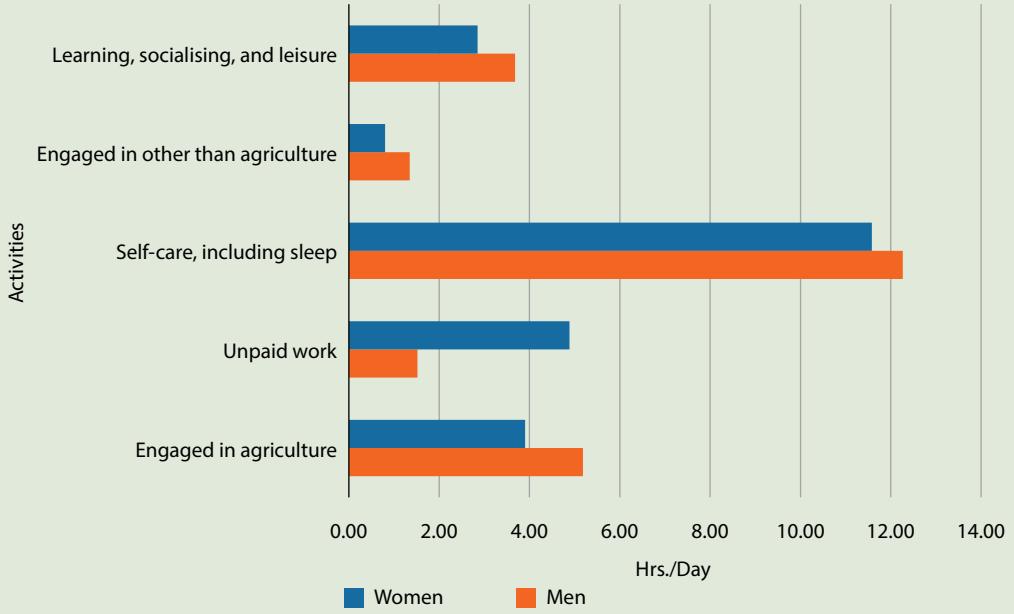
The Himachal Pradesh Department of Horticulture supported her journey by providing essential support, including a greenhouse. Bharti's vision is to develop a direct farm-to-consumer sales system and increase her income from farming. She aspires to transform her village into a hub for high-value fruit cultivation, contributing to the economic uplift of the local farming community.

### Time Use for Agriculture

The daily time-use pattern revealed a clear gender disparity in agricultural and unpaid work. It highlighted that men spend an average of 5.18 hours per day in agricultural activities, compared to 3.9 hours per day by women (see Figure 3). However, women spend significantly more time on unpaid work, including domestic tasks and caregiving work, averaging 4.88 hours (see Figure 3). Overall, women's total working time is 1.6 hours higher than men's per day. This also indicates that, as compared to men, women get about 0.83 hours less per day for learning, socializing, and leisure, and 0.68 hours less for self-care.

**FIGURE 3**

**DAILY TIME SPENT ON AGRICULTURE BY GENDER IN INDIA (2019).**




**Source:** Time use survey, 2019, MoSPI, GoI, 2020.

Findings from the desk review indicate that most women devote their leisure time to agricultural activities, followed by household activities and childcare. Research highlights that the burden of unpaid domestic and care work reduces women's participation in agriculture, thereby lowering their overall contribution compared to men (Kumar et al., 2022). Similar patterns are observed

globally, with women spending more time fulfilling basic household responsibilities, such as cleaning, preparing meals, and caregiving, irrespective of their employment status. These findings were also confirmed by the interview participants, who reported that household chores consume a significant proportion of their time, limiting their ability to engage in agricultural activities and leaving little room for self-care and rest. Most respondents expressed dissatisfaction with their time allocation. Experts also highlighted that women farmers often face persistent challenges in balancing agricultural work with household responsibilities.

### Barriers and Challenges for Women in Agriculture

Despite their substantial contribution to both agriculture and household activities, women in India continue to face social, economic, and structural challenges. Deep-rooted patriarchal norms often position women as agricultural laborers rather than as primary cultivators and decision-makers. As a result, their roles are often confined to unpaid work, with limited opportunities for leadership or business ownership. Additionally, a lack of autonomy in decision-making further limits their control over agricultural operations. The dominance of male leadership, financial difficulties, and complexity in joint family decision-making are other key challenges women face while acquiring land or livestock. Mobility constraints, limited access to education, and a lack of training further hinder their participation in agricultural decision-making and innovation adoption.

Economically, women in agriculture often struggle with a lack of ownership, which results in less decision-making power and limited access to resources (Swaminathan, 2017). The limited ownership restricts their access to formal credit, government schemes, and inputs such as seeds, fertilizers, and irrigation (Kumar et al., 2022). Another important economic barrier is the gender wage gap. Women in agriculture perform work equal to that of men, yet they are often paid lower wages than men for the same work (Merfeld, 2023). In addition to wage disparities, their limited access to market information, transportation, and networks restricts their ability to participate in profitable value chains.

Lack of gender-sensitive extension services and limited representation in farmer organizations and governance bodies are other important constraints faced by women. Additionally, technological advancements and digital tools often overlook the needs of women, exacerbating the gender divide in access to innovation. Women are also vulnerable to agrarian distress, as male outmigration leads to the additional responsibility of managing farms without sufficient support, which often results in economic and mental stress.

**BOX 2**

**CASE STUDY: REENA LANGWAL.**

In Kangra, Himachal Pradesh, 40-year-old Reena Langwal transformed barren land into a flourishing organic farm cultivating medicinal plants. The decision to pursue farming began in 2018 when her husband, Sanjeev Langwal, was diagnosed with a serious illness, which left the family without a stable income. Faced with this challenge, Reena decided to start her own business to support her family.

Although she was not highly educated, her determination and the difficult circumstances she faced pushed her to explore organic farming as a sustainable livelihood. The path was not easy

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with many people discouraging her by saying, "We have already reached the moon and back, yet here she is still dealing with *gobar* (cow dung)."

Reena shares that she was surprised to discover she could earn more by working on her own farm than through daily wages under the MNREGA scheme, which proved to be a great help. Encouraged by the success of her initial venture, she now plans to scale up and further adopt this profitable and sustainable farming approach.

## Policy Implications and Recommendations

The feminization of agriculture in India has significant implications for policymaking, particularly in advancing gender equity, enhancing productivity, and supporting sustainable rural development. While numerous government schemes and programs focus on women's empowerment, critical gaps remain. A multi-pronged approach is needed to enhance women's access to resources, strengthen their decision-making power, and improve control over income. The following policy recommendations are proposed for further improving women's participation in agriculture in India.

### Enhance Land Ownership and Tenurial Rights

- Enforce inheritance laws effectively to secure women's rightful ownership of agricultural land.
- Promote joint land ownership and develop land banks and lease-holding models with preferential treatment for women farmers to access cultivable land.

### Recognize Women's Contributions

- Ensure that policies and programs accurately reflect women's roles and contributions in agriculture.
- Improve data collection systems to reflect women's representation and contributions in official statistics.

### Improve Access to Credit, Technology, and Financial Services

- Introduce gender-sensitive credit products with minimal documentation and formalities.
- Train bank officials in gender sensitization to reduce bias in loan approvals and encourage proactive engagement with women borrowers.
- Develop and promote affordable and accessible technologies that can reduce drudgery and improve efficiency.

### Reduce Unpaid Labor Burdens and Improve Time-Use Efficiency

- Invest in rural infrastructure, including clean and regular water supply, and renewable energy to reduce time spent on unpaid domestic work.
- Recognize and integrate the economic value of women's unpaid work into national data systems for designing an inclusive policy framework.

### Expand Capacity-Building Opportunities

- Provide training on modern agricultural practices, value addition, access to market, and financial literacy to improve women's productivity and economic autonomy.

- Use digital platforms to provide real-time market information and improve access to financial services.

### Strengthen Institutional Support

- Support cooperatives, FPOs, and SHGs to enable collective action, access to inputs and credit, and advocacy for women's rights.

## Conclusion

Women play a central role in agricultural production, contributing across the value chain, from sowing to harvesting and livestock management. Despite their contributions, decision-making power in agriculture remains predominantly male-dominated. Socioeconomic factors such as education, land ownership, cultural norms, and regional differences influence women's participation in agriculture. While women are heavily involved in livestock management and labor-intensive agricultural activities, their voices are often limited in key decisions. Women primarily perform labor-intensive tasks, including planting, weeding, and post-harvest processes, which are often seen as extensions of household responsibilities, reinforcing traditional gender roles.

Although women contribute significantly to agriculture, they face substantial barriers in accessing productive resources. Limited land ownership restricts both their financial independence and decision-making power. Women often manage livestock and small-scale farming, but societal norms frequently prevent them from claiming ownership or control. Furthermore, financial constraints remain a significant issue, as women often lack the necessary funds to acquire land or livestock independently. This dependence reduces their autonomy and limits their participation in decision-making. Additionally, restricted access to agricultural technologies and access to information reduce the productivity of women farmers. Furthermore, despite earning, women have limited control over income and expenditure compared to men.

In terms of leadership, women's participation in community-based agricultural cooperatives remains low despite their significant contributions. Nevertheless, SHGs and women-led FPOs have improved participation rates, but overall representation in formal institutions remains limited. Time-use data show that women spend less time in agriculture compared to men, but their total working hours are significantly higher when including unpaid domestic and caregiving work. This dual burden limits their time for learning, socializing, and self-care, reflecting persistent gender inequalities in workload distribution.

Women's empowerment in agriculture not only includes improving equity but also enhancing productivity and sustainability. In this regard, investing in women-led FPOs, expanding capacity-building initiatives, developing women-friendly technologies, and ensuring greater representation in formal institutions is necessary for a more inclusive and resilient agricultural sector. Furthermore, there is also a need to transform deeply ingrained cultural norms that confine women to subordinate roles. India's agricultural future depends not only on recognizing women's contributions but also on actively enabling their leadership and autonomy.

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CHAPTER 5

# PAKISTAN

## Background

Agriculture plays a central role in Pakistan's economy and rural livelihood. As the fifth most populous country in the world, Pakistan derives 24% of its GDP and 37.4% of its employment from agriculture (Government of Pakistan, Ministry of Finance 2024). Approximately 62% of Pakistan's rural population relies on agriculture for their livelihood, while 44% of the national workforce is engaged in this sector. Agricultural land accounts for 47.1% of the country's total land area. Its major crops with high production volumes include wheat (31.4 million tons), rice (9.9 million tonnes), and maize (9.8 million tonnes). The overall labor force participation rate in Pakistan is approximately 51.8% (Government of Pakistan, Ministry of Finance, 2024).

At the time of independence, agriculture was the primary driver of economic growth in Pakistan, accounting for approximately 53% of the nation's GDP and employing more than 65% of its workforce. However, these numbers have undergone significant changes over the past seven decades due to a combination of political, social, environmental, and climate-related challenges (Jatoi, 2021).

As of 2025, Pakistan's population is estimated to be 254 million, with women comprising approximately 48.5% of the total population (World Bank, 2024). In the Global Gender Gap Report 2024, Pakistan ranked 145th out of 146 countries (WEF, 2024). Agriculture, together with the women workforce, remains the backbone of Pakistan's economy. The sector employs a significant portion of the population, with approximately 68% women, compared with 28% men. However, women's roles often go unrecognized, and they face numerous barriers in accessing resources, knowledge, and decision-making power.

More than 50% of women are classified as contributing family workers, compared with about 10% of men. It also indicates that the contributions of women are often unpaid and undervalued, underscoring broader patterns of systemic gender inequality (Hafeez, 2024). Women's responsibilities typically include taking care of children, cooking, and determining dietary choices. Their contribution to food production, financial access to food, and nutritional security form the three pillars of women's roles in ensuring family food security.

To guarantee that food is affordable, women participate in the agricultural production process (Antriyandarti et al., 2024). Additionally, women play multiple roles in agriculture, including those of laborers, marketers, and entrepreneurs. Despite the numerous duties that women undertake, including caring for the home and children, they contribute up to 40% of agricultural GDP (Osabohien et al., 2021). Nearly 60–70% of the female population working in rural sectors in Pakistan are engaged in agricultural activities, which is considerable due to the contribution it makes towards the GDP. Nevertheless, while women in rural Pakistan engage in all aspects of agricultural work, their contributions to the national economy remain largely unrecognized and uncounted.

It is widely acknowledged that attaining development outcomes requires women's empowerment and gender equality (Sharma et al., 2020). Data suggests that empowering women has positive

economic benefits not only for households and communities, but for women themselves (Anderson et al., 2021). Women have a significant impact on a nation's development. Despite efforts to empower them in almost every aspect of life, many rural women in Pakistan continue to live in appalling conditions. Nevertheless, women's economic empowerment in Pakistan contributes to reducing numerous socioeconomic issues in the society. Over time, women's priorities have shifted, influenced by new technologies, rising literacy rates, and the trend of urban migration. Besides, there has also been a shift in people's traditional mindsets, making women more aware of their societal value (Baig et al., 2018).

Although women's involvement in agricultural production is steadily increasing, they continue to face numerous limitations. Access to input supplies, extension counsel, loans, and the most valuable agricultural resource—land—remains highly restricted (Shahbaz et al., 2022). Women farmers also face wage disparities, limited training, and resource constraints. Rural women also experience challenges of food insecurity and malnutrition. Empowering women in agriculture is therefore essential for advancing the sector and strengthening rural livelihoods.

Within this context, this study focused on the following objectives:

- To examine the roles and involvement of women in agriculture in Pakistan.
- To identify the structural, social, and economic barriers faced by women in agriculture.
- To explore ways to overcome these barriers and enhance women's contribution, productivity, engagement, and well-being in the agriculture sector.

## Methodology

The study uses a qualitative research methodology and employs multiple data collection methods.

### Desk Review

A comprehensive desk review was conducted using available literature, statistical data, government reports, news articles, and relevant websites to examine the status of women in agriculture in Pakistan. The desk review specifically aimed to identify the status, contribution, issues, challenges, and support system for women in agriculture. This review also focused on agricultural practices and the socioeconomic status of women in Pakistan.

### Interviews with Women in Agriculture

Semi-structured, in-person interviews were conducted with 10 women farmers to gain an understanding of their roles and the challenges they face in the agricultural sector. The farmers were selected based on the geographical area and the willingness of the women farmers to participate in the study. An interview guide was used, and female interviewers or reliable local facilitators were employed to conduct the interviews, as they were better able to establish trust and encourage participation. Voluntary informed consent was obtained from the participants, and their consent was also obtained to record the interviews.

### Selection of the Research Areas

Pakistan is geographically divided into four provinces—Punjab, Sindh, Khyber Pakhtunkhwa (KP), and Baluchistan—as well as affiliated regions of Gilgit-Baltistan (GB) and part of Jammu and Kashmir (J&K). Pakistan's total geographical area is approximately 79.61 million hectares, of

which 30.5 million hectares is agricultural land. The provincial distribution of agricultural land is as follows: Punjab (12.55 million hectares), Sindh (5.98 million hectares), Baluchistan (2.05 million hectares), and KP (1.93 million hectares) (Pakistan Bureau of Statistics, 2024a).

Pakistan is further divided into ten agro-ecological zones, based on physiography, climate, land use, and water availability. The Indus Basin, comprising Punjab, Sindh, and parts of Balochistan, is the most significant region in the country, producing its major crops, including wheat, rice, cotton, and sugarcane. Punjab and Sindh (Indus Basin) are the dominant provinces in agricultural production due to fertile soil and abundant water resources. These regions are also renowned for their orange and mango orchards. Khyber Pakhtunkhwa and Baluchistan, on the other hand, employ a mixed agricultural practice, including fruit orchards and some cereal crops.

In Punjab, women play a key role in sowing, harvesting, and pre- and post-harvest practices. In Sindh, women are involved in farming and agronomic practices. In other regions, such as KP, Baluchistan, Kashmir, and Gilgit, women are also engaged in farming and livestock activities (Muhammad et al., 2020).

Considering these areas with unique agricultural practices and responsibilities, GB, Baluchistan, part of J&K, Punjab, Sindh, and KP were selected for the study. A good understanding of the various possibilities and challenges that women face in the agricultural sector is made possible by the different contexts that every region provides regarding agricultural operations, women's involvement, and the potential for empowerment. This method ensured that the research took into account geographical differences and disparities in the involvement and empowerment of women throughout the country.

### Selection of the Participants

In the primary agricultural region of Punjab, four interviews were conducted to examine the roles of women in farming and related activities. Six interviews were carried out across the other regions—one each in Sindh, KP, Baluchistan, part of J&K, and GB. These interviews captured diverse agricultural contexts, such as small-scale farming, cotton picking, home-based farming, water management, and high-value crop cultivation. This strategy ensures that the experiences of women in Punjab and other provinces are given importance and are represented fairly.

These interviews examined women's responsibilities in farming, their involvement in decision-making processes, their access to agricultural resources, and the challenges they face. Semi-structured interviews provided an opportunity for a comprehensive examination of societal norms, barriers to women's full participation in agriculture, and the empowerment of women. The background of the participating women farmers is shown in Table 1.

**TABLE 1**

**BACKGROUND OF THE PARTICIPATING WOMEN FARMERS.**

| Interviewees | Age | Educational Level | Marital Status | No. of Children | Main Commodity Planted | Locality/ Province |
|---|---|---|---|---|---|---|
| P1 | 40 | Primary | Married | 5 | Wheat, corn, groundnut, pulses, millet | Punjab |
| P2 | 25 | Primary | Single | 0 | Wheat, cotton, and sugarcane | Punjab |

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| Interviewees | Age | Educational Level | Marital Status | No. of Children | Main Commodity Planted | Locality/ Province |
|---|---|---|---|---|---|---|
| P3 | 56 | Primary | Widowed | 6 | Wheat, rice, and cotton | KP |
| P4 | 28 | Bachelor | Married | 3 | Sorghum, wheat, and cotton | Baluchistan |
| P5 | 36 | Intermediate | Married | 4 | Wheat, barley, potatoes, apricots, and apples | Gilgit Baltistan |
| P6 | 39 | Matric | Married | 6 | Wheat and maize | Punjab |
| P7 | 50 | Uneducated | Married | 4 | Vegetables and seasonal crops | KP |
| P8 | 23 | Intermediate | Married | 0 | Vegetables and seasonal crops | KP |
| P9 | 50 | Matric | Married | 3 | Vegetables and seasonal crops | Kashmir |
| P10 | 35 | Uneducated | Married | 5 | Wheat, cotton, and sugarcane | Sindh |

**Note:** P1, Respondent 1; P2, Respondent 2; ... P10, Respondent 10.

### Interviews with the Experts

In addition to interviews with women farmers, five experts were also interviewed to capture perspectives on gender dynamics and the agriculture industry in Pakistan. These experts included policymakers, specialists in gender and rural development, agricultural extension agents, and representatives of non-governmental organizations (NGOs) involved in women's empowerment and agriculture. The expert interviews helped contextualize the challenges faced by women farmers, identified important programs and policies that support gender parity in agriculture, and provided recommendations for addressing barriers to women's empowerment. The profiles of the interviewed experts are presented in Table 2.

**TABLE 2**

**BACKGROUND OF THE INTERVIEWED EXPERTS.**

| Interviewees | Gender | Agency/Association | Designation | Nature of Involvement/Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E1 | Male | Agriculture University Punjab | Dean Agri Economics/ Social Sciences | Research | 30 |
| E2 | Female | Agriculture Extension Officer, GB | Agri Officer | Field work | 10 |
| E3 | Male | Agriculture Extension Officer, Baluchistan | Agri Officer | Field work | 5 |
| E4 | Female | Agriculture Extension Officer, Punjab | Agri Officer | Field work | 12 |
| E5 | Female | NGO Sindh | Social Worker | Field work | 20 |

**Note:** E1, Expert 1; E2, Expert 2; ... E5, Expert 5.

### Data Analysis

Thematic analysis, as outlined by Clarke and Braun (2013), was employed using the six-step process to analyze data from the desk review and interviews. The first step of familiarization involved transcribing the interviews and repeatedly reading transcripts and desk review material to identify initial ideas. In the next step, the data were systematically coded. Segments of text relevant to the research questions were labelled into manageable and meaningful codes, which were both descriptive and interpretative. Codes that shared conceptual similarity were grouped to form categories.

In the next phase of reviewing themes, the initial categories were reviewed against the entire dataset to check for their relevance and representation in the data, and were accordingly merged or split. A thematic map was also used to visualize the relationships between themes and their corresponding subthemes. Once themes were finalized, each was clearly defined and refined. The final phase involved weaving the themes into a coherent narrative aligned with the study's research objectives.

### Ethical Considerations

The study adhered to established ethical standards, with particular attention to obtaining informed consent, ensuring voluntary participation, maintaining confidentiality, and protecting data privacy. Pseudonyms were used to anonymize the participants and protect their identities.

- **Informed consent:** Participants were fully informed about the purpose, nature, and expected outcomes of the study. They were also informed about how the data obtained from them would be used and stored. In rural contexts, with low literacy levels, verbal consent was obtained in the local language.

- **Voluntary participation:** Participants were requested to join the study voluntarily.

- **Confidentiality and anonymity:** Participants were informed that their names and identifying details would be anonymized. Pseudonyms would be used to refer to participants.

- **Data storage:** Access to audio files and transcripts was restricted. Participants were informed that interview recordings would be deleted after completion of the study.

- **Cultural sensitivity:** The research process was conducted with due regard to local customs, traditions, and gender norms.

## Findings

### Roles and Involvement of Women in Agriculture

Women in Pakistan are employed in agriculture as paid and unpaid laborers on farms and agricultural businesses, as independent farmers, and as contributors to family farms. Women's participation spans all stages of agricultural activities. As noted by expert E5, "In Pakistan, rural women put in a huge amount of effort in agricultural production, including field preparation, sowing, weeding, and planting. Their involvement in crop harvesting, threshing, drying, and separating waste for animal feeds is particularly demanding, especially during peak summer and winter. Their participation in making silage, cutting fodder, and crop management during the cropping season is significantly more than their domestic work. Women in rural Pakistan also pick cotton bolls, extract seeds for ginning, and sow and harvest paddy. In rural and desert areas, they are equally active in livestock, fisheries, and poultry farming. In Sindh and Punjab, women also play a crucial role in dairy farming."

Women are actively involved in cultivating rice and vegetables. Similarly, they are experts, experienced in cotton picking and the storage of seeds and other grains through various techniques. They also prepare various value-added products such as *ulsi pinian* and *pajeeri*, as well as a variety of prickles. Their key role in livestock rearing includes caring for and milking animals.

Labor-intensive tasks, such as weeding, hoeing, grass cutting, picking, collecting cotton sticks, and separating fiber from seeds, are mainly undertaken by women. They also prepare seedbeds and engage in ploughing, planting, applying fertilizer, cutting fodder, cleaning and transporting husks, threshing, drying, and storing grains and fodder, as well as harvesting and selling fruits, vegetables, and other farm produce (Habib et al., 2022; Khan et al., 2018). Wheat, sugarcane, cotton, pulses, fodder, and vegetables are the main crops grown in Punjab. Punjab also leads in fruit production, especially mangoes and citrus (Shahbaz et al., 2022; Begum & Yasmeen, 2011). Women assist men in all aspects of crop production, from soil preparation to post-harvest operations (Asadullah, 2021).

Men predominantly engage in tasks considered physically demanding or requiring technical expertise, such as land preparation, seed sowing, fertilizer application, irrigation, and operating machinery for harvesting and threshing. Women are often involved in manual and repetitive tasks, such as weeding, harvesting by hand, post-harvest processing, and livestock care, which are more labor-intensive and time-consuming. Overall, the gender gap is most severe in the agriculture sector since it is based on cultural prejudice against women rather than their skills and abilities.

### Control Over the Use of Income

Due to the socio-cultural norms, institutional imbalances, and restricted access to resources, women often face systemic barriers that limit their control over income use despite their significant contributions.

Although women play a crucial role in income generation within homes, their status often remains one of subservience to men. Income control is mainly in the hands of males in households. Most of the women farmers interviewed highlighted that male family members, such as fathers, brothers, and husbands, handle the income generated from their agricultural land. Men manage the resources and income and make decisions about them.

Here are a few responses from the participants:

- "Father-in-law controls the income generated from agricultural activities." (P1)
- "My father or brother controls the income." (P2)
- "My husband controls the income. He decides how it is spent." (P10)

Pakistan's patriarchal society has a significant influence on agricultural households. Men usually own and manage resources, possess land ownership, lead the family, control income, and make decisions. Women are generally raised with the mindset that men are more rational, better decision-makers, and leaders of the family. As a result, women do not participate in decisions regarding the use of income from crop or livestock sales. However, there are instances where decisions are made and announced by men, but they are informed and supported by women through informal discussions.

As explained by P7, "the head of the household controls the income and decides how it is spent." Similarly, P2 stated, "My father or older male family members usually control the income, as they are seen as the primary providers."

Even when women contribute significantly to agricultural labor, their voices are often limited to suggestions rather than final decisions. As noted by P9, "I have some say, but not always. My father or brother usually has the final say." According to P5, "Male members traditionally make these decisions of the family from generation to generation."

Research conducted in Pakistan's largest agricultural province, Punjab, confirms that women's disempowerment is strongly linked to their lack of control over income and resources (Punjab Commission on the Status of Women, 2021). Similarly, a study in KP province revealed that 62.8% of financial decisions were made by male spouses, indicating the dominance of men in household decision-making (The Agricultural Economist, 2025). This situation is compounded by low mobility, illiteracy, and a lack of financial literacy, which restricts women's economic independence in rural areas. Much of their agricultural labor also remains unpaid and unrecognized. In Sindh, for example, 60% of women in the agricultural sector work as unpaid laborers on family farms, with their unpaid work valued at PKR 683 billion, accounting for 57% of all agricultural labor.

This lack of recognition and compensation further undermines women's financial autonomy. Wage disparity is also one of the most significant problems. Women frequently earn less than men for similar work in the agriculture sector. In addition, their dependence on male marketers to sell produce further reduces their income, thereby increasing their reliance on men for financial support.

According to World Bank studies, Pakistan continues to face a significant gender gap in financial inclusion. According to Global Findex 2021 data, only 13% of women in the country have a formal bank account, compared to 34% of men (Demirguc-Kunt et al., 2022). Women in rural Pakistan face additional challenges, including the long distance to financial institutions, inadequate infrastructure, and limited access to information and technology. A major obstacle is the limited ownership rights women have over agricultural land. Although land inheritance laws generally confer land rights on women, cultural norms often prevent them from exercising these rights independently. As a result, women are frequently dependent on male relatives to access or manage property. This further relegates them at the negotiating table.

This lack of financial control and empowerment has serious implications. As women are more likely than men to invest in the areas of household welfare, disempowering them leads to poorer investments in important areas such as nutrition, education, and health. Moreover, the underutilization of decision-making abilities reduces economic efficiency and constrains the agricultural productivity of women, affecting the overall progress of rural communities.

It is often assumed that women are more likely to make irrational decisions or overspend on domestic needs rather than reinvest in agriculture. Some also believe that, as women are more domestic-oriented, they are reluctant to take risks, make significant investments in agriculture, or pursue big decisions. This perception is echoed by expert E4, who observed: "Women try to spend more on their children and family and make safe, practical decisions--taking fewer risks in agriculture."

### Leadership in the Community

In Pakistan, women in agriculture face numerous challenges that hinder their ability to assume leadership roles in society. Women mostly lack formal education and training in both leadership and agriculture, and they do not have adequate time to participate in community engagement. As a result, women remain underrepresented in agricultural and political decision-making, while also being vulnerable to harassment and gender-based discrimination.

Interviews across the different regions revealed a consistent pattern: women are rarely members of agricultural cooperatives, women's groups, or community-based organizations. Respondents highlighted cultural and religious constraints, societal expectations, lack of education, and male dominance in decision-making as key factors preventing them from assuming leadership roles in agriculture. Many women noted that they mostly stay at home, have limited participation in gatherings, and have limited say in decision-making. They also indicated that the male dominance makes them uncomfortable in raising their voice. P8 highlighted the fact: "In our society, women often face cultural restrictions that limit their leadership roles in agricultural organizations or community groups." Similarly, P9 pointed out, "I feel somewhat uncomfortable due to cultural norms and limited experience."

Research also documents the limited representation of women in agricultural cooperatives, local governance, and policymaking (FAO, 2020). Several socio-cultural and economic barriers hinder women's leadership in the agricultural sector. In Pakistan, patriarchal norms and traditional gender roles restrict women's participation in public decision-making. Low literacy rates and limited access to leadership programs hinder their development of skills. Women also have limited access to markets and networks, as they have fewer opportunities to engage in farmer groups or trade associations (UNDP, 2021). Household responsibilities further prevent women from participating in these organizations and assuming leadership positions. As noted by industry expert E3, "Women's participation in my region is limited due to conservative norms which prioritize domestic roles over external engagement." These restrictions often prevent women from speaking in public, attending community meetings, or participating in cooperative decision-making.

**BOX 1**

**CASE STUDY: AMNA.**

Amna, 28, with an intermediate level of education, is actively involved in both livestock herding and crop farming. For years, she followed her father's instructions in the fields, with most decisions made by him and her brother. However, she is the only one among her peers to have received formal training through FAO's Farmer Field Schools. This training boosted her confidence in areas such as soil health, pest control, and record-keeping.

With her new confidence, she has also taken the initiative to create a women's farming circle. She has started advocating for women's access to tools and seeds, marking an important step toward increased participation and leadership for women in her community.

### Time Use for Agriculture

Women often work longer hours than men because of the dual burden of farm and domestic responsibilities. Their day typically begins early, as they balance fieldwork with household chores, including cooking, cleaning, washing, and childcare. During peak agricultural seasons, such as planting or harvesting, women may spend 9–10 hours per day on farming in addition to 4–6 hours on household work. Even during the off-season, fieldwork averages 5–6 hours per day alongside domestic work.

Interviews with women farmers highlighted their struggles with time allocation and the fact that they often work longer hours than men. It also revealed that their workload increases sharply during crop seasons, they receive little support, and they wish they had more time for personal

needs. As P3 noted, "From morning till evening, I support my father and brothers in the field. After that, I do my household chores." Similarly, P4 explained, "My day usually starts early, checking the fields for any signs of pests or diseases. I spend a few hours managing the crops and ensuring they have enough water. In the afternoons, I tend to livestock, including feeding and cleaning. I also do house chores."

P9 described the difficulty of balancing both roles: "Managing both agricultural responsibilities and domestic tasks is challenging… due to long working hours, multiple domestic responsibilities, and limited support." This sentiment was echoed by expert E5, who stressed the systemic nature of the issue: "The weekly workload has crossed the limit of 40 hours, thereby increasing time use poverty in rural areas."

A 2018 study by the International Labour Organization (ILO) found that rural women in Pakistan spend 12–14 hours daily on agricultural and household tasks, compared to 8–10 hours spent by men on fieldwork. During peak seasons, such as planting and harvesting, women spend nearly 4–6 hours per day on these activities (FAO, 2020). Women also spend 2–3 hours daily feeding and milking animals (World Bank, 2019), in addition to 5–7 hours on cooking, cleaning, and childcare (Pakistan Bureau of Statistics, 2021b). Men, on the other hand, are more involved in mechanized farming, marketing, and decision-making, toles that are typically monetized and recognized.

A study conducted in Tehsil Mian Channu, Punjab, provides further insight into women's time allocation in agriculture (Sheikh et al., 2022). It shows that women's age and education level are negatively correlated with the time spent on crop production activities, but positively correlated with non-crop agricultural tasks. As women grow older or attain more education, they tend to spend less time in physically demanding crop work. The research also found that households with a higher dependency burden see women devoting more time to both crop and non-crop agricultural tasks. Notably, tenant women tend to allocate more time to crop production activities compared to non-crop activities. Tenant women—whose families do not own land but lease it for farming—spend more time on crop production because their livelihood depends directly on crop yields (Sheikh et al., 2022).

The disproportionate allocation of time not only limits women's economic independence and decision-making power but also restricts their potential to contribute to and lead agricultural advancements.

### Barriers and Challenges for Women in Agriculture

Despite their substantial contributions to agriculture, women in Pakistan face multiple structural, cultural, and economic challenges that restrict their participation, decision-making, and productivity in this sector.

**Lack of decision-making power:** Women often have little to no authority in household and farming decisions, which directly impact their productivity and income. Key decisions on land use, crop selection, pricing, input purchasing, and machinery or technology purchasing are predominantly made by men.

**Social and cultural constraints:** Women farmers in Pakistan encounter significant structural and social barriers that limit their potential in agriculture. Despite their critical contributions, their work is often undervalued and unrecognized. As women are expected to engage in household

activities, which is considered their primary responsibility, they are overburdened with both agricultural tasks and household duties, affecting their health and well-being. Patriarchal norms further restrict women's mobility, education, access to markets, and decision-making opportunities, impacting their agricultural production and income.

**BOX 2**

**CASE STUDY: ZAKIA.**

Zakia, a 40-year-old woman with only primary education and married, starts her day before dawn—milking cows, preparing meals, and handling household chores—before heading to the fields to help with crop sowing and harvesting. Despite her essential role in managing livestock and farming, she has no say in decisions, whether about crop choices or how to use income.

Stuck in patriarchal norms, Zakia has never received formal training and still lacks access to credit or land ownership, which limits her ability to become independent or influence agricultural decisions.

