ICAR Gender Strategy for National Agricultural Research, Education and Extension System

Indian Council of Agricultural Research
New Delhi

ICAR Gender Strategy for National Agricultural Research, Education and Extension System

2025

Published by
Directorate of Knowledge Management in Agriculture
Indian Council of Agricultural Research
Pusa Campus, New Delhi 110 012

Printed : July, 2025

Concept and Guidance

Dr M.L. Jat
Secretary, Department of Agriculture and Education (DARE) and
Director General, Indian Council of Agricultural Research (ICAR)
Krishi Bhawan, New Delhi 110 001, India

Authors

Dr Mridula Devi
Director, ICAR-Central Institute for Women in Agriculture (CIWA)
Bhubaneswar 751 003, Odisha, India

Dr Ananta Sarkar
Principal Scientist, ICAR-CIWA
Bhubaneswar 751 003, Odisha, India

Dr Bimlesh Mann
Assistant Director General (EP&HS),
ICAR Krishi Anusandhan Bhavan-2, New Delhi 110 012, India

Dr Joykrushna Jena
Deputy Director General (Fisheries Science and Agricultural Education),
ICAR, Krishi Anusandhan Bhavan-2, New Delhi 110 012, India

Citation

ICAR (2025) *ICAR Gender Strategy for National Agricultural Research, Education and Extension System.* Directorate of Knowledge Management in Agriculture (DKMA), Indian Council of Agricultural Research, New Delhi.

ISBN: 978-81-7164-304-2

Design & Production

Punit Bhasin,
Incharge, Production Unit, ICAR-DKMA
Pusa Campus, New Delhi 110 012, India

Published by Dr Anuradha Agrawal, Project Director, Directorate of Knowledge Management in Agriculture, Indian Council of Agricultural Research, Pusa Campus, New Delhi 110 012; Lasertypeset and printed at M/s Royal Offset Printers, A-89/1, Naraina Industrial Area, Phase-I, New Delhi 110 028.

FOREWORD

Agriculture is the backbone of India's economy, providing livelihoods to millions and ensuring the nation's food and nutritional security. Over the decades, the sector has undergone a remarkable transformation from traditional practices to modern, technology-driven systems spanning crop production, horticulture, livestock, poultry, and fisheries. Innovations in science, policy, and practice have contributed significantly to making India self-sufficient in food production and positioning it as a global agricultural leader. Women as farmers, labourers, entrepreneurs, or innovators are integral to the agri-food system. They are actively engaged in critical agricultural tasks, including sowing, transplanting, weeding, harvesting, post-harvest operations, livestock and poultry management, seed preservation, organic and natural farming, and aquaculture.

Recognizing the dynamic role of women, the Indian Council of Agricultural Research (ICAR) and the Government of India have prioritized gender equity in agriculture through targeted interventions. These include the development of women-friendly tools and implements to reduce drudgery, women-friendly technologies/packages of practices, comprehensive capacity-building initiatives, improving access to credit, strengthening market linkages, supporting women-led Farmer Producer Organizations (WFPOs), agribusiness incubation centres, and many more. Despite their significant contributions, women in agriculture continue to face structural and systemic barriers such as unequal access to land, credit, inputs, technology, extension services, market, and government schemes and programmes. These persistent disparities hinder their productivity, economic empowerment, and decision-making power, ultimately constraining the sector's full potential and inclusive growth.

The document of 'ICAR Gender Strategy for National Agricultural Research, Education and Extension System' is a timely and strategic response to these challenges and opportunities. It presents a comprehensive framework for mainstreaming gender across agricultural research, education and extension system. The strategy aims to foster inclusive innovation ecosystems, ensure equitable access to resources and services, and promote women's leadership at all levels of the agricultural value chain. This document is both a vision for the future and a call to action. It reaffirms the country's deep commitment to building a gender-transformative agri-food system that recognizes, respects, and realizes the potential of every woman in agriculture. As we move forward, this strategy will guide collective efforts across stakeholders to unlock the transformative power of women in agriculture, ensuring a more resilient, equitable, and sustainable future for the Indian agri-food system. We thank the ICAR Governing Body for adopting/ endossing this Gender Strategy document in its 264th meeting held on july 1,2025.

(M.L. Jat)
Secretary, Department of Agricultural Research and Education (DARE)
and Director General, Indian Council of Agricultural Research (ICAR), New Delhi

PREFACE

Women play a pivotal yet often under-recognized role across all sectors of agriculture. Despite comprising a significant portion of the agricultural workforce, they continue to face systemic barriers, including unequal access to critical productive resources and services, limiting their efficiency in agriculture, thereby affecting the sustainability of the agri-food system and their techno-socio-economic empowerment. To bridge these prevailing gender disparities, a dedicated 'Gender Strategy' has been prepared to strengthen gender-responsive research, education, and extension in agriculture.

The document to 'ICAR Gender Strategy for National Agricultural Research, Education and Extension System' aims to ensure that women receive equal opportunities to contribute and benefit from agricultural transformation and also foster a resilient and sustainable agri-food system for the future. The contents of this document are designed to be both thorough and actionable, offering strategic guidance grounded in practical relevance. The collective and coordinated efforts of all agricultural organizations, researchers, developmental partners, including women farmers, women collectives (SHGs, WFPOs/FPCs), NGOs, and others will be instrumental in ensuring the effective implementation of this strategy. Their active engagement will be crucial for transforming '*Krishika*' into '*Krishika Shakti*' and building a more inclusive, equitable and resilient agri-food system.

We express our sincere gratitude to Dr. M.L. Jat, Secretary, Department of Agricultural Research and Education (DARE), GoI and Director General, Indian Council of Agricultural Research (ICAR) for his visionary guidance and leadership during the preparation of this gender strategy document. We are highly grateful to Padma Bhushan Dr. R.S. Paroda, Former Secretary (DARE) and DG (ICAR); Smt. Vijaya K. Rahatkar, Chairperson, National Commission for Women, GoI; Dr. Renu Swarup, Former Secretary, Department of Biotechnology, GoI for their critical suggestions for refinement of this strategy document. We owe special thanks to Dr. S.N. Jha, Deputy Director General (Agricultural Engineering); Dr. Rajbir Singh, DDG (Agricultural Extension) ICAR; Dr. D.K. Yadav, Deputy Director General (Crop Sciences), ICAR; Dr. P.K. Joshi, Former Director-South Asia, IFPRI, South Asia Regional Office, New Delhi; Dr. Ram Pratim Deka, Country Representative-IN, ILRI South Asia Regional Office, New Delhi; Dr. Soumya Swaminathan, Chair, M.S. Swaminathan Research Foundation, Chennai; Smt. Megha Desai, Senior Project Coordinator, Self Employed Women's Association (SEWA), Gujarat; Prof. Aparajita Chowdhury, Former Vice Chancellor, Rama Devi Women's University, Bhubaneswar; Dr. B. Neeraja Prabhakar, Former Vice-Chancellor, Sri Konda Laxman Telangana State Horticultural University (SKLTSHU), Telangana; Dr. Seema Jaggi, ADG (HRD), ICAR; Dr. Pratap S. Birthal, Director, ICAR-NIAP; Dr. R.T. Patil, Former Director, CIPHET, Ludhiana; Dr. Anupama Singh, Joint Director (Education), ICAR-IARI; Dr. Malavika Dadlani, Former Joint Director (Research), ICAR-IARI; Dr. Anuradha Agarwal, Project Director, DKMA, ICAR; Dr. Madhura Swaminathan, Professor, Indian Statistical Institute, Bengaluru;

Dr. Smita Sirohi, Principal Scientist, ICAR; Ms. Swati Nayak, Scientist II and South Asia Lead, IRRI; Dr. Devinder Dhingra, Principal. Scientist (Agricultural Engineering), ICAR, and Dr. Prasoon Verma, Principal Scientist, ICAR-IIPR, Kanpur for critically reviewing the gender strategy document and providing insightful suggestions and inputs for its refinement to enhance its applicability, effectiveness, and potential for transformative change in the national agri-food system.

We also gratefully acknowledge the guidance and constant support of Dr. R.C. Agrawal, Former Deputy Director General (Agricultural Education), ICAR for the development of the document ICAR's Gender Strategy for National Agricultural Research, Education and Extension System. Special gratitude is extended to Dr. Sanjay Kumar Singh, DDG (Horticultural Science), ICAR; Dr. Raghavendra Bhatta, DDG (Animal Science), ICAR; Dr. A.K. Nayak, DDG (NRM), ICAR; Dr. Anil Kumar, ADG (TC), ICAR; Dr. S.K. Sharma, ADG (HRM), ICAR; and Dr. Ajit Singh Yadav, ADG (EQA&R), ICAR for their encouragement during the finalization of this strategy document. Our heartfelt appreciation is also extended to all the staff of ICAR-Central Institute for Women in Agriculture (ICAR-CIWA) for their direct and indirect contributions and all possible support in preparing this gender strategy.

