



Value Addition and Rural Women's Entrepreneurship Opportunities for Economic Empowerment

Anjali Tomar¹, Priya Priyanka Tudu², C. Yuvaraj³, Nimit Kumar⁴, Manpreet Kaur⁵,
Habiba Begum⁶, Ritika Dahiya⁷, Arpita Sharma⁸, Amanpreet Singh Sran⁹

¹School of Agricultural Sciences, K. R. Mangalam University, Gurugram, Haryana;
tomar.anjali1997@gmail.com

²Assistant Professor School of Agricultural Sciences GD Goenka University Gurugram HR
Pin- 122103; ptudu84@gmail.com

³School of Agricultural Sciences, Malla Reddy University: drc_yuvaraj@mallareddyuniversity.ac.in

⁴Teerthanker Mahaveer College of Agriculture Sciences, Teerthanker Mahaveer University, Moradabad, Uttar
Pradesh-244001; nimittomar008@gmail.com

⁵Department of Applied Sciences, CGC University, Jhanjheri, Mohali-140307; 1410kaurmanpreet@gmail.com

⁶Dev Bhoomi Uttarakhand University, habibabegum268@gmail.com

⁷M.Sc. (Ag.), Agronomy, Punjabi University, Punjab, ritikadahiya2025@gmail.com

⁸School of Agricultural Sciences, G.D. Goenka University, Sohna Road, Gurugram;
arpita1985sharma@gmail.com

⁹Faculty of Agriculture, Guru Kashi University, Talwandi Sabo, amansran516@gmail.com

Abstract

Rural women have historically played a central role in agriculture, food production, and household food security in India. From seed preservation to indigenous food processing, their contributions have shaped community food systems and cultural nutrition. However, these contributions have largely been informal, unpaid, and unrecognized in official agricultural statistics. With the increasing feminization of agriculture, women now constitute a significant portion of the agricultural labour force, especially in marginal, smallholder, and forest-based ecosystems.

This chapter explores the historical evolution of rural women's roles in agriculture—from the colonial period to the contemporary era—highlighting the transformation of their roles from subsistence workers to micro-entrepreneurs. It introduces the concept of value addition and agri-food processing as a powerful economic tool for empowering rural women. Value addition enhances the marketability, shelf life, and income potential of agricultural products while also retaining their nutritional and cultural significance. Food processing, especially at the micro and small enterprise level, offers employment, reduces post-harvest losses, and generates local wealth. The emergence of women's Self-Help Groups (SHGs), digital marketing tools, and government schemes like PMFME and NRLM has opened new avenues for rural women to venture into food processing enterprises. Despite facing persistent challenges such as limited access to finance, gender bias, and inadequate market linkages, rural women continue to display remarkable resilience and innovation.

This chapter lays the foundation for the rest of the book by establishing the critical importance of value addition in rural women's economic empowerment. It outlines the book's objectives, including the documentation of models, case studies, and scalable solutions, and sets the stage for a deep dive into the intersection of food systems and gender entrepreneurship.

Keywords: Rural Women, Value Addition, Agri-Food Processing, Self-Help Groups, Feminization of Agriculture, Micro-Enterprises, Economic Empowerment, Food Systems, PMFME, Digital Marketing

1.1 Historical Context and Evolution of Rural Women's Roles in Agriculture

Rural women in India have long been the invisible backbone of agricultural production and food security. Across centuries, they have contributed significantly to farm labor, household nutrition, livestock care, and traditional food systems. Yet, their roles have often been overlooked, undocumented, and undervalued.

1.1.1 Pre-Independence and Colonial Era

During the colonial and pre-colonial eras, rural Indian societies practiced **subsistence agriculture**, where families grew crops primarily for their own consumption. In these settings, women played critical roles in:

- Seed preservation
- Weeding and transplanting
- Home-based food processing
- Herbal medicine preparation
- Storage and cooking of grains and pulses

Women's labor was unpaid and familial, deeply embedded in household structures. However, their traditional knowledge systems were highly evolved, often passed down generationally. Colonial economic policies focused on export-oriented crops like indigo and cotton, which marginalized food-producing systems. Women's contributions remained unrecognized by colonial data collectors who focused on taxable landowners, primarily men (Singh & Singh, 2020).

1.1.2 Post-Independence Agricultural Shifts

Following independence, the 1960s brought the **Green Revolution**, which dramatically changed India's agriculture. Mechanized farming, hybrid seeds, chemical fertilizers, and irrigation systems transformed production. However, this transformation disproportionately benefited male landowners, while women were left behind due to:

- Lack of land ownership
- Exclusion from training and extension services
- Reduced control over decision-making

Moreover, official data began to report only “main workers,” typically defined as men involved in market-based agriculture. Women, who continued to contribute through unpaid labor in sowing, harvesting, and post-harvest activities, were rendered **statistically invisible** (Rao, 2019).

1.1.3 Contemporary Roles

Today, the **feminization of agriculture** is a defining trend. With increasing male outmigration to urban areas, women have taken up leadership roles in agriculture, especially among marginal and tribal communities. Their roles now encompass:

- **Collection and processing of NTFPs** (e.g., tamarind, lac, wild honey)
- **Management of kitchen gardens** and backyard poultry
- **Livestock rearing** and dairy production
- **Informal processing of pickles, papads, spices, etc.**

While these contributions are still largely informal, the shift toward organizing women into **SHGs and FPOs** is helping turn their traditional roles into entrepreneurial opportunities.

1.2 UNDERSTANDING VALUE ADDITION AND AGRI-FOOD PROCESSING

1.2.1 Definition of Value Addition

Value addition refers to **any process that enhances the economic value and consumer appeal** of an agricultural product. It involves transforming raw agricultural commodities into **semi-processed or fully processed products** that offer better market prices.

Examples of Value Addition:

- Mango → Pickle or Aam Papad
- Jackfruit → Dehydrated chips
- Mushrooms → Mushroom powder or pickles
- Tamarind pulp → Concentrate or candy

Value addition includes physical, biochemical, and cultural transformations and is a critical element for enabling **diversified livelihoods** for rural women.

1.2.2 Scope and Types of Agri-Food Processing

Food processing can be broadly categorized into:

Table 1.2.1: Types of Agri-Food Processing

Processing Type	Activities	Examples
Primary	Cleaning, grading, sorting	Sorting mushrooms, cleaning tamarind
Secondary	Cooking, drying, fermenting	Pickling, sun-drying jackfruit
Tertiary	Branding, packaging, labeling	Vacuum-sealed papad, logo-branded chutney

Explanation of Table 1.2.1: Types of Agri-Food Processing and its visual representation:

1. Primary Processing

- **Activities:** Cleaning, grading, sorting
- **Examples:** Sorting mushrooms, cleaning tamarind
- **Purpose:** To prepare raw agricultural produce for further use or consumption by removing dirt, debris, or separating by size/quality.
- **Visual Cues:** Icons of mushrooms and tamarind indicate early-stage handling.