**Lack of resource ownership:** In Pakistan, women face significant challenges in owning or accessing productive resources, such as land, livestock, and agricultural equipment, due to a combination of cultural practices and legal frameworks. Although Islamic inheritance law grants women half the share of men, in practice, women often have limited or no ownership of land. This lack of ownership restricts their ability to make decisions regarding agricultural activities. Social norms further restrict women's ability to manage or inherit land, with many families prioritizing male heirs for ownership and decision-making roles. These barriers limit women's economic empowerment and prevent them from accessing productive resources, thereby hindering their full participation in agricultural development.

**BOX 3**

**CASE STUDY: SAKINA.**

Widowed Sakina, 55, once felt overwhelmed by the responsibility of managing her land alone. She cultivated wheat, cotton, and dates, while also tending livestock. With limited resources and no formal training, she struggled to make independent decisions and faced many challenges in the agricultural market.

Despite these constraints, her experience and devotion made her a role model for other women. Support from a rural empowerment program and access to microcredit enabled her to purchase a cow, improve agricultural practices and inputs, and boost milk production and sales.

**Less income and more time:** Women often work as unpaid workers or are paid less, even though they spend more time in farming activities. This wage disparity affects their ability to obtain loans and is aggravated by the lack of special incentives for women.

**Lack of education and training:** Only 48% of women in Pakistan are literate compared to 70% of men (National Commission on the Status of Women, 2023). Women also have limited access to vocational training in modern farming, digital skills, and entrepreneurship, leaving them without the technical know-how required for market-oriented agriculture. The lack of formal training also

hampers their ability to adopt modern techniques or participate in market-oriented agriculture. Experts noted that training programs often target men and are not designed to meet the needs of women, thereby widening the gap. As P9 explained, "Training programs are often male-focused, leaving women behind in adopting advanced methods."

**Health issues:** Another main problem women face is health concerns arising from hard work and a lack of a balanced diet, coupled with limited awareness of hygiene and personal care.

The challenges women face in agriculture are interlinked and systemic, rooted in patriarchal norms, lack of resource control, and inadequate institutional support.

## Policy Implications and Recommendations

The interviews and desk review identified several strategies to address the challenges women face in agriculture. These include improving access to resources, education, and vocational training to enhance skills and economic literacy, as well as formulating gender-sensitive policies that reflect the specific needs of women farmers. As highlighted by expert E3, "The best starting point is to offer interest-free credit facilities to women in every village for purchasing inputs, healthcare, education, marketing of their produce, and purchase of animals, etc. Reputed national foundations, such as Akhuwat and Alkhidmat Foundations, may be taken on board for financial facilitation. Besides finance, technical support is highly desired for effective results."

There is also a need to rationalize women's work time. Their health coverage should be insured. Their contribution must be acknowledged at both the family and community levels. Capacity development programs, community awareness initiatives, and training in modern agricultural practices can bring a positive impact.

More specific interventions are outlined below.

**Education and capacity building:** Providing women with agricultural education and training equips them with the skills needed to manage resources effectively and increase productivity. Programs focusing on technical agriculture knowledge, financial management, and literacy can empower women to make informed decisions. NGOs can play an important role by providing training and boosting women's confidence to participate actively in agricultural and community development.

**BOX 4**

### CASE STUDY: NAZIA.

Nazia, 50, an uneducated mother of four, spent her life working alongside her family on all agricultural tasks. Household decisions were made collectively, but she had limited influence. Lack of education, training, low pay, and cultural norms further restricted her development.

Five years ago, Nazia transformed her family farm after receiving training in organic farming. By switching from pesticides to natural methods, she attracted a niche customer base. She also introduced kitchen gardening to neighbors and helped her daughter-in-law start a rooftop vegetable garden. Together, they now sell produce at the local market.t.

**Access to inputs:** Ensuring fair access to inputs, such as loans, land, seeds, and technology, is critical. Women should be provided with equal opportunities to access finance for agricultural activities, as well as secure and legal rights to land ownership and use.

**Policy and legal support:** Systemic gender barriers must be addressed through supportive legal frameworks and policies that protect women's rights to land, income, and gender equality in the agricultural sector. Policy reforms, establishing women's groups, promoting cooperatives, and fostering supportive social norms can play a positive role in increasing women's participation in the sector. Initiatives, such as tractor schemes and credit facilities for women, along with tailored extension services, should be provided to ensure a quick response.

**Support networks and community engagement:** Strengthening women's engagement in agriculture requires promoting neighborhood-based projects that make them feel welcome and encourage their participation in decision-making. Support structures such as mentorship programs and women's cooperatives can enhance cooperation and mutual learning among women. Programs such as the Kissan Package, the Benazir Income Support Programme, and agricultural credit schemes by Zarai Taraqiati Bank Limited, which have provided women farmers with financial support, subsidies, and access to resources, should be highlighted. Women-focused training programs and initiatives under the Ehsaas Program can further help them adopt modern farming techniques and improve productivity.

**Technological and financial inclusion:** Increasing women's agricultural productivity depends on improving access to microfinance services and integrating them into digital platforms for agricultural markets. Mechanized equipment and sustainable agricultural methods are examples of innovations specifically tailored to their demands, which will lower labor costs while increasing output. Equipping women with skills to use agricultural technologies, social media, and digital apps can enhance their knowledge, improve access to information, and enhance overall productivity.

**BOX 5**

**CASE STUDY: NAJMA.**

Najma, a 26-year-old educated farmer, grows crops like potatoes and apricots while also caring for sheep and goats. Although she is actively involved in farming, cultural norms prevent her from participating in decision-making or accessing markets. Her training was mostly traditional and passed down informally.

Through a regional NGO's training program, Najma learned digital skills that changed her farming methods. She now uses apps to forecast weather, plan harvests, and access online marketplaces. By mapping her land and analyzing soil health data, she diversified her crops to include apples and popular herbs. Her family's income has doubled, and she recently started teaching digital farming in local schools.

**Cultural sensitivity and awareness:** Traditional and cultural beliefs that limit women's involvement in agriculture need to be addressed through awareness programs and community engagement. Conversations between men and women about these gendered limitations can help create a more inclusive agricultural environment. Taken together, these actions can strengthen women's roles in Pakistan's agriculture and enhance their contributions to food security, rural development, and productivity.

## Conclusion

This study discussed the pivotal yet often unrecognized role of women in Pakistan's agriculture sector. Rural women comprise a substantial share of the agricultural labor force and contribute nearly 40% to the agricultural GDP. Women are actively involved in both domestic activities and agricultural practices, ranging from sowing to post-harvest activities. Despite these contributions, women face persistent challenges due to deep-rooted socio-cultural norms, limited access to resources, lack of land ownership, exclusion from leadership roles, restricted control over income, time poverty, and systemic exclusion from decision-making processes.

By removing these barriers and enabling inclusive participation, education, and capacity building, as well as fair access to inputs, technological and financial inclusion, policy and legal support, stronger networks, community engagement, and greater cultural awareness, Pakistan can unlock the full potential of its women farmers. This will also help them contribute meaningfully to achieving the national and global development goals.

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CHAPTER 6

# PHILIPPINES

## Background

The Philippines is a developing country comprising 7,641 islands, geographically grouped into three main island clusters: Luzon, Visayas, and Mindanao (Hananto, 2023). It has a total land area of approximately 300,000 square kilometers, of which 47% is classified as agricultural land. High temperatures, high humidity, and heavy rain characterize its tropical climate. It is divided into two major seasons: a 'wet' or rainy season from June to November, and a 'dry' season from December to May. As of 2020, the total population of the Philippines was 109,035,343, comprising 55.02 million men and 53.65 million women (PSA, 2022). As of 2025, the total population stands at 116.8 million, with a GDP per capita of USD 3,700 (UNFP, 2025; Crismundo, 2024).

Agriculture remains a vital driver of the country's economy. In 2023, the agriculture, fishing, and forestry sectors contributed 8.6% of the Philippines' GDP (PSA, 2024). The five major crops with the highest production volume in 2023 were sugarcane (21.65 million metric tons), rice or palay (20.06 million metric tons), coconut (14.89 million metric tons), banana (9.02 million metric tons), and corn (8.41 million metric tons) (PSA, 2023). Export earnings from agricultural products in 2022 reached USD7.50 billion, led by coconut oil (USD2.10 billion), bananas (USD1.09 billion), and pineapple and its by-products (USD759.63 billion). Overall, the Gross Value Added in agriculture in 2023 increased by 1.6%, while the value of production in agriculture and fisheries recorded an annual growth of 0.4% (PSA, 2023).

The country's archipelagic geography has resulted in the creation of 18 administrative regions, each with different cultures, ethno-linguistic groups, and even cultural practices in the cultivation of agricultural goods. These regions have leveraged their unique geographical conditions to enhance agricultural productivity, resulting in various commodities becoming a leading source of income for workers in the agricultural sector. For example, Region III, also known as the Central Luzon region, is now recognized as the country's leading producer of rice, as it is home to Nueva Ecija, the country's local "Rice Granary" due to its vast lowland rice paddies.

In the Visayan Island groups, Region VIII is known for its vast plantations of coconut, which makes its agricultural lands one of the most utilized for the commodity. Mindanao, being the second-largest island group in terms of size, with an approximate land area of 95,000 hectares, also plays a vital role in the country's agricultural sector. Regions X and XI are home to the production of various high-value crops, including bananas, rubber, and pineapples, which have made the island group an attractive destination for the development of multimillion-dollar agricultural production and processing industries (FAO, 2022).

Region IV-A, the CALABARZON region, on the other hand, is one of the most notable regions, as it is home to many of the country's government and private institutions, including industries and educational institutions that specialize in agricultural research and development. These include the International Rice Research Institute, Southeast Asian Regional Center for Graduate Study and Research in Agriculture, University of the Philippines Los Banos (UPLB), and the Department of

Science and Technology's Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD). These institutions play a crucial role in the development of agriculture, which can enhance the overall participation of marginalized sectors in the sector.

Despite the considerable growth of agricultural trade over the past few years, the Philippines' export performance lags behind that of its neighboring Southeast Asian countries. The agricultural export performance of the Philippines reached only USD7 billion, compared to Vietnam's USD30 billion, and Indonesia and Thailand's USD40–50 billion range in 2017 (Briones, 2021). Although Vietnam and the Philippines had similarly low levels of agricultural exports in 1997, with Vietnam having a USD3 billion export base and the Philippines having a USD2.3 billion export base, Vietnam surged ahead over the next two decades, substantially expanding its export base while the Philippines experienced only minimal growth and remained largely stagnant. Furthermore, the country has experienced a significant trade deficit in agricultural goods over the past few years, with a deficit of over USD11.8 billion in 2022 (SEPO, 2024).

The trend shows that the country imports more agricultural products than it exports. In terms of productivity, the country's total factor productivity (TFP) in agriculture has progressed slowly compared to other ASEAN countries. From 1991 to 2021, the Philippines recorded a TFP growth of only 1.1% compared with 1.8% in Thailand and 2.2% in Vietnam (Villegas, 2024). The weak agricultural performance of the country, as compared to its neighbors, has been linked with low land and labor productivity, poor rural infrastructure, low mechanization, and insufficient government support services (Briones, 2018; Galang, 2019) With low agricultural productivity, poverty remains a persistent challenge, especially among the farming communities that make up a large share of the poorest population.

The agricultural sector remains a key source of employment, with over 11.19 million Filipinos employed in 2023 (DOLE, 2024). Despite representing 23% of the total workforce, farmers and fisherfolk have a significantly high poverty incidence of 30%, making them the most impoverished sector in the country (PSA, 2022). An aging agricultural workforce exacerbates this challenge, with the average farmer being between 55 and 59 years old. Annual earnings remain low, with a Filipino farmer earning only PHP100,000 (USD1,707) in 2015, which is below the poverty line of PHP108,800 (PIDS, 2018). For a farming household, these earnings are insufficient to meet their basic needs and sustain the farming operations.

While the Philippines has made significant efforts in addressing gender inequality, ranking 25th out of 146 countries in the Global Gender Gap Report 2024, the country needs to do more, especially for women in the agricultural sector (Parungao, 2024). According to the reports, in 2023, over 28.4% of males and 15.9% of females were employed in the agriculture sector (PSA, 2024). Moreover, there is a wage gap between male and female agricultural workers: men are paid PHP335 (USD5.68), while women earn only PHP304.60 (USD5.16) per day (Simeon, 2020).

This gap is attributed to the type of agricultural work performed, with women primarily engaged in less profitable tasks, such as weeding and harvesting, while men are more often involved in plowing and crop cultivation. Besides the fact that Filipino farmers are generally underpaid, unpaid labor is also performed primarily by women farmers, which puts them at a greater disadvantage. According to a 2016 PSA report, around 35% of women work as unpaid labor in crop and animal production, hunting, and related activities, compared with only 12% of men (Bayudan-Dacuycuy, 2018).

There is also limited registration of women in databases, such as the Registry System on Basic Sectors in Agriculture, as household heads are generally assumed to be males. Women's access to agricultural support and extension services is also limited. A 2015 study reveals that only 36% of women farmers had access to irrigation, 21% received input subsidies, 26% participated in training, 20% accessed calamity assistance, and only 14% received financial assistance (FAO, 2022). The Department of Agrarian Reform (DAR) has made efforts to improve women's access to credit through its agri-credit and microfinance programs.

In 2021, over 10,966 farmers benefited from these programs, with 43% of the beneficiaries being women (DAR, 2022). Besides, the Philippine Commission on Women (2020) reported mixed results among women working in agriculture, aquaculture, and natural resources, or AANR space. Women tend to have better habits in saving money, are more likely to open financial accounts, save through e-wallets, and avail themselves of social security products like insurance. In contrast, men were more likely to save in formal financial institutions and make higher-risk financial decisions, such as investments.

In agricultural production in many Southeast Asian countries, including the Philippines, women and men share roles throughout various stages of farming. Although these roles vary by commodity, men are often responsible for the more labor-intensive activities, while women tend to engage in off-farm activities, such as processing and marketing. Despite their interest, women continue to face barriers that limit their active participation. This highlights the need to proactively include women in community decision-making to ensure that agricultural programs and interventions are inclusive and responsive to their needs.

Considering these factors, this research aims to examine the roles and participation of women in agriculture in the Philippines, identify the structural, social, and economic barriers they face, and explore ways to overcome these challenges to improve their contribution, productivity, participation, and overall well-being.

## Methodology

A qualitative research design was employed to gain an in-depth understanding of the participants' experiences and uncover the complexities they encounter in their agricultural work. This approach enabled the study to examine how these experiences influence their views, beliefs, opinions, and practices. This research design aimed to interpret these meanings within the social world of the participants (Mohajan, 2018).

### Interviews

Interviews were one of the primary modes of data collection for this study, conducted with specialists in the field of agriculture as well as women involved in agriculture in Region IV-A, Philippines. According to the Department of Agriculture's Bureau of Agricultural Research, the country's priority high-value crops include fruits such as bananas, mangoes, and pineapples; plantation crops such as cacao, coffee, and rubber; vegetables and legumes; root crops; and various indigenous and regional crops. Many of these crops are grown in Region IV-A, which was a key factor for selecting this region as the research site. Another important reason for choosing this locale is that it hosts many of the country's government and private institutions specializing in agricultural research and development.

For this study, the experiences of women farmers of Region IV-A were explored. The participants were mainly from Laguna, Rizal, and Quezon. The major crops cultivated by the selected women farmers in Laguna include rice, fruits, and vegetables. In Rizal, the participants were engaged in coffee and cacao farming, while in Quezon, the selected women farmers were involved in vegetable and coconut farming.

The following criteria were considered while selecting the women farmers for this study:

1. The participant must be a woman farmer from Region IV-A.

2. She must be a member of a registered farmers' association or cooperative in her municipality.

3. She must be engaged in cultivating any of the country's priority high-value crops, such as fruits, plantation crops, vegetables, legumes, or root crops.

The participants were given the option to have either face-to-face or online interviews. A total of ten interviews were conducted, with only one held virtually. On average, each interview lasted for one hour. An Interview guide was used, and all interviews were conducted in Filipino, the participants' first language, to ensure they could express their ideas and experiences comfortably. Data collection took place from 13 December 2024 to 7 January 2025.

**TABLE 1**

**BACKGROUND OF PARTICIPATING WOMEN FARMERS.**

| Interviewees | Age | Educational Level | Marital Status | No. of Children | Main Commodity Planted | Other Commodities Planted/ Livestock Raised | Province |
|---|---|---|---|---|---|---|---|
| P1 | 33 | Elementary Graduate | Married | 3 | Fruits | Vegetables and Root crops | Laguna |
| P2 | 41 | College Graduate | Single | 0 | Rice | N/A | Laguna |
| P3 | 45 | College | Single | 3 | Fruits | Vegetables and Root crops | Laguna |
| P4 | 46 | High School Graduate | Married | 2 | Root crops | N/A | Laguna |
| P5 | 47 | Vocational | Single | 0 | Rice | N/A | Laguna |
| P6 | 65 | College Undergraduate | Married | 4 | Fruits | Vegetables | Laguna |
| P7 | 67 | High School Undergraduate | Widowed | 5 | Rice | N/A | Laguna |
| P8 | 45 | College Graduate | Married | 4 | Vegetables | N/A | Quezon |
| P9 | 54 | High School Graduate | Widowed | 9 | Coconut | Rice, Vegetable, Fish, Poultry, Hog | Quezon |
| P10 | 61 | College Graduate | Married | 5 | Coffee | Coconut, Cacao, Fruits | Rizal |

**Note:** P1, Respondent 1; P2, Respondent 2; ... P10, Respondent 10.

To support a more in-depth analysis of the experiences of women farmers, Key Informant Interviews were conducted. Five experts in agriculture, each with extensive experience working with women farmers, were interviewed. These experts represented different agencies and organizations, such as the academe, local government units, farmers' associations, and research institutes. A summary of the experts' background is presented in Table 2.

**TABLE 2**

**BACKGROUND OF INTERVIEWED EXPERTS.**

| Interviewees | Age | Gender | Agency/ Association | Office | Designation | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|---|
| E1 | 51 | Female | University of the Philippines Los Banos (UPLB) | College of Public Affairs and Development | University Researcher | 7 |
| E2 | 51 | Female | Research Institute | Philippine Rice Research Institute (PhilRice) | Senior Research Specialist | 21 |
| E3 | 55 | Female | UPLB | College of Agriculture and Food Science | Senior Lecturer | 20 |
| E4 | 53 | Male | Local Government Unit | Municipal Agriculture Office (MAO) | Chief | 6 |
| E5 | 60 | Male | Farmers' Association | N/A | President | 15 |

**Note:** E1, Expert 1; E2, Expert 2; ... E5, Expert 5.

### Desk Review

To support the data collected through interviews and better understand the trends and statistics about women's empowerment in agriculture, a comprehensive desk review was also conducted. The sources included news articles, government reports from their official websites, magazines, and journal articles. The desk review focused on demographics, commodities in Region IV-A, issues and challenges faced by women in agriculture, strategies and coping techniques adopted by women farmers, their roles and participation, and support mechanisms available to them.

### Data Analysis

Thematic analysis, as outlined in Clarke and Braun's (2013) Six-Step Data Analysis Process, was employed to analyze the data gathered from the participants. The first step involved familiarization with the data by listening to the audio recordings of the interviews several times and transcribing them using Turboscribe AI. Because the interviews were conducted in Filipino, the transcripts were carefully reviewed and manually corrected where the AI output was not 100% accurate.

The second step was the generation of codes. Data were organized through Microsoft Excel, and participants' responses with similar meanings were grouped and coded. A total of 53 codes were generated, and 18 categories were identified. In the third step, the identified categories were combined into themes. The fourth step was reviewing themes. Themes were checked and reviewed to ensure that they accurately reflected the intended meanings of the participants during their interviews. To identify themes, it was necessary to revisit the transcripts and the assigned codes for verification purposes.

The fifth step was to determine the significance of the themes. The themes generated were reviewed to determine if they accurately reflect the real-life experiences of the participants and if these experiences are evident in their transcripts. The themes generated were also reviewed to ensure their alignment with the objectives of the study. The last step in Clarke and Braun's Thematic Analysis is the reporting of findings. The findings were presented clearly and concisely, in line with the study's defined objectives.

**Ethical Considerations**

In conducting the study, the following ethical practices were observed:

- Informed consent: Before the start of every interview, the participants were requested to sign an informed consent form. The form outlined the objectives and purpose of the study, the expectations from the participants, and the potential benefits. Participants were also informed about how the data collected from them would be used and stored.

- Voluntary participation: Participation in the study was entirely voluntary. Participants were informed that they could decline to answer any question or withdraw from the interview at any time if they felt uncomfortable.

- Confidentiality: Participants were assured that the information they shared during the interview would only be used for this study. The names of the selected women farmers and the key informants were concealed during the writing of this report using codes, P1 to P10 and E1 to E5.

- Data Storage: All interview data were stored securely on a password-protected computer and retained until the completion of the study. Participants were informed that interview recordings would be deleted after the study was completed.

## Findings

Women in agriculture across Region IV-A play pivotal roles in cultivating crops, raising livestock, and contributing to the agribusiness sector. They are actively engaged in essential tasks such as planting, harvesting, and managing farm operations, often focusing on commodities prevalent in their specific location. In this study, the selected women farmers were primarily engaged in cultivating rice, fruits and vegetables, coconuts, and coffee. It was also reported that aside from these major crops, some participants were involved in cultivating other commodities and raising livestock.

The themes reflecting the roles and involvement of women in agriculture are further discussed in this study.

### Roles and Involvement of Women in Agriculture

This section delves into the various roles and involvement of selected women farmers in the study. It presents the themes that emerged regarding women's participation in agricultural production, their role in decision-making, and their access to resources.

#### Decisions about Agricultural Production

The interviews revealed that single and widowed women farmers had autonomy as the primary decision-makers in agricultural production. As sole farm owners, they have complete control over

decision-making. In contrast, married women farmers usually discuss decisions with their spouse. Many of them reported that they are actively involved in decision-making through communication and/or consultation with their husbands on what to produce and when to purchase inputs, as women farmers are often the primary financial managers.

As P10 shared during the interview, "My husband and I discuss things like what variety of coffee to plant in a specific area because we have all four varieties of coffee—Robusta and Arabica that are already bearing fruit, Excelsa, and the newly planted Liberica."

E2, a Senior Science Research Specialist at PhilRice, highlighted that many Filipino husbands or male farmers, after harvesting their produce, turn over the earnings to their wives or women farmers. Husbands rely on their wives to keep and manage their earnings, which allows women to play a crucial role in agricultural production. Since women hold the capital, they decide what inputs to buy, where to allocate their budget, and when or how to sell their produce. Having decision-making power in terms of managing household finances and agricultural income contributes to empowerment. Such intra-household decision-making power can be influenced by several factors, including off-farm employment, future investment perspectives based on farming trends, time preference through discount factors, and farming experience (Maligalig et al., 2019).

**BOX 1**

**CASE STUDY: MARTINA.**

Martina, 41, from Laguna, believes that women are just as capable as men in farming. As a daughter of a farmer, she and her siblings inherited the family land after their father passed away. While her brother and sister manage their own rice farms, Martina remains single and manages her farm independently. She decides what agricultural inputs to buy and when to buy them, and visits her farm every morning to supervise the work of her laborers.

For Martina, being single does not hinder a woman from managing and operating an agricultural enterprise; she only needed to learn to trust others. Although she initially faced challenges, the support of laborers who had earlier worked with her father helped her succeed as a farmer. Living in a community where people expect a woman to get married and have a family, she often receives comments such as, "Why don't you get married so that you could have someone to work for you on the farm?"

"You have no one to rely on, they say. But I tell them, it is hard if you keep depending on someone". When my elderly farmer neighbors tell me to get married, I tell them it is tough. Marriage is not the solution. If men can do it, women can do the same."

Martina strongly believes that marriage should not be viewed as a way for women to secure a man to work on her farm. She has proven that a woman can succeed in farming on her own terms.

### Access to Decision-Making Power over Productive Resources

**Decision to Avail Credit and Loan**

The interviews revealed that women farmers are aware of the sources of credit or loans available to them in their communities, including banks, microfinance institutions, and cooperatives. It was also noted that membership in farmers' associations or cooperatives provided them with better

access to loans. This aligns with the findings of Macusi et al. (2022), who reported that women respondents often had better access to formal and informal credit compared to their partners, as they were more consistent in making repayments.

However, despite the availability of loan sources, some women farmers chose not to borrow due to the high interest rates. They shared that if they could finance their agricultural production independently, they would prefer to avoid loans, as repayment could become a burden, especially in the face of frequent typhoons and natural calamities that hinder production and impact their income. Some participants, particularly those who are married, mentioned that they usually discuss the need to avail a loan with their husbands before making the decision. This is reflected in what P3 said, "I inform my husband, but when it comes to deciding, I make the decisions."

**Limited Land Ownership and Its Impact**

Most participants reported that they do not own land and instead rent or borrow it for farming. Acquiring land is particularly challenging for women farmers due to the prevalence of strong patriarchal norms that favor male family members in land ownership. As a result, even skilled women farmers face reduced productivity and income because they often have to rent land, which increases their expenses and reduces their profitability. While the Magna Carta for Women of 2009 emphasized equal status for men and women in land titling and stewardship contracts, the country's agrarian reform programs have so far granted certificates of land title and ownership awards to only 31% of female farmers, and emancipation patents to just 23% of them (Ani & Casasola, 2020).

P8 shared her experience regarding the lack of land ownership, explaining that the lack of land hinders her plans to produce more vegetables and begin value-added processing. "The absence of a place to construct a storage facility is a significant challenge," she said."

**Impact of Agricultural and Digital Technologies**

Interviewed women farmers reported access to agricultural and digital technologies, which they found highly beneficial for increasing production and saving time and resources. Tasks that previously required weeks of manual labor can now be completed in a few days by utilizing agricultural technologies, such as rice threshers.

As P3 explained, "With tractors and other equipment for tilling the soil, tasks like plowing that used to take weeks can now be done in two days. If one spends PHP500 per day or PHP3,500 for a week on manual labor, the use of technology will only cost PHP1,000, resulting in a savings of PHP2,000. Besides, production becomes faster. What used to take weeks to harvest can now be finished in a day."

While technology improves efficiency, allowing women farmers to maximize their time and minimize costs, some of them encounter challenges in using these technologies because most machines are designed for men. Expert E2 noted that many women farmers are not comfortable using agricultural machinery, as training is usually directed at men. However, there have been efforts to design technologies that women can use. The Department of Agriculture, through the Philippine Center for Postharvest Development and Mechanization and PhilRice, has begun introducing gender-responsive technologies to enhance the productivity of women farmers.

Aside from agricultural technology, women farmers also rely on digital technologies that can be used easily and comfortably by them. They use mobile phones to contact customers via text

messages, Facebook Messenger, or by making calls. They also use handsets to access Facebook and post updates to inform the community and buyers from other areas about the availability of fruits and vegetables. The MAO also communicates with them through text and group chat about meetings and the input distribution. They also utilize YouTube and online resources to learn about crop management using modern technologies and information on plant diseases and their treatment.

Highlighting the importance of digital technologies for women farmers, P8 said, "Women are a big part of agriculture because we are meticulous and we like to research. On our phones, I search for information on what is wrong with my plants. Some of my members started posting online during the pandemic when they were unable to sell their produce in person. That is why the number of vegetable vloggers increased."

**Farming Poses Health-Related Risks for Women**

Women farmers face several health-related risks while working on farms. In the Philippines, extreme weather conditions exacerbate the risks and challenges faced by women farmers. Some experience headaches, flu, and fever when the weather is too hot. To protect themselves from the sun's effects on their skin, they wear long-sleeved blouses and hats. They also drink plenty of water to stay hydrated. During the rainy season, they fear slipping on the farm and are extra cautious, especially as they grow older and feel physically weaker.

These health risks are a general concern for all farmers, but they have a greater impact on women, making the issue gender-related. When women farmers fall ill, the many roles they perform are impacted, whether in the household, on the farm, or within their community. As women of the house, they are expected to provide care for their families. However, when they fall ill, they cannot simply depend on their husbands for care and service, as men are traditionally expected to continue working to provide income for the family.

Likewise, women farmers cannot demand care from their children, as they attend school, or if they already have a family of their own, they need to prioritize their children and spouse as well. In contrast, when male farmers become sick, their wives are expected to take care of them as part of their traditional roles, while continuing to perform household tasks. Wives may even need to seek other possible sources of income to compensate for the loss of income their husband faces due to illness. For women farmers, this situation is particularly challenging, and these health risks exacerbate their vulnerability.

Women farmers are also prone to respiratory and reproductive health risks due to the chemicals they apply on their farms. According to expert E3, a senior faculty member at the College of Agriculture and Food Science at the UPLB, women have thinner skin compared to men; therefore, pesticides and other chemicals may have a greater impact on women. She noted that health and safety risks are higher for women farmers. A literature review also supports this, indicating that women have thinner skin and more fatty tissue than men, which makes them absorb more pesticides than men under the same level of exposure (Tenaganita & PANAP, 2002; Reeves & Rosas, 2003, as cited in Tanzo, 2005). In addition, women are more prone to eye injuries since they are usually responsible for cleaning and washing the tools and equipment used for the application of pesticides (Health and Workers Group, 1985; Tenaganita & PANAP, 2002; Habib, 2003; Wesseling, 2003; Reeves & Rosas, 2003, as cited in Tanzo, 2005). Aside from chemical exposure, women farmers also expressed fear of snakes, insects, and animals that they may encounter while performing their agricultural duties.

### Control over Use of Income

**Women Farmers as Financial Managers**

Women farmers are primarily responsible for managing household and farm income. After selling harvests, their husbands usually give them the money, and they keep the record and manage the budget. According to P1, "My husband gives me money and I ask him what to buy. 'Ma, you decide.' We both make decisions together."

Some women farmers maintain a record book where they document all the items needed for the farm, along with the cost of each (e.g., fertilizers, tools). They allocate a budget not only for agricultural production but also for household needs, such as food and utilities. For those whose children are still in school, they allocate funds specifically for their children's education. Women farmers are responsible for ensuring they have sufficient capital for the next planting season, while also meeting their families' needs. P3 shared her strategy on how to manage their earnings more effectively: "I keep a record of all our crops, like pineapples. For example, I list the capital and expenses for pruning and fertilizing. Everything is documented."

This is also affirmed by the expert E2, who shared that women farmers are actively engaged in farm planning and record-keeping. She emphasized that women farmers should be in charge of this role because there is a notable difference between women and men when it comes to managing finances. Women ensure they stick to the budget they allocate for family and farm expenses. On the other hand, men often cannot simply decline or get away when friends ask them to drink, or to go on cockfighting, because they do not want to be subjected to ridicule and be called "*under de saya*" or a husband who is submissive to his wife.

Expert E3 also believes that women are good at managing household finances. She shared that her previous studies revealed that when women go to the market to buy food and other necessities, they also purchase agricultural goods needed for their farms. She added that women are skilled at bargaining, which helps them buy goods at a lower price. According to her, women are often very good at budgeting their money, a trait commonly observed among Filipino households. This was also supported by expert E5, Farmers Association President in Tayabas, Quezon, expert E4, and Head of the MAO in Laguna. They said that transporting goods from the farm to the market and other physically demanding activities are typically assigned to men. However, when it comes to budgeting income, women take the lead. They also highlighted that women are very good at managing their families' finances.

**Impact of Input Costs on Women Farmers**

During the study, women farmers shared that their satisfaction with agricultural income is affected by the rising prices of farm inputs, particularly fertilizers. They reported that the fertilizer price has doubled, making it difficult for them to earn a profit. Although the Department of Agriculture provides free fertilizers and other inputs, these forms of assistance are insufficient to meet the actual needs of their farms, and they still have to buy more fertilizers to ensure good harvests.

Sharing her experience of how rising input prices affect women farmers like her, P3 said, "With the input costs, especially fertilizers, rising so much, we are barely breaking even. The profit from fertilizers, crops, and everything else is now minimal. Earlier, one could expect around 60% of the profit, whereas now it is down to 30%. A sack of fertilizer was earlier priced at PHP600—now it is PHP1,200 or even 1,600. The price has doubled. How can we recover?"

Another challenge that the participants highlighted was the risk of typhoons and natural disasters. Farmers often make significant financial investments in inputs, hoping for good harvests and higher profits, only to face devastating crop losses after strong typhoons. Instead of earning an income, they end up losing capital and face financial setbacks.

**Level of Satisfaction with Agricultural Income**

Some women farmers mentioned that they were happy and satisfied with the income they earn from farming. Married participants shared that their sense of satisfaction is tied to their duties and responsibilities as wives and mothers. As long as they can help their husbands provide for the family and fulfil their children's needs, they are satisfied with their income. This is reflected in the statement of participant P1, who said, "I am happy. It is okay with me because I can help my husband and buy the things that I need. It also matters that at home, if my children ask for something, I can provide it."

For some women farmers, especially those without a husband to support them, satisfaction also comes from being able to buy personal items they want or need, reflecting a sense of independence and self-reliance from their earnings.

### Leadership in the Community

**Women Farmers' Participation in Community Activities**

The interviewed participants shared that they actively participate in their community. Many are either members or leaders of women's organizations and farmers' associations, while some also hold positions as officers in their respective *barangay or village*. In the Philippines, a barangay is the smallest political and administrative unit. They attend meetings, training sessions, and seminars, and participate in public dialogues and consultations. In these gatherings, they share their opinions and make suggestions to help improve the condition of farmers in their community. However, most participants admitted that they are not fully confident in speaking in front of the public because they often feel nervous. Nevertheless, they are willing to do it, especially when they believe their suggestions can help their fellow farmers.