We hope this document will serve as a basis for action for all agricultural organizations, researchers, faculties, extension personnel striving to mainstream gender in agriculture and allied sectors. Let this strategy inspire collaborative action and commitment to unlock the full potential of women in agriculture for an inclusive, equitable and sustainable agri-food system in the country.

Authors

CONTENTS

Chapter 1
Introduction

1.1 The Role of Women in Agri-food Systems

Women play a vital role in the agricultural and rural economy, yet they remain among the most vulnerable groups. Recognizing their immense potential in driving social and economic development, the United Nations' 2030 Agenda for Sustainable Development identified gender equality and the empowerment of all women and girls as Goal 5 of its 17 Sustainable Development Goals (SDGs). Importantly, SDG 5 (gender equality) has a multiplier effect, contributing directly to achieved SDG 1 (no poverty), SDG 2 (zero hunger), SDG 3 (good health and well-being), and SDG 13 (climate action). With year 2030 fast approaching, the global community faces the sobering reality that achieving the SDGs in their entirety may be unattainable. Nevertheless, advancing equality remains indispensable for eradicating poverty, safeguarding the planet, and ensuring peace and prosperity for all. In this context, mainstreaming gender equity-particularly in agriculture-has become, of paramount importance. The Food and Agriculture Organization of United Nations (FAO) estimates that closing the gender gap in farm productivity and addressing wage disparities in the agri-food system would increase global gross domestic product (GDP) by one per cent (or nearly USD 1 trillion). Such progress would reduce global food insecurity by about two percentage points, reducing the number of 45 million food insecure people (FAO, 2023).

In India, women contribute significantly as farmers, agricultural laborers, and agri-preneurs, and community leaders though their roles vary across regions, socio-cultural and economic groups, agro-ecological regions, production systems, and stages of societal development. Despite their critical involvement, women's access to resources and assets, such as land, agricultural inputs, services, credit, and digital technologies-remains far behind that of men due to entrenched structural gender inequalities. These disparities are further reinforced by women's limited participation in decision-making processes within the agri-food system. Addressing these challenges require the adoption of a gender-responsive strategy in agriculture. In line with this need, the Indian Council of Agricultural Research (ICAR) has developed its first Gender Strategy, which seeks to mainstream gender considerations across research, education, extension, partnerships and governance systems, thereby fostering a more inclusive and impact-oriented agri-food sector.

1.2 Participation of Women in Indian Agri-food Systems

Women constitute nearly half of India's population and contribute tremendously in agriculture, yet they remain disadvantaged in terms of access to and control over resources. According to Periodic Labour Force Survey (PLFS) report 2023-24, 46.1% of total workforce (men and women aged 15 years and above)

is engaged in agriculture and allied activities. Within this, 64.4% of female workers and 36.3% of male workers are employed in agriculture. The involvement of rural women in agriculture is particularly striking which is 76.9% of all rural female workers compared to 59.8% of rural male workers. This underscores the central role of women in sustaining agricultural livelihoods. In the crop production sector (including horticulture), women account for 31% of the rural workforce, spending an average of 274 min/day (compared to 330 min/day for men), and contribute 27.2% of its output (Kumar *et al.*, 2022; NSO, 2020). A recent AICRP-WIA study further highlights that women's participation in crop production is exceptionally high (90% and above) in states like Nagaland, Meghalaya, Assam, Arunachal Pradesh, Sikkim, and Bihar, reflecting their crucial role in subsistence farming (ICAR-CIWA, 2024). In contrast, states like Punjab (10.1%), Maharashtra (36.1%), and Rajasthan (38.4%) report lower female participation, largely due to mechanization and the dominance of male-led commercial agriculture. These trends reveal significant regional variations in gender roles within India's crop production sector.

In the horticulture sector, women participate significantly across diverse activities, including nursery raising, irrigation, weeding, and post-harvest processing, homestead fruit farming, digging and irrigation in apple orchards, shelling, peeling, and grading in cashew processing, intercultural operations and oil extraction in oil palm plantations. They also play a dominant role in organic horticulture, particularly in nursery management (97.13%), bio-formulation preparation (89.77%), transplanting (89.66%), and harvesting (89.55%) (ICAR-CIWA, 2024). Women's participation in horticultural activities within agricultural households is notably high in several states, such as Maharashtra (99.04%), Arunachal Pradesh, Assam, and Nagaland (more than 88%), underscoring their strong role in fruit and vegetable cultivation. Conversely, Haryana records the lowest participation (30.45%), which can be attributed to its cereal-dominated cropping system. On average, about 75% of women (working either independently or jointly) are engaged in horticultural activities across the surveyed states (ICAR-CIWA, 2024).

In the livestock sector, women constitute 49% of rural workforce, contributing 45.8% of the total work time, a share significantly higher than their contribution in the crop production sector (27.2%). Rural women engage in livestock-related activities, spending an average of 129 min/day on tasks such as feeding, milking, fodder management, animal care, and processing dairy products (Kumar *et al.*, 2022; NSO, 2020). Their participation in the dairy sector is particularly prominent accounting for nearly 70% of the total workforce. Women are also actively involved in rural poultry and goat rearing, handling almost all tasks ranging from feeding to marketing. The AICRP-WIA study highlights notable regional variation: in dairy activities, it ranges from 39.79% in Rajasthan to 94.36% in Arunachal Pradesh, Assam and Sikkim. In poultry, women's involvement spans from 21.74% in Punjab to 99.18% in the North-eastern states (ICAR-CIWA, 2024).

In India, nearly 28 million people are engaged in fisheries. Of these, women play a significant role: in marine sector they account for 47% of 4.9 million

fisherfolk, while in the inland sector, they make up 44% of the 23 million fisherfolk (DoF, 2023). Women constitute 86% of the workforce in fish marketing, with the highest representation from Maharashtra (30%), followed by Tamil Nadu (18%), and Andhra Pradesh (14%). They also dominate post-harvest activities, accounting for 90% in curing/processing, 95% in shrimp peeling/pre-processing, and 52% in net making. Andhra Pradesh leads in women's participation in curing and labour roles, while Kerala has the largest share in shrimp peeling (CMFRI-FSI-DoF, 2020).

Beyond production, women also play a critical role in natural resource management. They often act as custodians of land, water, and forests, applying indigenous knowledge to manage resources sustainably. However, their contributions are constrained by limited access to critical resources such as irrigation, green fodder, manure, and other essential inputs.

Women are pivotal actors in both production and post-production stages across agricultural value chains, making them central to global food security. The four pillars of food security–availability, access, utilisation, and stability–are inherently gendered, and their imbalance often results in disproportionate nutritional challenges for vulnerable populations, especially women and children. Data from NFHS-5 (2019-21), highlights the scale of concern: 35.5% of children are stunted, 32.1% underweight, and 67.1% anaemic, while among women, 57.2% are anaemic, 56.7% have a high-risk waist-to-hip ratio, 24% are obese, and 18.7% underweight. These figures underline the dual burden of malnutrition and lifestyle-related health risks, with greater severity in rural populations. Despite several government schemes, malnutrition and micronutrient deficiencies remain persistent, pointing to the need for a gender-responsive agricultural strategy. Nutri-sensitive farming practices such as crop diversification, use of bio-fortified varieties, homestead nutrition gardens, targeted nutrition and health education, and gender sensitization of societies, can significantly improve the regular flow of food availability and nutritional security of the farm families, particularly in rural areas.

Women in rural India shoulder dual responsibilities, balancing unpaid household work with agricultural tasks, yet their extensive contributions often remain unrecognized and undervalued within both family and community structures. While women spend comparatively fewer hours in agricultural work (3.9 h) than men (5.2 h), their overall workload is significantly higher (9.5 h) due to disproportionate burden of extensive unpaid domestic and care work compared to 7.9 h by men (Kumar *et al*., 2022). This excessive workload, spread across agricultural and domestic activities throughout the crop seasons, adversely affects women's health, well-being and opportunities for social and economic participation (Vermireddy and Pingali, 2021). Addressing this imbalance requires a critical societal shift in gender norms, particularly in challenging the entrenched perception that domestic and care responsibilities are the sole obligation of women.