2. Secondary Processing

- **Activities:** Cooking, drying, fermenting
- **Examples:** Pickling, sun-drying jackfruit
- **Purpose:** To transform raw produce into semi-processed food through methods like heat or fermentation.

- **Visual Cues:** Illustrations of pickle jars and jackfruit slices suggest transformation into edible or storable forms.

3. Tertiary Processing

- **Activities:** Branding, packaging, labeling
 - **Examples:** Vacuum-sealed papad, logo-branded chutney
 - **Purpose:** To enhance shelf life, appearance, and market appeal by using consumer-ready packaging and branding.
 - **Visual Cues:** Packed chutney jar and sealed papad represent final market-ready products.
- Traditional techniques** (e.g., sun drying, fermentation, manual pounding) are being complemented by **modern technologies** like solar dryers, vacuum sealers, cold storage, and food-grade packaging machines. This dual system offers flexibility for small-scale and home-based women entrepreneurs.

1.2.3 Benefits of Value Addition for Rural Women

Value addition provides multi-dimensional benefits for rural women:

- **Economic empowerment** through higher income from processed goods
- **Employment generation** for other women in collection, preparation, and packaging
- **Reduction in post-harvest losses**, especially for perishable goods
- **Nutritional security**, as seasonal produce can be preserved and used year-round
- **Cultural continuity**, by preserving traditional food practices

Flowchart 1.2.1: Value Addition Process for Women Entrepreneurs



Explanation of Flowchart 1.2.1: Value Addition Process for Women Entrepreneurs:

1. Raw Produce

- **What it is:** Fresh fruits, vegetables, or crops collected from farms or forests.
- **Purpose:** This is the starting point of the value chain.
- **Visual:** Depicted by icons of fresh produce like tomatoes, mangoes, etc.

2. Collection

- **What it is:** Gathering of produce by women entrepreneurs or SHGs (Self-Help Groups).
- **Purpose:** To organize and transport raw materials to processing units or homes.
- **Visual:** A basket of assorted produce, indicating an organized collection.

3. Cleaning & Sorting

- **What it is:** Removal of dirt, unwanted parts, and grading the produce by size or quality.
- **Purpose:** To prepare items for hygienic and efficient processing.
- **Visual:** Icons like a brush and mushrooms, representing cleaning tools and typical farm products.

4. Processing (Drying/Cooking)

- **What it is:** Transforming raw produce into shelf-stable or ready-to-use items.
- **Techniques:** Sun-drying, roasting, boiling, fermenting, etc.
- **Visual:** A jar representing cooked/preserved food items.

5. Packaging

- **What it is:** Proper packing in eco-friendly or retail-ready containers with labelling.
- **Purpose:** To preserve quality, extend shelf life, and attract buyers.
- **Visual:** Pouches and containers for pickles, papad, etc.

6. Local/Online Market

- **What it is:** The Final stage where products are sold.
- **Outlets:** Local shops, haats, fairs, or through digital platforms like WhatsApp, Amazon, or government e-markets.
- **Visual:** Highlighted as the last step, showing access to markets and income generation.

Thus, value addition offers an inclusive, low-capital, and culturally rooted pathway for rural women to engage in the **formal economy**.

1.3 Emerging Trends in Rural Women Entrepreneurship (500 Words)

1.3.1 Rise of Women's Self-Help Groups (SHGs) and Federations

The **Self-Help Group (SHG) movement** has been a turning point in women's empowerment. Initiatives like **NRLM**, **Kudumbashree (Kerala)**, and **MAVIM (Maharashtra)** have enabled women to:

- Form collectives for procurement and processing
- Set up micro-enterprises with seed capital
- Participate in group branding and exhibitions

Case Example: Kudumbashree women market banana chips and traditional pickles under common branding, tapping into both local and export markets.

1.3.2 Technological Integration and Digital Literacy

With rising smartphone penetration, rural women are now:

- Accessing **online training** via YouTube and WhatsApp groups
- Using **mobile banking apps** and digital payments
- Listing products on platforms like **Amazon Saheli**, **Flipkart Samarth**, and **ONDC**

Impact: A mushroom-processing SHG in Jharkhand increased its profits by 45% after adopting online sales and mobile marketing strategies (Sharma & Verma, 2021).

1.3.3 Access to Government Schemes and Market Linkages

Schemes such as:

- **PMFME:** Credit-linked support for micro food businesses
- **MoFPI programs:** Training, grants, and certification support
- **Startup India:** Incentives for women-led rural startups

These initiatives help integrate women into **organized value chains** and link them with institutional buyers, retail chains, and export markets.

1.3.4 Challenges Faced by Women Entrepreneurs

Table 1.3.1: Barriers in Rural Women Entrepreneurship

CHALLENGE	DESCRIPTION
CREDIT ACCESS 	Lack of collateral and limited financial literacy
GENDER NORMS 	Restricted mobility and decision-making
MARKET REACH 	Poor connectivity, transport, and exposure
TECHNICAL GAPS 	Lack of food safety training and modern tools

Detailed explanation of **Table 1.3.1: Barriers in Rural Women Entrepreneurship**, as visually represented:

1. Credit Access

- **Challenge:** Rural women often **lack access to formal credit** due to:
 - No collateral or land ownership
 - Limited financial literacy

• **Impact:** Makes it difficult to start or expand businesses.

• **Visual Cue:** A purse with money symbolizes financial constraints.

2. Gender Norms

- **Challenge:** **Cultural restrictions** on women's roles can lead to:

- Limited mobility (e.g., needing permission to travel)
- Minimal say in household or business decisions

• **Impact:** Women struggle to make independent choices for their enterprise.

• **Visual Cue:** A red restriction symbol indicates blocked autonomy.

3. Market Reach

- **Challenge:** Due to **poor infrastructure** and social barriers, rural women face:

- Inadequate transport and logistics
- Low exposure to market dynamics and consumer trends

• **Impact:** Limits their ability to sell or scale products.

• **Visual Cue:** A bus represents limited transportation and connectivity.

4. Technical Gaps

• **Challenge:** Many women lack **training in modern tools** and techniques, such as:

- Food safety standards
- Value addition processes

• **Impact:** Reduces efficiency, product quality, and competitiveness.

• **Visual Cue:** A wrench and warning sign highlight a lack of technical capacity.

These four barriers—**financial**, **social**, **market-based**, and **technical**—are interconnected and must be addressed together to empower rural women entrepreneurs effectively. Solutions involve inclusive policies, training programs, digital tools, and supportive ecosystems.

Overcoming these requires a **multi-stakeholder approach** involving financial institutions, government, NGOs, and corporate partners.