Participant P10 shared that many women farmers in their association are shy and faint-hearted. They are not used to socializing, which limits their willingness to participate actively. She expressed the need to help these women develop the courage to participate more, especially since many of them are younger than she is and are supposed to be more active and willing to learn.

Expert E1, a university researcher from the College of Public Affairs and Development at the UPLB, also observed that some rural women farmers are initially timid. Women often feel shy and anxious when speaking in front of others, but with continuous counseling, coaching, and mentoring, they can develop their communication skills. This process helps them move toward empowerment. It is also important to note that some participants are already confident in leading and speaking in front of others. They feel empowered as they speak in public. They even facilitated meetings and seminars in collaboration with the Department of Agriculture and the Barangay Agrarian Reform Committee, as seen in the case of P3.

The desk review conducted for this study indicates that there are successful women farmers who help empower other women farmers in their respective communities. In the CALABARZON region, specifically in Magallanes and Cavite, Bernadeth Carandang leads the Magallanes-Samahang Magsasaka ng Kay-apas at Medina Agriculture Cooperative. She supports the

empowerment of women farmers through agro-entrepreneurship, helping them improve their livelihoods, particularly by supplying tomatoes to Jollibee and promoting the diversification of agricultural production (Jollibee Group, 2023). This demonstrates that women in agriculture are also capable of leading their community and empowering themselves. Taculao (2021) also highlighted that women play leadership roles in agribusiness and eco-friendly farming practices, such as permaculture.

Expert E2 recalled the training she led in 2010. She shared that during most of those sessions, a large number of participants were women. At first, she questioned whether the training was effective since the majority of those working in the rice fields were men, while it was often their wives who attended. However, after speaking to the male farmers, she learned that they preferred their wives to attend training so that women would understand the rigor and demands of farming. Through these sessions, women not only learned strategies and techniques for farm work but also gained a better understanding of the challenges faced in agriculture.

Such training also encourages women's participation in agriculture, and more importantly, strengthens the understanding between husbands and wives as they jointly manage their farms. Apart from agriculture-related trainings, women's participation in other sessions—covering topics such as human rights, women's empowerment, and violence against women—also helped them get a deeper understanding of more abstract concepts and the value of women's participation in various activities of community development (Macusi et al., 2022).

**BOX 2**

**CASE STUDY: BELINDA.**

Belinda, 45, from Quezon, has been engaged in vegetable farming for 25 years. When she and her husband first started their vegetable farming venture, they faced several challenges, one of the biggest being the need for significant capital. Because they were not members of any farmers' association, they were ineligible for government farming subsidies, such as seeds, fertilizers, and tools. In the Philippines, eligibility for these subsidies is restricted to those registered with a recognized farmers' association. To address this, Belinda joined a farmers' association and eventually became its president.

She observed that many women farmers in the community are initially reluctant and shy about speaking in public. "Just like me, when I first went to the barangay, I had no confidence to speak in front of a crowd and felt embarrassed to face them. Then one day, I was asked to speak, and I realized I could actually do this. The most important thing is knowing that someone is listening. Once that happens, the discussion becomes livelier."

Through her involvement, Belinda developed her public speaking skills. The association helped her and other members access government support and gain confidence as women. Their association runs several projects that help women increase farming productivity. It has also earned recognition in its municipality, province, and region.

### Women Farmers in Different Stages of the Agriculture Value Chain

Women farmers play active roles across the agricultural value chain—from land preparation to the final consumption of their products. Participants described how they prepare the land and perform daily farm activities, such as cleaning the fields and preparing seeds for planting. They shared that

they usually start their day early so that they can avoid excessive sun exposure and return home early to complete other tasks. Participant P5 shared how she prepares for planting: "First, I figure out how we can prepare our seeds for planting in the rice fields. We soak the seeds in water overnight. Then, we take them out and allow the roots to sprout. Once the roots have sprouted—usually after about two days—we prepare them for planting in the field."

The participants also shared that they constantly think of new ways to make their products more marketable. Many process their products, especially those in fruit and vegetable farming, to make them more appealing and consumable. For example, farmers add value to their fruit by processing bananas into banana chips and pineapples into pineapple milkshakes. These healthy products are popular among Filipinos. Those involved in coffee and cacao production roast their coffee beans and make tablea to sell in the market. They also handle packaging, labeling, and marketing or selling of the products. These processed products enable them to generate additional income for their farm and family, while also allowing for personal consumption.

A study conducted by Maligalig et al. (2019) highlighted that women engaged in off-farm employment and activities, such as vegetable or meat and fish vending, or managing a small store for selling produce, were found to be slightly more empowered, even if they had less experience in on-farm work. This allowed them to bring new perspectives into household decision-making and allowed them to influence their husband on what to do.

Expert E2 mentioned that in previous decades, men were the target participants of PhilRice-sponsored trainings. This, however, has changed with more training being designed for women, given their crucial role in agriculture, particularly in marketing their products. In one of her studies conducted in Sariaya, Quezon, E2 found that women are already taking center stage nowadays. They are no longer as submissive as they were before, as they now have visible participation in the decision-making process.

This observation was echoed by expert E1, who stated that in the past, women only served as an additional workforce. She also pointed out that by attending training programs, women have learned and developed an interest in farming, particularly in backyard gardening. Moreover, they are now taking the lead, especially in food production. E1 added that women farmers who own greenhouses prepare the ground, water the plants, and tend to them. Their presence is also becoming noticeable in postharvest activities and marketing.

In Region IV-A, women are actively involved in various agricultural processes, while also continually devising strategies to enhance their income. The desk review reveals that women in Balayan and Calaca, Batangas, actively participate in sugarcane farming through the block farming system (Eleazar et al., 2024). In Tayabas, Quezon, women cultivate rice, vegetables, and root crops (Ateneo de Manila University, 2024). Meanwhile, in Los Banos, Laguna, women engage in organic vegetable farming, transforming from being homemakers into productive farmers (Aya, 2017). In Calauan, Laguna, women process coconut husks into coco-coir products, creating a sustainable source of income (LB Times, 2012).

### Time Use for Agriculture

**Time Management is Crucial for Women Farmers**

Women farmers regularly work on their household, agricultural, business, and community activities. Despite fulfilling their traditional gender roles and agricultural tasks, such as regularly visiting the

farm to inspect the crops, watering them, and removing weeds, they still manage to attend their associations' meetings and participate in various community activities, including tree planting and clean-up drives. Some even manage their own business in addition to farming. According to the participants, they have mastered these responsibilities through effective time management. If there are too many tasks to accomplish, they wake up as early as 3:00 a.m. to ensure everything is completed for the day.

The findings of a study on women farmers by expert E3 also indicate that rural women farmers wake up very early in the morning to complete all their daily activities. The moment they wake up, they already have all their tasks in mind, and they know how to accomplish them. Women are very good at multitasking and can manage performing their traditional roles while also completing their agricultural duties. Expert E1 also shared that, based on her observations in the rural community, women farmers' time is divided between household chores and farm activities. Because they aim to increase their family's income, they also work on the farm. Beyond household and farm duties, rural women also participate in community activities, become members of religious, social, and civic organizations, and some even hold positions in their *barangays*.

Being able to manage their time well and multitask is one of the admirable traits of women farmers. This, however, adds to the invisibility of their productive work, as it is carried out alongside their reproductive roles, which are often highlighted, as they are considered women's primary role in society.

**Balancing Multiple Duties Beyond the Farm**

As mentioned earlier, women farmers perform several tasks in agriculture. However, aside from their roles and participation in the farm, they also have responsibilities at home. For example, participant P5 shared that she usually spends her mornings on the farm and goes home before lunchtime, when the heat becomes extreme, to clean the house and do the laundry. She said that she spends more time on household duties than on farm activities.

The interviewed women farmers reported that after working on the farm, they return home to continue their daily activities as mothers. They are expected to fulfill traditional gender roles, such as doing the laundry, washing the dishes, cleaning the house, cooking food for the family, and preparing for children's school needs. Even women without children and husbands cannot escape traditional women's roles, as they are still expected to manage the household and keep it clean.

Some participants also highlighted that, in addition to agricultural and domestic duties, they have other community and business responsibilities. These layers of overlapping roles are not always easy to manage, but they continue to shoulder them because no one is going to do it for them. Many hire laborers to help with agricultural production, but they rarely hire house helpers, choosing to handle household chores themselves or sometimes with the help of other family members. These activities are even more pronounced among women farmers without spouses.

It is interesting to note that none of the participants view these responsibilities as a burden. Some of them admitted that it is challenging to perform different roles, but they also believe that these are their responsibilities that need to be fulfilled. According to them, managing one's time well makes it possible to accomplish all these tasks.

**BOX 3**

**CASE STUDY: MALIA.**

Malia, 46, from Laguna, lives with her husband and their two children. She and her husband grow root crops for income. For Malia, being a farmer and a mother is no longer a big challenge because she has learned to manage her time well. However, she shared that balancing responsibilities was much harder when her children were still young. At that time, she had to take care of the children, do household chores, and also work on the farm. When her children grew up, these responsibilities became more manageable, allowing her to focus more on farm activities.

She continues to handle household work and wakes up early to prepare food for her children, as her youngest son still attends school, while the eldest goes to work. Malia stated: "Now that my children are grown up—my youngest is 21 and my eldest is 24—things are much easier. My eldest has already finished school, and only one of them is still studying. I do not have to take care of them as much. However, whenever they have classes or something important, I am still the one who wakes them up in the morning. I am practically the alarm clock of the house."

Regarding farm activities, she and her husband alternate tasks to save time and manage other responsibilities. This allows her to balance farm work with managing household duties efficiently.

**Women Farmers Seek Simple Leisure Activities**

The interviewed women farmers shared that their idea of leisure is simple and aims at relieving stress. They do not want fancy or luxurious things; rather, time to sleep, watch television, or use their mobile phones to access social media is enough for them. According to expert E1, this is also common across rural farming communities. Nowadays, women farmers use cellphones not only to market their produce on social media but also to relax by watching TikTok videos and reels. Such activities help them manage the stress of juggling multiple roles.

When they have extra time and money, they want to visit the mall to buy clothes and other necessities or travel to places and explore the beauty of their own country. Explaining what leisure means to her, participant P7 said, "Going out. For example, buying a T-shirt." Similarly, participant P5 shared, "When there is really time to spare, we go out and relax."

Most participants also emphasized that they prefer to spend their leisure time with their families. They value simple "bonding time" with loved ones, reflecting the strong family-oriented culture in Filipino communities.

### Barriers and Challenges for Women in Agriculture

The desk review and interviews conducted for this study revealed that women in agriculture in the Philippines face systemic barriers, such as low wages, limited access to resources, and unpaid reproductive responsibilities (Castro-Bernardo & Cruz, 2024). Other significant barriers to women's participation in agriculture include cultural perceptions that farming is a male-dominated field, patriarchal norms that limit their leadership and decision-making roles, restricted access to modern farming technologies and government support, and amplified difficulties due to the COVID-19 pandemic, underscoring the need for gender-sensitive agricultural policies and interventions (Eleazar et al., 2024). These data from the existing literature in the country are consistent with the five themes that emerged in this study.

**Inadequate Irrigation and Transportation Systems**

A common problem encountered by women farmers in the Philippines is the lack of adequate irrigation and transportation systems. This issue is particularly evident among the rice farmers in Laguna and the vegetable farmers in Quezon. When typhoons or floods occur, existing irrigation systems are often washed away, making it challenging to maintain a reliable water supply for their farms. Farmers typically create a temporary solution by rebuilding the damaged system, but this often leads to a recurring cycle. Each time another natural calamity strikes, the system is ruined again and must be rebuilt. Due to insufficient resources, these farmers often settle for short-term fixes, while long-term solutions require stronger government support.

Logistics and transportation are another major concern for women farmers in rural areas. Many communities lack proper infrastructure or have only basic farm-to-market roads, making it difficult to transport produce. It is a considerable challenge, especially for women farmers, as they need to devise a solution to prevent their produce from spoiling and to ensure that it reaches the market for sale. Additionally, many of them lack a proper storage facility. Women farmers also need to hire vehicles and personnel to assist them in transporting their produce, which increases their expenses and decreases their net income, rather than improving their profits.

While inadequate irrigation and transportation systems are concerns shared by all farmers, they disproportionately affect women. These challenges directly impact farm income, and as this study shows, women often assume the role of financial managers. When earnings decline, the pressure on women farmers increases, as they are responsible for stretching limited budgets to meet household and farm needs. In many cases, women farmers must seek additional sources of capital to support their partners and sustain agricultural production, placing an added financial and emotional burden on them.

**Gender Stereotypes and Discrimination**

In the Philippines, women are traditionally viewed as household managers, with their roles and responsibilities closely tied to their 'woman-ness'. Domestic duties are seen as their primary sphere, while the farm is culturally regarded as a man's world. Often, when people think of a farmer, they think of a man tilling the land, without recognizing the significant roles women play in agriculture. Although women perform a wide range of agricultural tasks, they are often invisible due to the cultural belief that farming is traditionally considered a male domain. As explained by expert E3 during the interview, women are typically viewed as helpers, rather than farmers. They only help their husbands because they are the farmers' wives. This stereotype was echoed by participant P8, who said, "They say that women should not participate in certain activities. Women shall be left at home, and only men should go and attend to those activities."

The participants also shared that in their community, the stereotype that women are weak persists. They lack the physical strength required in the field; they are less capable; therefore, they must stay at home where they have too many responsibilities to fulfill, such as cooking and packing their husband's food to be brought to the farm, cleaning the house, and attending to the needs of their children.

Another interesting finding of this study is that menstruation can also affect women's participation in agriculture. It is scientifically proven that when women are menstruating, it is normal for them to experience pain and discomfort, which can affect their physical and mental capacity to work. However, for rural women farmers in this study, the challenge extends beyond physical discomfort. Some participants shared that they are discouraged from going to the farm during their menstruation

due to cultural beliefs. In particular, their husbands or fellow farmers caution them that visiting the farm during this period could negatively affect their crops, for instance, causing them to turn yellow. In this regard, this natural experience, which is part of women's monthly cycle, limits women's participation in the farm.

**Lack of Resources**

A key economic barrier faced by women in agriculture is limited access to essential resources, including capital and land. Even when women possess the knowledge and are capable of engaging in agricultural production, their ability to participate fully is often constrained by a lack of capital and access to land. One reason their situation continues to worsen is the increase in the price of inputs in the country. Without reliable access to affordable resources, their agricultural output—and, consequently, their income and overall economic stability—is significantly affected.

As highlighted earlier, many of the interviewed women farmers do not own the land they cultivate. Instead, their farms are either rented or borrowed. According to expert E1, men typically benefit from agrarian land reform in the country, especially in terms of land distribution, because they are viewed as the primary tillers of the land. At the same time, only a few women become beneficiaries. This suggests that men continue to be given priority in terms of land access. This affects the productivity and income of women farmers. Aside from expenses for farm inputs, they also need money to pay the rent, leaving them with little or no profit. The situation becomes more challenging when they are hit with natural calamities and pest infestation. To keep their farms running, many women farmers are forced to take loans from banks, microfinance, and cooperatives. This adds to their financial burden.

This struggle is also evident among members of the Samahan ng mga Kababaihan at Magsasaka ng Tayabas. Desk review findings reveal that members of this organization also face challenges such as a lack of land ownership, economic hardships, and gender-based discrimination (Ateneo de Manila University, 2024).

**Gender Wage Gap**

Despite initiatives that promote gender equality in the country, it is evident that a gender wage gap exists in agriculture. The desk review revealed that, despite the relatively high educational attainment of women in the Philippines, many women remain in low-paying or seasonal jobs, often influenced by traditional gender roles within nuclear households (Castro-Bernardo & Cruz, 2024). Despite women's participation at different levels of the value chain, gender wage gaps persist due to the nature of their involvement in the value chain and the division of labor, which are shaped by gender stereotypes (Malapit et al., 2020).

In rice farming, for example, certain tasks are traditionally assigned to men due to the heavy physical demands of the work. It is also believed that male farmers are better at executing tasks such as plowing because they are faster and more efficient. Women, on the other hand, are typically assigned lighter tasks such as planting, as these are seen as less physically demanding. As a result, many women farmers receive lower pay compared to their male counterparts. As noted by participant P1, "Women are treated differently. I was told that men are stronger than women. Hence, for example, if men earn PHP600, women are paid only PHP400. It is believed that men work faster and can handle heavier tasks, like cutting and trimming."

However, it is also noteworthy that there are women farmers, especially those who own the land, who are capable of hiring labor and giving fair wages to their laborers regardless of gender.

According to them, they pay the same rate to their laborers, as it is not based on the type of task assigned to them, but rather on the quality of their work and the time they spend on the farm.

**Natural Calamities and Pest Infestation**

The Philippines, located along the typhoon belt in the Pacific, experiences an average of 20 typhoons each year. Its position within the Pacific Ring of Fire also makes the country highly prone to earthquakes and volcanic eruptions. The country's geographical location also contributes to its high susceptibility to other natural disasters, including floods, droughts, and storm surges (ADRC, 2019). During the last five years, the impacts of climate change have become increasingly pronounced, further intensifying the frequency and severity of these events. Desk review indicates that natural calamities have had a substantial impact on the productivity of women farmers in Quezon. Smallholder women farmers have been found to have low adaptive capacities, putting them at frequent risk of significant impacts from climate change, including crop yield decline and water shortages (Bayot et al., 2021).

In the context of the study, the selected participants consistently expressed anxiety about the occurrence of typhoons or floods in their areas, knowing that these disasters would inevitably destroy their crops, resulting in the loss of their livelihood. Such losses place women farmers at a particular disadvantage. When their farms are devastated by disasters and their financial resources are depleted, husbands may struggle to support their families fully. Consequently, women are often compelled to seek alternative income sources outside agriculture, such as working as domestic help, doing laundry, or offering manicure services. They often have no choice but to take on jobs that offer minimal pay to meet their families' essential needs.

Another natural hazard that impacts the productivity of women farmers is pest and diseases infestation. When these attacks occur, the outcome is often the same: yields are destroyed, income is lost, and farm operations are disrupted. These challenges not only impact women's participation in agriculture but also their domestic responsibilities. During typhoons and floods, women are often the most affected, as they struggle to secure food, electricity, and water for their families. One of their primary roles as a woman and as a mother is to ensure the safety, comfort, and supply of proper nutrition for their family. This concern was emphasized by expert E4, who explained that heavy rains and floods can cause crops to rot and drown, while rats can also destroy them. Such situations force women farmers to consider potential means of recovering their capital or locating resources for the next planting season. A similar sentiment was shared by participant P7, who said, "When pests destroy rice crops or when rice bugs and snails attack it, one has to plant anew and reinvest."

## Policy Implications and Recommendations

Based on the analysis of the experiences of selected women farmers in Region IV-A, Philippines, this study offers several recommendations to address systemic barriers women farmers face and to strengthen their roles in agriculture by empowering them.

The recommendations are organized into three key areas.

1. For the government
2. For the farming community
3. For women farmers

**Recommendations to the Government**

The experiences of the participants reflect the need for greater financial support and input subsidies. Many women farmers need additional capital for their farms and small businesses. While loan services are available in their community, they are not considered a good option due to the high interest rates that add to their financial worries. The existing programs of the Department of Agriculture are recognized and commended by the participants. However, they request more substantial cash assistance. This support should not be limited to the purchase of seeds and fertilizers, which are often already provided by the municipal agriculture offices—it should also include other farm necessities such as pesticides, tools, and post-harvest facilities. Increased cash assistance would help reduce the financial burden of daily expenses at home and support agricultural operations more effectively.

Participants further suggested that the current assistance provided by the respective agriculture office to the farmers should be based on the specific commodities produced in the area. Fertilizers, seedlings, and mechanized equipment should be distributed according to the farmers' actual production needs, as assessed by the agriculture office. A needs-based approach in providing production assistance will allow women farmers to allocate their capital to other essential farm expenses, such as labor. To implement these recommendations, it is necessary to increase the government budget for financial and production assistance programs that target farmers, particularly women.

The data presented in this study also call for the government's support to women farmers in terms of land acquisition. Many Filipino women farmers do not own land. This is evident in the responses provided by the selected participants and in the data collected through the desk review. It would be beneficial for the government to assist women in gaining better access to land ownership by implementing agrarian reforms that promote equality between women and men.

Price regulation can also aid farmers in the Philippines. This can be done in various ways, including government interventions. The government can assist farmers by implementing price floors in cases of market oversupply. This will help farmers minimize the losses they incur in the already expensive operation of an agricultural enterprise. Another means for the government to manage prices is through the minimization of trade barriers for farmers. This can benefit both producers and consumers, as it enables the government to regulate prices in a manner that supports the interests of both stakeholders. Fewer trade barriers mean producers can sell their produce at a more competitive price, and consumers can purchase these goods at a lower cost.

Infrastructure projects for the agricultural sector, such as improved irrigation systems, farm-to-market roads, and other similar initiatives, should be implemented. These infrastructure projects can help farmers overcome various challenges they already face in their line of work. One of the profound impacts would be the minimization of costs. Improved irrigation systems can help them reduce the need for water pumps, which in turn impacts operating costs. Farm-to-market roads can also help them become less reliant on middlemen who would eat up their potential profits, allowing them to seek higher-paying clients or at least more reasonable prices for their goods. Not only will these interventions directly aid the farmers, but they will trickle down to the consumer.

Training, seminars, and workshops on gender sensitivity and gendered value chain analysis must be provided to women farmers. Additionally, seminars on leadership, entrepreneurship, financial literacy, and self-development can also be beneficial. These programs can be conducted not only by national and local governments but also through the assistance of private organizations and NGOs.

As indicated by the participants, some municipalities organize Gender-Sensitivity Trainings for women farmers. However, there is a need to include all women farmers, and not just representatives or officers of their organizations. Also, it is not enough for them to attend these training sessions. The training should be structured in a way that enables participants to fully understand its essence and how it can help them become more productive farmers. Such training sessions would also provide other members with a deeper understanding of their overall roles in the agricultural sector, regardless of the commodity they work with.

In gendered value chain analysis, women farmers should be given equal access because it has a crucial impact on their income. Women farmers need to develop skills in processing their goods and turning them into more marketable products. Additionally, they must develop more effective strategies for packaging and selling their products. The Gendered Value Chain Analysis Workshops empower women in Sta. Cruz, Calauan, and nearby communities have empowered women with leadership, production, and marketing skills (DOST-PCAARRD, n.d.). Such initiatives should be strengthened and adopted in other municipalities and rural communities. Training or workshops on how to conduct gendered value chains would be a practical way to assess existing value chains and identify areas where women's participation and earnings can be improved.

Gender-sensitive farms and technologies must also be considered to support women farmers. Many of the existing farm equipment, machinery, and technologies are characterized by their bulky and large frames. These characteristics can be overwhelming for women, especially when they are the ones who are more actively engaged in the laborious aspects of production. Not only does this pose accessibility concerns for them, but this may also imply hazards for their workplace, as using existing technologies may not perfectly match their physical characteristics.

Gender-sensitive technologies, such as multi-crop thresher machines designed for women, acknowledge the capacity of women to match that of men and, at the very least, provide more options for women to become less reliant on men in their field of work. This allows them to become productive without depending on their counterparts. Such technologies can also provide an opportunity for women to manage their time more effectively, as currently time-consuming activities can now be performed more efficiently.

It is also important that the government strengthen its partnership with private organizations and NGOs. Public-private partnerships can expand access to high-quality training programs, drawing on success stories and best practices from outside the country. Such partnerships may also enable the delivery of more effective cash assistance by pooling resources and expertise to provide the necessary support services. As mentioned by Bayot et al. (2021) and Vergara (2024), support mechanisms from government agencies, NGOs, and private organizations have been instrumental in empowering women farmers. These include access to agricultural training, modern technologies, and financial loans, which enhance productivity and elevate their roles in decision-making processes.

**Recommendations to the Farming Community**

Women in agriculture should be supported in developing peer coaching strategies and enhancing moral support systems within farmers' associations. Knowledge and skills gained by one successful woman farmer can help others thrive by serving as a model and source of motivation. Such shared learning can promote encouragement for all women in the agricultural sector. Cooperation, unity, and solidarity among women farmers must be facilitated and developed, and this would be possible

with the help of successful women farmers in their respective communities. These initiatives can be implemented at the smallest community unit, such as the respective farmers' associations.

**Recommendations to the Women Farmers**

Women in agriculture should prioritize self-improvement and personal well-being. Building confidence begins with recognizing one's own capability. They should attend and invest time in training and seminars on topics such as livelihood, leadership, entrepreneurship, financial literacy, the use of agricultural machinery, and self-development. Some women feel that such training programs are more appropriate for men. However, they must understand that acquiring knowledge and developing their interest and skills will make them as capable as their male counterparts. By bringing a fresh perspective to managing their agricultural enterprises, women may also drive their agri-business to new levels of success, especially by partnering with their counterparts. This implies that male and female farmers should not compete with each other but collaborate. Participation in training and capacity-building initiatives will enhance and empower women farmers, enabling them to become equal partners in farming and contribute meaningfully to community development.

## Conclusion

This study presents an extensive qualitative analysis of the experiences of women farmers in Region IV-A (CALABARZON), one of the key agricultural regions on Luzon Island, Philippines. The themes generated in the study revealed improvements in the state of women farmers, particularly in terms of their increased active participation and decision-making in agricultural production. It also revealed the deep-seated problems of the country's agriculture sector, including its low productive capacity, limited farm mechanization, and inadequate infrastructure.

Given the multiple roles played by women farmers in the Philippines, the study highlighted the typical characteristics of these farmers, who possess extraordinary abilities in time and money management, while supporting their husbands in managing their farms. Although women farmers demonstrate empowerment through their control of income and active decision-making in agricultural production, women's empowerment in agriculture remains a multifaceted process, as women still need to gain better access to financial and technological resources and make conscious efforts to recognize gender-based struggles.

At the individual level, empowerment was most evident in women farmers who had active decision-making roles in the household and on the farm, due to the importance of family collaboration in operating their farms. However, from a broader perspective, economic and social barriers continue to impede the empowerment of these women, as the findings showed the long-standing issues of gender stereotypes and discrimination, lack of capital for productive resources, unpaid labor, health-related risks, and inadequate infrastructures in agriculture. Aside from the fact that the country's geographical location makes it prone to typhoons and disasters, women farmers are also vulnerable to the negative impacts of climate change, especially frequent typhoons, floods, and droughts, on their agricultural livelihoods.

Women's empowerment can also be analyzed using Longwe's Women Empowerment Framework (Longwe, 1995). The framework has five levels: welfare, access, conscientization, participation, and control. At higher levels, the study has shown that women farmers lack conscientization or critical consciousness regarding the gender-based struggles they face, as evidenced by the

normalization of assuming multiple roles, including those of mother, wife, and farmer, with others also taking on the role of community leaders. The farmers were relatively empowered in terms of participation, as they occupy leadership positions and can openly express their opinions on public consultations when given a platform.

The control over resources was also evident in the study, as the women farmers emphasized the importance of partnership in decision-making for managing their resources in both farms and households. However, in terms of lower levels of empowerment, such as welfare and access, women farmers highlighted issues related to land ownership, lack of capital, and means of purchasing inputs. In this case, the economic empowerment of women farmers remains insufficient and requires further attention.

The study calls for the implementation of gender-responsive policies to create an enabling environment that enables women farmers to achieve greater financial independence in managing their farms. It recommends that the Government of the Philippines prioritize farmers by investing in agricultural mechanization, regulating prices of agricultural commodities, and improving basic infrastructure, such as farm-to-market roads and market access. These measures will not only contribute to the economic empowerment of the women farmers but also boost the local and national economy. Achieving women's empowerment in agriculture requires extensive efforts from the government. However, it also depends on the active participation of farming communities and the women themselves. Their willingness to share moral and technical support to their community, coupled with their personal commitment to self-improvement, is essential in driving inclusive and sustainable agricultural development.

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CHAPTER 7

# SRI LANKA

## Background

Agriculture has long been the foundation of Sri Lanka's economy, culture, and rural life. It has played a pivotal role in maintaining food security, generating employment, and enhancing domestic exports. Although its relative importance has declined over the years, agriculture remains a crucial element in sustaining the country's economy, society, and environment.

Women play a crucial role in Sri Lanka's agriculture, contributing significantly across various subsectors. Despite a decline in overall agricultural employment, women's participation remains substantial. In 2019, women comprised approximately 27.6% of the farm labor force, compared with 23.6% for men. Their involvement spans multiple areas, including paddy cultivation, where they often undertake time-consuming and labor–intensive tasks (Weerakoon & Motebennur, 2017). Women's participation in the agricultural labor force is notable in certain regions in the country, particularly in districts with a strong agricultural base.

Studies show that the districts of Badulla, Monaragala, Rathnapura, and Mathale have higher female employment in agriculture. Additionally, the estate sector, which includes large-scale tea and rubber plantations, also employs a substantial number of women. In these estates, women often make up the majority of the workforce, engaging in tasks such as plucking and processing (Solotaroff et al., 2006). Women are also actively involved in fisheries, mainly in small-scale retail marketing and value-added activities, such as fish processing. However, they often hold subordinate positions within fisheries organizations, limiting their decision-making power. Country-specific background information is presented in Table 1.

**TABLE 1**

**SRI LANKA AT A GLANCE.**

| | |
|---|---|
| Total land area | 65,610 sq. km |
| Agricultural land | 28,212.3 sq.km |
| Population | 22, 032 million |
| Percentage of the women population/Gender composition of the population | 51.61% |
| Labor force participation rate | 48.6% |
| Women's participation in the labor force | 31.3% |
| Composition of farmers and fish folks/Agriculture from the labor force | 26.1% |
| The percentage of women involved in agriculture | 22.1% |
| GDP per capita | USD3,827.96 (2023) |
| GDP | USD84.36 Billion |
| Contribution of agriculture to GDP | 7.9% |

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| | | |
|---|---|---|
| Major crops with high production volume | Paddy | 4,513,431 (MT) |
| | Tea | 256,040 (MT) |
| | Rubber | 64,444 (MT) |
| | Coconut | 3,170 (MT) |
| | Cinnamon | 22,410 (MT) |
| | Coffee | 4,750 (MT) |
| | Pepper | 45,166 (MT) |
| Literacy rate | 93.3% | |
| Gender gap ranking out of 146 countries (Global Gender Gap Report 2024) | 122 | |

**Note:** MT, million tonnes.
**Source:** Department of Census and Statistics (2024); WEF; and Central Bank of Sri Lanka (2024).

Many women engaged in agriculture have limited formal education, often completing only primary or secondary schooling. This education gap can restrict their access to advanced agricultural techniques and resources (Rathnachandra & Malkanthi, 2021). Further, women in rural agrarian communities often balance multiple responsibilities, including agricultural work, household management, and caregiving. This multifaceted role underscores their importance in both the domestic and economic spheres (Kumara & Weerakkody, 2011). In many cases, women serve as primary or significant contributors to household income through their involvement in agriculture. For instance, in the dairy sector, women are often the primary caretakers of livestock, directly influencing their family's livelihood.

Despite their contributions, women frequently face challenges such as limited access to resources, constraints on decision-making within the family, and societal norms that may undervalue their work. Addressing these issues is crucial for empowering women in agriculture and enhancing their socioeconomic status (Rathnayaka, 2019).

Within this context, the present study was conducted to further assess and deepen the understanding of women's participation, contributions, and challenges in the agricultural sector in Sri Lanka, informing policies and interventions that promote gender equity, improve their well-being, and ensure sustainable agriculture.

## Methodology

Under the broader qualitative research methodology, this study uses a multi-faceted data collection strategy that combines desk reviews and interviews to measure the role and extent of women's engagement in the agriculture sector in five domains, such as decisions about agriculture production, access to resources and control over productive resources, control over use of income, leadership in the community, and time use.

### Desk Review

The desk review involved gathering and analyzing existing secondary data, literature, and reports to establish a foundational understanding of women's empowerment in Sri Lanka's agriculture

sector. Information was obtained from a wide range of sources, including academic articles, government publications, NGO reports, statistical reports from government organizations and non-government agencies, international bodies, policy documents, government websites, academic journals, digital research platforms, independent studies, and publications by international organizations. These materials examined women's roles in agriculture, empowerment metrics, and gender equity in the sector.

Key sources included the Food and Agriculture Organization (FAO), UN Women, the World Bank, the Ministry of Agriculture of Sri Lanka, the Department of Census and Statistics, and local NGOs. The data were thematically analyzed to derive the findings.

**Interviews**

Semi-structured, one-on-one interviews were conducted with five experts involved in women's empowerment in agriculture and ten women farmers. Details of the participants are provided in Tables 2 and 3. A semi-structured interview guide was used, including open-ended questions on women's roles in agriculture, access to resources such as land, credit, and training, decision-making processes, social and cultural barriers to empowerment, and personal experiences and success stories.

At the outset of the study, informed and voluntary consent was obtained from each interviewee, with assurance of confidentiality, anonymity, and privacy. Data was collected through in-person, phone, and virtual interviews.