1.3 Women's Issues in Agriculture

Women in agriculture occupy a pivotal role across nearly all stages of production, with the exception of ploughing. Their contributions extend from field preparation to harvesting, all post-production operations, as well as a wide

range of labour-intensive and drudgery-prone agricultural tasks. However, the increasing pressures of climate change, recurrent natural calamities, degradation of natural resources, evolving agricultural technologies and patterns of male migration have made their work progressively more difficult. While agricultural innovations are increasingly being adopted by farming communities, many critical technologies and practices remain inaccessible to women farmers. Furthermore, despite their indispensable role in agricultural production, women are often not formally recognized as farmers. This lack of recognition, combined with structural and socio-cultural constraints, continues to marginalize their contributions within the sector. Some of the critical issues and challenges, being faced by women in the entire agriculture sector are highlighted below.

Limited access to and control over resources: Women farmers face significant barriers in accessing and controlling productive resources such as land, technology, and financial services. According to the Agriculture census (2015-16), the share of female operational landholders' (owned, leased, joint/share cropper, others) increased slightly from 12.79% in 2010-11 to 13.98% in 2015-16, compared to 86.02% by men. Moreover, in women-operated land holdings (individual and joint), 72% fall under the marginal category, with an average size of 0.35 ha (Agriculture Census 2015-16). Even when women legally own land, they often face restrictions in accessing credit, technical knowledge, and agricultural inputs–necessary for productive farming. Limited land ownership reduces their bargaining power, constrains decision-making, and hinders long-term planning. In addition, poor asset ownership results in limited credit support, particularly in the absence of male counterparts.

Gender wage discrimination: Despite the Equal Remuneration Act (1976), which guarantees equal pay for men and women performing the same work, wage disparities persist in Indian agriculture. Women labourers continue to earn less than their male counterparts, particularly in rural areas where wage payments are often made in cash, increasing the risk of underpayment. This persistent gap undermines women's economic security and discourages their full participation in the agricultural workforce.

Poor participation in decision-making: Decision-making in the family is influenced by the socio-cultural norms, particularly in rural areas. According to NFHS-5 (2019-21), 88.7% of married women reported involvement in at least three household decisions, namely health care for self, household purchases, and visits to relatives. Encouragingly, recent findings from the All India Coordinated Research Project on Women in Agriculture (2024) Centres in 12 states, revealed a significant improvement in women's participation in agricultural related decision-making, ranging from 59.5 to 73.27% in production and post-production activities.

Poor access to extension services: Gender-responsive extension approaches are essential to enhance rural women's access to information and services. Challa (2025) identified poor internet connectivity (81.67%), low literacy among women farmers (80%), and difficulty in utilizing ICT-based gadgets and services (66.67%) as major barriers for the effective utilization of digital extension services by rural women. These constraints limit knowledge dissemination and restrict women's participation in modern agricultural innovations.

Capacity building: The gender productivity gap remains substantial, with female-managed farms, producing 24% less than the male-managed farms of the same size (FAO, 2023). This gap underscores the need to strengthen women's access to critical productive resources and capacity building initiatives. Umrikar and Tiwari (2022) highlighted key challenges in technology adoption, including high costs, entrenched reliance on traditional methods, limited skill acquisition, unavailability of raw materials, and poor family income. Such constraints perpetuate technological exclusion among women farmers.

Drudgery and occupational health hazards: Agricultural tasks performed by women, such as transplanting, weeding, parboiling rice, harvesting, carrying headloads of farm produce, livestock care and water collection, are characterized by high physical drudgery. Due to limited awareness, availability, and suitability of women-friendly tools, these activities are largely undertaken manually. Lack of training, inadequate institutional support, and restricted access to ergonomically designed technologies intensify women's workload and expose them to occupational health risks.

Market issues and constraints: Although women participate in marketing as traders, hawkers, and vendors, their potential remains constrained by poor market literacy and male-dominated market. Skills in bargaining, pricing, and profit-loss calculation are often lacking. While platforms such as e-marketing, mobile-based marketing and retail networks exist, most women are unable to utilize them effectively due to knowledge and confidence gaps. Strengthening women's market literacy, creating safe and inclusive market spaces, and facilitating access to digital marketing platforms are key policy priorities.

Socio-cultural constraints: Rural women face multiple socio-cultural barriers rooted in patriarchal systems, limited education, and inadequate access to finance, and technology. These constraints limit their access to critical productive resources,

Key barriers faced by women in agriculture

- Limited ownership and control over land and productive resources, which restricts their ability to invest, innovate, or secure institutional credit.
- Heightened occupational risks such as exposure to drudgery, health hazards, and climate-related vulnerabilities.
- Limited influence in decision-making processes, from the household level to higher institutions.
- Restricted mobility and excessive time burdens, compounded by domestic responsibilities and a lack of supportive infrastructure (e.g. childcare, transportation, accessible markets), which further limit women's participation in collective action and producer organizations.
- Persistent gender wage gaps and occupational segregation, leading to economic vulnerability and diminished livelihood security.
- Inadequate visibility and acknowledgment of their roles as farmers, innovators, and community leaders.

opportunities, and decision-making within the agricultural system. Most women engage in manual labour-intensive, repetitive, and drudgery-prone agricultural activities, often working 14-18 h a day with little rest. This high burden situation has a negative impact on the overall physical and mental health and well-being of agricultural women. Male movement to urban areas in search of employment further increases women's responsibilities and workload, creating difficulties in livelihood security.

1.4 Rationale for a Gender Strategy

The above constraints have far-reaching implications, extending beyond gender equality, to influencing the overall productivity, resilience, and inclusiveness of the agricultural sector. Although several national programmes and schemes aim to empower women in agriculture, the absence of a coherent, institution-wide framework in research, education, and extension system has resulted in fragmented efforts and limited long-term impact.

To address these systemic challenges, ICAR has developed its first institution-wide Gender Strategy for the National Agricultural Research, Education, and Extension System (NAREES). This strategy aims to systematically mainstream gender equity across all ICAR institutes, Central Agricultural Universities (CAUs), and State Agricultural Universities (SAUs). It outlines a clear vision, guiding principles, institutional mechanisms, and focus areas to foster inclusive, gender-responsive, and impact-oriented research and extension within NAREES. It is supported by data, and implementation models, provided in the Annexures. By embedding gender equity as a core institutional priority, the ICAR Gender Strategy aims to unlock the potential of women in agriculture, boosting productivity, and strengthening the long-term sustainability and resilience of India's agri-food systems.

This strategy is not intended to replace the existing gender strategies of individual organizations. Rather, it provides a unifying framework to strengthen and complement their efforts. It also seeks to sensitize and engage all stakeholders in a holistic manner, ensuring their dedicated contribution towards mainstreaming gender equity in research, education and extension system, thereby empowering women in agriculture — referred as *'Krishika'* and securing a sustainable future of the agricultural sector.

ICAR Gender Strategy seeks to:

- Mainstream gender across all research, education, and extension of agricultural organizations.
- Promote gender-responsive research and innovation systems that reflect the needs, roles, and constraints of women in agriculture.
- Strengthen institutional mechanisms and capacities, including gender focal points and data systems to enable evidence-based action.
- Develop a repository at ICAR-CIWA and develop cross-institute collaborations to serve as a hub of gender expertise and innovation.

Chapter 2
Vision and Objectives

2.1 Vision

To create a gender-equitable agri-food systems that empowers women, promotes inclusive growth, and drives sustainable development through diversity and equal opportunity.

2.2 Objectives

- To develop and implement an institutional strategy for gender-responsive agricultural research, education, and extension for sustainable development.
- To enhance women's access to knowledge, technologies, and institutional platforms, thereby strengthening their agency, productivity, and leadership in agri-food systems.

Chapter 3
Guiding Principles

3.1 Integration

Gender as a Core Lens in Agricultural Research, Education and Extension:

- Integrate gender analysis and perspectives across all research, education, extension, and institutional planning within ICAR, CAUs and SAUs.
- Ensure that every stage of research, from priority setting to dissemination, accounts for the differentiated roles, needs, and impacts on women and men in agriculture.
- Strengthen, encourage, and share gender-responsive innovations, data systems, and capacity building across institutions to comprehensively transform the agri-food systems toward gender equity.

3.2 Inclusivity

Recognizing Diversity, Enabling Participation:

- Create enabling environments for all men and women that foster cross-learning and collaborations, and that actively recognize and amplify the voice, agency, and leadership of women and marginalized groups in the agriculture sector.
- Ensure participation of women/women collectives from diverse agro-ecological zones, socio-economic backgrounds, and roles (e.g., farmers, livestock keepers, fisher-folks, entrepreneurs) in research design, technology development and validation, farmer participatory trials, demonstrations, and skill development.

