



Report

Women in Agriculture: Roles, Challenges, and Opportunities

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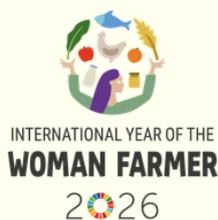
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Introduction

Women play a central role in agriculture and food systems across the world. They are deeply engaged in crop production, livestock management, food processing, seed preservation, household nutrition, and local markets often across both rural and urban contexts. Yet despite their extensive contributions, the systems that shape agriculture, land tenure, markets, finance, technology, data, and governance continue to limit women's participation, influence, and returns.

At a time when global food systems face mounting pressures from climate change, conflict, water scarcity, and market volatility, addressing gender inequality in agriculture is no longer a peripheral concern. It has become a defining condition for food security, resilience, and sustainable development. The challenge is not simply to increase women's participation, but to redesign agri-food systems so that women can exercise agency, access opportunities, and shape decisions at every level.

This report synthesizes the outcomes of a **dialogue convened by the World Agriculture Forum (WAF)** in the context of the **International Year of the Woman Farmer**, bringing together expertise from research, policy, law, climate action, and field implementation. The discussion drew on insights from Dr. Nicoline de Haan, Platform Director of the CGIAR Gender Impact Platform, who focused on power, social norms, and system design as drivers of persistent gender inequality; Haifa Al Kaylani OBE, President and Founder of the Arab International Women's Forum, who emphasized women's leadership and economic participation as central to food security and inclusive growth; Nicolet Zwart, Lawyer and Chair of BioLegal and CERES Food Security, who examined how legal frameworks, markets, and emerging technologies shape women's access and agency; and Nour Al Jundi, Project Development Specialist at the International Center for Biosaline Agriculture, who grounded the discussion in field-based experience on climate-smart agriculture and women-led resilience.

This report synthesizes the key insights and recommendations from the dialogue to inform policymakers, development institutions, private sector actors, and practitioners seeking scalable, evidence-based approaches to gender-transformative change in agriculture.

Executive Summary

Women are indispensable to global agriculture and food systems. Worldwide, they constitute approximately 43 percent of the agricultural workforce, with participation rising to 60–70 percent in many low- and middle-income countries, particularly in Sub-Saharan Africa and South Asia. Yet despite their central role in food production, processing, and household nutrition, women own less than 15 percent of agricultural land globally and remain disproportionately excluded from finance, technology, markets, data, and leadership. These inequalities are not the result of limited skills or effort, but of structural barriers embedded in legal frameworks, social norms, and institutional design.

The dialogue underscored that gender inequality in agriculture is fundamentally a question of power, access, and agency. While decades of interventions have expanded women's access to inputs, training, and services, progress has plateaued where underlying systems remain unchanged. Women may gain access to resources without gaining the authority to control land, make production decisions, influence markets, or shape policy. As a result, productivity gains, income growth, and resilience outcomes remain constrained.

At the same time, the discussion highlighted a critical window of opportunity for transformation. The convergence of climate adaptation imperatives, rapid digital and technological change, increased emphasis on gender-disaggregated data and accountability, and the momentum generated by the International Year of the Woman Farmer has created unprecedented conditions for systemic reform. Across regions, practical initiatives—from climate-smart value chains and women-led cooperatives to open knowledge platforms and leadership pipelines—demonstrate that progress is possible when solutions are designed with women, grounded in local realities, and supported by enabling institutions.

A consistent theme across the dialogue was that land rights are foundational. Without secure access to land, women remain locked into informal labour, excluded from finance, and unable to diversify crops or invest in climate-resilient practices. This perpetuates a paradox in which farming households often led by women experience high levels of food and nutrition insecurity. Secure land tenure, combined with market access and agency, emerged as one of the most powerful levers for food security and resilience.

The dialogue also emphasized that technology is not inherently empowering. Digital tools, artificial intelligence, and smart farming systems can either reinforce existing inequalities or help dismantle them. When designed without women's participation, they risk reproducing gender bias and exclusion. When co-created with women and embedded within supportive policies, institutions, and markets, they can expand agency, enable collective action, and accelerate inclusive growth.