**TABLE 2**

**BACKGROUND OF INTERVIEWED EXPERTS.**

| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement/ Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E1 | Female | Diriya Kantha Women Organization | President | Leading the planning of events, representing women's interests within the community, and providing guidance and support to members | 16 |
| E2 | Male | Department of Agriculture, Inter-province, Ampara | Deputy Director of Agriculture | Implement programs with a focus on gender inclusivity ||| Promoting initiatives aimed at improving the skills and productivity of women farmers | 3 |
| E3 | Female | Department of Agriculture, Inter-province, Anuradhapura | Assistant Director of Agriculture | Organize and supervise training programs and workshops on farming practices, value additions, and marketing tailored for women farmers | 13 |

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| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement/ Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E4 | Female | Department of Agriculture, Inter-province, Ampara | Subject matter officer of women's agriculture extension | Organize workshops and awareness programs tailored to the needs of women farmers | 16 |
| E5 | Female | Department of Agriculture, Inter-province, Anuradhapura | Subject matter officer of women's agriculture extension | Guide women farmers in adopting eco-friendly agriculture \|\|\| Promote nutrient-sensitive agriculture and home-based income-generating agriculture | 4 |

**Note:** E1, Expert 1; E2, Expert 2; ... E5, Expert 5.

Interviews with women farmers were conducted to explore and understand the multifaceted experiences of women in agriculture, with a focus on their empowerment and the factors that influence it. The participants' narratives and stories provided insights into complex social dynamics and offered a detailed understanding of women's empowerment.

The Ampara and Anuradhapura districts were selected as research sites to represent diverse ethnic and religious groups, urban and rural settings, and age differences. Both districts have a significant female labor force in agriculture, particularly in subsistence farming, where women are involved in tasks such as weeding, transplanting, harvesting, and home gardening. Women often contribute to both production and household food security, making them ideal for studying empowerment in agriculture.

**TABLE 3**

**BACKGROUND OF PARTICIPATING WOMEN FARMERS.**

| Interviewees | Age | Highest Educational Attainment | Marital Status | No. of Children | Main Commodity Planted | Other Relevant Information |
|---|---|---|---|---|---|---|
| P1 | 22 | Grade 10 | Unmarried | - | Tomatoes, brinjal, salad cucumber | Lived in an urban area |
| P2 | 63 | Grade 9 | Married | 5 | Maize, Soya, Cowpea | Active member of the women's organization |
| P3 | 42 | Grade 10 | Married | 3 | Paddy | Cultivation is a part-time activity for her. She primarily runs a food stall business |
| P4 | 19 | Grade 10 | Married | 1 | Mushroom Home-gardening | She learnt mushroom farming from her mother |

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| Interviewees | Age | Highest Educational Attainment | Marital Status | No. of Children | Main Commodity Planted | Other Relevant Information |
|---|---|---|---|---|---|---|
| P5 | 48 | Grade 10 | Separated | 2 | Paddy, Mung bean | Lives in a very rural area and works as a laborer on others' agricultural land. |
| P6 | 52 | Grade 6 | Married | 2 | Paddy, Banana | Family labor is used |
| P7 | 36 | Grade 10 | Married | 2 | Banana, Paddy | Well recognized in the community |
| P8 | 44 | Grade 10 | Divorced | 3 | Paddy, home-gardening | Finds protecting crops from wild animals a challenge |
| P9 | 62 | Grade 12 | Married | 4 | Paddy, Soya home gardening | Widowed 10 years ago |
| P10 | 23 | Grade 10 | Married | 2 | Mushroom, home-gardening, floriculture | |

**Note:** P1, Respondent 1; P2, Respondent 2; ... P10, Respondent 10.

Interviews were recorded, with the participant's consent, using audio devices and subsequently transcribed. Detailed field notes were also taken to capture contextual information and dynamics. Data from the interviews, desk review, and field notes were analyzed using a thematic approach. First, the interview transcripts were coded to identify significant segments related to women's engagement and empowerment. These codes were then grouped into broader categories, which were further refined into themes that captured the roles, involvement, experiences, and challenges faced by women in the agricultural sector.

## Findings

### Roles and Involvement of Women in Agriculture

Women play a vital role in Sri Lanka's agricultural sector, contributing significantly to crop cultivation. They participate in a range of agricultural production activities, including planting, weeding, harvesting, food processing, and value addition. Despite their substantial involvement, women's contributions are often underrecognized in decision-making opportunities. Empowering women in Sri Lanka's agricultural sector can improve their social and economic status.

#### Decision about Agriculture Production

Decision-making in agricultural production typically involves selecting which crops to grow, determining the technology to use, managing land effectively, and allocating resources efficiently. These decisions may vary depending on the country's or region's cultural, social, and economic context. According to the document review, in many of the country's agricultural communities, men continue to be the primary decision–makers on resource allocation, crop selection, and farming practices. This is primarily due to the traditional patriarchal structure and higher rates of land ownership among men (De Silva, 2015).

A study of the major irrigation scheme in the Vavuniya district found that key decisions on paddy production were predominantly made by males across the Sinhala, Muslim, and Tamil communities — the three main ethnic groups in the country. Respondent P7 from Anuradhapura district noted: "In our family, my husband usually decides what crop to plant and when to start the season. Usually, I spend a lot of time working in my paddy field, especially on tasks like planting, weeding, and harvesting, but I am not involved in the decision-making process. Sometimes I give suggestions on which variety grows better, and he listens. However, he talks to the extension officer and makes the final decision."

This illustrates how decisions about agricultural production in Sri Lanka are often influenced by gender.

### Access and Control over Productive Resources

Labor, land, water, crop, livestock, machinery, and credit are key resources that collectively sustain agriculture.

Access to land is a foundational component of women's empowerment in Sri Lanka, influencing economic independence, social mobility, and political participation. However, gender disparities in land ownership persist due to legal, cultural, and institutional barriers. Although Sri Lanka's general law provides equal rights to own and inherit land, in practice, customary laws, such as the *Kandyan* Law, *Tesawalamai* Law, and Muslim Law, often limit women's rights to own land. For example, under *Kandyan* Law, while daughters can inherit ancestral property, sons are typically favored in the division of agricultural land (Goonesekere, 2004). Similarly, the *Tesawalamai* Law allows women to own land but imposes restrictions on its disposal without the husband's consent (USAID, 2010).

A subject matter officer in the Anuradhapura district observed, "In our district, most women work in the fields, but very few have land ownership. Sometimes, even when the land is from their family, the brothers get it. Women are expected to marry and leave, so the land remains in the hands of the men. If they had land in their names, they would be more secure and independent. They could also seek assistance from the government or do something on their own."

This lack of ownership affects women's access to credit, agricultural inputs, and government support services. Participant P3 illustrated this challenge, stating: "I have been working on this land for more than 22 years, planting paddy and vegetables. Even though I do all the work, I cannot make major decisions or get loans from the bank, since the land is in the name of my husband."

It is evident that the lack of land ownership among women farmers in Sri Lanka influences their bargaining power, decision-making capacity, and resilience against poverty and domestic violence. Without secure land rights, women are also less likely to invest in improving land productivity and cannot use land as collateral for loans.

Women farmers in Sri Lanka frequently manage livestock, contributing to dairy production and other animal husbandry activities that are vital for household nutrition and income. According to the Sri Lanka Department of Animal Production and Health, women are responsible for a substantial share of dairy production in rural areas (Department of Animal Production and Health, 2016). An expert from the agriculture department emphasized that women involved in livestock management often gain financial independence through the sale of milk, eggs, and meat. This income can improve their household's economic status and give them greater decision-making power within the family.

Further, training programs focused on livestock care, health management, and business skills empower women by equipping them with the knowledge needed to manage livestock effectively. This not only increases productivity but also builds confidence among women in rural communities. Livestock management also contributes to household nutrition by providing essential sources of protein. As women are typically responsible for feeding their families, access to livestock allows them to improve the nutritional quality of their meals. Women often form cooperatives to collectively manage livestock, fostering collaboration within their communities. These groups share resources, knowledge, and market access, strengthening the social fabric and enhancing their collective bargaining power.

Despite these positive impacts, women continue to face challenges in livestock management, including limited access to land, credit, and veterinary services. Addressing these barriers is crucial for maximizing the benefits of livestock management for women. Respondents of this study noted that as women's roles in livestock management expand, there is a measurable impact on the Women's Empowerment Index in Sri Lanka. It leads to improvement in several indicators, including their economic participation, decision-making power, and access to resources. This reflects the broader benefits of integrating livestock management into women's empowerment strategies.

Experts emphasize that promoting women's participation in agriculture is a crucial step toward achieving gender equality and improving overall food security in the country. Encouraging policies and programs that support women's involvement can contribute to sustainable development and enhance the livelihoods of rural communities.

Access to credit is another key factor influencing farmers' ability to access productive resources such as land, seeds, fertilizers, machinery, and technology. Although agriculture remains a key source of livelihood in Sri Lanka, many farmers, especially smallholders and women, face significant barriers in accessing formal credit. Research indicates that women often lack access to land ownership and legal literacy, which impacts their eligibility for securing loans from formal institutions (Center for Women's Research, 2016; World Bank, 2015). A woman farmer from Ampara district explained, "We grow paddy and some vegetables, but every season we need money for seeds and fertilizer. However, I cannot get a loan from the bank because it requires land ownership documents, and the land is in my father's name. We end up borrowing from a local lender and paying a high interest rate, which makes it hard to earn a profit after repaying the loan. If I had land in my name or could secure a small bank loan, I could purchase high-quality seeds and possibly rent a water pump. For now, we manage with what we have and pray for good rain."

As illustrated in the study, challenges in accessing formal credit force many farmers, especially in rural areas, to rely on informal moneylenders, who often charge high interest rates. This creates cycles of debt and financial instability. The absence of secure land tenure is a major constraint to using land as collateral, particularly for rural women and tenants. Although government programs and microfinance institutions exist, many rural farmers are either unaware of them or struggle to access them.

### Control Over the Use of Income

Women's control over income refers to their ability to make independent decisions on how to use the household earnings. In Sri Lanka, although women actively contribute to the agriculture sector, their decision-making power over income remains limited due to structural, social, and cultural factors.

Women perform a significant share of agricultural labor, especially in subsistence farming, post-harvest activities, and livestock care. Yet, men often dominate in selling produce, handling income, and investing in assets (FAO, 2018). This imbalance reduces women's control over the fruits of their labor. In many rural households, cultural norms dictate that men are the primary decision-makers, particularly in financial matters. Women may participate in income-generating activities, but are often expected to defer to male household members when it comes to spending or saving. According to an expert from the Department of Agriculture. "In many rural families in Sri Lanka, women contribute significantly to agricultural production, yet they have incomplete control over the income generated. Male members often dominate financial decisions, reflecting wider patriarchal norms."

Participant P5 explained further: "I work in the paddy fields and help with the harvest, sometimes even more than my husband. However, when we sell the harvest, he keeps the money. I have to ask him for even small things, like buying books for the children or medicine. I should have a say because I work just as hard. If I had control over even part of the income, I could save for emergencies or invest in a small garden of my own. In our culture, however, men handle the money, and women are expected to stay quiet."

This lack of control over income undermines women's empowerment by limiting their ability to invest in education, health, nutrition, and economic ventures. Studies have shown that when women control income, households tend to spend more on food, children's education, and well-being.

### Leadership in the Community

Women's membership and leadership in rural and agricultural communities are important aspects of empowerment. They reflect women's participation in decision-making structures such as farmer organizations, cooperatives, rural development committees, and local government bodies. The interviews suggest that, although women make a significant contribution to agricultural work, their participation in community leadership remains limited. In farmer organizations and rural cooperatives, men often dominate leadership positions, while women are more likely to be included as ordinary members or excluded altogether.

Patriarchal norms, lower levels of formal education, time constraints due to domestic duties, and lack of encouragement from families or institutions often prevent women from becoming members or leaders in community-level agricultural organizations. Respondent P2 highlighted the fact: "In our village, the farming society is mostly run by men. They make decisions and attend meetings. Even though we women do so much in the fields and at home, we are not asked for our opinions. I once wanted to join the committee, but people discouraged me by suggesting it was not suitable for a woman. Now that I have joined a women's society, I feel more self-confident. We started a small food processing project, and I was chosen as the group leader. Initially, I was nervous, but now I speak at meetings and even help other women find their voice. I believe if more women come forward, we can also lead in our farming community and be part of the decisions."

It shows that women who participate in SHGs, agricultural cooperatives, and microfinance collectives are increasingly stepping into leadership roles and influencing agricultural practices and community development. These platforms provide women with skills, confidence, and opportunities to voice their concerns and shape local decisions.

The leadership role of women farmers in Sri Lanka's agricultural extension services is vital for promoting sustainable agricultural practices and fostering community development. According to

Mishra et al. (2024), these roles enable women to influence decision-making processes and advocate for their needs. Respondents noted that taking on leadership roles has empowered them personally and professionally. As one respondent stated, "Being a leader in my cooperative has given me the confidence to voice my opinions and influence decisions that affect our community."

Women's involvement and leadership not only enhances productivity but also promotes gender equality in the agricultural sector.

Some respondents noted that women are increasingly taking leadership roles in community organizations, local councils, and development projects. However, rural women highlighted that cultural norms and social attitudes still limit their participation in decision-making. According to a participant, "While I lead my group, there are still some who believe that men should be in charge. It is a slow process to change these mindsets."

Some women are actively engaged in health programs, education, and social welfare. Their participation in maternal health initiatives, school committees, and community welfare projects has contributed to improving family well-being. Many women farmers have also assumed leadership roles in agricultural cooperatives, which serve as platforms for sharing resources, knowledge, and market access. These cooperatives empower women by enhancing their bargaining power and enabling them to participate in decision-making processes at both the cooperative and community levels (Mishra et al., 2024).

Programs such as the Women in Agriculture initiative have highlighted women's contributions, demonstrating how women can lead by example in adopting new technologies and practices (FAO, 2019). Women are also actively participating in extension programs, contributing their insights and experiences to the discussions. They bring unique perspectives to agricultural development, focusing on issues such as nutrition, food security, and sustainable practices. The involvement of women in extension services is essential for tailoring programs to meet the needs of female farmers (Ministry of Agriculture, 2021).

Women leaders in agriculture advocate for policies that address the specific challenges faced by female farmers. Their participation in policy dialogues and decision-making bodies ensures that women's voices are heard and considered in agricultural planning and development (IFAD, 2020). Women farmers who participated in this study also emphasized the importance of sharing knowledge and experiences. A respondent said, "We learn from each other. When I share my methods with others, it encourages them to adopt new practices. It is about building a community of learning."

Women farmers further highlighted the positive impact of their leadership on community development. Another respondent noted, "Our cooperative has helped us improve our farming practices and the overall well-being of families. We have now started investing in education and health."

### Time Use for Agriculture

Time use is a critical but often overlooked aspect of women's empowerment in agriculture. In Sri Lanka, rural women spend considerable time on agricultural work, in addition to unpaid household responsibilities such as cooking, cleaning, childcare, and fetching water. This double burden affects their productivity, well-being, and ability to participate in leadership, training, or income-generating opportunities. Women in Sri Lanka are deeply involved in land preparation, planting,

weeding, harvesting, and post-harvest processing. However, this labor is often undervalued or considered an extension of domestic work, especially in small-holder and subsistence farming systems (FAO, 2018).

Sharing her daily routine, participant P8 noted, "My day starts at 4 in the morning. I cook for the family, send the children to school, and then go to the field, where I work until noon. I come back home to make lunch and return to help with harvesting or weeding. After that, I still need to clean the house, feed the animals, and help the children with their homework. Therefore, there is no rest." She further pointed out that, even though she works as much as the men, or even more, they get time to attend meetings or rest after work. "I do not have time for training or meetings in the village. Sometimes I want to learn more or start a small business, but there is just no time. We need help with housework or better tools to make our farm work faster."

The participant's response highlights how the heavy time burden on women limits their opportunities to pursue education, training, market activities, and community leadership. This "time poverty" acts as a barrier to women's empowerment and economic advancement. Reducing this burden through labor-saving technologies, childcare support, and recognition of unpaid work is essential for achieving gender equality in agriculture.

### Barriers and Challenges for Women in Agriculture

Despite their significant contributions, women face numerous barriers to full participation in agricultural work. Thematic analysis identified key obstacles, including cultural norms, limited access to resources, and a lack of representation in agricultural cooperatives. These barriers stem from social, cultural, economic, and institutional factors that restrict women's agency and influence.

#### Cultural Norms and Gender Roles

Traditional gender roles often position men as the primary decision-makers in agricultural households, while women are expected to focus on domestic responsibilities. A young female farmer from Ampara district shared, "Starting my farm was challenging because many in the village believed that women cannot manage such a business alone. I had to prove myself twice as much as a man would." Another participant added, "Even though I know what works best for my farm, my husband often makes the final decisions because of societal expectations."

This experience highlights how deeply ingrained cultural norms limit women's participation in decision-making and leadership within the agricultural sector.

Traditional gender roles dictate that men are the primary decision makers at both the household and community levels. Women often have less freedom to attend meetings, participate in training sessions, or take on leadership roles due to societal expectations. As a result, agriculture is often perceived as a male-dominated field, and women's contributions are undervalued despite their active involvement in farming.

Wijerathna (2020) reports that patriarchal traditions in many rural areas of Sri Lanka often assign women the roles of caregivers and homemakers, rather than decision-makers in farming. Agricultural tasks are typically divided by gender, with men performing "productive" labor and women undertaking "supportive" or unpaid work, which undervalues women's contribution. This traditional division of labor—where women are primarily assigned tasks such as transplanting, weeding, harvesting, and post-harvest processing, while men dominate activities like land

preparation, irrigation, and operating machinery—remains a persistent challenge. It not only reinforces gender stereotypes but also diminishes the visibility of women as "farmers "in society.

Women are often excluded from agricultural assistance programs that are predominantly focused on men. A participant from the Anuradhapura district reflected the predicament, "We wake up before the sun, cook, take care of the children, and then work in the paddy field. However, when the officers come to offer advice or assistance, they speak only to our husbands. Although I do more work in the field, I have no say in how we sell the crop or spend the money. It is like our hands work, but our voices do not count."

These gendered perceptions are reinforced by family structures, religious beliefs, and media portrayals, making it challenging for women to assert themselves in agricultural spaces. The social expectation that women should prioritize domestic responsibilities over income-generating work further limits their time and opportunities for agricultural engagement. A review of reports from the Ministry of Agriculture and rural development agencies confirms that even when policies acknowledge gender inequality, implementation at the grassroots level remains weak due to a lack of gender-sensitive planning and outreach.

**BOX 1**

### CASE STUDY: PRABASHWARI.

Prabashwari, a 62-year-old, well-educated widow fluent in Sinhala and Tamil, lives in the Ampara district. She has two married daughters who reside outside the district. Of her two sons, one works in Korea, while the other is married and lives with her. However, he is often away from home as he works in a factory in Colombo. His wife and their four-year-old child stay at home. Although farming provides a stable source of income, her son is not interested in pursuing it.

Ampara district is one of the country's largest paddy-production regions, with fertile lowland supported by irrigation systems. Paddy farming has long been the main livelihood for Prabashwari's family. Her late husband had invested in a five-acre paddy plantation. Personally, he managed all aspects of the business, from cultivation to marketing, without involving her in decision-making or introducing her to key players such as the agriculture extension officers. When her husband passed away, Prabashwari inherited the land and decided to continue farming as it remained a good source of income.

Initially unfamiliar with agricultural practices, she joined a women's farming society, organized by the Department of Agriculture. With the support of agriculture extension officers and fellow women farmers, she learned essential skills such as transplanting, water management, and post-harvest handling.

Despite these efforts, she faces several challenges. As an older, less mobile woman, she struggles to protect her crops from wild animals and depends entirely on hired male labor, particularly during crop establishment. When the harvest is ready, traders—mostly men—visit the paddy field to buy the yield. Lacking market connections, negotiation skills, and bargaining experience, she is compelled to sell her harvest to middlemen at very low prices. This dependence on intermediaries and male labor significantly limits her income and decision-making power within the agricultural value chain.

**Lack of Access to Education and Training**

Many women in rural areas have limited access to education and agricultural training programs. Access to education remains uneven, especially in remote rural areas, where girls often drop out early due to household responsibilities or economic constraints. This lack of education restricts their ability to participate effectively in decision-making (World Bank, 2012).

Women with secondary or tertiary education are more aware of their rights, more proactive in attending agricultural training, and more willing to challenge traditional norms that limit their roles. In contrast, women with lower educational attainment often defer to male family members in making key agricultural decisions, due to a lack of confidence or limited exposure to institutional knowledge.

A 2019 study by the FAO documents how educated rural women in Sri Lanka were significantly more involved in decision-making related to crop diversification and the adoption of new farming technologies. Similarly, Wijerathna, in a 2020 study, found that women's education positively influences their roles in financial planning and household-level investment decisions in farming households. Interviews with women in the Anuradhapura and Ampara districts for this study echo these findings.

"After completing my school education, I began helping my husband choose fertilizers and pesticides for farming. I also attend training programs, and now I am more confident speaking with the officers. Earlier, I just did the work. Now, I help make decisions," a woman farmer from Anuradhapura stated. This suggests that education equips women not only with knowledge but also with the confidence and authority to participate actively in decision-making. It challenges traditional norms that position men as agricultural leaders and opens avenues for more equitable gender roles in farming communities.

In contrast, women with limited education described the barriers they face. A participant from a rural area explained, "I had to leave school early to help with farming. Without proper education, I struggle to understand market trends, and my husband makes all the decisions." This highlights how a lack of education restricts women farmers' ability to analyze agricultural policies, access financial services, or make informed decisions. Similarly, another respondent, a mushroom farmer, said, "Since I never learned to read or write properly, I cannot apply for loans or government programs without taking help from others."

These accounts illustrate how a lack of formal education limits women's financial and business independence, forcing them to rely on others to navigate bureaucratic processes.

Some women also pointed to challenges in adopting modern farming practices due to limited access to training and education. A participant from Thambuththegama village noted, "I want to switch to farming under protected agriculture, but I do not know how to access training. Without knowledge, I have to continue the traditional method, which is not very profitable." This reflects the struggle women face in adopting new technologies when they lack training, which directly impacts their productivity and earnings.

Several respondents also noted that most training programs are designed without considering women's time constraints, making it difficult for them to attend due to childcare and household activities. As one participant mentioned: "I often miss out on training sessions that are only held in the evenings when my husband is at home."

These lived experiences align with Wijerathna's (2020) observation that most agricultural training programs are designed for male farmers and often scheduled at times that conflict with women's domestic responsibilities. Women's participation in the farmer training program is also low due to mobility restrictions and social norms that prioritize men's involvement in decision-making (FAO, 2020).

**Limited Access to Resources**

The desk review of existing literature and reports reveals that limited access to productive resources remains one of the most critical barriers to women's participation in agriculture in Sri Lanka. Despite their substantial contributions to the agricultural sector, women often face systemic inequalities in accessing land, credit, agricultural inputs, technology, and extension services. According to the Food and Agriculture Organization (FAO), women in Sri Lanka have less access to productive resources compared to men, which diminishes their capacity to make decisions (FAO, 2011).

As discussed earlier, one of the most significant challenges is women's limited access to land ownership. Cultural and legal traditions in many rural communities favor patrilineal inheritance, leaving women with little or no legal claim to land. According to the FAO (2019), although women represent over 50% of the agricultural labor force, only about 16% of them have legal ownership of agricultural land in Sri Lanka. This severely limits their decision-making power and access to financial services, which often require land as collateral. As one respondent explained, "Women work hard in the field every day, but when it comes to making important decisions, we are left out because the land does not belong to us. Without land ownership, we cannot decide what to plant, how to invest in better farming methods, or even apply for a loan. Everything depends on men in our families."

Many financial institutions require land as collateral for agricultural loans. Since women rarely hold land titles, they struggle to secure credit, purchase inputs, or invest in modern farming techniques. Land is typically inherited or registered in the name of male family members, forcing women to rely on fathers, husbands, or brothers for access. This dependence limits their autonomy in farming activities. Moreover, many government schemes, subsidies, and training programs in agriculture are tied to land ownership, excluding women from essential resources that could enhance their productivity. Without land rights, women are also more vulnerable to displacement and economic instability, particularly in cases of divorce, widowhood, or family disputes.

Women's access to modern agricultural tools, irrigation systems, and climate-resilient technologies is also limited. A UN Women review (2020a) found that men are more likely to receive new technologies because they are more often present in extension training sessions. As a result, women continue to rely on traditional and less efficient farming practices.

**Financial Constraints**

A review of secondary data from reports and the academic literature reveals that financial constraints remain a significant barrier to women's full participation and empowerment in the agricultural sector in Sri Lanka. These constraints are closely linked to broader gender inequalities in access to assets, land ownership, and decision-making power.

Women farmers in Sri Lanka often lack access to formal financial services, including credit, microfinance, and government loan schemes. In addition to a lack of collateral due to limited land ownership, as discussed, women agricultural extension officers from Ampara district highlight that many rural women have limited knowledge of financial management, banking systems, and

investment strategies. Restricted mobility and social norms discourage women from opening bank accounts or engaging in formal financial transactions. Even when women earn income from farming, financial control often remains in the hands of men.

The World Bank (2021) further notes that financial institutions tend to perceive women, particularly those engaged in small-scale or subsistence farming, as higher-risk borrowers. As a result, many women rely on informal borrowing, which often comes with high-interest rates and social pressure.

**BOX 2**

**CASE STUDY: RAMANI.**

Ramani, a 22-year-old single woman from the Thambuthegama urban area, previously worked in a garment factory but left her job to continue her father's tradition of vegetable cultivation. Using savings from her employment, she now finances the family's farming activities. Ramani has a sister whose husband died three years ago, and who is raising two school-going children.

The land remains under her late father's name and will be passed on to her sister's children. Vegetable cultivation and home gardening continue to be the primary source of income for the family, all of which are managed by Ramani. They also maintain a half-acre paddy field for household consumption.

Her father had practiced traditional vegetable farming, which was often unpredictable, as the harvest was damaged in some seasons, while there were losses in others. A family friend introduced Ramani to the idea of cultivating high-value crops in a protected house. After visiting her friend's farm, Ramani became inspired to shift towards protected cultivation, seeing its potential for higher productivity and profitability.

However, establishing a protected house for vegetable cultivation required significant investments. Securing funds for their protected house proved challenging. Despite approaching several banks, Ramani was unable to obtain a loan because she lacked contact with government officials who could serve as a surety. "It is easier to pawn my gold jewellery than to be harassed by banks. I had to use my earnings as collateral to obtain a loan from a state bank, and now I use what I earn to pay the interest." Currently, Ramani is paying a very high interest rate of 18% to a pawn center.

Furthermore, even when households have access to financial services, women are frequently excluded from financial decision-making. Patriarchal norms often position men as household heads and the primary financial decision-makers. This limits women's ability to invest in agricultural activities or adopt innovative practices, perpetuating a cycle of dependency and low productivity.

Desk review findings also show that women are less likely to benefit from government subsidies, grants, and financial incentives offered through agricultural development programs. This is partly due to procedural barriers, such as complex documentation requirements, and partly due to the assumption that men are the primary farmers. Wijerathna (2020) highlights that women's low participation in agricultural cooperatives and farmer organizations further reduces their visibility and eligibility for financial support.

These financial constraints severely limit women's ability to purchase quality seeds, fertilizers, machinery, or invest in sustainable farming practices. Without adequate financial resources, women

are often forced to operate on a smaller scale, relying on traditional methods that yield lower productivity and income. This not only affects household food security but also reinforces women's subordinate economic position within their communities.

**Lack of Access to Information**

Women in Sri Lanka often face limited access to agricultural and market information, despite their active role in the sector. They often lack timely, relevant, and practical information that could improve their productivity and economic empowerment. Agricultural extension services, which provide training, technical support, and information on best practices, are also dominated by males in both delivery and participation. A 2019 FAO report documents how women in the country remain underrepresented in extension programs due to cultural perceptions that assume men are the primary farmers. These services are often delivered in male-centered forums or scheduled at times inconvenient for women who manage both farm and household responsibilities.

Moreover, female participation in farmer organizations and cooperatives remains low, thereby limiting their access to knowledge-sharing and collective bargaining opportunities. This lack of knowledge hinders their ability to make informed decisions about best practices, crop diversification, and market trends, ultimately affecting their productivity and profitability. It is also reported how some women farmers are often unaware of government subsidies, grants, and low-interest loans due to poor dissemination of information (IFAD, 2020).

Access to modern information and communication tools is another challenge. Many women in rural areas have limited access to mobile phones, the internet, and other digital platforms where agricultural updates, forecasts, and market prices are shared (World Bank, 2019). Modern information tools such as mobile apps, SMS services, and online platforms are being used to share weather updates, pest control methods, and market prices. However, officials from the Department of Agriculture highlighted that while many agricultural updates are shared through smartphones, some rural women lack the knowledge to use them effectively.

It is essential to recognize that rural women frequently lack access to or training in digital tools, often due to affordability, digital illiteracy, or the control men exert over household devices. A UN Women (2020a) review found that only a small fraction of women farmers in Sri Lanka use mobile-based agricultural advisory services. Without real-time data, women struggle to make timely decisions regarding agriculture.

Literacy barriers also exacerbate the problem. Many rural women have lower literacy levels, and most agricultural equipment are not designed with their needs in mind. Training materials, pamphlets, or radio programs are often delivered in technical language or only in Sinhala or Tamil, without considering local dialects or visual aids for low-literate audiences. Wijerathna (2020) notes that even when women attend training sessions, they may struggle to fully grasp the content or apply it in practice without ongoing support. Low literacy rates among rural women hinder their ability to understand and interpret agricultural research, policy documents, and financial contracts (ADB, 2018).

The lack of timely, relevant information severely impairs women's ability to adopt modern farming practices, respond to climate risks, and access market opportunities. This limits their productivity and reinforces their dependency on male counterparts. It further limits information, restricting their capacity to engage in farm-level decision-making, manage finances, or take

leadership roles in farming cooperatives or community groups. A broader review by the World Bank (2021) concludes that bridging the gender information gap is crucial for achieving equitable agricultural development, particularly in contexts such as Sri Lanka, where women comprise a significant portion of the agricultural workforce but remain underrepresented in knowledge systems.

**Insufficient Support Systems**

A recurring challenge identified through both desk review and interviews is the lack of institutional and community support systems tailored to the specific needs of women in the agricultural sector. Government and non-governmental agricultural programs in Sri Lanka often fail to effectively integrate gender perspectives into their initiatives. While national policies acknowledge the importance of women's involvement in agriculture, the implementation at the local level is weak. Dedicated programs, female extension officers, and gender-disaggregated data collection are often absent. Many agricultural support schemes, although designed to be gender-neutral, remain gender-biased in practice, often excluding women from decision-making processes (FAO, 2019).

Agricultural extension services play a crucial role in disseminating knowledge and innovation. However, women are significantly underrepresented in both accessing and delivering these services. The World Bank (2021) notes that less than 20% of beneficiaries of formal agricultural training in Sri Lanka are women. The lack of female extension agents and cultural norms that restrict women's participation in public training sessions further deepens this gap. Women often lack access to modern agricultural technologies and resources, such as seeds, fertilizers, and machinery. This limits their ability to innovate and make strategic decisions that could enhance their productivity and market competitiveness.

A woman farmer from the Anuradhapura district shared, "If we had better access to farming technology such as improved seed and equipment, it would help us increase productivity." Her observation highlights that existing agricultural policies often do not adequately address the specific needs and challenges faced by women. There is a need for gender-sensitive policies that promote equal access to resources and empower women in decision-making roles.

Membership in farmer cooperatives and producer organizations can provide benefits, including collective bargaining power, access to training, and agricultural inputs. However, women are frequently excluded from these networks due to male-dominated leadership structures, cultural constraints, or a lack of awareness. A review by Wijerathna (2020) found that in many rural areas, women's voices are not heard in farmer meetings or local agricultural planning, further marginalizing them from support mechanisms.

The absence of support networks, such as mentorship programs or women's cooperatives, can impede women's confidence and their ability to advocate for themselves in decision-making processes. The absence of these networks can also discourage women from taking leadership roles in agriculture (Kumar & Quisumbing, 2015). Without a supportive community, women may feel isolated in their challenges.

The Assistant Director of the Women's Agriculture Extension Unit at the Department of Agriculture noted that women are frequently underrepresented in farm organizations and cooperatives due to cultural norms, membership criteria requiring land ownership, and time constraints. This

underrepresentation limits their influence over agricultural policies and decisions that affect their livelihoods. The official also highlighted the lack of gender-sensitive training, which limits women's ability to adopt innovative practices and technologies, thereby affecting their decision-making.

Additionally, the lack of support systems for childcare, healthcare, and social security makes it challenging for women to balance farming with household responsibilities. Women often lack access to maternity benefits, labor protections, and social welfare, particularly those engaged in informal or unpaid agricultural labor. As observed by a UN Women (2020b) report, the double burden of unpaid domestic work and farming limits women's mobility, time, and ability to engage with support institutions or markets. The lack of robust support systems contributes to the limited empowerment and sustainability of women's agricultural livelihoods. Without support, women remain confined to subsistence farming, vulnerable to shocks, and excluded from opportunities for value addition, entrepreneurship, or market integration.

## Recommendations and Policy Implications

To effectively empower women in Sri Lanka's agriculture sector, the following recommendations are proposed.

**Promote Gender-Inclusive Decision-Making in Agriculture**

To promote gender equality in agriculture, it is essential to establish and support participatory platforms that enable women to actively contribute to decisions on crop planning, resource allocation, and agricultural practices. Encouraging joint decision-making models within households and farmer groups, along with implementing gender-sensitive training and awareness campaigns, can further enhance women's involvement. Additionally, training male farmers and extension officers on the benefits of shared decision-making and recognizing women's valuable contributions to agriculture can foster a more inclusive and effective agricultural system.