1.4 Objectives (500 Words)

1.4.1 Key Objectives of This Book

This book seeks to serve as a **comprehensive resource** to understand and scale women-led value addition and food processing in rural India. The key objectives are:

1. **To highlight the transformative potential** of value addition in enhancing rural women's livelihoods.
2. **To document successful models**, case studies, and innovations across states (e.g., SHGs in Tamil Nadu, women's mushroom enterprises in Jharkhand).
3. **To map the institutional, technological, and policy ecosystem** supporting rural women in agri-processing.
4. **To assess the role of climate-resilient, low-cost technologies** in ensuring sustainability.
5. **To explore branding, digital marketing, and e-commerce solutions** tailored for rural contexts.
6. **To identify financial and regulatory gaps**, with policy recommendations for inclusive growth.
7. **To encourage replication of best practices** through training modules, illustrations, and digital toolkits.



Explanation of **Flowchart 1.4.1: Pathway for Women-Led Agri-Processing Enterprises** as visualized:

1. Traditional Knowledge

• **What it is:** Indigenous skills and recipes that rural women already possess—like pickling, drying, or herbal formulations.

• **Purpose:** Acts as the **foundation** for launching value-added food enterprises.

• **Visual Cue:** A basket of vegetables signifies inherited practices and raw material awareness.

2. SHG Formation (Self Help Group)

• **What it is:** Women come together to form groups for mutual support, credit access, and collaboration.

• **Purpose:** Creates a **collective structure** for enterprise planning and execution.

• **Visual Cue:** Diverse women icons reflect unity and group strength.

3. Training & Technology

• **What it is:** Capacity-building on hygiene, food safety, machinery use, and digital tools.

• **Purpose:** To modernize operations and improve product quality.

• **Visual Cue:** Gears and a presentation board illustrate learning and upskilling.

4. Product Development

• **What it is:** Creating market-ready items—like pickles, flours, spices, or snacks.

• **Purpose:** Adds value to raw produce and tailors it to market needs.

• **Visual Cue:** A processed food jar represents new product creation.

5. Branding

• **What it is:** Designing logos, packaging, and labeling to give products a unique identity.

- **Purpose:** Helps stand out in the market and **build trust** with customers.
- **Visual Cue:** A bold tag icon signifies market-ready branding elements.

6. Sales & Scaling

- **What it is:** Selling through local markets, fairs, e-commerce, or government platforms.
- **Purpose:** To increase revenue and expand operations beyond the local level.
- **Visual Cue:** A sales growth chart indicates progress, income, and outreach.

This pathway shows how rural women can **transform traditional skills into profitable agri-enterprises**—with collective support, modern tools, branding, and market linkages. It's a model for **economic empowerment and rural development**.

2.1 Conceptual Framework

Women-led agri-enterprises represent a dynamic intersection of gender empowerment, agricultural development, and rural entrepreneurship. At their core, these enterprises involve initiatives in which women are the primary owners, managers, or decision-makers in agricultural or allied businesses. Unlike subsistence farming, which is often unpaid and unrecognized, agri-enterprises focus on transforming raw agricultural resources into value-added products and services that generate income, employment, and market participation.

The conceptualization of women-led agri-enterprises can be situated within three overlapping domains: **gender empowerment, livelihood diversification, and inclusive entrepreneurship**. Gender empowerment emphasizes women's agency, control over resources, and participation in decision-making. Livelihood diversification highlights the shift from dependence on mono-cropping or wage labour toward diversified income streams through food processing, livestock, non-timber forest produce (NTFPs), and horticulture. Inclusive entrepreneurship stresses not only profitability but also social justice, cultural preservation, and ecological sustainability.

The **sustainable livelihoods framework (SLF)** provides a useful analytical lens. It situates women's enterprises within five capitals—human, social, financial, natural, and physical. For example, human capital relates to women's indigenous skills in food preservation; social capital is reflected in collective action through Self-Help Groups (SHGs) and Farmer Producer Organizations (FPOs); financial capital refers to access to microcredit and revolving funds; natural capital involves access to land, forests, or ponds; and physical capital includes tools, machinery, and infrastructure.

Thus, the conceptual framework underscores that women-led agri-enterprises are not merely economic ventures. They are embedded in social relations, cultural practices, and institutional arrangements that either enable or constrain their success.

2.2 Typology of Women-Led Agri-Enterprises

The diversity of women's agri-enterprises in India can be classified into multiple typologies:

2.2.1 Individual vs. Collective Enterprises

- **Individual enterprises** are often micro in scale, such as home-based food processing (pickles, papad, masalas) or backyard poultry. These require limited capital but are vulnerable to market fluctuations.
- **Collective enterprises**—organized through SHGs, cooperatives, or FPOs—allow women to pool resources, access bulk inputs, and negotiate better market prices. Collective forms also enhance bargaining power and reduce individual risk.

2.2.2 Farm-Based vs. Off-Farm Enterprises

- **Farm-based enterprises** leverage direct agricultural production, such as organic vegetable cultivation, floriculture, or dairy.
- **Off-farm enterprises** often revolve around value addition, such as tamarind processing, mushroom cultivation, lac production, or millet-based snacks. These provide important livelihood opportunities for landless or marginal women farmers.

2.2.3 Traditional vs. Emerging Sectors

- **Traditional enterprises** focus on food preservation, herbal medicine, and handicrafts rooted in cultural practices. These have strong local demand but limited scalability without branding.
- **Emerging enterprises** include eco-labeled products, nutraceuticals, millet-based health foods, e-commerce-enabled branding, and agri-tourism. These sectors have high growth potential, especially under the global demand for sustainable and ethical products.

2.2.4 Formal vs. Informal Enterprises

- A majority of women's enterprises operate informally, without registration or compliance with food safety standards. While flexible, this limits access to finance and institutional markets.
- Formal enterprises—registered under FSSAI, cooperative laws, or as producer companies—gain legitimacy, credit access, and entry into organized value chains.

This typology highlights the heterogeneity of women-led enterprises and the need for differentiated support strategies.

2.3 Role of Agri-Value Chains in Women's Entrepreneurship

The agri-value chain framework helps analyze how women engage at different nodes of production, processing, and marketing.

1. **Input Provision** – Women are rarely engaged in upstream roles such as seed supply or farm mechanization, but there is emerging participation in vermicompost production, nurseries, and biofertilizers.

2. **Production** – Women dominate labour-intensive activities such as sowing, transplanting, weeding, harvesting, and livestock care.
 3. **Post-Harvest Handling** – Cleaning, grading, sorting, and drying are often women's tasks, yet their economic contribution is undervalued.
 4. **Processing and Value Addition** – Women's SHGs lead in processing tamarind, turmeric, lac, jackfruit, and pickles, where traditional skills meet enterprise potential.
 5. **Marketing and Distribution** – While traditionally excluded, women are increasingly entering local haats, exhibitions, and online platforms. Branding initiatives such as Kudumbashree and Amazon Saheli have enabled greater visibility.
 6. **Consumption and Feedback Loops** – Women influence local consumption patterns by promoting healthier, traditional, and sustainable foods, which feed back into enterprise design.
- The challenge lies in moving women from the lower-value nodes (labour and post-harvest) to higher-value nodes (processing, branding, marketing).