3.3 Equity

Addressing Systemic Barriers, Enabling Fair Opportunities:

- Institutionalize the collection, analysis, and use of gender disaggregated data and plan targeted gender responsive interventions.
- Implement gender-responsive budgeting mechanisms to ensure adequate resource allocation and accountability for gender outcomes. Invest in women-friendly technologies and practices that reduce drudgery and enhance productivity, health, and dignity for women in agriculture.
- Recognize and value women's often invisible contribution, and ensure their equitable access to productive resources, services, information, and markets.

Chapter 4
The Gender Strategy

A gender-equitable research, education and extension system seeks to maximize the potential of the entire agri-food system by ensuring women's equal access to technologies, productive resources, opportunities, and decision-making power. Addressing existing inequalities that hinder productivity and food and nutritional security, this strategy aims to create an inclusive and sustainable agri-food system that benefits women, their families, and society at large. For sake of functionality and implementation, the strategy is outlined separately under two sections, namely (a) research and education and (b) extension. It centres around six pillars: (i) awareness and social norms change; (ii) capacity building and entrepreneurship; (iii) institutional support and extension reforms; (iv) access to resources and technologies; (v) market and financial inclusion; and (vi) monitoring, impact assessment and learning.

4.1 Strategy for Gender Equitable Agricultural Research and Education

This strategy seeks to integrate gender equity across agricultural research, education, technologies, farm tools, machines and implements, package of practices, and climate resilient practices to enhance the efficiency of women farmers/labourers, improve productivity and promote a sustainable agri-food system. It emphasizes mainstreaming and empowering women in agriculture and allied sectors.

Key stakeholders: Agricultural organizations, researchers, faculties, farmers, and women farmers' organisations.

(i) Gender Sensitive Research Environment

- Create awareness amongst scientists, faculties, researchers, students and technical staff through structured trainings, workshops, and refresher courses on gender perspectives in agricultural research.
- Integrate gender responsiveness as a criterion in research project proposals, reviews, and performance evaluation. Gender analysis should be a mandatory component of research planning and project review protocols.
- Facilitate participatory research prioritization by involving women farmers and their organizations as co-producers of knowledge. Ensure inclusion of experienced women farmers in faculty development and training programmes, to share their perspectives.
- Integrate gender sensitization into all training programmes organized by ICAR Institutions/ICAR-NAARM. A minimum of one lecture on 'Gender Perspective in Agricultural Research' should be included in every training programme for researchers in all institutions, irrespective of their research areas and training titles.

- Support local women-led research by equipping young women with participatory research tools, fostering ownership-driven programmes.
- Integrate gender perspectives into undergraduate and postgraduate course curricula across agricultural disciplines.

(ii) Gender Disaggregated Data

- **Primary data collection:** Collect and compile gender disaggregated data (GDD) at national, state, and institutional levels on activity-wise participation, time use, resource allocation, and technology adoption.
- **National Information System for Women in Agriculture:** Develop a centralized 'National Information System for Women in Agriculture' (NISWA) portal and mobile application at ICAR-CIWA. This would serve as a single window platform for data, schemes and women-friendly technologies (WFT) developed by NAREES.
- **Information on gender research:** All ICAR institutes and agricultural universities shall prepare a gender factsheet (in prescribed format and upload on NISWA), and have a dedicated chapter on 'Gender Research and Extension' in their annual reports.

(iii) Participatory Research Prioritization

- Identify region- and sector-specific (crops, horticulture, livestock, fisheries, etc.) gender research needs through surveys and focus group discussions involving both male and female farmers, including respondents from diverse socio-economic background with special focus on under-represented women farmers.
- Ensure all projects incorporate gender-responsive assessments to align with farmers' priorities including women farmers.

(iv) Drudgery-reducing and Inclusive Technologies

- Assess drudgery levels amongst men and women farmers/labourers in actual field conditions using time motion study.
- Develop and refine tools, machines, and implements considering ergonomics, safety, and occupational health needs of both genders.
- Conduct multi-location testing of women-friendly tools, machines, and implements with a large user group (≥50 rural women).
- Develop a checklist for theoretical assessment of women-friendliness of developed tools, machines, and implements.

(v) Resource Efficient and Gender-responsive (GR) Agricultural Technologies

(a) Climate-smart, nutri-sensitive agricultural technologies (GR-CSNS)

- Incorporate women's varietal and processing preferences (eg. dwarf or short duration varieties, low cooking time, higher processing yield, etc.), and resource efficiency in developing climate-smart, nutri-sensitive practices and integrated farming systems.
- Conduct validation and multi-location trials of women-friendly technologies with rural women before release.
- Develop checklists for theoretical assessment of gender responsiveness of production technologies and PoPs.

(b) GR-Precision Agriculture

- Ensure accessibility of precision tools (sensors, mobile apps, drones, etc.) across literacy, language and ability levels.
- Involve women in tool development and customization to ensure cultural acceptance, and usability.
- Validate the developed tools with a large user group (≥50 rural women).

(vi) GR-Technology Dissemination Framework

- Position women farmers, groups and organizations as direct beneficiaries of technology dissemination.
- Develop and validate gender-responsive dissemination modules for broader outreach and stronger impacts.

(vii) Monitoring, Evaluation, Impact assessment, and Documentation

- Track participation of men and women in research prioritization, validation and adoption of technologies.
- Monitor adoption patterns, workload changes, productivity gains, health outcomes, and empowerment impacts on women and men.
- Evaluate outcomes such as increase in yield, income, reduction in drudgery and occupational health risks, improvement in food and nutrition security, and overall livelihood securities, including social impact (children's education, girls' education, living standard, expenditure pattern, etc.).
- Research project proposals (RPPs) and final project reports must include a section on gender integration and gender outcomes (subject to review by internal or external gender audit teams.
- Document GDD, WFT and PoPs, upload on the NISWA portal and also share with ICAR-CIWA.

4.2 Strategy for Gender Equitable Extension System

The strategy aims to enhance gender equity in access to technologies, critical productive resources, opportunities, and decision-making thereby addressing inequalities that limit productivity, and food and nutritional security. It promotes inclusive and sustainable agri-food system.

Key stakeholders: Agricultural organizations, researchers, extension functionaries, women farmers, farmers, and women organisations in agriculture.

(i) Gender-Sensitive Social Environment

(a) Awareness and Sensitization

- ***'Krishika Shakti'*- a national campaign:** It should be launched to highlight women's role in climate-smart, nutri-sensitive, integrated farming system for a sustainable agri-food system, and should be integrated into research and extension activities of all agricultural orgnizations/departments.
- **Gender awareness:** Conduct regular media campaigns on gender issues in agriculture including themes on shared caregiving, land rights, digital literacy, unpaid work recognition, women leadership and safety, prevention of gender discrimination, sharing multiple responsibilities of women farmers by family members, and other region-specific important issues of women. Create awareness about the importance of functional clothing amongst landlords, women farmers and labourers to prevent occupational health hazards during agricultural activities.
- **Success stories:** Promote and document success stories of diverse women farmers (across communities, tribes, regions, ages, marital status, and disability status) through print [e.g. 'समृद्ध कृषिका' (*Samridh Krishika*)/'सक्षम कृषिका' (*Saksham Krishika*), digital and community platforms with feedback mechanisms for peer learning.

(b) GR-Capacity Building and Training

- Encourage women's participation in capacity building programmes (CBPs), entrepreneurship development programmes (EDPs) and skill development programmes. Encourage at least one third of farmers/women farmers, participating in skill development/CBPs/EDPs to participate along with their spouse.
- Develop gender-sensitive training modules covering complete technical know-how, leadership, nutrition, health, occupational safety, and gender rights.
- Deliver trainings at convenient times, location and formats [short duration (3-4 h per day), with need based transport/crèche/childcare/child engagement facilities].
- Encourage women farmers to share their experiences in every forum.

(b) Awards and Recognition

- Institutionalize *'Krishika Shakti Award'* at national, state, Institute and local levels to honour women's contributions, linked with access to credit, markets, and entitlements.

(ii) Gender-sensitive Extension Environment

- Train extension functionaries on gender perspectives, with mandatory inclusion in curricula.
- Develop gender responsive extension models tailored to crops, regions, and technologies, using participatory methods.
- Utilize digital extension platforms to provide timely, accessible and cost-effective information to rural women.
- Develop a checklist for theoretical assessment of the gender sensitivity of extension models/methodologies/approaches/programmes.

(iii) Awareness and Access to Government Schemes

- Conduct awareness programmes and campaigns in local languages on government schemes, ensuring women's access to credit, subsidies and benefits. Integrate this into the *Krishika Shakti* campaign.