**Ensure Equitable Access to Agricultural Resources**

Reforming legal frameworks and enforcing equitable land inheritance laws are crucial steps to strengthening women's land rights. Facilitating the issuance of land titles and legal documentation to women farmers empowers them to access government support, credit, and subsidies, thereby enhancing their financial stability. Furthermore, improving women's access to modern tools, agricultural inputs, irrigation systems, and veterinary services through targeted subsidies and training programs can significantly enhance their productivity and economic empowerment in the agricultural sector.

**Enhance Access to Agricultural Credit and Financial Services**

Designing gender-responsive financial services that do not rely solely on land ownership as collateral is crucial for enhancing women's access to finance. Promoting awareness of microfinance options and government-backed agricultural credit programs, especially among rural women, can help bridge the financial gap. Additionally, introducing financial literacy programs to equip women with budgeting, saving, and investing skills will enable them to manage their income effectively and reduce the risks associated with debt.

**Strengthen Women's Control Over Agricultural Income**

Advocating for joint ownership of assets and joint bank accounts for agricultural families can enhance financial security and equality within households. Supporting SHGs and cooperatives that promote women's financial autonomy and encourage collective economic activities further strengthens their

economic position. Additionally, community-level campaigns that challenge cultural norms restricting women's control over finances and highlight the benefits of economically empowering women can drive positive social change and foster more inclusive economic development.

**Promote Women's Leadership in Agriculture and Rural Governance**

Establishing leadership development programs for rural women is vital to increasing their participation in farmer organizations, local councils, and cooperatives. Encouraging greater female representation in policy-making bodies, extension services, and development committees helps ensure that women's voices are heard in decision-making processes. Additionally, providing mentorship and networking opportunities can support the growth and success of women leaders in agriculture and rural development, fostering a more inclusive and representative agricultural sector.

**Address Time Poverty and the Double Burden**

Investing in labor-saving technologies, such as mechanized tools, drip irrigation systems, and post-harvest processing units, is essential to reducing women's physical workload in agriculture. Supporting rural childcare services, community kitchens, and domestic help initiatives can further alleviate the household burdens that often limit women's productivity and participation in the workforce. Additionally, recognizing and valuing unpaid care and agricultural work through policy reforms and inclusion in national statistics is crucial for acknowledging women's contributions and promoting gender equity in rural economies.

**Enhance Access to Training and Extension Services**

To enhance women's participation and effectiveness in agriculture, it is important to ensure that agricultural extension programs are tailored to their schedules, literacy levels, and specific needs. Increasing the number of female extension officers and facilitators can significantly improve outreach and build trust within communities. These programs should incorporate training on sustainable farming practices, climate resilience, and market engagement for women across all age groups.

Supporting women-focused initiatives, such as Women in Agriculture programs, can further enhance capacity in key areas, including value addition, agro-entrepreneurship, organic farming, and business skills. Implementing participatory training methods that promote peer knowledge-sharing, practical demonstrations, and long-term mentorship will enhance learning outcomes. Moreover, establishing follow-up mechanisms, including refresher sessions and on-farm visits, is essential to reinforce the application of new practices and ensure lasting impact.

**Support Livestock and Home-Based Agricultural Enterprises**

Promoting livestock management, kitchen gardening, and value addition as viable income-generating options can significantly enhance women's economic opportunities in rural areas. Facilitating market access through training in marketing, packaging, and entrepreneurship equips women with the skills necessary to sell their products and grow their businesses effectively. Strengthening cooperatives and women's producer groups further supports this by improving collective bargaining power, enhancing market linkages, and ensuring greater control over income, ultimately contributing to women's financial empowerment and community development.

**Enhance Women's Access to Agricultural Information**

Developing gender-sensitive agricultural extension services is vital for ensuring the active inclusion of women in agricultural development. This includes hiring more female extension agents, conducting women-only training sessions, and scheduling programs at times that accommodate

women's dual responsibilities at home and in the field. To address lower literacy levels among rural women, the use of inclusive communication tools such as visual aids, local dialects, and simplified formats should be promoted.

Expanding ICT infrastructure and implementing digital literacy programs specifically for women, especially in rural areas, can enhance their access to mobile-based advisory services, weather alerts, and market prices. Additionally, establishing localized knowledge hubs or community-based learning centers can provide women with consistent, practical, and easy-to-understand agricultural guidance, empowering them to adopt improved farming practices and make informed decisions.

**Strengthen Institutional Support Systems**

Integrating gender-responsive design into all agricultural policies, programs, and support schemes is crucial to ensure that women's unique needs are considered throughout the planning and implementation process. Encouraging and facilitating women's membership in farmer cooperatives and producer organizations by removing structural barriers, such as land ownership requirements, and addressing cultural biases can significantly enhance their participation and influence.

Establishing mentorship networks and peer-learning platforms that connect experienced women farmers with newcomers helps build newcomers' confidence, skills, and leadership. Additionally, providing social protection mechanisms—such as maternity benefits, childcare services, and access to healthcare—supports women's full and sustained engagement in agriculture.

**Bridge the Digital Gender Divide**

The public and private sectors should collaborate on digital inclusion strategies to ensure that rural women have affordable access to mobile devices, reliable internet connectivity, and digital literacy training. Such efforts are crucial for empowering women with the tools and knowledge needed to access agricultural information, financial services, and market opportunities, thereby enhancing their productivity and participation in the digital economy.

**Gender Budgeting**

Allocating specific funding for programs targeting women farmers, such as subsidies, training, and extension services, is essential to promoting gender equity in agriculture. To ensure transparency and accountability, it is equally important to track and publicly report how agricultural budgets are benefiting women, enabling continuous assessment and improvement of gender-responsive initiatives.

## Conclusion

Women play an indispensable role in agriculture, contributing to food production, livestock management, rural economies, and community development. Despite these contributions, they continue to face structural barriers, such as limited access to land, credit, technology, and training, which restrict their full participation and productivity. Empowering women in agriculture is not only a matter of gender equality but also an economic imperative. When women gain equal access to resources and are included in decision-making processes, agricultural productivity improves, resulting in enhanced food and nutrition security, reduced poverty, and stronger community development.

In the context of Sri Lanka, achieving women's empowerment in agriculture requires a multi-dimensional approach that includes legal reforms, financial support, educational opportunities, and broader social transformation.

The adoption of gender-responsive policies that guarantee land rights, fair wages, financial inclusion, and climate resilience is essential. Overcoming these barriers is also key to strengthening women's decision-making power within the sector. Addressing persistent issues related to land ownership, access to finance, and education, as well as challenging cultural norms, can foster an environment where women can actively participate in agricultural leadership and innovation.

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CHAPTER 8

# THAILAND

## Background

Thailand is an industrialized country that has transitioned from an agrarian economy to a more modern, export-driven economy. Although agricultural GDP has increased marginally in recent decades, the agriculture sector's share of total GDP has decreased significantly. In 2024, the country's GDP was USD526.3 billion, while its per capita GDP stood at USD7,496. Overall, agriculture generates around USD35,497 million in Thailand's national income but accounts for only 10.05% of total GDP (Office of Agricultural Economics, 2024).

The labor force participation rate of Thailand is 68.3 (National Statistical Office, 2024a). Men have a higher labor force participation rate than women at all age groups. The average labor force participation rate for men is 76.9%, while that for women is 60.6%. The national average monthly salary for women is THB15,884 (USD467.658), which is THB15,569 (USD458.384) higher than that for men. However, in the agricultural sector, men have a higher monthly salary (THB8,973 or USD264.184) than women (THB7,843 or USD230.914).

In 2024, Thailand had a total population of 65.951 million, of which 33.8 million or 51.2% were women (National Statistical Office, 2024b). Although Thailand's agricultural sector has become less important to the economy, it still employs a significant number of laborers. As of December 2024, nearly 59.3 million people in the country are aged 15 and above, of which around 40.7 million are part of the labor force. Among them, 40.3 million are employed, while 12.1 million (29.78%) work in agriculture, forestry, and fishery (National Statistical Office, 2024b). However, the total number of agricultural landholders is only 8.6 million (National Statistical Office, 2024b), with an average household landholding of 2.784 hectares, suggesting that the majority of agricultural workers are landless.

The Employment Status Survey and the Informal Labour Survey (July-Sep 2021) show that among 29.8 million women aged 15 and over, about 17.6 million or 60% are part of the labor force and 98% of them are employed (National Statistical Office, 2021). The agriculture, forestry, and fishery sector employs the most women (about 30%), followed by the service and trade sector (about 18%) and manufacturing (about 16%). About half of employed women are in the informal sector with no social security. Agriculture and fisheries account for the largest share of informal female workers (51.5%).

The challenge for Thailand's labor force, however, stems from the country's aging population, particularly in the agricultural sector (Attavanich et al., 2019). The population aged 60 or above is about 13.3 million (20.2%) of the total population, and women account for 57.9% of the aged population (National Statistical Office, 2024c). The life expectancy of women in Thailand is 80, while that of men is 72 (National Statistical Office, 2025). Of the 8.8 million registered farmers in 2025, 53.8% are women (Office of Agricultural Economics, 2025). Among women, 69.5% are aged 50 and above, and 39.8% are aged 60 and above. Aging farmers and labor shortages have become common issues across the country. As a result, approximately 70% of agricultural households have adopted machinery (National Statistical Office, 2024d).

Thailand has a total area of 50.2 million hectares, with approximately 23.6 million hectares designated as agricultural land, accounting for 47% of the total land use (Office of Agricultural Economics, 2023). Most agricultural land is used for crop production (92%), followed by livestock (2.7%), freshwater aquaculture (2.2%), and sea salt pond (0.01%). Among the crop land, rice accounts for the largest land use (43.37%), followed by rubber, sugarcane, cassava, maize, and palm oil. The export value of agricultural commodities and products from Thailand in 2023 was about THB1.48 billion (USD42.18 million). The key export agricultural commodities and agricultural products are rubber, rice, durian and its products, chicken and its products, sugar, fish and its products, cassava, palm oil, and prawn and its products (Office of Agricultural Economics, 2023).

The Global Gender Gap report of 2024 revealed that Thailand ranked 65th in the world and third in Asia after the Philippines and Singapore in the Global Gender Gap Index (0.72), which is the level of gender parity (the parity score) for women to the value for men (WEF, 2024). This parity score of 0.72 implies that women in Thailand still have about 28% fewer opportunities than men. However, educational attainment parity—such as literacy rates and enrolment at all levels—is nearly 100% equal to that of men. The average literacy rate of the Thai population is 98.8%, with men having a higher literacy rate (99.05%) than women (98.65%) (Matichon, 2025).

Furthermore, access to financial services, land assets, and non-land assets is relatively equal between men and women. However, the gender gap indicator for economic participation remains less favorable for women. According to the national gender gap indicators, the index for labor-force participation rate stands at 0.788, for wage equality of similar work at 0.737, and for estimated earned income at 0.809. These figures suggest that while Thai women have made notable progress in achieving gender equality, particularly in terms of access to resources, there is still room for improvement in their economic participation and income equality.

In Thailand's agricultural sector, research on women's empowerment has received limited attention. Few recent studies have examined gender issues in the sector. Udomwitid (2020) reported a Gender Parity Index of 0.982 in Central Thailand, indicating high levels of gender equality in agricultural households. Besides, the WEAI was 0.959, suggesting significantly strong but improvable empowerment levels. Udomwitid noted that access to collateral-free loans could further enhance women's decision-making related to primary production. Akter et al. (2017) also found that female rice farmers in Thailand are active members of village and agricultural organizations, engaging directly with extension officers. These findings suggest that women in Thailand's agricultural sector are in a comparatively better position than those in several other Asian countries, including South Asia and most of Southeast Asia.

Thailand's economic transformation under the Thailand 4.0 strategy emphasizes a growth model based on creativity and innovation to overcome the middle-income trap (Ministry of Industry, 2016). Within this framework, Agriculture 4.0 serves as the government's strategy for modernizing the agricultural sector. One of the strategic goals of Agriculture 4.0 is to enhance the skills and capacities of farmers and agricultural institutions to address the challenges posed by internal and external changes (Office of Agricultural Economics, 2017). The seed sector, with its strong foundations in research, development, and production, plays a crucial role in this transformation. This is because Thailand is a leading seed exporter in the region, ranking 18th globally and second in Asia, behind China, in 2020 (International Seed Federation, 2020). The export value of seeds from Thailand was THB11,484 million (USD326 million) in 2024 (Thailand Seed Trade Association, 2024).

Not only will strengthening the seed sector by enhancing its competitiveness through science, technology, and innovation generate higher export value, but it is also crucial to provide quality seeds to increase agricultural productivity and promote well-being among farming communities. This, in turn, will help reduce inequality and create employment for over 30,000 farming households (National Science and Technology Development Agency, 2021).

However, there is limited evidence on equality, particularly gender equality, among seed growers. The role of women in seed production differs from that in other agricultural activities. For instance, seed production requires access to critical resources such as machinery, irrigation, and labor, which women may find difficult to access or control due to prevailing gender norms (Njuguna, 2017). McEwan et al. (2023) noted that different activities in seed farming require different resources, and that men and women face different constraints in accessing these resources or performing these activities.

Seed production, particularly for commercial hybrid varieties, involves cross-pollination —a delicate, tedious, and labor-intensive process (Pannarach et al., 2014). Seed farming is also time-consuming and requires good planning. These factors may limit women's participation in seed farming. Therefore, a better understanding of how women involved in seed production in Thailand can be empowered is essential.

In this context, this research aims to achieve the following:

- Examine the roles and involvement of women in seed production in Thailand.
- Identify the barriers faced by women in seed production.
- Explore strategies to overcome these obstacles and enhance women's contribution, productivity, engagement, and overall well-being.

## Methodology

To gain an updated, in-depth understanding of women's social and economic challenges, this research adopted a qualitative approach, collecting primary data through in-depth interviews with women seed growers and experts. In total, 22 female seed growers and six key informants and experts working closely with them were interviewed.

The interview guidelines were developed using the Abbreviated Women's Empowerment in Agriculture Index (A-WEAI), which is a shorter, streamlined version of the WEAI (Alkire et al., 2013; IFPRI, 2025).

The five domains included in the A-WEAI are as follows:

- **Production:** Sole or joint decision-making over seed production as well as autonomy in seed-related activities.
- **Resources:** Ownership of, access to, and decision-making power over productive resources such as land, agricultural equipment, consumer durables, and credit.
- **Income:** Sole or joint control over income and expenditures.
- **Leadership:** Membership in economic or social groups.
- **Time:** Allocation of time between productive and domestic tasks.

The literature on WEAI and gender in seed production (Alkire et al., 2013; Gupta, 2016; McEwan et al., 2023) and the APO research framework were used to guide the semi-structured interviews. The interview was conducted from 29 January to 7 February, 2025.

As there are no official reports on seed production area or the volume of seeds sold in Thailand, seed export data were used as a proxy to identify the types of seed crops produced in the country. The major seeds exported from Thailand include corn, tomatoes, Chinese morning glory, watermelons, peppers, cucumbers, pumpkins, and melons (Thailand Seed Trade Association, 2025). Participants were selected based on the following criteria.

### Identification of Seed Production Areas

To identify locations of seed farms, discussions were held with major private seed companies involved in key seed exports and selected public seed centers to determine the types of crops and areas of seed production in Thailand. The scope was narrowed to the northeastern region, where most vegetable seeds were being produced during the interview period. The selection of provinces was based on recommendations of seed companies and public seed centers to ensure coverage of diverse crops and potential participation by seed growers.

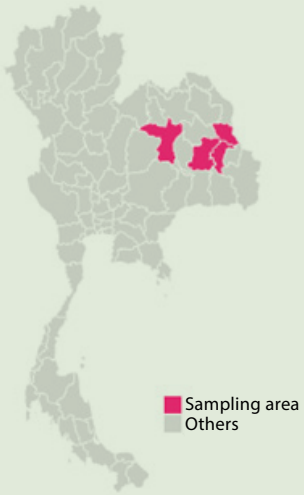
Among the 20 provinces in the northeast, the selected provinces were Khon Kaen and Roi-et, which are well known for seed production, along with the two neighboring provinces, Yasothon and Mukdahan (see Figure 1).

### Identification of Women Seed Growers

Based on selected areas, the study focused on two main categories of seed crops. The first category comprised hybrid seeds produced by private seed companies, including pepper, tomato, watermelon, pumpkin, bitter melon, and sweet corn. These hybrid seeds are typically cultivated under a contract farming arrangement with private firms. The second category consisted of open-pollinated seeds, primarily peanuts, which are cultivated for food security and as a post-rice cultivation. Farmers engaged in peanut seed production generally supply their seeds to public seed centers.

**FIGURE 1**

**SAMPLING AREA OF SEED GROWERS IN THAILAND.**



### Participant Identification and Interview Process

The participants were identified through collaboration with private seed companies and the Roi Et Agricultural Research and Development Center.

Before each interview, the purpose, objectives, and estimated duration of the discussion were clearly explained to the participants. They were also informed that their identities would remain confidential, that the findings would be presented in aggregate form rather than as individual accounts, and that they could contact the researcher if needed. Participation in the interviews was entirely voluntary. Each interview was conducted after informed consent was obtained and lasted about 40–70 minutes. Tables 1 and 2 present the background characteristics of the experts and the participating women seed growers.

**TABLE 1**

**BACKGROUND OF THE INTERVIEWED EXPERTS.**

| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement/Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E1 | Female | Roi Et Agricultural Research and Development Center | Senior agricultural officer | Seed production agreement, seed quota | >15 |
| E2 | Female | Cover Agriculture, Co. | Seed field manager | Supervising seed production, technology transfer | >15 |
| E3 | Male | Bayer (Thailand) Crop Science. Co. | Seed market development manager | Seed product development, field seed testing, and seed farmer promotion campaign | >30 |
| E4 | Male | East-West Seed Co. | Seed production manager | Supervising seed production, seed contract agreement, and technology transfer | >30 |
| E5 | Male | Arum Seeds, Ltd. Partnership | Seed production manager | Supervising seed production, seed contract agreement, and technology transfer | >30 |
| E6 | Male | Cover Agriculture, Co. | Executive Director | Breeding, seed contract agreement, technology transfer | >30 |

**Note:** E1, Expert 1; E2, Expert 2; … E6, Expert 6.

**TABLE 2**

**BACKGROUND OF THE PARTICIPATING WOMEN SEED GROWERS.**

| Interviewees | Age | Highest Educational Attainment (No. of years) | Marital Status | No. of Children | Main Commodity Planted (Seed crop) | Age of Husband | Household Size | Years of Experience in Seed Production | Years of Experience in Agriculture |
|---|---|---|---|---|---|---|---|---|---|
| P1 | 44 | 18 | Married | 2 | Sweet corn | n/a | 5 | 14 | 14 |
| P2 | 51 | 9 | Married | 2 | Sweet corn | n/a | 2 | 5 | 25 |
| P3 | 47 | 6 | Married | 1 | Sweet corn | 56 | 3 | 1 | 6 |
| P4 | 50 | 6 | Married | 3 | Sweet corn, Watermelon, Tomato, Cantaloupe | 51 | 5 | 10 | 35 |
| P5 | 52 | 6 | Married | 2 | Watermelon, Tomato, Pepper, Cantaloupe | 53 | 4 | 10 | 10 |
| P6 | 52 | 6 | Married | 2 | Watermelon | 59 | 4 | 20 | 30 |
| P7 | 38 | 12 | Married | 3 | Watermelon | 40 | 7 | 10 | 15 |
| P8 | 50 | 6 | Married | 2 | Watermelon, Pepper | 60 | 6 | 30 | 40 |
| P9 | 60 | 4 | Married | 2 | Tomato | 64 | 5 | 8 | 40 |
| P10 | 57 | 6 | Married | 1 | Tomato | 62 | 5 | 11 | 40 |
| P11 | 59 | 6 | Married | 2 | Tomato | 62 | 5 | 6 | |
| P12 | 54 | 4 | Married | 2 | Tomato | 56 | 3 | 10 | 30 |
| P13 | 45 | 12 | Married | 1 | Pumpkin | 49 | 5 | 8 | 20 |
| P14 | 52 | 6 | Married | 2 | Pumpkin | 55 | 5 | 5 | 32 |
| P15 | 37 | 9 | Married | 1 | Bitter melon | 40 | 3 | 10 | 28 |
| P16 | 41 | 6 | Married | 2 | Bitter melon, Pepper | 39 | 3 | 15 | 25 |
| P17 | 57 | 6 | Married | 2 | Pepper | 60 | 8 | 30 | 37 |
| P18 | 57 | 4 | Married | 3 | Bitter melon, Pepper | 61 | 2 | 17 | 37 |
| P19 | 30 | 12 | Married | 1 | Pepper | 38 | 3 | 15 | 15 |
| P20 | 50 | 6 | Married | 1 | Peanut | 53 | 3 | 15 | 35 |
| P21 | 52 | 6 | Married | 1 | Peanut | 53 | 3 | 30 | 32 |
| P22 | 62 | 4 | Married | 3 | Peanut | 65 | 2 | 30 | 41 |
| Average | 49.86 | 7.27 | – | 1.86 | – | 53.80 | 4.14 | 14.09 | 27.95 |

**Note:** P1, Respondent 1; P2, Respondent 2; … P22, Respondent 22.

The average age of women seed growers who participated in this study is 50 years, while their husbands are generally a few years older. Some households have adult children who have already moved out, while others have grandchildren living with them. The average household size is four. All participants are married, suggesting that seed production activities often involve both women and men.

The participating women seed growers have an average of 14 years of experience, although their overall experience in agriculture is much longer. The highest level of education attained by the participants is high school. It is important to note that, until 1959, compulsory education in Thailand was mandatory only up to Grade 4. Between 1960 and 1978, compulsory education up to Grade 6 was introduced, though in rural areas, Grade 4 was typically enforced. In 2002, compulsory education was extended to Grade 9. Based on the age distribution of the farmers, completion of Grade 4 or Grade 6 is most common among the participants.

## Findings

### Roles and Involvement of Women in Seed Production

The seed production activities examined in this study are conducted under contract farming arrangements, which may be either formal or informal. When the agreement is established through a written document outlining specific terms and conditions, the seed grower is considered part of the formal labor force. In contrast, when the agreement is based on verbal commitments or unwritten understandings, the grower is considered to be in an informal labor relationship.

Among the women farmers who participated in this study, most who entered into contracts with private seed companies are classified as formal laborers. In contrast, those working with seed brokers or public seed centers are considered informal labor. Nevertheless, all participants operate on their own farms—either owned or rented—and only produce seeds according to the company or institutional specifications. Most growers receive inputs in advance for seed production, with the associated cost deducted later from seed sales. In some cases, farmers may choose to use optional inputs, such as organic fertilizers, at their own discretion.

Farmers engaged in seed production are paid only after delivering the seeds following harvest. Seed companies and seed centers provide parental lines or commercial seeds for cultivation, and farmers are required to follow the prescribed farm management practices specified by them. These practices include the method of cross-pollination, adherence to farm area biosafety protocol, crop calendar management, and regulated use of chemicals. Although some of the interviewed households also cultivate other crops, such as rice or engage in livestock husbandry, the findings in this section focus on seed farming.

Contract seed production offers farmers a significantly higher income than traditional crop production, but it also requires greater technical precision and adherence to strict protocols. The farmers interviewed for this study are experienced and professional seed growers who are diligent and committed to seed production. According to Expert E4, there are specific protocols for hybrid seed production that farmers must strictly adhere to. “We aim for high-quality seed and have high requirements for purity, so seed adulteration cannot be accepted. Farmers are expected to inspect crops daily to ensure there are no undesired weeds or seed contamination, as even minor deviation from the crop calendar or cross-pollination schedule can significantly reduce yields, and consequently, income.”

Table 3 summarizes the key activities involved in seed production. Insights from interviews with female seed growers and key informants provide an overview of gender roles within these activities. Specific tasks are performed solely by men. These include operating tractors during land preparation and applying liquid fertilizers or herbicides. For many other activities, men and women share responsibilities, depending on individual skills and efficiency. For instance, women are often faster and more meticulous in cross-pollination, although men also participate in this task. Similarly, women can manage irrigation when men are unavailable. However, activities that require considerable physical effort or need prolonged exposure to sunlight are generally performed by men. The participants' perception of comparative skill levels and constraints experienced by women in seed production are presented in Table 3.

**TABLE 3**

**GENDER-BASED SEED PRODUCTION ACTIVITIES AND CONSTRAINTS FACED BY WOMEN.**

| Seed Production Activity | Who is Performing? | Participants' Perception of Who Has Better Skills | Constraints in Performing Activity by Women |
|---|---|---|---|
| Land preparation | Men | Men | A tractor is used for land preparation, and only men can operate the machine. |
| Seed bed and structure preparation | Men/Women | Equal | Some structures require carpenter skills, net roof setting, and water pipe installation, which can be difficult for women. |
| Cross pollination | Men/Women | Women | None. Women are usually better at cross-pollination |
| Weeding | Men/Women | Equal | If weeding requires herbicide application, women may struggle to handle it because the liquid fertilizer tank is heavy. |
| Irrigation/ watering | Men/Women | Men | Seed production requires good irrigation. When irrigation is manual, such as opening the water gate and turning on the pump, women may find it challenging to perform these tasks. |
| Fertilizer application | Men/Women | Men | In the case of liquid fertilizer, women may struggle to handle it due to the weight of the fertilizer tank. |
| Harvesting | Men/Women | Equal | Depending on the crops. If the crop is heavy, such as watermelon or pumpkin, women may find it difficult to harvest it manually. |
| Post-harvest: Seed cleaning, drying, etc. | Men/Women | Equal | Women may not be able to remove seeds from fruits without machines easily. Taking pumpkin seeds out of the fruit needs both men and women, but men are the ones who are better at cutting fruits. |

### Decisions about Seed Production

Nearly all female seed growers indicated that seed production activities were carried out jointly by them and their husbands. In some households, other family members, such as children and parents, also contributed to seed production. As mentioned, seed farming practices and input decisions are typically guided by recommendations provided by seed companies or public seed centers.

Although seed production contracts or agreements are made at the household level, women often play a leading role in managing these arrangements. Interviews with representatives from seed companies and seed centers revealed that women often serve as household representatives during meetings where the seasonal quota for seed production is decided. These meetings are held before each production season to finalize crop types, production volumes, and quotas for each farmer. The process sometimes involves negotiation between farmers and contracting companies, requiring participants to make decisions based on their capacity and readiness to undertake production.

In seed meetings, such as farm management training, participation by men and women tends to be more balanced. However, women are usually more active in quota allocation meetings and planning discussions. According to Expert E3, women constitute the majority of participants in pre-season planning meetings. "They tend to listen attentively, taking into account family factors in farm management decisions. They tend to be more focused during training and pay closer attention to the details of farm management protocols than men do. Women socialize more with other women at the meetings than men, talk about their living, farming, and family with peers, which makes them better representatives of their families in such meetings."

As seed farm management involves meticulous, time-sensitive operations, including occasional night work for cross-pollination, it requires a well-planned calendar of activities ranging from land preparation to cross-pollination and harvesting. Each task must be precise and strictly adhere to seed production protocols. In addition to seed farming, seed growers are responsible for post-harvest processes, including cleaning, drying, and packaging seeds for delivery to contracted seed companies and seed centers. It was observed that both men and women participate in post-harvest activities, often with the help of hired labor or other family members. Therefore, farmers must carefully determine the seed production quota to ensure quality output. Women farmers, in particular, tend to demonstrate superior management skills in this aspect than men.

Decisions related to participation in seed production, selection of contracted companies, choice of seed crops, and investment in infrastructure such as irrigation systems or fencing are typically made jointly by husbands and wives. However, some female seed growers indicated that they independently decide to participate in seed production without their husbands' influence. In that case, the husbands usually hold other jobs that provide the primary household income, while the wives oversee seed farm management. The husbands contribute to farming activities before or after their work hours.

Seed production is labor-intensive, and most activities still require manual labor, especially cross-pollination of hybrid varieties. The decision to hire temporary workers for a specific period or specific activities is usually made by women. Women appear to be more socially conditioned and can communicate more effectively with other farm workers and plan schedules more efficiently than men. In contrast, the decision to buy machinery, such as pumps and irrigation pipes, is made nearly exclusively by men. This does not necessarily indicate that women lack authority, but reflects a gendered perception that men are more knowledgeable about farm machinery and

equipment. Nevertheless, women often control the household's financial assets and play a central role in managing the farm's overall finances.

### Access to Decision-Making Power Over Productive Resources

Nearly all interviewed female farmers indicated that, although decisions on land allocation for seed production were made jointly, they were typically influenced by the person with legal ownership of the land. In Thailand, land ownership is not restricted by gender, as both men and women can inherit land from their parents. In the Northeast, parents typically transfer land ownership to the child who provides them with the greatest care; often, it is the daughter.

Although men and women both inherit land from their parents, men frequently move to their wives' villages after marriage and may sell their inherited land to siblings or other family members. Consequently, wives often become primary landowners within the household. Several female seed growers reported purchasing land from their male siblings or cousins, while others cultivated land owned by their fathers, mothers-in-law, or grandmothers. As a result, women often dominate ownership of farmlands and play a key role in decisions on land allocation.

As one of the participants said, "I inherited this land from my parents. My sisters and brothers also received some land, but I have more because I am the first daughter and take care of my parents more than any of my siblings. My brother moved to another village to live with his wife and sold his land to one of my sisters. On my farmland, I decide what to grow, but I always consult my husband. We usually make farming and investment decisions together."

Ownership of agricultural equipment, such as tractors and seedling machines, as well as household consumer durables like washing machines, televisions, and radios, is generally shared between the husband and wife. Nearly all interviewed seed growers reported consulting one another before purchasing, leasing, or selling such assets. This is because of the perception that household resources should be jointly managed. For farm assets, women usually believe that, since the assets are used for farming and both husband and wife contribute to seed production, they should be decided and owned jointly. This is primarily because women are mostly in charge of household finances.

In rural areas, motorcycles and motorcycle sidecars are the most common means of transportation, enabling both men and women to commute conveniently between their homes and farms, as well as to travel around villages for food shopping or running errands. However, some households do not own vehicles and depend on other family members, such as children, for transportation. In some cases, women may also own fewer vehicles than men. Although vehicles such as motorcycles and pickup trucks are often jointly purchased, men are more commonly the owners of trucks, while women are more frequently the owners of motorcycles.

It is also important to note that if the purchase of assets requires credit, ownership is often decided by who holds the membership with the credit provider. For instance, if the wife is a member of an agricultural bank, she applies for the loan and becomes the legal owner of the asset. Therefore, membership with credit providers plays an important role in determining asset ownership within rural households.

**Decisions to Avail Credit and Loan**

Most households make joint decisions on credit. Female farmers noted that membership in credit institutions is random and generally based on convenience rather than gender. Both men and women

can become members of agricultural banks, cooperatives, or village funds. If there is no policy requiring only one household member to be a member, it is sometimes the case that both the husband and the wife are members of the same credit institution. In cases where only one person in the household is permitted—such as in village funds—membership is assigned randomly or transferred from one generation to the next, allowing the daughter to inherit the membership from her father.

One important observation is that if women cannot drive and are constrained from commuting independently by car, they have to depend on their husbands to visit credit institutions. This influences the decision on who should be a member of credit institutions and conduct financial transactions. In such cases, men generally have greater access to credit than women. Conversely, when men are engaged in animal husbandry and need to remain at the farm, women frequently assume responsibility for managing membership and credit activities.

"My husband is a member of the Bank of Agriculture and Agricultural Cooperatives (BAAC). It is easier for him to travel to the bank than for me. When we take a loan from BAAC, he uses our land as collateral, but we make the decision together to obtain credit for buying a new tractor," explained a participant.

Another participant added, "In our family, I am a member of the village fund. We pay an annual membership fee of THB200. The fund has about 60 members. We can take a loan from it, but I have not borrowed yet. We receive a small dividend every year."

### Control Over Use of Income

Most of the participating women indicated that household income is pooled, with the wife typically managing and controlling the cash flow. Only one of the 22 interviewed female seed growers reported having separate accounts and managing their finances independently. What is more common is that if the husband has other income, whether farm or off-farm, he will give his entire income to the wife, and she manages the household finances. This suggests that, even though decisions about income use are shared, wives in this farming community still have significant authority over money. For instance, husbands may buy equipment for seed production, but wives keep and allocate the family income for it.

In general, the interviewed female farmers reported having the authority to make decisions about household income and expenditures, especially those related to consumable goods and food. Most of them indicated that those items are shared among household members, and that the wife is usually the person who makes decisions about them. Furthermore, if the items are for personal use, the husband and wife make their own decisions independently. For instance, women decide on soap, shampoo, detergent, rice, cooking oil, condiments, and their cosmetics and clothes. Men can also make decisions on their consumable goods.

Typically, the person in charge of household items or who uses them frequently makes the decision. For instance, wives oversee cleaning and therefore decide which detergent to use. Similarly, since husbands are in charge of tractors and pick-up trucks, they make decisions about tire and engine repairs. Men and women have almost equal access to financial assets.

Spending on children's education and parents' care is generally covered by household income and is agreed upon by both spouses. This suggests that even if one person is responsible for transactions, both agree on the use of income and expenditures.

**BOX 1**

**CASE STUDY: VJ.**

VJ, aged 45, lives with her 49-year-old husband, their 14-year-old son, and her parents. After completing high school at 18, she left her village in Roi-Et province, where her parents were rice farmers, to work in a factory in Eastern Thailand. After 20 years, she and her husband decided to return to Roi-Et, believing that investing and cultivating their own land would offer a more stable livelihood.

VJ inherited 1.6 hectares of land from her parents. Her husband, also from Roi-Et, sold his land to his sister while working in the factory. Recognizing the potential of seed farming as a profitable venture, VJ became a contract vegetable seed grower for large seed companies in 2018. She allocates 40% of her land for rice cultivation for household consumption and the remaining area to contracted seed production.