2.4 Ecosystem for Women Agri-Enterprises in India

Women's agri-enterprises function within a multi-layered ecosystem of institutions, policies, and markets.

2.4.1 Institutional Support

- **National Rural Livelihood Mission (NRLM):** Organizes women into SHGs, federations, and producer groups.
- **PM Formalisation of Micro Food Processing Enterprises (PMFME):** Provides credit-linked subsidy and training.
- **NABARD and SFAC:** Promote FPO formation and financing.
- **State Missions (e.g., Kudumbashree, MAVIM):** Provide strong models of decentralized women's entrepreneurship.

2.4.2 Financial Ecosystem

- **SHG-Bank Linkage Programme:** A cornerstone in women's microfinance access.
- **Mudra Yojana:** Microcredit without collateral.
- **Cooperative Banks & MFIs:** Support short-term working capital needs.
- However, gendered barriers—such as collateral requirements and low digital financial literacy—remain significant.

2.4.3 Capacity-Building Ecosystem

- **KVKs and ATMA:** Offer training on food safety, packaging, and low-cost technologies.
- **NGOs:** Build entrepreneurial capacity and market readiness.
- **CSR Initiatives:** Increasingly support skill-building and incubation for women entrepreneurs.

2.4.4 Market Ecosystem

- **Traditional Markets:** Weekly haats and fairs remain vital.
- **Institutional Buyers:** Mid-day meal schemes, ICDS, and cooperatives are emerging markets.
- **Digital Platforms:** ONDC, Amazon Saheli, Flipkart Samarth enable wider reach.
- **Export Opportunities:** Niche products like millet-based snacks, organic tamarind, and tribal honey have global demand.

This ecosystem provides both opportunities and bottlenecks, depending on how effectively women's collectives navigate it.

2.5 Case Studies of Women-Led Agri-Enterprises in India

Women's agri-enterprises across India take diverse forms depending on local ecology, cultural traditions, institutional support, and market opportunities. To illustrate this diversity, four representative case studies are presented here: **tamarind processing in Jharkhand, Kudumbashree enterprises in Kerala, lac cultivation in Chhattisgarh and Jharkhand, and millet-based enterprises in Telangana**. Each reflects a different model of collective action, value addition, and women's empowerment, while also highlighting the challenges and opportunities of scaling.

Case 1: Tamarind Processing by Tribal Women in Jharkhand

Context

Jharkhand's tribal regions are rich in **non-timber forest produce (NTFPs)** such as tamarind, mahua, lac, sal seeds, and wild honey. Tamarind in particular is a culturally and economically significant crop, widely used in Indian cuisine as a souring agent and in processed forms such as candies, chutneys, and concentrates. For tribal women in West Singhbhum district, tamarind has long been a seasonal livelihood source, traditionally collected from forests and sold raw in local markets at low prices.

Historically, the lack of value addition and poor market linkages meant that women earned little from tamarind. Traders would buy tamarind at exploitative rates, often offering advances that locked women into debt cycles. Recognizing this challenge, the **National Rural Livelihoods Mission (NRLM)**, in collaboration with NGOs and Tata Steel Foundation, initiated interventions to organize women's SHGs into tamarind processing units.

Enterprise Model

The SHGs follow a structured value chain:

1. **Collection:** Women gather tamarind pods from community forests during the peak season (January–March).
2. **Deseeding:** Traditionally a laborious process, this has been mechanized through small-scale deseeding machines provided under NRLM projects.

3. **Processing:** Tamarind pulp is compressed into cakes or transformed into candies, concentrate, and spiced products.
4. **Packaging:** Products are packed in hygienic, labeled packets with branding to appeal to urban and semi-urban consumers.
5. **Marketing:** SHGs sell through **local haats**, district-level melas, institutional orders (mid-day meals, ICDS), and increasingly via e-commerce platforms like Amazon Saheli.

Impact

The initiative has increased women's incomes by **30–40%**, as processed tamarind fetches significantly higher prices than raw produce. Women also reported greater **financial autonomy**, with earnings contributing to household expenses, education, and healthcare. SHGs developed a sense of **collective bargaining power**, negotiating better rates with traders and accessing microfinance for expansion.

Beyond economics, tamarind enterprises enhanced **social recognition** of women's work. Women who earlier hesitated to step into public spaces now manage accounts, attend district exhibitions, and interact with government officials.

Challenges

- Seasonality of tamarind production limits year-round income.
- Certification and compliance with **FSSAI standards** remain barriers to larger institutional sales.
- Market competition from established brands creates pricing pressures.

Lessons Learned

The case illustrates how **simple value addition and collective marketing** can transform a low-value NTFP into a sustainable enterprise. Scaling requires investment in storage, product diversification, and certification support.

Case 2: Kudumbashree in Kerala

Context

Kerala's **Kudumbashree Mission**, launched in 1998, is one of the world's largest women's empowerment programs, involving over **4.3 million women** across nearly 300,000 neighborhood groups. It functions under the State Poverty Eradication Mission, integrating women into **collective enterprises** that range from agriculture to food processing, handicrafts, and services.

Kudumbashree was designed not just as a livelihood program but as a **socio-political movement**, giving women voice in local governance through strong linkages with panchayati raj institutions. Food processing and agri-enterprises have been among its most successful domains, leveraging women's culinary knowledge and Kerala's rich food culture.

Enterprise Model

Kudumbashree's food enterprises typically follow a **federated model**:

1. **Micro Units:** Small groups of women set up units to process products like banana chips, curry powders, pickles, or bakery items.
2. **Federation:** Units are federated at the community development society (CDS) level, enabling bulk procurement, branding, and training.
3. **Branding:** Products are marketed under common Kudumbashree branding, enhancing consumer trust.
4. **Sales Channels:** Distribution occurs through Kudumbashree outlets, fairs, exhibitions, government procurement programs, and private retail partnerships.

Impact

- **Economic Empowerment:** Women earn supplementary income averaging ₹6,000–₹12,000 per month.
- **Skill Building:** Training in food safety, packaging, and entrepreneurship enhances women's technical capacity.
- **Social Capital:** Kudumbashree has fostered solidarity and collective identity among women.
- **Policy Recognition:** It is often cited as a global model of women's empowerment and local self-governance.

Challenges

- Competition from private brands requires continuous innovation and quality upgrades.
- Balancing profitability with social objectives sometimes strains unit sustainability.
- Younger women often prefer service-sector jobs, posing generational continuity challenges.