(iv) Participatory Extension and Institutional Support

- Engage women leaders and volunteers in all stages of extension, from problem identification to monitoring, ensuring gender balance.
- Sensitize *Krishi Sakhi/Pashu Sakhi/Jal Sakhi/Matsy Sakhi/Woman Leader/*Youth Core Group (gender balanced) to dedicate specific days to work closely with small and marginal women farmers to raise awareness about the agriculture, animal husbandry, rural development, energy and water schemes and report to Panchayats.
- Sensitize State Agricultural Departments to establish the *Krishika* Cells at block/cluster levels for coordination, grievance redressal, data collection, scheme facilitation.
- Build convergence with institutions, NGOs, W-FPOs/FPOs, and private sector organizations for women-led development.

(v) Students in Extension

- Involve undergraduate and postgraduate students in extension through pre-placement orientation, farm-family adoption 'One Student One Family', and RAWE programme integration.
- Students assignments should document gender issues and solutions, feeding into academic requirements.

(vi) Enhancing Access to Innovative Technologies

- Provide demonstrations and customized training programmes in local languages on women-friendly innovative technologies, including details of availability and benefits.
- Promote digital literacy, women-friendly apps and online safety training.
- Establish women-led machine banks and resource centers at panchayat level to strengthen women's access to tools, machines, technologies, information, and reduction of drudgery and occupational health risks.

(vii) Promotion of W-FPOs/W-FPCs/women collectives

- Strengthen SHGs/WFIGs/WFPOs and federations through awareness, training, and collective action for resource access and livelihood security.
- Reduce the technology licensing fee for the resource poor women/women collectives.

(viii) GR-Capacity Building and Entrepreneurship

- Organize skill development and entrepreneurship programmes with gender sensitive approaches, post-training mentorship, finance, and market linkages.
- Provide targeted support for women in post-harvest, value-addition, branding, and marketing.
- Maintain a database of women-led agri-enterprises and track impact.

(ix) Economic Empowerment of Underprivileged Women

- Support landless, tribal, single, and marginal women in homestead farming and value-addition activities through tailored training, literacy modules, and enterprise support.
- Provide free training, transport, and continuous mentorship via incubation hubs and mobile training units.
- Recognize successful women-led enterprises through awards.

(x) Market Access

- Organize market literacy programmes and link women collectives with e-commerce industrial zones and public procurement.
- Establish dedicated women's marketplaces in collaboration with Agriculture departments and ATMA.

(xi) Monitoring, Evaluation, Impact Assessment and Documentation

- Regularly assess women's participation, empowerment, and economic gains from extension activities.

- Document and showcase successful models and case studies for wider replication.
- Assess the impact of gender equitable extension on agricultural output, techno-socio economic empowerment of women in agriculture, and overall social impact.

Chapter 5
Key Performance Indicators

The following key performance indicators (KPIs), targets, and timelines will serve as measurable benchmarks to assess the effectiveness of the Gender Strategy's implementation. These indicators provide a structured framework for monitoring progress, ensuring accountability, and evaluating impact over time. The agencies identified as responsible for specific activities are indicative in nature and may be expanded to include other relevant stakeholders, as required, to ensure comprehensive and collaborative execution.

Objective	Key Indicators	Target	Timeline	Responsible Agency
1. Ensure gender-responsive research, education, and extension	• Research projects % formulated, curricula developed, and extension programmes organized with gender components • Number of women-friendly technologies/ methodologies tested, refined, developed and disseminated • Number of technology-specific dissemination frameworks developed • No. of women farmers recognized/ awarded • No. of WFPOs/WFPCs/ WFIGs/ women collectives promoted • No. of publications on gender in agriculture	Integration in all possible activities across ICAR institutes	By 2030	ICAR HQ, ICAR Institutes, CAUs and SAUs
2. Promote equitable access for women in agri-food systems	Women % participating in trainings, technology adoption, and leadership programmes	50% participation rate	By 2028	ICAR Institutes, CAUs, SAUs, KVKs

Objective	Key Indicators	Target	Timeline	Responsible Agency
3. Strengthen institutional capacity for gender mainstreaming	• Number of gender cells established; • Institutions % submitting annual gender action plans; • Institutions % publishing chapter on women in agriculture in annual reports; • submitting gender related information to ICAR-CIWA.	100% of institutions with functional Gender Cell and NO-GRA	By 2027	ICAR HQ ICAR Institutes, CAUs, SAUs
4. Enhance data systems for evidence-based policy and research	Availability of centralized, gender-disaggregated datasets; ~~frequency of annual reports~~	Fully operationalized gender database and annual "Gender in Agriculture" report	By 2027	ICAR HQ, ICAR-CIWA
5. Advocate and foster partnerships for gender equity	Number of institutional partnerships and joint initiatives on women-centric innovations	Twenty active partnerships with measurable outcomes	By 2029	ICAR HQ, State Departments, NGOs, Private Sector

Chapter 6
Implementation

Active participation and collaboration among all stakeholders, including research institutions, extension systems, and farming communities, are imperative to achieve the vision and objectives of this gender strategy. Agricultural organizations must establish strong linkages with the line departments of the state government, financial institutions, market agencies, and other associated actors to enhance women's access to credit, inputs, and markets. Collectively, these stakeholders must design and implement gender-responsive technologies, methodologies and services that directly address the unique challenges faced by women in agriculture and allied sectors at the grassroots level.

Role	Responsibilities
Director General (DG), ICAR	• Oversees the implementation of the Gender Strategy across ICAR Institutes, CAUs, and SAUs.
Deputy Directors General (DDGs), ICAR	• Monitor the implementation of the Gender Strategy in ICAR Institutes.
Head of Organizations/ Institutes [Vice Chancellors of CAUs & SAUs, ICAR Directors and Project Directors]	• Ensure effective utilization of the organization's gender budget in research, education, and extension. • Integrate gender considerations into all research, education, extension and developmental activities of the Institute/ University. • Monitor internal implementation of the Gender Strategy. • Nominate Nodal Officers for Gender Research in Agriculture (GRA) at the Institute/University level. • Facilitate convergence with extension departments and district agriculture offices for gender-inclusive outreach.
PME Cell at the Institute level	• Monitor and evaluate research projects with gender lens.
Nodal Officers-GRA at the Institute/University level	• Foster gender-responsive research and extension. • Document gender responsive research output, upload on NISWA portal, and submit to ICAR-CIWA.
Scientists & Researchers	• Integrate gender equity in research projects and extension activities.
ICAR-ATARIs & KVKs	• Integrate gender equity in extension services. • Ensure convergence with Extension Departments, District Agriculture Offices, financial organizations, market agencies, NGOs and others.

Role	Responsibilities
ICAR-CIWA	• Serves as repository of gender responsive/women-friendly technologies and information, generated by all the agricultural organizations. • Undertakes gender sensitization of stakeholders.
AKMU/ IT Unit at the Organization level	• Showcase gender related information in agriculture on the official websites, media and digital platforms for wide coverage
PD, DKMA	• Showcase gender related information on ICAR website, media and digital platforms for wide coverage.

AKMU-Agricultural Knowledge Management Unit; ATARI-Agricultural Technology Application Research Institute; KVK-Krishi Vigyan Kendra; PD, DKMA- Project Director, Directorate of Knowledge Management in Agriculture; PME-Priority Setting, Monitoring and Evaluation

The collective and coordinated efforts of all the stakeholders will be critical to ensure the success of this ICAR's Gender Strategy and build an equitable, resilient, and sustainable agri-food system and transform 'Krishika' as 'Krishika Shakti'.

Chapter 7
References

Challa L N. 2025. Constraints faced by farm women in accessing and utilisation of digital extension services. *Gujarat Journal of Extension Education* **38**(1): 154-162.

CMFRI-FSI-DoF. 2020. Marine Fisheries Census 2016 - India. Central Marine Fisheries Research Institute, Indian Council of Agricultural Research, Ministry of Agriculture and Farmers Welfare; Fishery Survey of India and Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India, 116 p.

DoF. 2023. *Handbook on Fisheries Statistics.* Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, p 296. Government of India.

FAO. 2023. *The Status of Women in Agrifood Systems.* Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.4060/cc5343en

GOI. 2020. Agriculture Census 2015-16. Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India. https://agcensus.da.gov.in/DatabaseHome.aspx

GOI. 2020. National Family Health Survey - 5. Ministry of Health and Family Welfare, Government of India. https://www.nfhsiips.in/nfhsuser/publication.php

ICAR-CIWA. 2024. *Annual Report.* ICAR-Central Institute for Women inAgriculture, Bhubaneswar.