Although her husband, parents, and cousin help in seed farm activities, she remains the key person behind the business. She is responsible for farm accounting, investment decisions on irrigation systems and seed-drying machines, and the management of crop calendars for various seed varieties throughout the year. VJ consistently meets or exceeds the quotas assigned by contracting companies in both seed quality and quantity. Reflecting on her decision to return to farming, she stated, "I am pleased to be back in my hometown, living with my parents and making solid living from my own land."

### Leadership in the Community

Since this study focuses on seed growers, their participation in the community may not accurately represent that of typical Thai farmers. It is observed that contracted seed growers focus on seed production, which is a labor-intensive process that requires careful management of seed farms. As a result, some institutions, such as agricultural cooperatives in which general farmers are members, are uncommon among seed growers.

Table 4 summarizes the institutional membership of farm households. While typical farmers are often members of agricultural cooperatives, farmers' groups, and community enterprises, none of the interviewed seed-producing households reported membership in these institutions. This may be because they do not see the benefits of joining cooperatives and farmers' groups that usually provide input advance credit, loans, or output sales and marketing support. As seed growers have contracts with seed companies or public seed centers, they do not require such support. However, some of them are members of the BAAC, the primary financial institution that supports Thai farmers and facilitates government support programs for them. BAAC also provides credits and soft loans depending on the programs. Another common credit institution that most seed farmers prefer to join is the village fund. This provides them with access to credit. Membership in these credit-providing institutions may be held by either the wife or the husband. However, as mentioned earlier, women's limited mobility, particularly their inability to commute independently by car, may limit their access to formal financial institutions and their participation as members in these credit-providing institutions.

Another common social institution is the community funeral fund, in which each household contributes financially when a member of the community passes away. It is a way of showing community support. In return, when a member of the contributor's household dies, the family

receives financial assistance from the fund. Among the 22 farmers interviewed, two households reported having family members employed as local government officers—a daughter in one case and the father in another. However, none of the participating female seed growers or their husbands held government positions.

Regarding community institutions, it was observed that in the selected communities of the northeast region, there are currently no active women's community groups engaged in economic activities. Farmers indicated that women's community groups were previously established for silk weaving, local food processing, and bloom making with support from the local government. However, after the government support ended, these groups struggled to sustain their operations. A key reason cited is the limited or inconsistent market demand for those products, which made continued participation of group members difficult. As a result, there is no opportunity for women to join these women's community groups.

"There used to be a women's group in our village. We made handwoven fabric and raised cricket, but the group no longer exists. The income from joining these activities was too small, so the groups did not survive. I also do not have time to join other activities. When I have free time, I usually visit our seed farms," one farmer explained.

Nevertheless, informal gatherings continue to play a crucial role in maintaining cultural and religious traditions. Compared to men, women participate more actively in such social gatherings. Activities include traditional dance clubs, aerobic exercise groups, an annual provincial parade, and communal events such as weddings and funerals, where women often join to prepare large meals. These occasions not only bring women together but also provide an excellent opportunity for moral support, the exchange of information, including information related to agricultural production and marketing, and the dissemination of community news.

Another notable form of community participation is the village health volunteer system. Village health volunteers are residents who help promote good public health at the village level. Their responsibilities include inspecting households for mosquito-breeding sites, measuring the blood pressure of village members, and conducting health awareness campaigns. The volunteers receive small monthly incentives from the local government. During the COVID-19 pandemic, the system played a significant role in educating the rural population and supporting vaccination efforts. Although only a few of the female seed growers serve as village health volunteers, their participation reflects the growing leadership roles of women in rural communities.

**TABLE 4**

**MEMBERSHIP OF SOCIO-ECONOMIC INSTITUTIONS.**

| Institution | Membership of Participating Households | Who in the Household has a Membership? |
|---|---|---|
| Agricultural cooperatives | None | – |
| Bank of Agriculture and Agricultural Cooperatives | Some | Husband or wife |
| Farmer's group/community enterprise | None | – |
| Local government | Some | Children or parents |
| Trade association | None | – |

(Continued on next page)

(Continued from the previous page)

| Institution | Membership of Participating Households | Who in the Household has a Membership? |
|---|---|---|
| Village funds | Most | Husband or wife |
| Community funeral funds | Most | Husband or wife or both |
| Village health volunteer | Few | Wife |
| Women's community group | Some | Wife |

**BOX 2**

**CASE STUDY: NONG-RUE SUBDISTRICT.**

In the Nong-rue subdistrict of Khon Kaen Province, a group of seed growers operates under indirect contracts with brokers of a large multinational seed company. During the dry season, they cultivate watermelon for seed production on adjacent farms near the village. Interviews with this group revealed a clear pattern of division of labor and mutual support among households. Three women farmers—Wan, Pa, and Pai—aged 50, 52, and 60, respectively, regularly assist one another on their farms. They are also neighbors from the same village, and their husbands also participate in seed farming.

All decisions made at seed farms, such as investment, participation in seed production, hiring labor, investment in machinery and infrastructure, are made jointly by husband and wife. There is a clear division of labor for some activities—men always handle land preparation, herbicide spraying, and irrigation, while women are responsible for seedbed preparation, cross-pollination, harvesting, and daily inspection and management.

During the day, they stay at the farms, cook, and eat lunch together. When there is a need for extra hands, they exchange labor without any payment, especially when husbands must step out for other activities. As Pa explained, "Today, my husband went to visit his mother, and I am alone at the farm. Fortunately, Wan is here to help me finish preparing seedbeds. We always help each other."

This women's group is informal but shows strong mutual support for social cohesion. Through shared work and reciprocal labor, they support each other in farming activities and collaborate to create a happy farming environment.

Most of the interviewed female farmers said that men usually do not participate in social gatherings as women do. This may be because both men and women are often exhausted from farm work and tend to be isolated from recreational activities, including drinking or socializing with peers.

### Time Use for Seed Production

Most of the participating female farmers are aged forty and above, with children who are already teenagers or working full-time. At the time of the interview, the time spent on childcare was minimal. In contrast, several women reported spending more time caring for their parents or parents-in-law than for their children or grandchildren. Some lived with their parents, while others had them nearby in separate houses. The chores women typically do include housework and limited caregiving for family members.

As one farmer explained, "I used to stay at home to take care of my bedridden mother while my husband worked off-farm as a daily hired worker. After my mother passed away, I returned to farming. I told my husband that we should go back to seed contract farming as it pays well."

The study reveals that, overall, women spend most of their time on seed production, followed by sleeping (see Table 5). As noted earlier, seed production is both time-consuming and labor-intensive. Although they have limited free time, women farmers did not indicate a preference for more time to relax, perhaps because they understand that producing high-quality seed requires considerable effort and time in the field. They feel happy to work on the farm and enjoy a good income rather than having free time. Most participants expressed satisfaction with their work and indicated they do not prefer idle time. It was also observed that all of the participants had sufficient hours of sleep.

**BOX 3**

### CASE STUDY: TIP.

The 57-year-old Tip lives in a village of about 100 households. Her seed farm is located close to the village. At night, her 62-year-old husband stays at a small barn on the seed farm, while she returns to the village to live with her daughter, son-in-law, and granddaughter. Tip and her husband cultivate rice for both household consumption and sale, and they also produce tomato seed under contract for a seed company.

Tip spends about eight hours a day working on the seed farm and about eight hours sleeping. She begins her day at 4 a.m., traditionally cooking glutinous rice using charcoal, offering food to the monks, and spending the rest of her morning shopping for groceries, cooking, and cleaning. Occasionally, she weaves mats by hand for household use.

"My husband does not like to socialize. He stays at the farm most of the time and does not attend social activities. I like to have fun with my friends. I joined the women's group in the village and practice dancing. We perform at the annual provincial event. It is not only fun but also a chance to chat with my friends," she explains.

Tip manages to balance her time between farming, household responsibilities, and social activities. "We work together on the farm. We cannot take on more seed production than what we already do. Seed production provides a good income but requires much labor. We work a little each day, and I do not find it burdensome. We women live longer than men, so I want to stay healthy and be happy."

This case demonstrates that empowering women in agriculture involves more than achieving gender equality—it requires ensuring they stay healthy and can work happily.

Cooking and grocery shopping are generally regarded as women's responsibilities. However, many of the interviewed farmers noted that their husbands also share these tasks, including cooking, shopping, and cleaning. At home, men also participate in activities, such as home gardening, watering plants, and cleaning the house. In other words, household chores are not done solely by women. All the women interviewed expressed satisfaction with how they allocate their time.

One farmer explained, "Working on a seed farm is intensive, but not year-round. Some days we work late at night for cross-breeding. On other days, we spend long hours in the sun preparing land,

seedbeds, and removing weeds. However, there are also days when we can be more relaxed, just maintaining the crops and watering. I have enough time in the evening to watch TV and visit my friends for a chat."

Another participant shared, "I cook and do laundry for my husband and myself. My children are teenagers, so they take care of their own laundry and ironing. My husband also cooks sometimes, especially when he returns from errands outside the village while I am still at the farm. He cooks what he likes to eat, and it tastes better than mine."

When asked about the types of support or programs that could make their farming or daily lives more comfortable, most participants could not identify any specific needs. However, a few expressed interest in programs that promote healthy living, noting that this can help them feel energized and continue working on the farm.

**TABLE 5**

**TYPICAL TIME USE OF FEMALE SEED GROWERS.**

| Activities | Hours | Note |
|---|---|---|
| Seed farming | 8-14 | Seasonal |
| Handicraft | 0-1 | Occasionally |
| Cooking, grocery shopping | 2-3 | Daily |
| Childcare or parent care | 1-2 | Daily (if any) |
| Cleaning, doing laundry | 1-2 | Daily |
| Meditation/watching TV/ relaxing | 0-1 | Occasionally |
| Exercise | 0-1 | Rarely |
| Sleeping | 6-8 | Unless it is the cross-pollination period, when nighttime sleep is reduced. |

### Barriers and Challenges for Women in Seed Production

Based on interviews with female seed growers, the key constraints in seed production activities were listed in Table 3. Additional social and economic challenges identified by the participants are summarized below.

As in most types of farming, some seed production activities are physically demanding, such as land preparation, irrigation, watering, and applying liquid chemicals or fertilizers using tanks. However, in activities such as cross-pollination, women are superior to men in terms of precision and speed.

One participant explained, "I cannot apply fertilizer because the tank is heavy. If I fill half a tank, I can handle it myself, but then it requires several trips and wastes too much time." Another farmer noted, "My husband controls the water. He inspects the water level in the irrigation canal. I cannot handle the floodgate—it can only be done by men."

These challenges are well-recognized by farmers and contracted seed companies. However, technologies designed to help women work more efficiently and independently in seed farming are not available. Therefore, men are better than women at physically demanding tasks. This indicates

a need to develop appropriate technologies for women seed growers. As one participant shared, "I wish there were a lightweight tractor so I could prepare the land myself. Then I do not have to wait for my husband, who works as an electrician and is sometimes busy."

While challenges in seed farming are obvious for activities such as land preparation, fertilizer and herbicide applications, and irrigation, women hold an advantage in tasks that require delicate skills, specifically cross-pollination. As reflected by a participant, "I can do cross-pollination faster than my husband. My fingers are smaller, allowing me to work quickly. During the peak cross-pollination period, we sometimes hire more workers, but still prefer women."

Nonetheless, challenges persist due to high labor demand and limited household capacity. Hiring labor is common but adds costs. This implies that women must also manage hired workers and ensure they have sufficient labor during critical stages of the cropping season. Furthermore, access to credit and household financial liquidity remain essential for sustaining seed production activities.

**BOX 4**

### CASE STUDY: SU.

Fifty-two-year-old Su lives in Yasothon province and has been engaged in rice farming for a long time. She is married with two children, both of whom have moved out and have their own families. Su and her husband are the only members of their household, as their parents have passed away. Five years ago, she began participating in a seed production contract.

"I know that seed production generates good income, but I had to take care of my parents. After they passed away and my children grew up, I had time available to join a seed production contract," she said.

Su and her husband cultivate rice, vegetables, and pumpkin seed production, and practice aquaculture. She recognizes that seed farming offers a higher income than other crops and wishes to better manage seed farms. She also acknowledges that some activities are constrained by physical demand. Su considers herself fortunate that her husband allows her to make several decisions independently, such as hiring additional workers, purchasing machinery, and investing in irrigation systems.

As she explained, "My husband is not always at the seed farm. He needs to go to the rice farm, and I must wait for him to return to water the seedbeds. I am unable to operate the pump manually. I decided to invest in a new system that uses solar cells to generate power and includes an electric pump. This way, I can control it with a switch. Now I can water the field myself."

Su exemplifies how access to suitable technology can empower women to reduce physical constraints in farming, especially when they have control over investment decisions. However, such opportunities depend on the household's financial capacity, liquidity, and access to credit.

Access to credit does not appear to be a significant barrier, as men and women generally make joint loan decisions. However, the requirement to be a member of a credit-providing institution can be a constraint for some women, particularly those unable to drive or commute independently. Conversely, if men oversee animal husbandry—an activity that often limits their mobility—membership in credit institutions may also become a constraint for them.

"We (my husband and I) agreed that there was a need for a new tractor, and so we took out a loan from BAAC. Since I cannot drive and it is easier for him to go to the bank, we decided that he should be the member and avail the loan (for our family)," a participant said.

In Thailand, major commercial banks do not restrict women from becoming members. However, availing a loan requires collateral, and a land title is the most commonly used. As observed in this study, women can own land like men, and therefore, access to credit does not appear to be a significant challenge for them. It was reported that women in Thailand have equal rights to economic resources, including land ownership (Office of the Secretary of the Senate, 2025). Nevertheless, women may not be able to independently decide to take out loans, as financial decisions regarding credit are often made jointly with men. In other words, access to credit and decision-making over major financial activities generally require mutual agreement between spouses.

Decision-making within households is generally mutual. However, some decisions—particularly those involving machinery and vehicles that require high investment—are predominantly made by men. This is because men are perceived as more knowledgeable in such matters, and within Thai rural agricultural communities, they are traditionally regarded as family leaders. Nevertheless, men often respect and grant women authority in several household decisions, especially those related to finances. The success of family farming and the well-being of the family are usually determined and managed by women, who play a crucial supporting role behind the scenes. As several participants shared, women gain respect within the family.

"Men are the front legs of elephants. We (women) are the back legs of elephants. Men should be the family leader."

"My husband and I agree on everything. We decide everything together."

"My husband gives me his money (from other jobs). I do not know if it is all, but we pool the money in one reserve. I have control over the money. If he needs to use it, I give him cash."

Although household decisions in rural Thailand are typically made jointly by husband and wife, women often cannot or prefer not to make decisions independently. This may be due to a lack of trust placed in them regarding certain important matters. "When it comes to household matters, I make decisions on my own. I do not need to consult my husband. If it is outside of the household, like getting new pumps, I do not make a decision," a participant stated.

In this study, no significant differences were found between men and women in terms of literacy and education within households. The national literacy rate also shows no gender disparity, as compulsory education requirements are the same for both men and women. However, women may have fewer opportunities to participate in informal education, such as skill training, which can result in lower levels of knowledge and fewer skills than men. For agricultural activities, particularly in seed production, training provided by seed companies is not limited to men. Interviews also suggest that either the husband, the wife, or both may attend these training sessions. However, skills such as financial management, market situation, information monitoring, and entrepreneurship—areas where women do not face physical constraints—were not observed in this study. This implies that opportunities for skill development, preferably for women, might not be sufficient.

## Policy Implications and Recommendations

The recent report by Senate Committee on Social Development and Children, Youth, Women, Elderly, Disabled, Disadvantaged and Social Diversity released in March 2025, titled Social System Recommendations for Women to achieve the Sustainable Development Goals 5: Achieve gender equality and empower all women and girls, provided an overview of current regulations, measures, support systems, social institutions, issues, challenges, and policy recommendations (Office of the Secretary of the Senate, 2025). The report does not include any specific recommendations to empower women or promote gender equality in the agricultural sector. However, recommendations related to the agricultural sector, including policies of the women's development fund, should take into account external factors that affect repayment ability, such as natural disasters that affect agricultural production and the income of agricultural borrowers.

Based on the findings of this study, the following recommendations aim to empower women in agriculture, particularly in seed production.

Supportive technologies and programs can significantly assist women in farming. For example, lightweight machinery and automated pumps can make agricultural tasks easier, especially in the absence of male labor. The availability of modern, women-friendly equipment could further enhance women's productivity. However, seed production activities still rely heavily on manual labor, limiting women's efficiency and competitiveness in this area.

Women are generally satisfied with seed production activities and the income they generate. They do not perceive seed farming as a hardship, as physically demanding activities are often performed by men in the household or by hired labor. However, climate change increasingly affects agriculture through more frequent droughts, floods, and extreme heat. These changes affect women, who are typically less heat-tolerant, and in some marginalized and minority areas, climate change affects women's access to clean water (Thailand Development Research Institute, 2022). Recommendations for climate-resilient seed production and policies to ensure access to clean water, especially for women, are therefore essential.

Efforts to support women in agriculture to achieve a good livelihood—particularly healthy living—require food systems that provide access to safe, nutritious food at affordable prices. Manon et al. (2012) found that women play a significant role in ensuring food quality and sufficiency in rural areas and should be empowered to strengthen sustainable food security. This study demonstrates that seed production significantly contributes to household income. Although seed production is not directly related to food consumption, the findings suggest that when empowered, women's skills as seed growers can be extended to food production, especially for crops that require saved seeds. To promote women's well-being, public health programs that educate them on physical health while they spend long hours on the farm could improve their overall health.

In the past, women's groups in rural areas have supported income-generating activities, such as handicrafts and food preservation, for local markets. Navachinda et al. (1984) found that women in agricultural households who participated in off-farm income activities had greater decision-making power. This study found that the number of such groups has recently declined due to reduced demand for local products and the increased effort required to sustain them. Nevertheless, informal social groups continue to support women by providing moral support and serving as a communication channel. Women should therefore be empowered through cultural and social activities, not only for moral support but also for exchanging information and for shared labor.

## Conclusion

Seed production is generally a joint decision by men and women. In household finances, women in seed production communities often manage significant expenditures and make daily financial decisions, including those related to food and groceries. For high-value assets, especially tractors and vehicles, decisions are usually made jointly, although ownership often rests with men. Women's control over household finances is substantial, and access to credit is generally not a major issue, partly because seed companies provide advanced inputs.

Women are more active socially and participate in community events more than men, enabling them to exchange information relevant to agricultural decisions. Women effectively manage seed production activities, including negotiating production quotas, planning crop calendars, and hiring additional workers. Although they face constraints in physically demanding tasks, they contribute equally to the farming process. Seed production requires the participation of both men and women in farming and post-harvest activities. If women work alone, they may need to hire labor for tasks that demand physical effort.

This study aligns with other findings that Thailand's agriculture sector exhibits high gender equality. For instance, Udomwitid (2020) reported a Women's Empowerment in Agriculture Index of 0.95. However, empowering women in agriculture, particularly in seed production, remains crucial to enhancing productivity, income, and well-being, thereby supporting Thailand's 4.0 economic development goals.

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CHAPTER 9

# VIETNAM

## Background

Vietnam, with a population of approximately 100.3 million as of 2023, is the third most populous country in Southeast Asia. The population is nearly evenly divided between men (49.9%) and women (50.1%), reflecting a balanced demographic structure (GSO, 2024). Despite rapid urbanization and industrialization, agriculture remains a cornerstone of the economy, sustaining the majority of the rural population. Approximately 61.9% of the Vietnamese population still resides in rural areas, where agriculture remains a vital source of income and employment. In 2022, the agriculture and forestry sectors contributed 11.9% to the national GDP, underscoring their importance in ensuring food security, economic stability, and rural development. Within this sector, women serve not only as laborers but also as key contributors to household welfare and rural economies. However, they continue to face systemic barriers related to wages, land ownership, access to resources, leadership, and decision-making power.

Although women constitute a significant portion of Vietnam's labor force, women in agriculture remain economically disadvantaged, earning lower wages and having limited access to high-paying opportunities. In 2023, Vietnam's labor force, comprising individuals aged 15 and above, was recorded at 52.4 million, with women accounting for 46.7% of this total (GSO, 2024). Of these, 63.7% lived in rural areas, and 26.3% were engaged in agriculture, forestry, and fisheries (GSO, 2024). However, the number of agricultural laborers declined by 0.9% compared to 2022, reflecting a broader economic shift and a gradual transition away from agrarian livelihoods.

Despite their extensive participation, women in agriculture earn considerably less than men. In 2023, the average monthly income of female laborers was VND7.1 million (approximately USD289.8), compared to VND8.1 million for men, which was 1.4 times higher than that of women. This wage disparity extends beyond agriculture, with urban laborers earning an average of VND8.7 million per month, 1.4 times higher than their rural counterparts. The gendered income gap persists across multiple sectors, and women, even when possessing equivalent educational qualifications and working similar hours as men, continue to be paid less (ILO, 2021). Moreover, they remain underrepresented in senior roles within agricultural enterprises and policymaking bodies.

While women contribute substantially to Vietnam's agricultural workforce, their employment is often concentrated in low-paying, informal, and unpaid roles, leaving them economically vulnerable. Vietnam ranks 31st out of 146 countries in women's participation in economic activities (WEF, 2022). According to MARD, women accounted for 47.4% of the agricultural workforce in 2023 and as much as 80% in agricultural cooperatives. Although these numbers highlight the high engagement of women in agriculture, the majority (85.9%) of female agricultural workers are engaged in subsistence farming, unpaid family labor, or low-paid jobs within informal microenterprises (IFC, 2017; FAO, 2019; ILO, 2021). These conditions perpetuate economic vulnerability, particularly among women in informal or domestic work, who often lack legal or social protections.

The role of women in agriculture extends beyond mere labor participation. Numerous studies have documented their essential contributions to agricultural production, poverty reduction, and household livelihood security. Studies also show that women devote more time than men to both farm work and household duties, yet retain limited decision-making power within household and communities, especially in remote areas and ethnic minority areas (UN Women and the Family and the World Institute, 2016; Luong, 2021; Bui et al., 2023; H. N. Nguyen et al., 2023; Ngo & Tran, 2024).

According to FAO (2023), women are responsible for 60–80% of domestic food production and play a crucial role in key agricultural export industries, including rice, fruits, and seafood. In rice cultivation alone, they account for 80% of the labor force, handling everything from sowing to harvesting. Similarly, women play a significant role in livestock and aquaculture. Nguyen (2024) observed that in smallholder cattle production systems, women often make the final decision about training and adopting improved cattle management practices. However, while women lead many operational tasks, financial investments, resource allocation, and advanced technical decisions are still primarily controlled by men or elder family members.

Vietnam's transformation from an agrarian to an industrial and service-based economy has reshaped gender roles in rural communities. As men increasingly migrate to cities for non-agricultural employment, women assume greater responsibilities for farm management and household care (H.N. Nguyen et al., 2022). This shift—known as the feminization of agriculture—has expanded women's managerial roles. However, despite taking on greater responsibilities, women continue to face barriers in accessing agricultural resources, credit, and training opportunities. Studies show that while women are more likely than men to engage in self-employment (Menon et al., 2016), they often lack the necessary support needed to establish and sustain successful agribusinesses.

One of the primary challenges faced by women in agriculture is limited access to land and other productive resources. Traditional social norms favor male inheritance of land, leaving women with minimal land ownership rights. As a result, men dominate decision-making regarding land use, crop selection, and resource management. The lack of land ownership among women restricts their ability to access agricultural credit, adopt modern farming techniques, or invest in productivity-enhancing innovations (H.N. Nguyen et al., 2023).

Gender biases also affect women's participation in resource governance, particularly in wetlands and water management. Studies indicate that women's involvement in water resource management is limited due to societal perceptions that water governance requires technical expertise better suited for men (Delfau & Yeophantong, 2020; Thai et al., 2024). Consequently, men continue to dominate leadership positions in local irrigation and water management institutions, particularly in the Mekong Delta.

Women's access to financial services remains another critical challenge. Female farmers, particularly in remote areas, face greater difficulties than men in securing formal credit for agricultural production. Higher rates of illiteracy and lower financial literacy levels further limit their ability to navigate loan application processes and obtain the necessary capital to scale their agricultural activities (Van et al., 2018).

Despite their significant contributions to agriculture, women's representation in leadership roles remains limited. Among the 7,000 agricultural cooperatives in Vietnam, only 6% are led by women. Female-led cooperatives tend to have fewer members and workers than male-led cooperatives, yet

they employ a higher percentage of female laborers (T. T. Nguyen et al., 2023). Traditional gender norms and domestic responsibilities discourage many women from pursuing leadership positions. Even among women who establish agricultural enterprises, many must navigate patriarchal family structures by involving their husbands in business operations or seeking external support. Community-based initiatives and gender-inclusive programs have started to promote women's leadership. Programs such as "One Commune, One Product" (OCOP) have enabled women to establish small-scale agribusinesses, with 39% of OCOP-certified products managed by women. Expanding these initiatives could enhance women's economic participation and leadership roles in rural development (Kawarazuka et al., 2023).

The Vietnamese government has introduced policies to promote women's economic empowerment, including the National Strategy on Gender Equality (2011–2020) and the National Target Program on Sustainable Poverty Reduction. Additionally, initiatives like Program 526/CTPH-CP-HNDVN-HLHPNVN have aimed to increase women's access to technical training and financial resources for safe agricultural production.

Within this context, this study aims to analyze further the role and involvement of women in Vietnam's agricultural sector, identifying the structural, social, and economic barriers they face while highlighting opportunities for empowerment. Specifically, the research will focus on women's participation in agricultural decision-making, access to land, credit, and other productive resources, financial literacy and income control, leadership roles in cooperatives and agribusinesses, and the distribution of workload between agricultural and domestic responsibilities. By addressing these key areas, the study seeks to inform policy recommendations that promote gender equality, enhance women's economic participation, and contribute to sustainable agricultural development in Vietnam.

## Methodology

The study employs a qualitative research methodology, utilizing an aggregated methods approach that combines a desk review of existing literature with expert interviews and individual interviews with women farmers.

### Desk Review

The desk review drew upon a wide range of sources, including government reports, statistics from national and international organizations, non-governmental agencies, and existing policy frameworks. Additional sources included academic journal articles, conference proceedings, industry publications, newspaper articles, press releases, media statements, and TV and radio content. Information from digital research platforms and independent research papers was also incorporated. The collected data and information were systematically categorized and analyzed to provide evidence supporting the five thematic areas of investigation.

### Interviews with the Experts

Individual interviews were conducted using a semi-structured guide to gain insights from professionals with extensive experience in the field. Five experts, four women and one man, participated in the study. They each had between 17 and 30 years of experience working closely with female farmers, including those from diverse ethnic groups and provinces. Their expertise spanned across crop and livestock production, agro-economics, farming systems, agricultural environments, and gender issues. Two experts had specialized research experience in gender issues within the agricultural sector. Among them, one was affiliated with an NGO, three worked at

research institutes, and one was employed at an agricultural extension service center under a provincial government office. All experts were identified through the author's professional network, having collaborated on multiple projects and studies related to agriculture and gender. Table 1 summarizes the profiles of the interviewed experts.

**TABLE 1**

**BACKGROUND OF THE INTERVIEWED EXPERTS.**

| Interviewees | Gender | Agency/ Association | Designation | Nature of Involvement / Work with Women Farmers | No. of Years Working with Women Farmers |
|---|---|---|---|---|---|
| E1 | Female | International Livestock Research Institute (ILRI) | Senior Researcher | A social and gender scientist | 25 |
| E2 | Female | Friesland Campina | Technical staff | Testing and evaluating milk quality of dairy households | 20 |
| E3 | Female | National Institute of Animal Science (NIAS) | Principal Researcher | Guiding and training farmers in agricultural techniques | 23 |
| E4 | Female | Institute of Agricultural Environment | Senior Researcher & Head of Department | Conducting research and transferring agricultural innovation to farmers | 27 |
| E5 | Male | NIAS | Principal Researcher | Conducting research and transferring agricultural innovation to farmers | 15 |

**Note:** E1, Expert 1; E2, Expert 2; ... E5, Expert 5.

**Interviews with Women in Agriculture**

Ten women farmers, representing different age groups (under 35, 35–50, and over 50 years old), were interviewed using an interview guide. These farmers were identified through their participation in a concurrent survey on farming systems conducted as part of Vietnam's Tier 2 inventory for greenhouse gas emissions in livestock production.

All interviewed farmers were from Northern Vietnam, with four residing in Ba Vi district, approximately 60 km from Hanoi, and six from Ha Nam and Thai Binh provinces in the Red River Delta region, about 100–120 km from Hanoi. Each participant engaged in mixed crop-livestock farming systems, raising a combination of dairy cattle, beef cattle, buffaloes, pigs, and poultry while cultivating rice, forages, and trees.

The scale of agricultural activities varied across households. Some operated small household farms with fewer than 20 cattle, limited numbers of pigs and poultry, and landholdings of less than 0.5 hectares. Others managed medium-sized farms with over 20 cattle, focusing either on livestock (such as pigs, dairy cattle, or beef cattle) or on crop and tree cultivation on relatively larger land areas. The average agricultural landholding in the study area was 0.46 hectares per household, according to data from the Ministry of Agriculture and Rural Development (MARD, 2017). Table 2 summarizes the background information of the interviewed female farmers.

**TABLE 2**

**BACKGROUND OF THE PARTICIPATING WOMEN FARMERS.**

| Interviewees | Age | Educational Level | Marital Status | No. of Children | Main Commodity Produced |
|---|---|---|---|---|---|
| P1 | 31 | College | Married | 2 | 60 dairy cows Growing forage grass and biomass maize |
| P2 | 52 | Secondary school | Married | 2 | Nine cattle, one buffalo, dozens of chickens; 6,000 m2 forage |
| P3 | 53 | High school | Married | 2 | 15 cattle, one buffalo, some pigs, and more than 100 chickens; >1ha forage grass |
| P4 | 43 | Secondary school | Married | 3 | 13 cattle, 1ha growing cassava and forage |
| P5 | 48 | High school | Married | 2 | 14 cattle, dozens of poultry; >1ha cassava and forage |
| P6 | 44 | High school | Married | 3 | Dairy small farm; some pigs, chicken; 0.2 ha paddy rice |
| P7 | 55 | High school | Married | 2 | Dairy small farm 0.7 ha forage |
| P8 | 48 | Secondary school | Married | 2 | 17 dairy cows; 1.44 ha maize and forage; 0.2 ha paddy rice |
| P9 | 45 | High school | Married | 3 | Dairy small farm; 1 ha growing forage and cassava |
| P10 | 51 | Secondary school | Widow | 2 | Some pigs and chickens; 0.3 ha paddy rice |

**Note:** P1, Respondent 1; P2, Respondent 2; ... P10, Respondent 10.

### Ethical Considerations

All interviewees participated voluntarily after receiving a clear explanation of the research objectives and ethical considerations. Participants were assured of confidentiality, anonymity, and data security. Informed consent was obtained prior to each interview, and participants were given the option to decline audio recording. Notes were taken for all interviews, and recordings were made only with the explicit permission of the participants. All identifiable information was omitted from transcripts and the final report. Collected data were stored securely throughout the research period and deleted upon completion of the project.

### Data Analysis

A thematic analysis approach was used to interpret data from both the desk review and interviews. The process began with a thorough review of interview transcripts and desk-based materials to become familiar with the dataset and document preliminary observations (Nowell et al., 2017). Systematic coding was then conducted to identify recurring patterns and key concepts, which were organized into broader categories relevant to gendered participation in agriculture (Braun & Clarke, 2006).

Through this coding process, five central themes were identified in line with the research objectives:

1. Decision-making in agricultural production

2. Access to and decision-making power over productive resources

3. Control over income and financial literacy

4. Leadership in the community

5. Time use in agricultural and domestic tasks

These themes were further refined and validated against multiple data sources for consistency and reliability. Finally, the themes were clearly defined to reflect the socio-economic roles of rural women, and the findings were synthesized into a coherent narrative that integrates expert insights, field evidence, and relevant literature.

By following this process, the study systematically examined the structural, social, and economic barriers, while also highlighting the contributions of women to the agricultural sector. Findings were categorized according to the five key dimensions of women's roles in agriculture. The analysis also explored strategies to overcome these challenges, enhance women's contributions, and improve their well-being.

Expert insights were cross-validated with case study findings to ensure reliability, while triangulation was applied to compare data across multiple sources, including policy documents, media reports, and scholarly literature. The perspectives of women farmers were incorporated as case-based evidence, illustrating real-world experiences and challenges related to their roles in agriculture in Vietnam.

## Findings

### Roles and Involvement of Women in Agriculture

#### Decisions about Agricultural Production

Gender dynamics in agricultural decision-making in Vietnam vary by region, ethnicity, and household structure. While more women now participate in discussions, men still dominate final decisions in many farming activities. Women with technical training are more likely to be involved in joint decision-making (FAO, 2019). Le et al. (2023) found men were more confident in agricultural decisions, while women, shaped by Confucian norms, lacked confidence despite being heavily involved (Thai et al., 2024; Kawarazuka et al., 2020; USAID, 2023; H.N. Nguyen et al., 2023).