Lessons Learned

Kudumbashree demonstrates the **power of scale and federation** in sustaining women's enterprises. Its integration of social empowerment, economic livelihoods, and political participation makes it a unique model replicable in other states with contextual adaptations.

Case 3: Lac Cultivation in Chhattisgarh and Jharkhand

Context

Lac, a natural resin secreted by the insect *Kerria lacca*, has been traditionally cultivated in central India, particularly among tribal women in Jharkhand and Chhattisgarh. It is used in industries such as food coatings, cosmetics, varnishes, and handicrafts. For tribal communities, lac cultivation is both an ecological and economic activity, dependent on host trees like palash, kusum, and ber.

Women play crucial roles in lac production—scraping resin, processing, and maintaining host trees. Yet historically, they received little income, as middlemen dominated the trade. Recent interventions by **KVKs**, **NGOs**, and **NRLM** have sought to formalize women's participation through SHGs and cooperatives.

Enterprise Model

1. **Cultivation:** Women inoculate host trees with brood lac and manage cycles of harvest.
2. **Processing:** Raw lac is scraped, cleaned, and processed into seed lac or shellac.

3. **Value Addition:** Women's groups produce lac bangles, handicrafts, and eco-friendly products, enhancing market value.

4. **Marketing:** Linkages with traders, cooperative societies, and niche eco-markets improve returns.

Impact

- **Income:** Women's earnings from lac increased by **50–70%** where cooperatives were active.

- **Ecological Sustainability:** Lac promotes tree conservation, as communities protect host trees for resin.

- **Gender Empowerment:** Women gained decision-making power in resource use and enterprise management.

Challenges

- Vulnerability to climate fluctuations affects brood cycles.

- Lack of organized storage and grading reduces bargaining power.

- Dependence on volatile export markets creates income risks.

Lessons Learned

Lac cultivation illustrates how **forest-based enterprises can align ecology with women's livelihoods**. Supporting women with technical training, certification, and market diversification can make lac a high-value rural enterprise.

Case 4: Millet Enterprises in Telangana

Context

Millets, long considered "poor man's food," have gained renewed attention as **nutri-cereals** due to their climate resilience and health benefits. Telangana, with its semi-arid conditions, has been a pioneer in promoting millet-based value chains through government programs and FPOs. Women's collectives play a leading role in processing and marketing millet products.

Enterprise Model

1. **Production:** Women farmers cultivate millets such as jowar, bajra, and ragi, often in mixed cropping systems.

2. **Processing:** SHGs and FPOs process grains into flour, semolina, ready-to-eat mixes, and snacks (biscuits, laddus).

3. **Branding:** Products are marketed under FPO or NGO-supported brands, highlighting their health and eco-friendly attributes.

4. **Distribution:** Channels include local markets, urban health stores, e-commerce, and institutional buyers like schools.

Impact

- **Market Expansion:** Rising health consciousness has created strong demand for millet products, especially among urban consumers.

- **Income Growth:** Women's incomes increased by 40–50% after shifting from raw grain sales to processed goods.

- **Cultural Revival:** Millet enterprises revived traditional recipes and positioned them as modern health foods.

- **Youth Engagement:** Younger members assist with branding, digital sales, and e-commerce.

Challenges

- Scaling requires investment in modern machinery (dehullers, grinders).

- Certification and packaging add to costs.

- Competition from large organic brands challenges smaller FPOs.

Lessons Learned

Millet enterprises showcase how **emerging health trends and policy support** can turn traditional crops into profitable women-led businesses. They combine nutritional security, climate adaptation, and women's empowerment.

Synthesis of Lessons Across Cases

These four case studies demonstrate the **plurality of women-led agri-enterprises**:

- **Forest-based (tamarind, lac):** Build on indigenous knowledge but require better storage, branding, and certification.

- **Federated cooperative-led (Kudumbashree):** Achieve scale and sustainability through strong institutional structures.

- **Emerging health-driven (millets):** Align with modern consumer demand, creating new markets for traditional crops.

Common themes include:

- **Collective action** as a foundation for women's empowerment.

- **Value addition** as the key driver of income enhancement.

- **Ecosystem support** (finance, training, policy) as essential for scaling.

- **Challenges** in certification, infrastructure, and markets that cut across sectors.

These cases illustrate that while contexts differ, **women's entrepreneurship in agri-food systems thrives when ecological resources, cultural knowledge, and institutional support converge**.

2.6 Key Challenges in Women-Led Agri-Enterprises

Women-led agri-enterprises in India are widely recognized as powerful drivers of rural development, gender equality, and food system resilience. However, their growth and sustainability are constrained by a series of interrelated barriers. These challenges stem not only from structural inequalities but also from institutional gaps,

socio-cultural norms, and market dynamics. This section critically examines the **five major categories of challenges**—institutional, financial, technical, social, and market—highlighting their nature, implications, and interconnections.

2.6.1 Institutional Barriers

Weak SHG–FPO Linkages

Self-Help Groups (SHGs) have been the foundation of women's collective action for over three decades. Yet, most SHGs remain confined to thrift and credit activities, with limited transition into enterprise-building. The **linkage between SHGs and Farmer Producer Organizations (FPOs)**—a critical step in scaling women's enterprises—remains weak. FPOs often emerge as male-dominated spaces, where women's voices are underrepresented in governance and decision-making.

The lack of vertical integration between SHGs (micro-level) and FPOs (meso-level) restricts women's access to economies of scale, bulk procurement, and collective bargaining. As a result, women's enterprises remain fragmented and vulnerable to local market fluctuations.

Limited Access to Extension Services

Agricultural extension in India has historically been male-centric. Training sessions, field demonstrations, and exposure visits are often scheduled at times or places that are inconvenient for women, especially those with household responsibilities. Furthermore, extension personnel tend to assume that men are the primary farmers, marginalizing women's needs.

For women engaged in value addition—such as processing tamarind, lac, or millets—extension support on food safety, machinery, and market trends is particularly limited. This **knowledge asymmetry** leaves women dependent on intermediaries or NGOs for technical guidance.

Fragmented Policy Convergence

Multiple ministries—Agriculture, Rural Development, Women and Child Development, Food Processing, Tribal Affairs—implement schemes that could benefit women's enterprises. Yet, the absence of effective convergence means women navigate a fragmented system of subsidies, training programs, and financial support. For example, a woman producing millet snacks may need inputs from agriculture (production), MoFPI (processing), MSME (entrepreneurship), and e-commerce policies, but seldom are these coordinated.

2.6.2 Financial Constraints

Collateral Requirements and Gendered Land Ownership

Access to credit is one of the most cited challenges for women entrepreneurs. Despite progress through microfinance and SHG-bank linkages, formal credit from banks remains elusive. Most women lack land titles, which are essential for collateral. Even when women contribute to farm production, land is usually registered in men's names, disqualifying them from larger loans.