Kokate K D, Srinatha K, Bhag Mal, Adhiguru P, Dash H K, Chahal V P, Pal S and N N Singh (eds). 2012. *Proceedings of the First Global Conference on Women in Agriculture,* held during 13-15 March, 2012, New Delhi, India, Indian Council of Agricultural Research (ICAR), New Delhi and Asia-Pacific Association of Agricultural Research Institutions (APAARI), Bangkok, 82 p.

Kumar A, Sarkar A , Kumar N, Tanuja S, and Pandey P S. 2022. Measuring participation and contribution of rural men and women in Indian agriculture. *Economic and Political Weekly* LVII (26&27): 20-24.

NSO. 2020. Time Use in India-2019. National Statistical Office, Ministry of Statistics and Program Implementation, Government of India.

NSO. 2024. Periodic Labour Force Survey 2023-24. National Statistical Office, Ministry of Statistics and Program Implementation, Government of India.

Umrikar S H and Tiwari R. 2022. Constraints faced by rural women in adoption of new technologies. *International Journal of Agricultural Science* **18**(1): 392-395.

Vemireddy V and P L Pingali. 2021. Seasonal time trade-offs and nutrition outcomes for women in agriculture: Evidence from rural India. *Food Policy* **101**: 102074.

Annexures

State-wise gender disaggregated physical participation in different sectors

Agricultural Sector*	AR, Assam & Sikkim	Bihar	Haryana	Himachal Pradesh	Karnataka	Maharashtra	Meghalaya	Nagaland	Punjab	Rajasthan	Tamil Nadu	Telangana	Uttarakhand	Average
Participation: Women alone + jointly (%)														
Crop production	92.35	92.25	69.18	82.05	64.07	36.09	89.03	93.38	10.13	38.42	63.39	63.54	52.37	65.02
Post-harvest	96.90	94.38	85.81	93.34	66.37	23.72	83.75	98.59	28.73	74.16	82.24	83.18	64.71	74.30
Horticulture	92.27	90.40	30.45	81.36	65.83	99.04	85.18	88.97	77.00	68.41	64.30	75.00	57.49	75.05
Dairy farming	94.36	83.33	50.53		75.14	51.99	68.83	91.67	43.13	39.79	77.26	64.89	67.56	69.39
Poultry farming	99.18				49.68	62.59	92.22	96.52	21.74	34.93	52.19	67.39	49.53	61.42
Fisheries	86.76	84.82		31.90	83.49			90.48	9.71		57.14	37.06		60.17
Participation: Women alone (%)														
Crop Production	4.09	20.63	5.69	24.21	3.11	5.16	24.17	18.56	2.68	1.09	18.01	17.69	12.54	11.48
Post-harvest	7.40	24.15	16.49	39.14	5.33	0.26	21.76	40.89	0.90	56.04	43.95	47.15	16.54	23.11
Horticulture	4.07	21.93	12.19	32.27	11.13	0.74	13.46	34.26	8.35	21.06	20.10	43.78	21.33	18.82
Dairy farming	5.53	34.98	18.50	45.14	8.87	41.57	9.36	72.78	14.8	22.68	22.09	25.17	27.45	25.56
Poultry farming	3.24				4.17	51.79	40.70	42.39	4.75	17.39	14.65	17.16	9.23	19.06
Fisheries	3.46	46.49		9.81	42.75			74.60	2.13		46.40	20.98		30.83
N	1200	1200	1200	1200	2400	1200	1200	1200	1200	1200	1200	1200	1200	1200

Source: ICAR-CIWA, AICRP on women in agriculture Report, Bhubaneswar (2024), unpublished.
Note: Participation of men = 100 minus values for participation of women (alone or jointly)

*Agricultural Sector wise activities considered for data collection in 12 states namely Arunachal Pradesh, Assam, Sikkim, Bihar, Haryana, Himachal Pradesh, Karnataka, Maharashtra, Meghalaya, Nagaland] Punjab, Rajasthan, Tamil Nadu, Telangana and Uttarakhand.

Crop Production Activities: Seed selection, Seed treatment, Land preparation, Nursery raising, Sowing, Fertilizer application, Transplanting, Irrigation management, Weeding, Plant protection, Harvesting, Retention of farm produce for consumption, Retention of farm produce for seed, Sale of Farm Produce, Purchase of farm land, Obtaining bank loans, Repayment of loan, Management of farm labour.

Post-Harvest activities: Threshing, Dehusking, Cleaning, Shelling, Grading, Drying, Marketing of Produce, Engagement of Labour, Storage.

Horticulture activities: Land preparation, Ploughing, Preparing seed beds, Application of manure & fertilizer, Seed treatment, Sowing, Nursery raising, Transplanting, Irrigation, Hoeing & weeding, Fertilizer application, Pesticides and weedicide application, Harvesting, Grading, Drying, Storage, Marketing, Engaging labour.

Dairy farming activities: Washing the animals, Cleaning the shed, Putting fodder and ration, Milking, Selling the milk, Keeping water, Fodder harvesting and collection, Fodder transportation, Fodder chaffing, Preparation of concentrate , Processing of milk, Making dung cake, White washing of sheds, Vaccination, Breeding, Care of new born, Care of sick animals, Taking the calf for dehorning, Selling the milk, Purchasing and selling the animals, Selling the manure, Fodder Management, Purchase of fodder , Seeding of animals, Cattle shed management, Breeding of animals, Insurance of animals, Obtaining bank loans, Pre and postnatal management, Repayment of loan.

Poultry farming activities: Selection of breed/variety/strain, Purchase of chicks, Purchase of feed, Feeding, Watering, Putting the grain, Cleaning the area, Temperature maintenance, Spreading of litter, Maintaining the moisture level of litter, Providing artificial light, Vaccination, Medication, Providing medicated feed, Disease control measures, Selling of gunny bags, Selling of litter & manure, Purchasing of chickens & cocks, Selling the chickens and cocks, Management of cash, Obtaining bank loans, Repayment of loan, Insurance of poultry farm.

Fisheries activities: Pond preparation, Weeding, Cleaning, Stocking of fish seed, Feeding in pond, Manuring of pond, Harvesting of fish, Sorting of fish size wise, Peeling/Cleaning of fish, Fish processing, Salting, Drying of fish, Smoking of fish, Construction of fishing gear, Cleaning and maintenance of net, Packing of fish, Ice preservation, Preparation of value-added products (fish pickles, fish products, Engagement of labour, Sale of fish/fish products, Management of cash.

Annexure II

Strengthening Gender-responsive and Extension Agricultural Research through Nodal Officers in ICAR Institutes, Central Agricultural Universities and State Agricultural Universities

A gender perspective in agricultural research and extension systems is crucial for fostering sustainability in agriculture and allied sectors. It contributes to the development of more effective and inclusive programmes that enhance food and nutritional security, increase agricultural profitability, and improve the overall livelihood security of farm families. To promote gender-equitable research and extension across ICAR Institutes, Central Agricultural Universities (CAUs), and State Agricultural Universities (SAUs), each institution shall nominate a Nodal Officer (NO) and a Co-Nodal Officer (Co-NO) for Gender Research in Agriculture (GRA). These Officers, representing various disciplines within agriculture and allied sectors, shall be nominated by the Head of the Institute/University and will function under their guidance as per the following Terms of Reference (ToR).

I. Nodal Officer-Gender Research in Agriculture (NO-GRA)

The Head of the Institute/University/Organization shall nominate a Nodal Officer and a Co-Nodal Officer to oversee gender research in agriculture and allied sectors.

II. Purpose of Nodal Officer-GRA

To act as the primary liaison with ICAR-CIWA for coordinating and promoting the integration of gender perspectives in agricultural research and extension.

III. Terms of Reference for Nodal Officer - GRA

Research

- Foster gender-responsive research by identifying gender dimensions within the mandated areas of crops, horticulture, animal husbandry, fisheries, and other allied sectors.
- Ensure the integration of gender perspectives in research projects and programmes, wherever feasible and relevant.
- Identify gender considerations in the development and dissemination of gender-responsive and women-friendly technologies in agriculture and allied sectors.

Extension

- Promote gender equity and inclusion in all institutional programmes, outreach initiatives, and field activities.
- Encourage active participation of women farmers and spouses in capacity-building programs (CBPs), entrepreneurship development programmes (EDPs), trainings, demonstrations, and field days.
- Organize gender sensitization and capacity-building programmes for scientists, faculty members, and field functionaries to strengthen understanding and implementation of gender-responsive approaches.