Gendered labor divisions remain common. Women typically handle tasks requiring precision, such as transplanting, weeding, purchasing inputs, and selling products, while men focus on physically demanding or technical tasks, including soil management and pesticide use (UN Women and Family and the World Institute, 2016; FAO, 2019). In livestock farming, women feed animals and sell their outputs, while men perform tasks such as forage collection (Thai et al., 2024). Women also dominate the pork retail and processing sectors, while men are primarily involved in slaughtering (ILRI, 2021). Women's contributions in food processing and distribution are crucial to rural household food security (Bui et al., 2023). These divisions reflect norms that see women as meticulous and financially cautious (USAID, 2023).

Decision-making authority also differs by region and production type. Tran et al. (2020) highlighted differences between Northern and Southern Vietnam. In Bac Lieu, women had limited say in rice production but were more active in livestock decisions. In contrast, women in Thai Binh and Ha

Tinh had greater control over crops and livestock, partly due to male migration. In mountainous areas like Bac Giang, women performed most cattle-raising tasks, including hauling heavy grass daily; yet, men still hold the final authority (Luong, 2021).

Even when women's work boosts household income, they often lack formal decision-making power. For example, every morning, before the sun rises, participant P1 is already at work. Tending to over 60 dairy cows, she feeds them, cleans the barn, and ensures their health. However, despite being the primary laborer, she has no voice in major decisions. Her husband, who spends less time on the farm than she does, decides what to plant, which cows to buy, and how to spend the income. "I used to offer suggestions," she says, adding, "but he never listened. So now, I follow his decisions to avoid arguments." Although she runs the farm, she has no control over its strategy, or even its profits.

In some cases, women assume primary decision-making roles due to household circumstances, such as their husbands' migration, illness, or widowhood.

**BOX 1**

**CASE STUDY: DAO.**

Dao, a 51-year-old widow with a seventh-grade education, manages her family farm independently. She works at a dairy farm early each morning and then returns home to handle domestic tasks while caring for a few chickens and pigs. Through training provided by the local cooperative and Farmers' Union, she has gained practical skills and now makes independent decisions on planting techniques, livestock care, and pest control practices. Her experience demonstrates how lifelong learning can empower women and strengthen agricultural productivity.

When men work outside the home for extended periods, women often take on responsibilities traditionally performed by men, including plowing, harrowing, and pesticide application, unless they can afford to hire labor (UN Women and the World Institute, 2016). This situation often results in increased workloads for women, who must balance unpaid domestic labor, such as caring for children and the elderly, with agricultural and income-generating activities (USAID, 2023).

Expert E1, who has more than 20 years of experience studying social science in agriculture, explained the reasons for the increasing role of women in agriculture: "In the past, in most cases, husbands and wives worked together in farming. However, with the restructuring of agricultural production and the availability of non-agricultural employment opportunities, men were the first to leave agriculture and seek work in other sectors. Initially, many continued to return home for seasonal agricultural activities. At the same time, women—who remained primarily responsible for family and childcare—stayed in their communities and continued to work in the agricultural sector. As a result, women have taken up leading roles in various stages of agricultural production, becoming the primary labor force within their households.

Decision-making power also varies across ethnic groups. According to Luong (2021), women from majority ethnic groups have greater influence in household decisions than women from ethnic minority groups, where male dominance remains prevalent. However, exceptions exist in certain ethnic communities. For example, women in the Raglay and Cham ethnic communities hold strong decision-making roles in both family and agricultural matters (FAO, 2019).

In summary, women actively participate in decision-making for a wide range of agricultural activities. However, gender norms, physical labor requirements, technical expertise, and the absence of male household members shape their involvement. While traditional societal structures often place men in positions of authority, changing economic conditions and increased participation of women in agricultural training are gradually improving their decision-making power.

### Access to Decision-Making Power over Productive Resources

Access to and control over productive resources in agricultural production vary by gender, depending on household conditions, individual knowledge, and the perceived value and importance of resources (FAO, 2019; Luong, 2021; USAID, 2023; Le et al., 2023). In general, men have greater control over valuable assets such as land, water, large livestock, and machinery, while women tend to manage smaller assets and daily inputs.

Women primarily make decisions regarding day-to-day household needs, including food, clothing, and other household expenses. However, when it comes to land, one of the most important agricultural assets, men remain the predominant owners, despite legal provisions that allow both husbands and wives to have their names on land-use certificates (FAO, 2019; USAID, 2023). Decision-making authority over land use and agricultural production is typically also held by men (FAO, 2022).

Land rights can empower women and enable greater autonomy, as illustrated by the case of participant P3. Unlike most women in her village, she plays a leading role in her household. She co-manages a dairy farm, makes key decisions on livestock and land, and is a legal owner of their property. “The house was my parents’ gift, and I made sure my name was on the papers,” she says. Her authority extends beyond documentation as she decides which cows to buy and when to invest. While many women face challenges in accessing credit due to a lack of property ownership, she can secure loans easily. “Being the official owner has given me the power to make my own choices,” she reflects. “It is the one thing that makes me truly independent.”

Le et al. (2023) found that over half of the men owned land, cattle, and farm equipment solely, while relatively few women held exclusive ownership. Thai et al. (2024) similarly noted that irrigation system management remains dominated by men. However, women tend to gain more control over assets when they are household heads or when their husbands migrate for work (USAID, 2023). In Bac Giang, Luong (2021) reported that although more than 40% of women could make decisions on small purchases, such as feed, only 6% had complete authority over buying or selling cattle.

Findings from this study highlight the importance of shared decision-making, as shown in the cases of participants P2, P6, and P7. These women manage daily farm tasks and household finances, while major decisions are often jointly made with their husbands. In the case of P2’s household, decisions are made together by both husband and wife. “We discuss everything, from what to feed the cows to how to manage expenses,” she explains. She also controls the family’s finances, ensuring that savings are set aside for the future. While her husband makes larger financial decisions, she has full authority over daily spending. “It is a balance,” she says, demonstrating how mutual respect can support both successful farming and a harmonious household.

**BOX 2**

**CASE STUDY: LUU.**

Forty-four-year-old Luu is deeply involved in both housework and farming. Her day begins before dawn at the dairy farm, followed by household chores, and ends with tending to the family's pigs and chickens. Although she actively participates in agricultural work, major decisions about crop selection, fertilization, and pest control are primarily made by her husband, who has attended technical training sessions. However, she contributes during discussions, sharing her views on best practices. Their cooperative approach reflects the gradual but growing recognition of women's voices in agricultural decision-making.

**BOX 3**

**CASE STUDY: KHUAT THU.**

Fifty-five-year-old Khuat Thu grew up in a family of dairy farmers and inherited both land and knowledge from her parents. Together with her husband, she decided to cultivate 0.7 ha of forage grass for their cattle. She makes all technical decisions regarding farming methods and livestock care, while her husband handles major financial investments, such as expanding the herd. Unlike previous generations, where men dominated ownership and control, she now has equal access to land, livestock, and equipment. Although land inheritance remains a challenge due to legal documentation, her experience demonstrates how women can gain substantial control over productive resources through family collaboration and expertise.

Women also tend to be more cautious than men when adopting agricultural innovations. While men are more likely to apply new techniques immediately after training, women tend to prefer observing others' results before making changes. According to expert E4, women and men differ significantly in their approach to applying farming techniques. For instance, when introduced to solutions such as reducing fertilizer use in rice cultivation, minimizing pesticide application, or planting seedlings more sparsely, women—despite having strong technical skills—tend to adopt changes cautiously.

"They usually reduce fertilizer gradually, observe the effectiveness of others' practices, and hesitate to make drastic changes. In contrast, men, after attending training sessions, are more confident and quicker to apply new techniques. To encourage women to embrace agricultural innovations, it is important to provide opportunities for them to participate in comprehensive technical training programs that address their specific learning needs and concerns," E4 said.

Access to credit is another area where women face disadvantages, particularly in marginalized and remote regions. Le et al. (2023) found that fewer women than men independently accessed and made decisions about both formal and informal credit sources, despite existing policies designed to support rural women's access to financial resources. Similarly, Van et al. (2018) reported that women in mountainous and remote areas often have limited access to formal credit, mainly due to lower educational levels and inadequate training on how to utilize loans effectively.

Overall, female farmers have significantly less ownership and decision-making power over valuable agricultural assets and resources compared to their male counterparts. One key factor contributing to this imbalance is that men are predominantly recognized as household heads,

granting them legal representation and the primary rights to own and control productive assets (Le et al., 2023; Thai et al., 2024).

### Control Over Use of Income

Gender disparities persist in income generation and financial management in rural Vietnam. Women typically earn less and manage daily expenses, while men control major financial decisions, especially in male-headed households (SNV, 2018). These roles reflect traditional norms, positioning men as providers. FAO (2019) noted that women earned 80–87% of men's income, with the largest wage gap in the agricultural sector.

Despite their income contributions, women's decision-making power is limited. In Bac Giang, women perform most of the farm work and earn more from cattle, but over 30% had no say in spending, and only 5% could make decisions independently (Luong, 2021). In the Central region, over 61% of women had no authority over major expenses, while 64% of men made such decisions alone (Le et al., 2023). These gaps reflect both limited control and low financial confidence among women.

Financial authority varies by region and culture. In matrilineal groups, such as the Ede and Cham, women lead households and manage finances (H.N. Nguyen et al., 2023), whereas in male-dominated areas, men typically control the income. In the Mekong Delta, men primarily focus on rice cultivation and off-farm work, while women tend to livestock and vegetables (USAID, 2023). Khmer farmers in A Giang show more balanced income roles (Thai et al., 2024), and in Bac Lieu, women manage household budgets despite men making major investment decisions.

In the Red River Delta, couples, such as P4 and her husband, share financial responsibilities through mutual agreement on agricultural investments and major expenses. She handles day-to-day spending independently, managing income from milk and cattle sales. While there is no strict budget, half of their earnings are reinvested into agriculture, and the other half is used to support their children's education. Trusting each other's judgment, they avoid financial disputes.

Migration influences household financial decision-making, leading to distinct roles for men and women. When men migrate for work and send remittances, their status and influence increase, while their wives assume farm and financial responsibilities, ensuring that remittances are used effectively (Kawarazuka et al., 2020). To cut costs, many women avoid hiring labor, increasing their workload (UN Women; Family and the World Institute, 2016; Kawarazuka et al., 2020). When women migrate, they usually remit earnings for shorter periods, as societal norms expect men to be the primary financial providers. This shift can create household tension, as it challenges traditional gender roles (Kawarazuka et al., 2020), often leading women to return to their homes.

Financial decision-making varies by agricultural practices and regional economics. In the Central Highlands, men control coffee sales income due to the crop's high value, while in rice-growing provinces like Soc Trang and Ben Tre, women play a larger role in managing finances, as rice farming is a family activity (Expert Interview, 2024). Ethnic minorities also exhibit varying financial roles, from male-dominated to matrilineal systems that empower women. Empowering women with greater financial control can enhance household well-being and agricultural productivity.

**BOX 4**

**CASE STUDY: MAI.**

Forty-eight-year-old Mai is both a businesswoman and a farmer. She manages 1.44 ha of biomass maize and forage grass while running a dairy farm with 17 cows. Although agricultural work is demanding, she takes pride in her financial independence. She controls all income from farming activities, handling expenditures for household needs and farm investments. Small purchases are made at her discretion, while major expenses, such as new livestock acquisitions, are discussed with her husband. She acknowledges that financial literacy and training have helped her make informed decisions, ensuring the long-term sustainability of their farm.

However, in communities where men dominate financial decisions, women's access to funds for agricultural improvements and business ventures remains limited, reinforcing financial dependence and restricting economic opportunities.

To address these disparities, the government must develop policies that promote joint financial management, provide financial literacy training to build women's confidence, and expand access to credit for female farmers. Traditional gender norms continue to limit women's economic opportunities, but fostering shared decision-making can contribute to more balanced financial management within households. Encouraging equal participation in financial control will not only enhance women's economic independence but also strengthen family financial security and overall community development.

### Leadership in the Community

Research indicates that women are underrepresented in economic and social organizations, particularly in rural areas. Membership in farmer cooperatives, professional associations, and decision-making bodies is predominantly dominated by men (FAO, 2019). A study by Le et al. (2023) in Central Vietnam documents that while women participated in community meetings, their contributions were often limited to minor discussions, and they rarely held leadership roles. Many women reported discomfort in speaking publicly, attributing it to societal expectations that men should be the primary decision-makers. In contrast, more than 70% of men surveyed expressed confidence in voicing their opinions and making decisions on behalf of their communities.

In Bac Giang province, Luong (2021) found that although women played crucial roles in agricultural production and household management, their participation in community leadership remained minimal. Only a small percentage of surveyed women held official positions in local organizations, and many felt hesitant to take on leadership roles due to a lack of experience in decision-making. This limited representation means that policies and programs often fail to consider women's perspectives and needs. Nevertheless, there are some exceptions, such as Le (see Case Study: Le), who has taken up a leadership role in her community.

In matrilineal ethnic communities, such as certain minority groups in Vietnam, women take on more prominent leadership roles. In these communities, women are recognized as household heads, have greater authority over financial and agricultural decisions, and are more actively engaged in community discussions (T.T. Nguyen et al., 2023). Despite these cases, leadership opportunities for women remain significantly lower than those for men across most regions.

**BOX 5**

**CASE STUDY: LE.**

Forty-five-year-old Le is more than just a dairy farmer. She is a respected leader within her local farming community. As the head of her party cell, she actively participates in community discussions about agricultural development. Her confidence in speaking at meetings stems from years of experience in farming and involvement in training programs provided by agricultural cooperatives. Unlike many women who shy away from public speaking, Le believes that voicing her opinions is crucial in shaping farming policies. Her story highlights the evolving role of women in rural leadership and the importance of encouraging female participation in decision-making forums.

Barriers to women's leadership also stem from their time constraints due to domestic responsibilities. The expectation that women should prioritize household and caregiving duties over community engagement further limits their ability to participate in leadership activities. Studies by SNV (2018) and USAID (2023) indicate that women actively involved in local organizations often struggle to balance their responsibilities, leading many to withdraw from leadership roles, as illustrated by P4. Although she is actively involved in farming, P4 remains passive in community leadership. She is a member of the Women's Union and Farmers' Association, attending meetings whenever possible to learn about financial literacy and farming techniques. However, her participation is limited by her daily workload.

Unlike some women, she is comfortable sharing her views publicly when needed and believes that, with their husband's support, women can hold leadership roles. While she acknowledges that some women in her community lead organizations, she does not aspire to do so herself. Her priority remains household and farm work, leaving her with little time or energy for broader community involvement. For P4, leadership is not about formal titles but about ensuring her family's well-being and managing her responsibilities effectively.

In short, gender disparities in leadership remain significant, with men more likely to hold decision-making roles and engage in public forums. Women's participation is limited by traditional norms, time constraints, and limited access to resources and leadership training. While some ethnic minority communities show more inclusion, male dominance still prevails. Expanding training, education, and support networks could help women assume more prominent roles in community development.

### Time Use for Agriculture

Women generally spend more time on agricultural work than men. In rural areas, agriculture remains the primary occupation for female farmers (FAO, 2019), and women often assume more farming responsibilities than men, typically handling the majority of agricultural tasks (Nguyen, 2022). A study in Bac Giang by Luong (2021) found that women play a central role in cattle production, particularly in labor-intensive tasks such as grazing cattle and collecting grass, chores that men often avoid. On average, women spent nearly six hours daily on these tasks, totaling around nine hours in cattle production, two hours more than men. In households where men migrated for work, women are responsible for nearly all farming activities (CARE International, 2022).

In addition to farming, women in delta regions often seek off-farm employment during the agricultural off-season to supplement household income. According to experts, in Northern

Vietnam, where landholdings are small, a single family member can often manage agricultural work. When men take on non-agricultural jobs, women assume the primary responsibility for farming. Men typically return to assist only during labor-intensive periods, such as soil preparation or harvest, or families hire additional workers when needed. Beyond farming, women also engage in wage labor, particularly in the Red River Delta, where non-agricultural job opportunities have expanded. While this additional work has improved their economic status and influence within the household, it has also increased their workload, stress, and responsibilities. As a result, women now shoulder the majority of the burden in both agricultural production and income generation.

Women in rural Vietnam face a dual burden of farming and unpaid domestic work, which limits their leisure time. The ILO (2021) notes that they spend twice as much time on chores as men. Ethnic minority women in remote areas bear an even heavier load due to poor infrastructure (T.N. Nguyen et al., 2023), with 74% walking over 30 minutes to collect water. Traditional norms assign cooking, cleaning, and caregiving to women (SNV, 2018; Le et al., 2023; USAID, 2023). SNV (2018) found that women work over 10 hours a day, dividing their time between the farm and home. In central Vietnam, most women work 9–13 hours with less than two hours of rest, while men average 4–8 hours (Le et al., 2023; Nguyen, 2022). Lower education and training further limit women's job opportunities (FAO, 2019; USAID, 2023).

Overall, women in Vietnam face a heavy workload, balancing agricultural production with unpaid domestic labor. This burden is primarily driven by gender norms and the limited employment opportunities available to them outside of the agricultural sector.

### Barriers and Challenges for Women in Agriculture

Women in agriculture face multiple challenges that stem from gender norms, limited access to resources, and structural inequalities. These barriers not only hinder their productivity and economic independence but also affect their overall well-being.

#### Heavy Workload and Limited Leisure Time

Women juggle both agricultural work and unpaid domestic labor, leaving them with little or no time for leisure or social engagement. In rural communities, they contribute equally or even more than men in farming while also handling household chores and caregiving duties (FAO, 2022). Due to these cultural norms, women often lack opportunities to engage with broader social issues or community activities (Le, 2016; UNDP, 2019; ILRI, 2021). The excessive workload has a negative impact on their health, as they have little time to rest or engage in activities that promote well-being and social connections (Le, 2016).

For example, P4 starts her day before sunrise, feeding and cleaning up after 13 cows by 4 a.m., then milking and cutting forage by 5 a.m. Her afternoons mirror the morning routine, and if time permits, she takes on extra jobs to boost household income. Since her children are grown up, childcare demands have eased, but rest remains rare. Even on lighter farming days, she seeks outside work instead of taking a break. She works nearly 10 hours daily and feels unsatisfied with how her time is spent. For participant P4, free time is a luxury she seldom enjoys. Similarly, participant P6 begins her day at 5 a.m. She works at the dairy farm until 9 a.m., then returns home to cook and handle chores. By 2 p.m., she returns to the farm, staying until evening, before caring for her children. Though she spends over 12 hours daily on farm and household work, she takes pride in supporting her family. Like many rural women, she has little time for rest and believes better tools and support could help ease her workload.

### Limited Access to Education, Training, and Agricultural Extension Services

Women in rural Vietnam face significant barriers to education, vocational training, and agricultural extension services, which hinder their productivity and slow the adoption of new technologies (ILRI, 2021). Over 70% of female laborers in rural areas lack vocational training, primarily due to cultural beliefs that prioritize boys' education and consider higher education unnecessary for girls (Le, 2016). Even when training programs are available, they are often short-term and lack depth, limiting their effectiveness in equipping women with practical skills (FAO, 2019).

Women from the ethnic minority community encounter even greater obstacles due to inadequate school infrastructure, restrictive gender norms, and high illiteracy rates. Only 5.7% of ethnic minority women aged 15 and above are classified as skilled workers, while many older women remain illiterate, preventing them from accessing vocational training opportunities (USAID, 2023). Surveys indicate that in the Mekong Delta, up to 87% of women have never received agricultural training, and another study found that women comprised only 20% of participants in such programs. Participant P1 indicated that her world is confined to her farm and home. She has never joined a community group, nor does she attend training sessions. "I do not have time, and honestly, I do not see the benefit," she says. With a heavy workload and young children, social engagement feels like a luxury. While other women build networks and gain knowledge through organizations, she remains on the sidelines, missing out on opportunities for growth and support.

These disparities hinder women's ability to improve farming techniques, increase productivity, and participate in financial decision-making within their households, as exemplified by participant P3. Despite her strong leadership, P3 faces a different kind of challenge—technology. "I do not know how to use smartphones or the internet," she admits. While younger farmers access market prices and training videos online, she relies solely on word-of-mouth knowledge. "I have to ask neighbors where to buy things or how to handle problems," she explains. Despite her experience, the lack of digital literacy limits her ability to modernize her farm.

Logistical challenges further restrict women's access to training programs. Many women are unable to travel long distances to commune or district training centers due to a lack of transportation, financial constraints, or household responsibilities (USAID, 2023). Gender norms also play a role in their exclusion, as men are often preferred for participation in agricultural training programs. Highlighting the need for more accessible training opportunities for women, an expert pointed out that technical training courses held at commune or district centers are usually attended only by men.

"Women, especially H'Mong women or those living in mountainous areas, cannot travel far or are occupied with household chores. To ensure gender equity in technology transfer, project designs should bring technical staff and training equipment directly to villages. This will enable women to participate without needing to travel long distances," the expert said, adding that in some cases, commune and farmer association officials even need to persuade husbands to allow their wives to attend training courses, showing the strong influence of traditional norms on women's participation.

Despite these challenges, there has been a gradual increase in women's participation in training and leadership roles. In the past, agricultural workshops and policy discussions were often dominated by men; however, in some areas, women's involvement has increased, and in specific training sessions, they even outnumber men. This shift reflects changing gender roles and greater recognition of women's contributions to agricultural decision-making. For example, unlike other women, P2 actively participates in women's and farmers' groups. "I have attended training on

animal feed and disease prevention," she says. These training sessions have helped her improve the productivity of her farm. More than just technical knowledge, these courses offer her a support system. "We discuss challenges, share advice, and help each other. It is comforting to know that I am not alone in this," she said. Her engagement has made her a stronger farmer and a more confident decision-maker.

However, many women remain unaware of policies related to land, credit, and resources, which limit their ability to apply training effectively. Expanding gender-sensitive, accessible training, through local sessions, digital tools, and female-led initiatives, can help close this gap. Encouraging male support for women's participation will further promote inclusion. With better access to and support, women can develop skills and confidence to enhance their economic roles.

**Limited Ownership of Assets and Access to Production Resources**

Women in rural Vietnam face significant challenges in owning land and accessing production resources, which limits their ability to expand agricultural production and improve productivity. Although Vietnamese law allows for joint land ownership, patriarchal inheritance customs favor men, often leaving women with limited or no rights to family land. In particular, daughters-in-law in rural areas are vulnerable to losing land rights in cases of divorce or widowhood, as land is typically registered in the names of male family members (UN Women and the Family and the World Institute, 2016; FAO, 2019).

In many rural and mountainous areas, property ownership, including land and housing, is primarily allocated to men, as is the case with participant P1, whose name is not listed in the land ownership book. Despite years of labor, P1 owns nothing, not the farm, land, or even the income from her work. The land is rented under her husband's name, and all earnings go into his account, leaving her without financial independence. Though she handles daily tasks, she is excluded from decision-making. "If my husband wants to plant something, he buys the seeds, and I plant them," she says. Her opinions are dismissed, and over time, she has accepted a silent role to avoid conflict. The most significant barrier she faces is not a lack of skill, but restrictive societal norms. "My husband controls everything, money, land, decisions," she reflects. With no financial independence and no voice in farm management, her potential remains untapped.

Women's labor, often unpaid and undervalued, does not provide them with financial security in cases of family conflicts. This economic dependency affects women's autonomy. The gender norm that women are mainly responsible for caregiving means their labor is unpaid. This makes women economically dependent. In cases of conflict, women are at a disadvantage because they have no assets. Men, on the other hand, work, accumulate wealth, and have social connections.

Certain groups, such as landless female-headed households and ethnic minority Khmer communities in the Mekong Delta, are particularly vulnerable (USAID, 2023). Additionally, agricultural mechanization primarily benefits men, as they tend to operate and own farming machinery, further widening the gender gap. Findings based on expert interviews indicate that inheritance laws, cultural traditions, and customary practices continue to restrict women's ownership of land and productive assets in Vietnam. In many rural and ethnic minority communities, land is customarily passed down to sons, while daughters receive little or nothing. Daughters-in-law are often excluded from land titles to avoid future property disputes in the event of divorce. As a result, many women lack legal claims to the land they work on, leaving them vulnerable during marital conflicts or widowhood.

This gendered pattern of land allocation is reinforced within families, where eldest sons typically receive the largest share, while daughters may be excluded entirely. Without formal land ownership, women face barriers to accessing credit, as land titles are required as collateral. This limits their ability to invest in agricultural innovations or launch income-generating ventures, curbing their economic independence (UN Women and the Family and the World Institute, 2016; ILRI, 2021; Meyer et al., 2023; Le et al., 2023; USAID, 2023).

However, these norms vary by region, and gradual shifts are emerging. Growing gender awareness has led some families to support daughters' land ownership. Policies promoting joint land titles and legal protections, alongside public education on inheritance rights and the economic benefits of women's land ownership, are key to shifting cultural attitudes and empowering women in agriculture.

**Poor Access to Markets, Credit, and Agricultural Services**

Women, particularly those in rural areas, face significant barriers to accessing financial services, markets, and agricultural support programs. Many lack land ownership, which prevents them from securing loans, even under microfinance programs (FAO, 2019; USAID, 2023). Male farmers, who own larger farms, have more advantages in accessing agricultural extension services and financial resources.

Limited participation in training courses means that women often rely on informal learning methods, such as observing their neighbors or family members, to acquire knowledge. Due to a lack of bargaining power and market knowledge, women struggle to negotiate fair prices for their products. A report by UN Women and the Family and the World Institute (2016) found that only 7.4% of female-headed households accessed credit, compared to significantly higher rates among male-headed households. Additionally, women working in agriculture often engage in low-skilled, insecure jobs, leaving them vulnerable to economic shocks.

**Gender Imbalance in Decision-Making and Leadership**

Women in rural Vietnam have significantly less decision-making power than men, both within households and in community affairs. In remote areas, where poverty rates are high and educational levels are low, men tend to dominate decisions related to financial management and the adoption of agricultural innovations (Luong, 2021). Even with training and technical knowledge, many women are unable to apply what they've learned due to entrenched cultural norms that position men as primary decision-makers. FAO (2019) notes that ethnic minority households rarely adopt modern agricultural techniques largely because men dominate decision-making.

Expert interviews (2024) reveal that although rural women in Vietnam participate actively in community organizations and cooperatives, they face persistent barriers to leadership. Household responsibilities and traditional norms limit their time and confidence to lead. Women in leadership roles often struggle to balance domestic duties and professional engagement, especially in sectors where networking is crucial for gaining influence.

While some women receive support, many lack control over resource use, particularly in decisions related to farming. This is worse in ethnic minority and mountainous areas, where women are often economically dependent and excluded from decision-making. Addressing these gaps requires more leadership training, inclusive governance, and a shift in perceptions of women's roles in rural development.

**Lower Wages and Increased Vulnerability**

Women in agriculture are paid less than men and face greater economic insecurity. According to GSO data (2019), male wage workers (51.4%) outnumber female wage workers (43%), highlighting the gender gap in formal employment. Women are overrepresented in informal agricultural work, where wages are lower, and job security is minimal. The UNDP (2019) reported that nearly 80% of women working in the informal sector earned lower wages than their male counterparts. One reason for this pay gap is the perception that men's agricultural work is more technical and demanding, justifying higher wages (USAID, 2023). Women also have fewer opportunities to access high-paying jobs, further widening the income disparity (T.N. Nguyen et al., 2023). Many women engage in unpaid household labor, with 22% of women performing unpaid work compared to only 10% of men (FAO, 2019). The COVID-19 pandemic further highlighted these vulnerabilities, as women left the labor market at higher rates than men due to weaker job security (ILO, 2021).

Overall, women in agriculture face numerous barriers, including heavy workloads, limited access to education and training, restricted land rights, and inadequate access to credit and markets. Gender norms and structural inequalities also hinder their decision-making and leadership opportunities. To address these issues, gender-sensitive policies should expand women's access to education, training, credit, and markets, while promoting leadership and land ownership to advance gender equity in agriculture.

## Policy Implications and Recommendations

While Vietnam has made progress through policies like the National Strategy on Gender Equality (2021–2030) and initiatives by the Vietnam Women's Union, further actions are needed to create a more inclusive agricultural sector. Based on expert insights and research findings, the following policy recommendations are proposed:

**Enhance Access to Education, Training, and Agricultural Extension Services**

Women play a crucial role in agricultural production, yet they often lack access to education and technical training that could enhance their productivity and efficiency. Many women, especially those from ethnic minority communities and remote areas, face barriers in attending training programs due to household responsibilities, mobility constraints, and language barriers. Limited access to agricultural extension services prevents them from learning new techniques and modern farming practices.

To address these challenges, policies should focus on expanding gender-responsive training programs that consider women's schedules and responsibilities, such as offering village-based training instead of requiring travel to distant centers. Additionally, leveraging digital platforms like Facebook and Zalo can help deliver agricultural knowledge and market information to women with restricted mobility. It is also essential to engage community leaders in promoting positive social norms that encourage women's participation in training and education, ultimately increasing their access to opportunities in agribusiness and sustainable farming.

**Improve Land Ownership and Financial Access for Women**

Despite legal frameworks that promote gender equality in land ownership, traditional inheritance customs in many rural and ethnic minority communities still favor men, leaving women with little control over land. Without legal land titles, women struggle to access credit, which limits their ability to invest in agricultural improvements and grow their businesses. The absence of financial autonomy restricts their economic independence and decision-making power within households.

To overcome these barriers, policies should prioritize the enforcement of joint land ownership regulations, ensuring that women have legal rights to land, particularly in ethnic minority communities where customary laws often prevail over formal legal frameworks. Expanding financial inclusion through microcredit programs tailored for women is also essential, allowing them to access loans without requiring spousal consent. Additionally, supporting women-led agricultural cooperatives by providing incentives, capacity-building programs, and market access can further enhance their financial stability and resilience. Raising legal literacy among women through community-based initiatives will empower them to assert their rights and gain financial independence.

**Strengthen Women's Economic Empowerment and Market Access**

Limited access to markets, lower negotiation power, and restricted mobility are major challenges that hinder women's economic empowerment in agriculture. Women often rely on male family members or intermediaries to sell their agricultural products, leading to lower earnings and reduced economic control. Additionally, the absence of direct market connections prevents them from maximizing profits and expanding their businesses.

To bridge this gap, policymakers should focus on developing women-centered agribusiness training programs that enhance their entrepreneurial and marketing skills. Encouraging the formation of cooperatives can also empower women by allowing them to collectively access markets, negotiate better prices, and reduce production costs. Moreover, promoting digital literacy among women can enable them to market their products online, reducing dependence on male intermediaries. Improving rural infrastructure, such as transportation and storage facilities, is also necessary to facilitate women's physical access to markets and enhance their economic opportunities.

**Increase Women's Leadership and Decision-Making Power**

Despite their significant contributions to agriculture, women continue to be underrepresented in leadership roles within cooperatives, agricultural organizations, and local decision-making bodies. Cultural norms and household responsibilities often prevent women from assuming leadership positions, thereby limiting their influence in shaping agricultural policies and practices. However, research indicates that female-led cooperatives contribute to positive social and economic outcomes, including better wages for female laborers and increased adoption of technology in farming.

To promote gender-inclusive leadership, policies should support the development of female leadership within agricultural cooperatives and community organizations. Encouraging shared household decision-making through awareness campaigns on gender-equitable financial and production decisions can also create a more balanced decision-making environment. Strengthening the role of the Vietnam Women's Union in advocating for women's leadership and providing mentorship programs can further equip women with the necessary skills and confidence to take on managerial roles.

**Address Cultural and Social Norms Limiting Women's Participation**

Deep-rooted cultural norms and traditional gender roles continue to restrict women's participation in agricultural decision-making, financial management, and leadership. Even when legal frameworks promote gender equality, social expectations often discourage women from owning land, managing finances, or leading agricultural enterprises. In ethnic minority communities, customary laws sometimes hold more influence than official regulations, reinforcing gender disparities.

To effectively address these barriers, policymakers should integrate gender-sensitive approaches into agricultural policies, ensuring that interventions consider the unique cultural contexts of each community. Engaging men and community leaders in discussions about gender equality can help challenge traditional mindsets and promote social change. Expanding gender equality programs through organizations like the Vietnam Women's Union can also help dismantle stereotypes and create a more inclusive agricultural sector where women have equal opportunities to participate and thrive.

**Improve Working Conditions and Reducing Women's Workload**

Women in agriculture often face a heavy workload, balancing farm labor with unpaid domestic responsibilities such as childcare, cooking, and household management. Limited access to modern farming equipment and labor-saving technologies further exacerbates their physical burden, negatively impacting their productivity and overall well-being. Additionally, the gender wage gap in agricultural jobs continues to disadvantage women, reducing their financial security.

To improve working conditions for women in agriculture, policies should promote the adoption of labor-saving technologies that reduce manual workloads. Ensuring equal pay policies and wage transparency for women in agricultural employment can also help close the income gap. Furthermore, sustainable farming techniques that prioritize women's health and safety should be encouraged. Expanding social protection programs, such as maternity benefits and paid leave options, is essential to support female agricultural workers and reduce the negative impacts of unpaid care work.

Overall, the policy recommendations outlined above directly address the challenges that women face in agriculture, particularly their limited access to resources, financial constraints, leadership barriers, and the influence of cultural norms. By implementing gender-responsive policies that enhance education, land rights, financial inclusion, market access, leadership opportunities, and working conditions, Vietnam can create a more inclusive and equitable agricultural sector. These efforts will not only empower women but also contribute to overall agricultural productivity and sustainable rural development.

## Conclusion

Vietnam has made significant progress in promoting gender equality in agriculture through targeted policies, comprehensive education, and institutional support. However, persistent challenges remain, particularly in rural and ethnic minority communities, where cultural norms, land ownership restrictions, and limited access to financial and educational resources continue to hinder women's full participation in the agricultural sector.