Lack of Credit History and Risk Perception

Women's enterprises are often informal, cash-based, and seasonal, which means they lack a credit history. Banks and financial institutions perceive them as high-risk borrowers. Loan applications are subject to scrutiny not only on economic grounds but also through the lens of gender bias, where women are assumed to lack entrepreneurial capacity.

Gender Bias in Lending Practices

Even schemes designed for women, such as **Mudra Yojana**, report lower uptake among rural women. This is partly due to procedural complexity, limited financial literacy, and the persistence of patriarchal attitudes within banking institutions. Women frequently require male guarantors, undermining their financial independence.

Implications

The financial constraint becomes a **vicious cycle**: without credit, women cannot invest in better machinery or packaging; without improved products, they cannot access higher-value markets; without market expansion, their creditworthiness remains low.

2.6.3 Technical Gaps

Training Deficits

While women possess rich indigenous knowledge in food processing, they often lack exposure to modern standards of hygiene, packaging, and certification. Training programs are sporadic, project-driven, and not tailored to women's schedules or literacy levels. For instance, many workshops rely on technical jargon or written manuals inaccessible to semi-literate women.

Food Safety and Quality Certification

Compliance with **Food Safety and Standards Authority of India (FSSAI)** norms is a major hurdle. Certification requires documentation, labeling, periodic inspections, and adherence to hygiene protocols. Most women's enterprises lack the resources or awareness to pursue certification, excluding them from institutional buyers such as schools, hospitals, or export markets.

Packaging and Branding Limitations

Attractive packaging is critical for market competitiveness. However, rural women entrepreneurs often use basic, low-cost packaging due to cost and technical constraints. Poor packaging reduces shelf life, limits appeal in urban markets, and undermines consumer trust. Branding efforts are minimal, with products often sold generically without differentiation.

Technology Adoption

Women face challenges in adopting modern machinery due to high costs, lack of training, and gendered assumptions about technology use. For example, tamarind deseeding machines or millet dehullers remain underutilized because women were not adequately trained during their installation.

2.6.4 Social Norms

Restricted Mobility

In many rural communities, women's mobility is restricted by cultural norms. Traveling to district markets, training centers, or banking institutions often requires male accompaniment or permission. This limits women's ability to access new markets, attend trade fairs, or negotiate with buyers.

Dual Burden of Work

Women entrepreneurs juggle multiple roles—household chores, childcare, farm work, and enterprise management. This **time, poverty** reduces their ability to scale enterprises, attend training sessions, or pursue growth opportunities. Unlike men, who may specialize in enterprise activities, women carry a disproportionate share of unpaid care work.

Male-Dominated Decision-Making

Even when women earn income, household and community decision-making often remains male-dominated. Control over earnings, investment decisions, or participation in external networks may rest with male family members. This undermines the very purpose of economic empowerment.

Social Perceptions of Women Entrepreneurs

In some contexts, women entrepreneurs face skepticism or ridicule, particularly when entering male-dominated spaces such as wholesale markets. Success may trigger backlash, including jealousy or resistance from male traders. Social norms thus act as invisible barriers that perpetuate women's marginalization.

2.6.5 Market Limitations

Poor Infrastructure and Logistics

Rural women entrepreneurs face inadequate storage, cold chain, and transportation facilities. Perishable products such as jackfruit, tamarind pulp, or dairy items lose value due to delays in reaching markets. Lack of rural roads and connectivity further exacerbates these losses.

Limited Market Exposure

Women often sell within familiar spaces—local haats, village fairs, or SHG exhibitions. While important, these markets offer low margins and limited demand. Few women have exposure to consumer trends, quality expectations, or urban retail channels.

Dependence on Middlemen

Women's lack of direct access to markets forces reliance on intermediaries, who capture significant value margins. For instance, in lac or honey value chains, traders dominate pricing, leaving women with minimal profits despite high labor contributions.

Competition and Branding Gaps

Women's enterprises face stiff competition from established private brands with superior marketing, packaging, and distribution networks. Without distinct branding and certification, SHG products are often dismissed as "low quality" despite being nutritious or eco-friendly.

Digital Divide

Although e-commerce platforms (e.g., Amazon Saheli, Flipkart Samarth, and ONDC) create opportunities, digital literacy among rural women is low. Limited internet connectivity and a lack of smartphones further restrict participation. Younger women may adapt faster, but older entrepreneurs remain excluded.

2.6.6 Interconnected Nature of Challenges

The above challenges are not isolated; they interact in reinforcing cycles. For example:

- **Institutional barriers** (weak SHG–FPO linkages) reduce bargaining power, leading to **market dependence on middlemen**.
- **Financial constraints** (lack of credit) limit investment in technology, resulting in **technical gaps** such as poor packaging.
- **Social norms** (mobility restrictions) prevent women from accessing training, exacerbating **knowledge deficits**.
- **Market limitations** (low exposure) reinforce perceptions of women's enterprises as informal, reducing institutional and financial support.

This interconnectedness highlights the need for **systemic interventions** rather than piecemeal solutions. Addressing one barrier in isolation will not yield sustainable change unless the broader ecosystem of constraints is tackled simultaneously.

2.6.7 Towards Systemic Solutions

While the challenges are formidable, they also point towards pathways for reform:

- **Strengthening institutional linkages:** Building SHG–FPO federations with women's leadership ensures scale and bargaining power.
- **Gender-sensitive financial products:** Credit schemes without collateral, tailored repayment schedules, and simplified documentation can improve women's access.
- **Capacity-building with inclusivity:** Training should be modular, visual, and timed to suit women's schedules, with mobile-based learning options.
- **Transforming social norms:** Campaigns and role models can challenge gender stereotypes, while involving men in sensitization programs can ease resistance.
- **Market integration:** Partnerships with corporate supply chains, CSR initiatives, and digital platforms can provide assured markets and reduce dependence on middlemen.

2.7 Opportunities for Scaling

Scaling women-led agri-enterprises is not simply a matter of increasing production or reaching new markets. It requires embedding enterprises in a supportive ecosystem that combines finance, training, technology, and market

linkages in a gender-sensitive manner. Building on the challenges outlined in the previous section, opportunities for scaling lie in deliberately linking grassroots women's initiatives with wider institutional structures, corporate supply chains, digital platforms, climate-smart practices, and policy convergence. This section highlights the most promising pathways for scaling and situates them within the broader framework of sustainable rural development and gender empowerment.

2.7.1 Corporate and CSR Integration

Linking Women's Enterprises to Supply Chains

One of the most powerful opportunities for scaling lies in connecting women-led enterprises with corporate supply chains. Large corporations, especially in the food and retail sectors, increasingly seek sustainable, locally sourced, and socially responsible products. Women's collectives that process tamarind, lac, millets, or spices can supply semi-processed or branded products directly to these corporations, ensuring assured markets and reducing dependence on intermediaries.