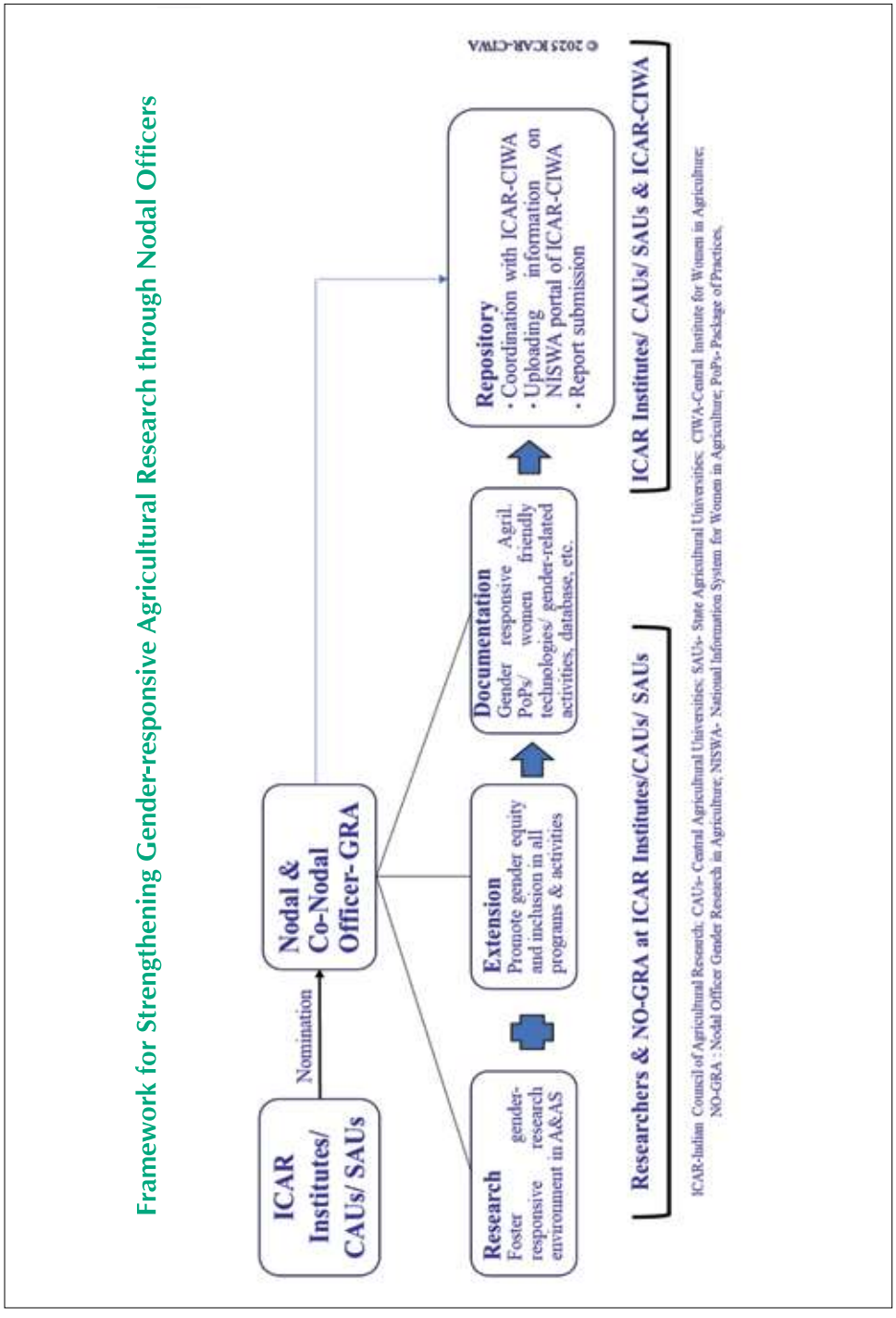
Documentation

- Document gender responsive/women friendly technologies/package of practices and case studies, etc. in agriculture and allied sectors, and upload relevant information on the NISWA (National Information System for Women in agriculture) portal of ICAR-CIWA.
- Prepare gender factsheet of the institution/ organization (in prescribed format), summarizing key gender-related activities, outcomes and recommendations, and upload relevant information on the NISWA portal of ICAR-CIWA.
- Prepare and publish a Chapter on 'Gender Research and Extension' at ICAR/ CAUs/SAUs in the Annual Report of their Institute/Organization.

Coordination with ICAR-CIWA, Bhubaneswar

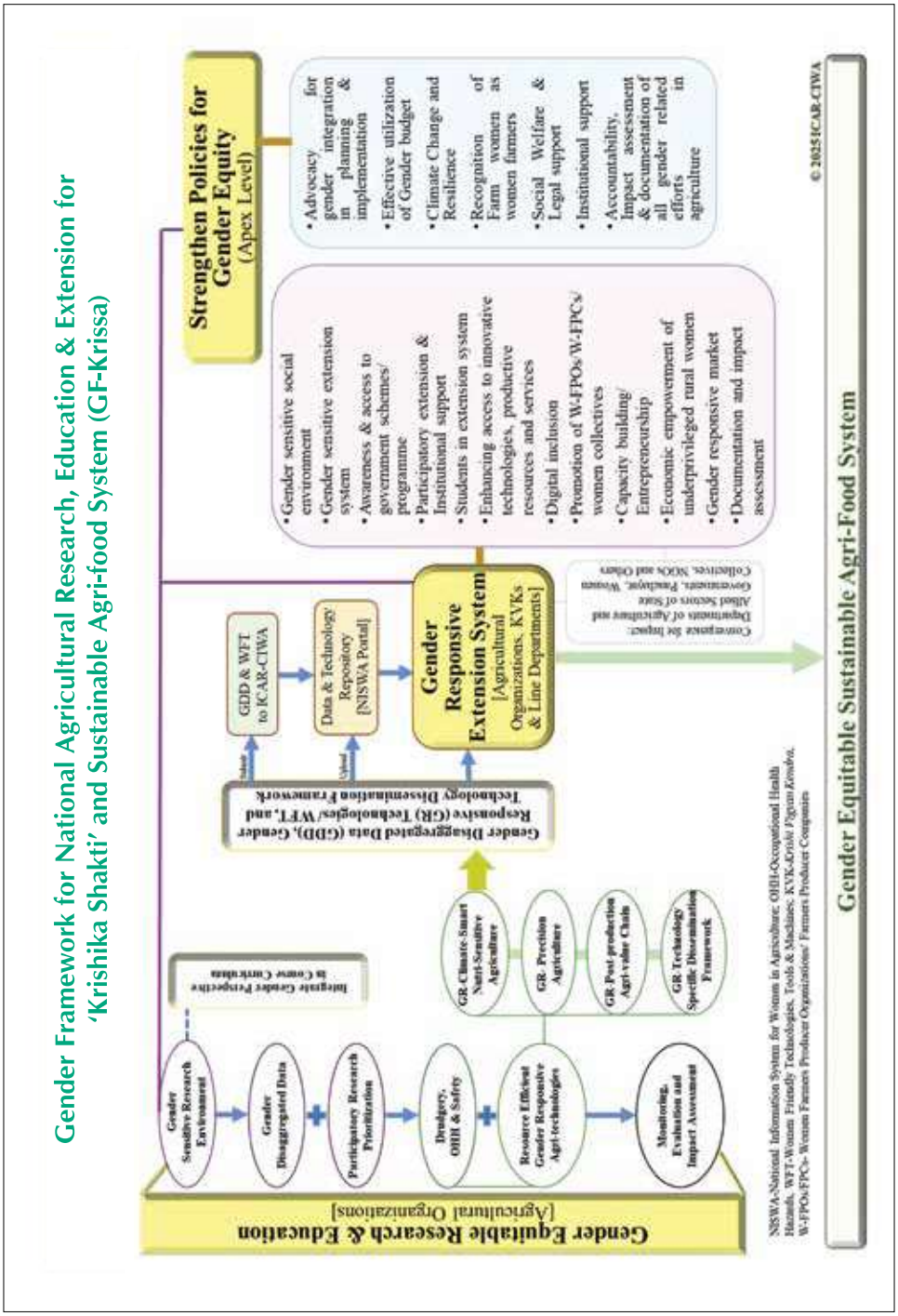
- Serve as the primary point of contact for ICAR-CIWA for all relevant communication through email, phone, WhatsApp groups, and other approved channels.
- Ensure regular uploading of relevant information on the NISWA portal of ICAR-CIWA and submit mandatory quarterly Gender Research I Extension (R&E) reports in the prescribed format. This includes details on gender-responsive Package of Practices (PoPs), women-friendly technologies, progressive/successful women farmers or entrepreneurs, and gender fact sheets. Reports should be emailed to: niswa.icarciwa@gmail.com.
- Participate in gender sensitization training programmes organized by ICAR-CIWA to enhance understanding and capacity for promoting gender research in agriculture and allied sectors.