One of the most significant findings is the impact of Vietnam's universal education policy, which has greatly improved women's access to knowledge and skills, particularly in rural and mountainous areas. As national experts highlight, this education has played a crucial role in enabling women to adopt new technologies in agriculture, making them more competitive and self-sufficient. However, despite these advancements, women continue to face significant barriers in leadership, land ownership, and financial autonomy.

The Vietnam Women's Union has been a driving force in promoting gender equality, particularly by helping women understand their rights and providing platforms for empowerment. The

organization's vertical structure, from central to local levels, ensures that gender equality policies are implemented effectively and consistently. However, as one expert pointed out, while knowledge of gender equality has improved, this does not always translate into direct benefits for women in agricultural production. Cultural norms and traditional gender roles still pose obstacles, particularly in ethnic minority communities where customary laws hold more weight than formal legal frameworks.

Land ownership remains one of the most critical issues, anyway, in rural areas, and many ethnic minority groups, land is traditionally owned by men, even when it is inherited from the wife's family. Experts emphasize that this creates barriers to women's economic independence, as they cannot use land as collateral to access credit without their husband's consent. This limitation restricts their ability to invest in agricultural improvements and hinders their overall economic empowerment. Addressing this issue requires striking a balance between respecting cultural traditions and ensuring women have legal rights to land ownership and access to financial resources.

Another key insight is the importance of market access and financial inclusion. However, women often lack direct market connections, resulting in lower income and reduced economic power. Experts suggest that forming cooperatives and producer groups could provide women with better access to markets, reduce production costs, and improve product quality. Additionally, microcredit programs designed for women could help them invest in agricultural production without relying on their male counterparts.

Leadership remains another area where progress is slow. Women continue to hold a disproportionately small number of leadership positions in the agricultural and cooperative sectors. Findings suggest that female-led cooperatives are associated with positive social outcomes, including better wages for female laborers and increased internet use for agricultural development. However, experts stress that without targeted policies to increase women's business knowledge and leadership skills, these benefits will remain limited.

It is essential to emphasize that while education and technology have opened new doors for women, structural barriers, such as social norms and customary laws, must be actively addressed. One expert noted that when introducing new agricultural policies, it is essential to study the customary laws of each ethnic group to understand what restrictions prevent women from fully participating. Policies that disregard these deeply rooted traditions are unlikely to succeed.

Another key insight is the need for community-wide gender standards rather than isolated interventions. One expert explained that successful agricultural transformations require an entire production area to adopt new practices, not just individual households. From a gender perspective, this means that instead of focusing solely on empowering individual women, policies should establish community-wide standards that promote inclusive participation in decision-making and economic activities.

The significant role of the internet, transportation, and social services in improving women's access to agricultural innovations could be recognized. Over the past two decades, these developments have enabled rural women to connect with markets, receive training, and access critical information about crop production and livestock management. However, a gap in digital literacy remains among rural women, making it crucial to integrate digital skills training into gender-focused agricultural programs.

Economic empowerment is the foundation for gender equality in agriculture. When women have higher incomes, they gain more decision-making power within their households and communities. However, economic empowerment alone is not enough. Without social and legal reforms to support women's rights, such as ensuring fair land ownership policies, promoting women's leadership, and addressing gender biases in financial systems, economic gains may not be sustained in the long run.

The findings suggest that while Vietnam's policies on gender equality are relatively progressive, implementation challenges remain, particularly at the local level. Structural barriers, including deeply rooted cultural norms, limited access to credit, and the underrepresentation of women in leadership, continue to hinder the full participation of women in agriculture.

Moving forward, policymakers should adopt a multi-dimensional approach that promotes not only education and financial inclusion but also addresses legal, social, and cultural barriers that hinder women's empowerment. This includes strengthening the role of cooperatives, enhancing digital literacy, ensuring land rights, and creating gender-sensitive policies that align with local customs and traditions.

Vietnam has made significant strides in empowering women in agriculture, but the journey is far from over. Continued collaboration among government agencies, international organizations, the Women's Union, and local communities is necessary to ensure that gender equality in agriculture transitions from policy discussions to everyday reality for Vietnamese women.

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# CHAPTER 10
# CONCLUSION

This study synthesizes evidence from eight countries to examine the changing roles, participation, and empowerment of women in agriculture. A consistent pattern has emerged across the eight countries reviewed under this study.

The increasing and significant role of women in agricultural production is evident in all the contexts studied, with the farming sector employing a substantial share of women, particularly in rural areas. The study also indicates that in many countries, rural women depend on agriculture for their livelihoods. This rise in women's participation is influenced by several factors, including greater access to education and training, targeted government initiatives to increase women's participation in agriculture, and social changes such as men seeking employment outside agriculture or migrating to urban areas in search of work. These shifts have often left women responsible for sustaining farming activities at home.

However, greater participation in agriculture does not necessarily translate into empowerment or improved well-being. Limited access to and control over productive resources, restricted decision-making power, a lack of control over income use, and a lack of voice and leadership in the community, as well as enduring social and cultural norms, continue to constrain women's participation and productivity, empowerment, and well-being in the countries studied.

The study also indicates that women's participation, the roles they play, their decision-making power, and the barriers they face vary slightly across provinces and regions within the same country, and are further influenced by factors such as ethnicity and age.

Some important and common findings regarding women in agriculture in the countries studied are summarized below.

- Women's contribution is evident across the entire agricultural value chain, from crop cultivation activities such as sowing, transplanting, irrigation, fertilizer application, weeding, and harvesting to livestock management, as well as cleaning, grading, packaging, selling, and marketing. However, this contribution can vary depending on factors such as the type of crop cultivated and the geographical area.

- A gendered division of labor is observed in Cambodia, India, Pakistan, the Philippines, Thailand, Sri Lanka, and the ROC, where men typically engage in more physical and labor-intensive tasks, as well as activities involving technology. For example, in Pakistan, labor-intensive, manual, and repetitive tasks such as weeding, harvesting by hand, hoeing, grass cutting, picking, and collecting cotton sticks are carried out by rural women. On the contrary, men predominantly engage in tasks considered physically demanding or requiring technical expertise, such as land preparation, seed sowing, fertilizer application, irrigation, and operating machinery for harvesting and threshing.

- Respondents from Cambodia, India, Pakistan, Sri Lanka, and Vietnam reported that the agricultural work carried out by women is mostly considered informal labor. The ROC, India, and Sri Lanka document the consideration of women's contributions to farming activities as extensions of their household responsibilities and therefore regard them as unpaid labor.

  Additionally, Sri Lanka and Vietnam report that women are often engaged in subsistence farming or low-paid jobs within the agricultural sector. This leaves the women farmers without access to labor protections and further restricts their access to social protections, decent work, and credit. For example, respondents from Sri Lanka noted that because many women are confined to subsistence farming, they become more vulnerable and are excluded from opportunities for value addition, entrepreneurship, or integration into broader markets.

- Respondents from Cambodia, India, Sri Lanka, and Vietnam also report that the migration of men to urban areas in search of employment has left women solely responsible for agricultural activities. This shift has increased women's empowerment in agriculture, as they assume the role of primary decision-makers and gain greater authority over agricultural work and the income it generates. However, this has also added to women's burden of handling both household and agricultural responsibilities, with significant implications for their health and well-being.

- The ROC and Philippines also report an aging population in the agriculture sector.

## Decisions About Agricultural Production

Decisions regarding what to grow, how to manage livestock, and how to allocate resources are crucial in shaping agricultural outcomes. The level of women's participation in these decisions varies widely across the countries studied and is strongly influenced by cultural norms, access to resources, and household dynamics.

- While more women now participate in discussions on farm-related decisions in these countries—and sometimes engage in joint decision-making—men continue to make final decisions in various farming activities across Cambodia, the ROC, India, Pakistan, Sri Lanka, and Vietnam. In these countries, women are generally more likely to make day-to-day decisions such as scheduling work and hiring labor, whereas technical and significant financial decisions—such as purchasing machinery or equipment—are almost exclusively made by men.

- Data from India indicates that men typically retain final authority in decision-making, particularly in large-scale farming and the use of machinery. At the same time, women exert greater influence in small-scale production and livestock management, overseeing daily operations and sales. In Cambodia, male heads of households typically make decisions regarding crop selection, planting, and harvesting, although women also play a substantial role through informal influence. Thailand and the Philippines stand out by reporting more joint decision-making between men and women in agricultural activities.

- The dominance of men in decision-making reflects traditional gender roles and patriarchal cultural norms, as well as resource ownership patterns. For example, evidence from Pakistan highlights entrenched patriarchal beliefs that men are inherently more rational, superior decision-makers, and the natural heads of households—perceptions that reinforce their primary role in agricultural decision-making.

- Women's decision-making power and involvement depend on several factors, including their level of education, land ownership, technical knowledge, access to information, availability of credit facilities, training received, the nature and type of farming system, as well as regional and ethnic differences within countries and the type of agricultural production.

- Women tend to assume primary decision-making roles in situations where they are widowed, single (as seen in the Philippines), when their husbands are ill or employed full-time outside of farming (as in the ROC), or have migrated to urban areas in search of employment, as evident in Cambodia, India, Sri Lanka, and Vietnam.

- An increase in women's participation in decision-making is particularly noted in small-scale production and household-level farming in countries such as India and Cambodia.

- While India and Vietnam report that women make most decisions related to livestock management, India notes that despite women's higher level of involvement in livestock management, their role in key decisions remains limited.

- The study of ROC indicates that the agriculture sector has expanded beyond cultivation to include processing, retail, distribution, and agricultural tourism. Within this broad scope, women's roles in areas such as product processing and marketing have increased steadily. Responsibilities are now often divided, with men and women each taking the lead in different operational areas, resulting in women holding a high share of joint decision-making power.

## Access to Productive Resources and Decision-Making Power

Ownership and control of productive resources, such as land, livestock, machinery, and credit, play a crucial role in shaping agricultural outcomes and women's ability to influence them. Across the countries studied, men continue to dominate control over high-value assets, while women's access remains limited and often shaped by household circumstances and social norms.

- Except for Thailand, respondents across all other countries reported that men have greater control over valuable assets such as land, water, large livestock, and machinery, while women typically manage smaller plots of land, less valuable assets, and daily inputs.

- Women's access to and decision-making power over productive resources often depend on household conditions, education levels, as well as the perceived value and importance of those resources.

- Except for Thailand, men remain the predominant landowners—land being the most important agricultural asset—because of traditional inheritance practices and patriarchal ideologies. This, despite gender-equal legal frameworks. For instance, in India, although

rural women constitute about 75% of the agricultural workforce, they own only 13.9% of operational holdings.

- While Thailand did not report a male preference in land ownership, Vietnam has seen a rise in joint ownership of land.

- When women do not own land, decision-making authority over land use and agricultural production largely rests with men. In such cases, women often have to rent land for cultivation, which increases their costs and financial vulnerability.

- Limited access to formal credit is also common among women. The lack of land ownership (and thus collateral), lower levels of education, and insufficient training in applying for and using loans effectively hinder women's access to formal credit. Other social factors also impact women's access to credit. For example, in India, the caste system and social identity influence access to formal credit.

- Women often have less access to agricultural and digital technologies or lack the technical knowledge to use them effectively. Even when technologies are available, they are usually designed with men in mind, limiting their usability for women.

- Some economies, such as the ROC and Philippines, indicate higher usage of technology by women in farming, including finding buyers and learning new techniques and practices.

## Control Over Use of Income

Who controls income and decides how it is spent shapes both household dynamics and women's economic empowerment. Across the countries studied, men often hold authority over major financial decisions, while women's control is more visible in day-to-day household budgeting.

- A common finding across the countries studied is that women are paid less than men. For example, in the ROC, the average hourly wage for women in Taiwan is 85% of that for men.

- The disparity in wages stems from gender-based biases, where women's work is considered less valuable and therefore underpaid, or from the perception that the types of jobs typically assigned to women are less significant and thus compensated less.

- In countries such as India, Pakistan, Sri Lanka, and Vietnam, men usually have primary control over earnings and make major expenditure decisions. As reported in a Pakistan study, income from agricultural land is predominantly managed by male family members, including fathers, brothers, and husbands.

- Cambodia reports that while men generally make larger financial decisions, women are often responsible for managing day-to-day household expenses, but often lack full control over savings, investments, and long-term financial planning.

- In the ROC, Philippines, Thailand, and Vietnam, women act as the main financial managers and bookkeepers for their farms, agricultural activities, and households. As a result, they generally hold significant authority over income use. Nevertheless, it was commonly

observed that they often sought their husbands' approval before making financial decisions.

- Women typically manage daily expenses and oversee household budgeting in these countries, while men tend to make major financial decisions.

- In countries such as Sri Lanka and Vietnam, women are increasingly taking control of the income generated from their farms and agricultural work.

- In the Philippines, women were documented to have greater autonomy in managing their income, often serving as the financial controller within the household and influencing how income is ultimately used.

## Leadership in the Community

Participation in community organizations and the ability to speak confidently in public play a key role in shaping women's influence over agricultural development and policy. Yet, across the countries studied, women's representation and voice in community leadership remain limited, though signs of change are emerging.

- Membership in farmer cooperatives, professional associations, and decision-making bodies is predominantly male-dominated, with women significantly underrepresented, especially in rural areas.

- An exception is India, where women's membership and participation in community organizations are reported to be high.

- Although women often attend community meetings, their contributions are usually limited to minor discussions, and they rarely occupy leadership roles.

- This lack of representation and voice often results in policies and programs that fail to consider women's perspectives and needs adequately.

- In countries such as the ROC, India, the Philippines, and Sri Lanka, there is a positive trend, with women increasingly participating in agriculture-related associations, cooperatives, and farmer groups. Efforts by government and NGOs are underway to promote women's participation in these organizations, recognizing it as a critical means of enhancing their visibility and influence.

- Women in these societies were found to have low self-esteem and confidence, often feeling shy or reluctant to speak up or assume leadership roles. This reluctance can stem from time constraints due to household and agricultural responsibilities, limited energy, low levels of literacy or education, lack of training, and travel-related challenges. Even when women participate actively, they are frequently assigned stereotypical gender roles, such as secretaries or deputies.

- In general, women who have attended training and seminars and are otherwise empowered are more likely to participate actively in these associations and are not afraid to assume leadership roles.

## Time Use for Agriculture

The way women divide their time between farming, household responsibilities, and personal well-being reveals much about the gendered dynamics of labor. Across the countries studied, women consistently face a heavier workload, often leaving little time for rest or leisure.

- A disproportionate burden on women in both household and agricultural work was observed across all the countries studied. Women engage in unpaid domestic and caregiving labor, in addition to working in the fields from morning until evening, often without time to rest. This time poverty has serious consequences on women's health and well-being.

- Cambodia, India, Sri Lanka, and Vietnam report that the migration of men to other areas for work further increases women's workload. Women in these contexts shoulder the full burden of domestic labor, childcare, elder care, and also agricultural work and income-generating activities.

- In countries such as Cambodia, India, Pakistan, and Sri Lanka, women often have little to no time for self-care, rest, or leisure due to the dual demands of household work and farming. However, the ROC reports that younger or unmarried women farmers are more intentional about balancing farm duties with personal leisure time.

## Barriers and Challenges for Women in Agriculture

Women farmers across the countries studied face a combination of structural, cultural, and economic barriers that limit their productivity, decision-making power, and overall well-being. These challenges are deeply rooted in gender norms and unequal access to resources and opportunities.

### Gender Biases and Social and Cultural Barriers

- **Heavy workload:** Women across the countries covered in this study often balance agricultural work with unpaid domestic labor, leaving them overburdened and with little time for personal well-being, training, market activities, membership, and leadership roles in farming cooperatives or social engagements.

- **Gendered division of labor:** Women are frequently excluded from physically demanding and technology-related tasks, reducing their earning potential. Cultural restrictions—such as prohibitions against certain farming activities during menstruation—further limit their participation and agricultural income.

- **Undermining women's roles:** Women are often seen as helpers rather than primary contributors, which impacts their ability to influence decision-making and control resources.

### Poor Access to Financial Services, Markets, Education, and Training

Women commonly face barriers in accessing financial markets, credit, and agricultural support programs, as well as educational and training opportunities. These constraints hinder women's productivity, diminish their decision-making power, and restrict the adoption of new technologies.

### Ownership and Land Access Issues

Even when no formal legal barriers exist, women often struggle to own land and access key resources, leading to multiple issues.

- Lack of land ownership makes it difficult for women to obtain credit, as they often lack collateral. This forces many women farmers to rely on informal lending networks with high interest rates. In Cambodia, for instance, women account for only 18% of registered land or property owners, restricting their eligibility for formal credit.

- In Taiwan, land ownership is often tied to membership in farmers' associations. Women without land titles often face difficulties in accessing loans, subsidies, and other government resources distributed through these groups.

- Limited land ownership reduces women's ability to expand agricultural production, make decisions, and control resources.

### Low Literacy and the Digital Divide

Due to limited literacy and digital access, many women remain unaware of programs, support systems, procedures, and training opportunities, as well as real-time market information, weather forecasts, financial tools, and agricultural extension services.

### Lack of Voice and Representation

A significant gap exists in the representation and leadership roles for women in agricultural communities and organizations. This restricts their influence and involvement in policymaking and their access to agricultural support programs.

### Economic Vulnerability

Women are frequently paid less than men or work as unpaid family workers. They are also overrepresented in informal agricultural roles, leading to increased economic and social insecurity.

In addition to these common challenges faced by women in agriculture, some countries highlighted specific issues that further limit women's participation and opportunities.

- **Health-related risks:** Some countries reported that women face specific health challenges due to exposure to chemicals in fertilizers and the physical demands of farm work.

- **Mobility limitations:** A few countries noted that women, especially in rural areas, face restrictions on traveling because of poor transport infrastructure, safety concerns, social norms, financial limitations, and lack of resources. These barriers reduce their ability to attend training programs, agricultural meetings, or market transactions, limiting access to resources and networking opportunities.

- **Scale-up challenges:** A country reported that women, who are predominantly engaged in small-scale farming, face obstacles in expanding to large-scale production. Limited land ownership, reduced access to labor, financial support, farming tools, and technological knowledge, combined with household responsibilities, leave them with less time and energy to expand their agricultural activities.

## Policy Implications and Recommendations

Addressing the barriers faced by women farmers requires a multifaceted approach that includes policy reform, education, and community engagement. The following recommendations, drawn

from national experts, highlight key actions needed to strengthen women's participation and empowerment in agriculture.

### Enhance Education and Training

- Provide technical agricultural training to strengthen women's knowledge of modern farming practices, crop management, and sustainable techniques.
- Improve financial literacy and agribusiness skills, including budgeting and record-keeping for farms, insurance and risk management, and business planning.
- Provide training on market analysis, branding, processing and packaging, and creating value-added products to help women move up the value chain.
- Conduct gender-sensitive value chain analysis workshops to identify gaps and opportunities for women at different stages of agricultural production.
- Ensure inclusivity in training programs by involving all women farmers and not just representatives or officers of their organizations.
- gender-responsive training programs that accommodate women's needs, schedules, and caregiving roles—for example, holding sessions after caregiving hours and in environments that are accessible and comfortable for women, such as offering village-based training to avoid long travel and providing childcare during training. Additionally, short and flexible training would be beneficial for women with busy schedules.
- Engage community leaders to promote positive social norms that encourage women's participation in education and training initiatives.

### Improve Land Ownership Rights

Strengthening women's land rights requires changing social norms, raising awareness, and making systems more inclusive and accessible.

- Enforce joint land ownership regulations.
- Reform inheritance practices.
- Provide legal literacy programs to empower women with knowledge of their property rights.

### Increase Financial Access

Expanding women's access to credit and financial services can improve their ability to invest in and scale agricultural activities.

- Develop microcredit programs and tailored credit products that provide necessary financial resources to women without needing spousal consent and with minimal documentation and formalities.
- Offer training on accessing microcredit and agricultural loans.

- Provide gender sensitization training to bank officials to reduce bias in loan approvals and to promote proactive support for women borrowers.

### Promote Women's Leadership and Voice

Building leadership capacity and creating spaces for women's participation can strengthen their influence in agriculture and community decision-making.

- Provide training on leadership, public speaking, negotiation, and advocacy.
- Strengthen organizations like the women's unions, women-led associations, women-only groups, and safe spaces.
- Implement a mentorship program.
- Set up gender quotas and participatory platforms to ensure women have space to share their perspectives and influence agricultural programs.
- dedicated budget for women-led projects and community initiatives.

### Additional Support and Access

Improving access to services, markets, and information can help women overcome structural barriers and strengthen their agricultural productivity.

- Promote cooperatives to empower women, strengthen collective access to markets, improve bargaining power for better prices, and enable shared use of resources to lower production costs.
- Set up agriculture offices by commodity to better meet farmers' needs.
- Ensure access to agricultural offices and officers, in line with the agricultural cycles and local women's schedules.
- Build partnerships among NGOs, local governments, agricultural universities, and cooperatives to provide more effective support to women farmers.
- Develop mobile apps and hotlines, including SMS services in local languages to share farming advice, pest alerts, weather updates, and market information. Also, establish helplines to provide real-time assistance to women farmers.

### Address Cultural Norms

Shifting deeply rooted gender norms is essential to promoting equality and empowering women to take active roles in agriculture.

- Integrate gender-sensitive approaches into agricultural policies.
- Engage men and community leaders in discussions about gender equality.
- Run gender awareness campaigns and community engagement programs.

### Improve Working Conditions

Better working environments and targeted support can reduce physical strain, ensure fair wages, and protect the health and well-being of women farmers.

- Adopt labor-saving technologies to reduce the physical workload for women farmers.
- Implement equal pay policies and wage transparency for women to address gender-based wage gaps in agriculture.
- Introduce sustainable farming practices that prioritize women's health and safety.
- Expand social protection programs, such as maternity benefits and paid leave options for women in agricultural and informal work.
- Design gender sensitive farms and tools, such as lightweight, women-friendly equipment and technologies tailored to women farmers' needs.

### Enhance Infrastructure

Investing in essential infrastructure can reduce women's workload, improve their mobility, and increase access to markets and resources.

- Invest in rural transport infrastructure to make it easier for women farmers to access markets and resources.
- Invest in infrastructure for a reliable, clean water supply and renewable energy to alleviate the burden of unpaid domestic work.

### Enhance Women's Participation in the Digital Economy

Digital tools and connectivity can empower women farmers with timely information, market access, and financial inclusion.

- Increasing access to affordable, mobile-based agricultural solutions.
- Provide digital and mobile technology training, including how to use smartphones to access market prices, weather forecasts, and e-learning modules.
- Promote the use of agritech apps for supply chain management, crop monitoring, and mobile banking.
- Enhance digital literacy among women farmers.
- Facilitate access to digital platforms that provide the needed market information.

### Provide Flexible Support Systems

Flexible support systems enable women to manage their diverse and unique needs, time constraints, and resource limitations, particularly in rural areas. These systems must be adaptive, inclusive, low-cost, and community-based to be effective and sustainable.

- Expand childcare and elder care facilities tailored to account for the unique schedules of women farmers, beyond general workforce solutions.

- Promote community-based childcare and shared caregiving arrangements, including subsidized childcare services.

- Encourage the formation of social groups and informal support groups for women.

### Improve Health Care Access

Accessible, tailored health services can safeguard women farmers from work-related risks and support their long-term well-being.

- Improve access to healthcare facilities in rural and agricultural areas.

- Provide targeted health education programs on safe pesticide management, prevention of heat stress, and maintaining physical and mental well-being during long hours of farm labor.

## Summary

Supporting women in agriculture goes beyond promoting equity. It is vital for boosting agricultural productivity, strengthening food security, and driving sustainable economic development. This report highlights the need for gender-sensitive farm frameworks that stratify specific realities at the local level. By amplifying women's voices, protecting their rights, and enhancing their capabilities, Asian countries can make significant progress towards equitable and just rural transformation while ensuring that inclusivity is at the core of these frameworks and future agricultural development.

# ANNEXURE 1

**Semi-structured interview guide:** This was used to interview selected experts in the area, including those working with women farmers and women in agriculture, as well as individuals with expert knowledge of women in agriculture.

**Background and Contextual Insights**

1. Could you briefly describe your experience working with women farmers in the agriculture sector?

2. What are the most common roles women play in agriculture in your country?

3. How have these roles changed over the years in the country?

4. What do you see as the key structural challenges women face in agriculture in the country?

5. Are there specific social or cultural barriers that prevent women from fully participating in agricultural decision-making?

6. In terms of economic barriers, how do women farmers fare in gaining access to markets, credit, and agricultural inputs?

**Decisions About Agricultural Production**

7. In your experience, who typically makes decisions about agricultural production within households or farming communities where women are engaged?

8. How much influence do women have over key production decisions such as crop selection, planting, and harvesting?

9. What are the main factors that determine who makes production decisions in agricultural households, like education, income, and gender norms?

**Access to and Decision-Making Power Over Productive Resources**

10. What challenges do women face when it comes to owning or accessing productive resources such as land, livestock, or agricultural equipment?

11. Who usually holds decision-making power over these productive resources, and to what extent do women have control?

12. Are there any examples where women have successfully gained ownership or control over productive resources, and what were the enabling factors?

13. How do traditional practices, inheritance laws, or social norms influence women's ability to own or make decisions about land and other productive assets?

**Control Over the Use of Income**

14. In households where women are involved in agricultural production, who typically controls the income generated from the farm?

15. How much decision-making power do women have over how income is spent or saved, especially when they contribute significantly to agricultural production?

16. Are there notable differences in how women and men use agricultural income? For example, are women more likely to spend on family needs or children's education?

17. What strategies have proven effective in increasing women's control over agricultural income in the communities or countries you work in?

**Leadership in the Community**

18. What role do women typically play in local agricultural groups, cooperatives, or community decision-making bodies in the regions you work in?

19. What are the barriers preventing women from taking on leadership roles in agricultural cooperatives or community organizations?

20. Have any programs or policies successfully promoted women's leadership in agriculture? Could you provide examples?

21. How can we better promote women's leadership and involvement in decision-making at both the community and policy levels?

**Time Use for Agriculture**

22. How do women in agriculture typically balance their time between farming activities and household responsibilities in the areas you work in?

23. Are there any initiatives, such as childcare, shared responsibilities, labor-saving technologies, that have helped women manage their time more effectively between household and agricultural duties?

24. What initiatives or programs exist (or should exist) to support the personal well-being of women engaged in agriculture?

**Policy and Program Effectiveness**

25. Are there any government policies or programs in the country that you believe have been particularly successful in promoting women's involvement in agriculture?

26. What challenges do governments and organizations face in implementing policies aimed at supporting women farmers?

27. What gaps exist in current agricultural policies when it comes to promoting gender equity and women's participation?

28. How can we better ensure that women farmers are included in decision-making processes both within households and at the community level?

29. How have advancements in agricultural technology or digital platforms impacted women's productivity and engagement in agriculture?

30. What innovative approaches or technologies have you seen work well in improving women's agricultural output in the region?

**Overcoming Barriers and Recommendations**

31. From your experience, what are the most effective ways to overcome the barriers faced by women in agriculture?

32. What role can international organizations or NGOs play in helping women farmers overcome these challenges?

33. In your opinion, what are the most important social, economic, or policy-related changes needed to improve women's productivity and well-being in agriculture?

# ANNEXURE 2

**Semi-structured interview guide:** This was used to conduct interviews with a selected cross-section of women in agriculture from a specific geographical area.

**Understanding Roles and Involvement of Women in Agriculture**

1. Can you share information about your marital status, age, educational level, etc.?
2. Can you describe your typical day-to-day activities in agriculture?
3. What types of crops or livestock are you involved with, and in what capacity?
4. In your household or community, who is primarily responsible for making decisions about what crops to plant or livestock to raise? What role do you play in deciding the farming techniques used on your land or the methods applied to livestock rearing?
5. How are decisions made when it comes to selecting seeds, fertilizers, or pest control methods?
6. Do you feel you have a say in key agricultural decisions within your household or farm? If not, who does, and why?
7. Are there any barriers that prevent you from being involved in making decisions about agricultural production? If so, what are they?
8. What skills or training have you received related to agriculture? How? When? Who conducted this training, and where did you receive this training? Who paid for the training?

**Access to and Decision-Making Power Over Productive Resources**

9. Can you explain the ownership of the land that you work on? Do you own the land that you work on? If you do not own it, who does?
10. Have you ever tried to acquire land or livestock on your own? What was that process like?
11. How do you access essential agricultural resources like livestock, equipment, and tools?
12. Do you feel that men and women in your community have equal access to productive resources? Why or why not?
13. What challenges have you faced in accessing credit or financial resources for your agricultural activities?

14. What are the social or cultural expectations in your community that limit your participation in certain agricultural activities or decision-making processes?

**Control Over the Use of Income**

15. Who in your household controls the income generated from agricultural activities? How?

16. Do you receive the same pay as male workers for the same tasks in agriculture? If not, why not?

17. How are decisions made regarding the spending of income from crops or livestock? Do you participate in these decisions? How? If not, why not?

18. When you earn income from agricultural work, are you able to decide how it is spent? If not, who makes those decisions?

19. Do you feel satisfied with the level of control you have over the income generated from your agricultural work? If not, why?

20. Have there been situations where you disagreed with how agricultural income was used? How was that disagreement resolved?

**Leadership in the Community**

21. Are you a member of any agricultural cooperatives, women's groups, or community organizations? If so, what are these organizations/groups, and what role do you play in these groups?

22. How comfortable do you feel speaking in public or voicing your opinions in community meetings related to agriculture?

23. Do women in your community have leadership roles in agricultural organizations or community groups? If not, what are the barriers to this?

24. Have you ever participated in decision-making at the community level regarding agricultural practices? How did that experience go?

25. What challenges, if any, prevent women from taking leadership positions in your community?

**Time Use for Agriculture**

26. How do you divide your time between agricultural work, household chores, and childcare?

27. Do you feel that you have enough time to manage both your agricultural responsibilities and domestic tasks? If not, why?

28. How many hours a day do you spend on farming activities compared to household duties?

29. Are there any tasks that you would like to spend more or less time on in a typical day? Why?

30. Do you have any time left for leisure or personal activities after completing your agricultural and household work? How do you spend your free time?

31. Do you feel satisfied with how your time is allocated across your work, home responsibilities, and leisure? If not, what would you change?

**Ways to Overcome Barriers and Enhance Women's Contribution, Productivity, and Well-Being**

32. What kind of support would help you improve your agricultural productivity (e.g., training, access to credit, tools, etc.)?

33. Have you or others in your community participated in any agricultural cooperatives or women's groups? If so, how has it impacted your work?

34. What kind of government or organizational support would you like to see to improve your farming practices and personal well-being?

35. How do you think technology (e.g., mobile apps for farming, digital marketplaces) could improve your work and productivity in agriculture?

36. What health and safety concerns do you face in your agricultural work, and what can be done to address them?

37. What changes would you like to see in your community or agricultural sector to make it easier for women to succeed in agriculture?

# LIST OF ABBREVIATIONS

| | |
|---|---|
| ADB | Asian Development Bank |
| ADRC | Asian Disaster Reduction Center |
| APO | Asian Productivity Organization |
| BAAC | Bank of Agriculture and Agricultural Cooperatives |
| CIWA | Central Institute for Women in Agriculture |
| DAR | Department of Agrarian Reform |
| DOLE | Department of Labour and Employment |
| FAO | Food and Agriculture Organization |
| FPO | Farmer-Producer Organization |
| GB | Gilgit-Baltistan |
| GDP | Gross Domestic Product |
| GoI | Government of India |
| GSO | General Statistics Office |
| ICAR | Indian Council of Agricultural Research |
| IFAD | International Fund for Agricultural Development |
| IFC | International Finance Corporation |
| IFPRI | International Food Policy Research Institute |
| ILO | International Labour Organization |
| ILRI | International Livestock Research Institute |
| IRRI | International Rice Research Institute |
| J&K | Jammu and Kashmir |
| KP | Khyber Pakhtunkhwa |
| MAFF | Ministry of Agriculture, Forestry, and Fisheries |
| MAO | Municipal Agriculture Office |
| MARD | Ministry of Agriculture and Rural Development |
| MoA&FW | Ministry of Agriculture and Farmers Welfare |
| MoSPI | Ministry of Statistics and Programme Implementation |
| MT | Million Tonnes |
| NGO | Non-Governmental Organization |
| NIAS | National Institute of Animal Science |
| NIS | National Institute of Statistics |
| NRLM | National Rural Livelihoods Mission |

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|---|---|
| OCOP | One Commune, One Product |
| OECD | Organization for Economic Co-operation and Development |
| PCAARRD | Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development |
| PhilRice | Philippine Rice Research Institute |
| PIB | Press Information Bureau |
| PIDS | Philippine Institute for Development Studies |
| PMEGP | Prime Minister's Employment Generation Programme |
| PSA | Philippine Statistics Authority |
| ROC | Republic of China |
| SDG | Sustainable Development Goal |
| SEPO | Senate Economic Planning Office |
| SHG | Self Help Group |
| TFP | Total Factor Productivity |
| UNDP | United Nations Development Programme |
| UNFP | United Nations Population Fund |
| UPLB | University of the Philippines Los Banos |
| USAID | United States Agency for International Development |
| WEAI | Women's Empowerment in Agriculture Index |
| WEAI | Women Empowerment in Agriculture Index |
| WEF | World Economic Forum |
| WLIC | World Library and Information Congress |
| ZTBL | Zarai Taraqiati Bank Limited |

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