For example, **Kudumbashree units in Kerala** have successfully supplied curry powders, banana chips, and pickles to supermarket chains under common branding. Similarly, **tribal SHGs in Jharkhand** linked to Tata Steel Foundation have gained entry into institutional markets for tamarind-based products. Such linkages enhance both scale and stability by guaranteeing large-volume procurement.

CSR as an Incubator

Corporate Social Responsibility (CSR) initiatives provide another opportunity. Many corporations are mandated to invest in community development, and supporting women's enterprises aligns with their social impact goals. CSR funds can support infrastructure (cold storage, packaging units), training, and branding. For instance, CSR projects in Chhattisgarh have helped set up lac processing units with modern equipment, enabling tribal women to enter higher-value markets.

Long-Term Benefits

Integrating women into corporate supply chains has three multiplier effects:

1. **Assured Markets** – Reduced dependence on local haats and exploitative middlemen.
2. **Quality Upgradation** – Corporates demand standardized packaging and certification, pushing enterprises toward higher quality benchmarks.
3. **Sustainability and Recognition** – Corporate branding lends credibility to SHG products, expanding their consumer base.

2.7.2 Climate-Smart Enterprises

Women as Custodians of Climate Resilience

Climate change disproportionately affects women farmers, yet it also creates opportunities for women to lead enterprises around climate-smart agriculture. Women's traditional knowledge of seed preservation, intercropping, and organic inputs can be the foundation for resilient enterprises that meet both ecological and market needs.

Millets and Nutri-Cereals

Millets, once dismissed as "poor man's food," have gained renewed attention for their **drought resilience and nutritional value**. Women's collectives in Telangana and Odisha have successfully processed millets into flours, snacks, and health mixes. Scaling these enterprises meets dual goals: offering climate-resilient crops for farmers and nutritious food for consumers.

Organic Inputs and Bio-Enterprises

Enterprises around **vermicomposting, biofertilizers, and organic pesticides** provide women with low-capital entry points into sustainable agriculture. Many SHGs already produce compost for local markets; with scaling, they can supply institutional buyers, organic certification agencies, and eco-labelled brands.

Resilient Crop-Based Enterprises

Forest-based products like lac and tamarind also thrive in ecosystems that are more resilient to climate stress. Supporting women in diversifying crop-based enterprises ensures livelihood security against unpredictable rainfall and soil degradation.

2.7.3 Digital Inclusion

Mobile-Based Training and Sales

Digital platforms create unprecedented opportunities for scaling women's enterprises. Smartphones, even in remote villages, allow access to training modules (via YouTube, WhatsApp groups), mobile banking, and e-commerce platforms. A mushroom SHG in Jharkhand increased profits by 45% after adopting mobile-based sales.

E-Commerce Platforms

Government-backed platforms such as **ONDC**, as well as private initiatives like **Amazon Saheli** and **Flipkart Samarth**, are explicitly designed to onboard women entrepreneurs. These platforms provide visibility, eliminate geographical barriers, and connect SHG products with urban and even global markets.

Digital Finance

Mobile payments and online banking reduce women's dependence on cash transactions and intermediaries. They also build transaction histories, improving creditworthiness. Digital wallets and microfinance apps can simplify loan repayments, making formal finance more accessible.

Challenges and Scaling Solutions

While the digital divide remains a concern, younger members of households often act as digital intermediaries, creating a **youth-women collaboration** model that can be scaled (see next section). Government and CSR programs can also subsidize smartphones, provide data vouchers, and organize digital literacy camps specifically for women.

2.7.4 Youth–Women Collaborations

Intergenerational Synergies

Scaling requires integrating the energy and digital fluency of rural youth with the traditional skills and experience of women entrepreneurs. Many enterprises have reported how daughters or sons assist in branding, packaging design, and digital sales, while mothers focus on processing and production. This intergenerational partnership creates hybrid enterprises that combine tradition with innovation.

Case Example

In Telangana's millet enterprises, younger members handle e-commerce listings, digital marketing, and customer queries, while older women manage production. This not only enhances competitiveness but also builds intergenerational solidarity, ensuring enterprise continuity.

Institutionalizing Youth Engagement

Formal programs can integrate youth into SHG enterprises through:

- **Internships and fellowships** in agri-entrepreneurship.
- **Skill development programs** on digital marketing, graphic design, and financial technology.
- **Government incentives** that encourage rural youth to join family enterprises instead of migrating to cities.

Such collaborations bridge generational gaps, make enterprises tech-savvy, and attract educated youth to rural livelihoods.

2.7.5 Policy Convergence

Fragmented Policy Landscape

As highlighted earlier, policies for women's enterprises remain fragmented across ministries—Agriculture, Rural Development, Women and Child Development, Food Processing, MSME, and Tribal Affairs. Convergence is essential to avoid duplication and maximize impact.

Integrated Support Frameworks

Policy convergence can take the form of:

- **Single-window clearances** for women's enterprises to access training, credit, and certification.
- **Cluster-based approaches** where agriculture, food processing, and rural development programs jointly support women's producer groups.
- **Cross-ministry funding models** that pool resources for integrated enterprise hubs.

Examples of Convergence in Practice

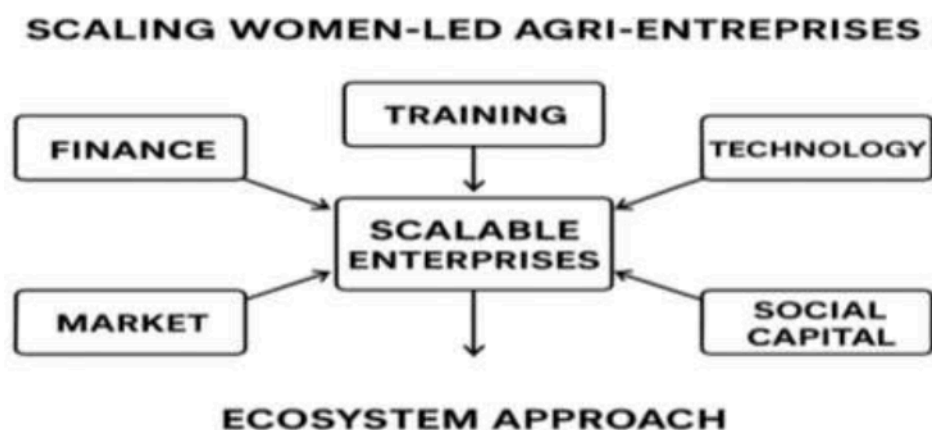
- The **One District One Product (ODOP)** initiative has successfully converged agricultural and MSME policies by branding district-specific products like millets, spices, or honey. Women's collectives stand to gain if such programs are designed with a gender lens.
- In Kerala, Kudumbashree's integration with Panchayati Raj institutions illustrates how governance and livelihood programs can align for women's empowerment.