Annexure III



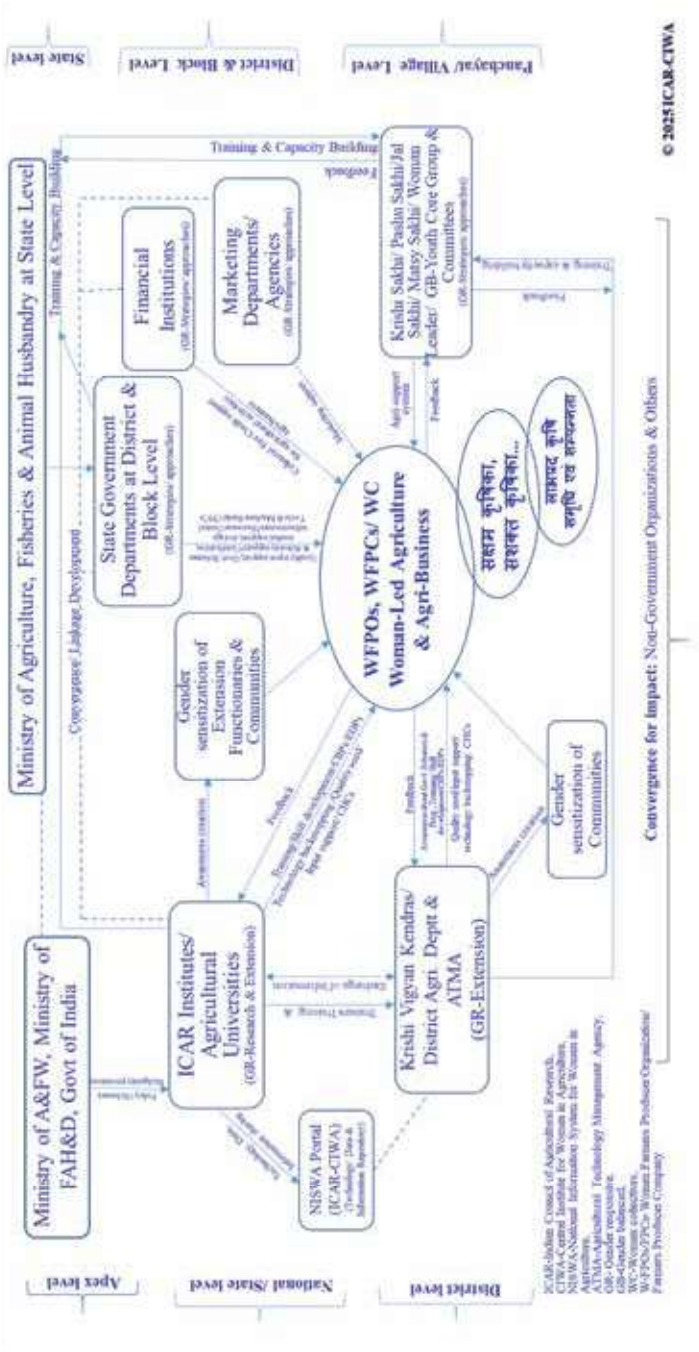
Annexure IV

Gender Framework for National Agricultural Research, Education & Extension for 'Krishika Shakti' and Sustainable Agri-food System (GF-Krissa)



Annexure V

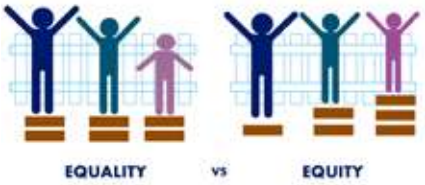
Implementation Model of Gender Framework for Sustainable Agri-food System and Empowerment of Women in Agriculture (GF-SAEWA)



Annexure VI

Terminology

Gender	A social and cultural construct, which distinguishes differences in the attributes of men and women, girls and boys, and accordingly refers to the roles and responsibilities of men and women.
Gender analysis	A critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect men, women, girls and boys in certain situations or contexts. Gender analysis examines the relationships between females and males and their access to and control over resources and the constraints they face relative to each other.
Gender budgeting	Application of gender mainstreaming in the budgetary process. It involves conducting a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process, and restructuring revenues and expenditures in order to promote gender equality.
Gender dimensions	Refers to the various ways in which gender roles, relations, and inequalities influence and shape agricultural practices, access to resources, decision-making, and outcomes. These dimensions recognize that men and women often have different roles, responsibilities, access, needs, and challenges in the agriculture sector.
Gender discrimination	Unfavourable treatment of individuals on the basis of their gender, which denies them rights, opportunities or resources.
Gender disparities	Statistical differences (often referred to as "gaps") between men and women, boys and girls that reflect an inequality in some quantity.
Gender equality	The concept that women and men, girls and boys have equal conditions, treatment and opportunities for realizing their full potential, human rights and dignity, and for contributing to (and benefitting from) economic, social, cultural and political development.
Gender equity	The process of being fair to men and women, boys and girls, and importantly the equality of outcomes and results.
Gender gap	Disproportionate difference between men and women and boys and girls, particularly as reflected in attainment of development goals, access to resources and levels of participation. A gender gap indicates gender inequality.
Gender mainstreaming	A strategy to accelerate progress on women's and girls' rights and equality in relation to men and boys.
Gender sensitization	Process of creating awareness regarding gender equality and modifying the behaviour and views that people hold about themselves and other genders.
Krishika	Refers to a woman/women who is primarily involved in activities in agriculture and allied sectors, regardless of her/their land ownership or marital status.
Krishika Shakti	Refers to the empowerment of women who are actively involved in the activities of entire agri-food system.



Gender equality is the goal, equity is, at times, the means to get there. (FAO, 2025)

Annexure VII

Abbreviations and Acronyms

ADG	Assistant Director General
AKMU	Agricultural Knowledge Management Unit
AICRP	All India Coordinated Research Project
AICRP-WiA	All India Coordinated Research Project on Women in Agriculture
APAARI	Asia-Pacific Association of Agricultural Research Institutions
ATARI	Agricultural Technology Application Research Institute
ATMA	Agricultural Technology Management Agency
CAU	Central Agricultural Universities
CBP	Capacity Building Programme
CIPHET	Central Institute of Post-harvest Engineering and Technology
CIWA	Central Institute for Women in Agriculture
CMFRI	Central Marine Fisheries Research Institute
Co-NO	Co-Nodal Officer
CSNS	Climate-Smart Nutri-Sensitive
DARE	Department of Agriculture and Education
DDG	Deputy Director General
DG	Director General
DKMA	Directorate of Knowledge Management in Agriculture
DoF	Department of Fisheries
EDP	Entrepreneurship Development Programme
EP&HS	Education Planning & Home Science
FAO	Food and Agriculture Organization
FPC	Farmers Producer Company
FSI	Fisheries Survey of India
GDD	Gender Disaggregated Data
GDP	Gross Domestic Product
GoI	Government of India
GR	Gender Responsive
GR-CSNS	Gender Responsive – Climate Smart Nutri-Sensitive
GRA	Gender Research in Agriculture
IARI	Indian Agricultural Research Institute
ICAR	Indian Council of Agricultural Research
IFPRI	International Food Policy Research Institute
IIPR	Indian Institute of Pulses Research
ILRI	International Livestock Research Institute
IRRI	International Rice Research Institute

ISI	Indian Statistical Institute
KPI	Key Performance Indicators
KVK	Krishi Vigyan Kendra
MSSRF	M.S. Swaminathan Research Foundation
NAARES	National Agricultural Research, Education and Extension System
NAARM	National Academy of Agricultural Research Management
NFHS	National Family Health Survey
NGO	Non-government Organization
NIAP	National Institute of Agricultural Economics and Policy Research
NISWA	National Information System for Women in Agriculture
NO	Nodal Officer
NSO	National Statistics Office
OHH	Occupational Health Hazards
PLFS	Periodic Labour Force Survey
PME	Priority Setting, Monitoring and Evaluation
PoP	Package of Practices
PS	Principal Scientist
R&E	Research & Extension
RAWE	Rural Agricultural Work Experience
READY	Rural Entrepreneurship Awareness Development Yojana
RPP	Research Project Proposal
SAU	State Agricultural Universities
SDG	Sustainable Development Goal
SEWA	Self Employed Women's Association
SHG	Self Help Group
SKLTSHU	Sri Konda Laxman Telangana State Horticultural University
ToR	Terms of Reference
WFIG	Women Farmers Interest Group
WFPC	Women Farmers Producer Company
WFPO	Women-led Farmer Producer Organizations
WFT	Women Friendly Technology

@InAgrisearch | @icarindia | @officialicarindia | www.icar.org.in | @icarindia