2.7.6 The Ecosystem Approach to Scaling

Scaling is not possible through isolated interventions. A deliberate ecosystem approach is required, combining:

1. **Finance** – Gender-sensitive financial products, microcredit, and CSR-backed revolving funds.
2. **Training** – Regular, modular, and women-friendly capacity-building programs that combine indigenous knowledge with modern standards.
3. **Technology** – Affordable processing equipment, climate-resilient technologies, and digital platforms.
4. **Market Linkages** – Institutional buyers, corporate partnerships, e-commerce, and branding support.
5. **Social Capital** – Collective action through SHGs, FPOs, and federations to enhance bargaining power.

The synthesis of case studies reveals that enterprises thrive when these ecosystem components converge. Tamarind processing succeeded with CSR and SHG support; Kudumbashree thrived due to federated structures and state backing; millet enterprises grew through policy support and health-conscious demand; lac enterprises aligned ecology with livelihoods



Conclusion

Scaling women-led agri-enterprises is both a developmental imperative and an economic opportunity. Women's traditional knowledge, resilience, and collective action provide a strong foundation, but scaling requires systemic support that integrates finance, training, technology, and market linkages. A deliberate ecosystem approach ensures that these enterprises not only grow in size but also in sustainability, inclusiveness, and resilience.

Opportunities for scaling are already evident in successful models such as Kudumbashree in Kerala, millet-based enterprises in Telangana, and tamarind processing in Jharkhand. These demonstrate how women's groups can transform local resources into value-added products with national and even global reach. Corporate supply chains, CSR initiatives, and government schemes further amplify these possibilities when effectively linked with women's collectives.

At the same time, digital inclusion, youth–women collaborations, and climate-smart enterprises are emerging as game-changers. By integrating new technologies and intergenerational skills, women entrepreneurs can overcome structural barriers while also aligning with global sustainability trends. Policy convergence across ministries and sectors will be crucial to sustain this momentum and avoid fragmentation.

Ultimately, scaling women-led enterprises is not just about economic growth—it is about building equitable, resilient, and inclusive rural economies. With the right ecosystem, women's enterprises can become powerful engines of livelihood security, gender equity, and sustainable development.

References

1. Agarwal, B. (2018). Gender equality, food security, and the sustainable development goals. *Current Opinion in Environmental Sustainability*, 34, 26–32.
2. Arora, S., & Mathur, P. (2019). Rural women entrepreneurship in India: Challenges and prospects. *Journal of Entrepreneurship Studies*, 12(2), 45–60.
3. Basu, P. (2020). Self-help groups and women's empowerment: Evidence from India. *Development in Practice*, 30(4), 567–579.
4. Bhattacharya, S. (2021). Millets and the new green revolution: Women's role in sustainable food systems. *Food Policy*, 103, 102117.
5. Chakrabarti, A., & Choudhury, P. (2018). Digital inclusion in rural India: Opportunities for women entrepreneurs. *Information Systems Journal*, 28(3), 485–504.
6. Chandra, R. (2020). Corporate social responsibility and rural women empowerment in India. *Journal of Rural Development*, 39(1), 59–74.
7. Das, M., & Sinha, R. (2019). Climate-smart agriculture: A gender perspective. *Agricultural Systems*, 172, 102–111.
8. Desai, V. (2021). Policy convergence and women's entrepreneurship in India. *Public Policy and Administration Review*, 9(2), 134–149.
9. Dey, A. (2020). Self-help groups as incubators of rural entrepreneurship. *International Journal of Rural Studies*, 27(1), 78–92.
10. Gupta, N., & Verma, S. (2020). Rural e-commerce platforms and women entrepreneurs. *Journal of Digital Economy*, 5(2), 221–239.
11. Jain, P. (2021). Linking rural women to corporate supply chains: Lessons from India. *Business and Society Review*, 126(4), 567–590.
12. Joshi, S., & Sharma, K. (2019). Market linkages and rural women's empowerment in India. *Asian Journal of Agriculture and Development*, 16(2), 47–65.
13. Kabeer, N. (2020). Gender, livelihood diversification, and rural transformation. *World Development*, 135, 105–112.
14. Khan, R., & Ali, F. (2018). Financial inclusion and women empowerment: Evidence from South Asia. *Journal of Finance and Development*, 14(3), 99–118.
15. Kumar, A., & Rao, P. (2019). Women in agriculture and climate resilience. *Climate and Development*, 11(6), 517–527.
16. Mishra, S. (2021). Empowering rural women through agri-value chains. *Indian Journal of Agricultural Economics*, 76(3), 421–439.
17. Narayan, D., & Patel, R. (2020). Social capital and rural women's enterprises. *Journal of Development Studies*, 56(9), 1620–1635.
18. Patel, M. (2019). Collective action and women's federations: Pathways to scale. *Feminist Economics*, 25(3), 88–112.
19. Raghavan, S. (2021). SHGs and FPOs: Linking women to markets. *Agricultural Economics Research Review*, 34(2), 205–218.
20. Rao, N. (2019). Feminization of agriculture: New perspectives. *Economic and Political Weekly*, 54(5), 45–53.
21. Roy, A., & Singh, V. (2020). Women-led enterprises in non-timber forest produce: Case studies from Jharkhand. *Forest Policy and Economics*, 116, 102185.
22. Saha, D. (2018). Digital literacy and rural entrepreneurship. *Journal of Information Technology for Development*, 24(4), 623–639.
23. Sarkar, T. (2020). Branding and packaging for rural enterprises. *Journal of Consumer Marketing*, 37(6), 743–753.
24. Sen, A. (2021). Inclusive entrepreneurship and women's empowerment. *Journal of Social Entrepreneurship*, 12(1), 1–19.
25. Sharma, A., & Verma, P. (2021). E-commerce adoption among rural SHGs: Evidence from Jharkhand. *Journal of Rural Innovation*, 8(2), 155–169.
26. Singh, K., & Singh, R. (2020). Colonial policies and women in Indian agriculture. *Journal of Agrarian Change*, 20(4), 533–552.
27. Srivastava, N. (2019). Barriers to women's entrepreneurship in India. *Journal of Gender Studies*, 28(5), 573–589.
28. Subramanian, S. (2020). Food safety compliance among micro food enterprises. *Journal of Food Safety*, 40(4), e12814.

29. Thakur, P., & Bhatnagar, A. (2021). Youth–women collaborations in rural enterprises. *Journal of Development Policy*, 13(3), 241–259.
30. Verghese, M. (2019). Kudumbashree as a model for women’s empowerment. *Community Development Journal*, 54(3), 407–423.