Ultimately, Empowering women in agriculture is not a zero-sum proposition. It generates shared benefits for households, communities, national economies, and global food systems. Advancing gender equality in agriculture is among the most effective and cost-efficient pathways to achieving food security, climate resilience, and sustainable development. As the world enters the International Year of the Woman Farmer, the necessity is no longer to make the case for women's inclusion, but to redesign agri-food systems so that women can lead, decide, and thrive.

Key Insights from the Dialogue

Women's Roles Are Diverse, But Systems Treat Them as Uniform

Women are farmers, pastoralists, researchers, processors, entrepreneurs, and decision-makers. Yet policies and programmes often rely on a narrow, generic notion of “women in agriculture,” leading to one-size-fits-all solutions that fail to reflect local realities, livelihoods, and aspirations.

Access Alone Is Not Enough

While access to land, inputs, finance, and training remains essential, it is insufficient without addressing agency, norms, and power relations. Women may technically have access to resources yet still lack the authority to make decisions, control income, or shape production choices.

Land Rights Are Foundational

Secure access to land emerged as one of the most persistent and unresolved barriers. Without land tenure, women are locked into informal labour, excluded from decision-making, and unable to diversify crops, contributing to food insecurity even among farming households.

Technology Is a Tool, Not a Solution

Digital tools, smart farming, and AI can either dismantle or reinforce inequality. When designed without women, they risk reproducing bias; when co-created with women, they can lower barriers, expand agency, and enable collective action.

Climate Change Is Not Gender-Neutral

Women experience climate impacts more acutely due to unequal access to land, resources, and decision-making. Yet they are also central to adaptation and resilience, particularly when supported through climate-smart, “best-fit” technologies and market access.

Data Shapes Power

The absence of gender-disaggregated data keeps women invisible in policy, investment, and accountability frameworks. Better data, across geographies, crops, production systems, and value chains—is essential for targeting interventions and measuring progress.

Local Ownership Determines Sustainability

Projects succeed when national policies are translated through empowered local institutions, particularly cooperatives that understand community dynamics and bridge governments, markets, and farmers.

Leadership Is the Missing Link

Women's labour sustains agriculture, but leadership structures rarely reflect this reality. Aligning formal institutions, informal norms, and representation is critical to shifting women from contributors to decision-makers.

Context

The International Year of the Woman Farmer presents a critical global opportunity to elevate recognition of women's contributions to agriculture while accelerating structural reforms needed to strengthen their participation across agri-food systems. Women are central to global food production, particularly in low- and middle-income countries, where they produce a substantial share of staple foods and support household food security through farming, processing, and informal market participation.

Despite their essential role, women continue to face persistent structural barriers that limit productivity, income generation, and resilience. These constraints include restricted access to land, financial services, training opportunities, digital technologies, and formal markets. Such barriers are reinforced by discriminatory legal frameworks, entrenched social norms, and wage disparities, with women earning on average approximately **20 percent** less than men in the agricultural sector.

Addressing these gender gaps represents not only a matter of equity, but also a strategic economic and food security imperative. Evidence suggests that closing gender disparities in agriculture could *increase global GDP by approximately 1 percent* while reducing food insecurity for an estimated **45 million** people worldwide. Strengthening women's roles across agri-food systems therefore contributes directly to improved well-being, increased incomes, enhanced climate resilience, and reduced hunger.



The International Year of the Woman Farmer is not just a moment for recognition, but an opportunity for action. Closing gender gaps in agri-food systems is essential, not only for equity, but for food security, economic growth, and global resilience."

—Ramona Angelescu Naqvi, Chief Operating Officer, World Agriculture Forum (WAF)



Dr. Nicoline de Haan framed gender equality in agriculture as a systemic challenge rather than a question of isolated interventions. Decades of experience show that while improving women's access to land, seeds, extension services, credit, and training is necessary, access alone is insufficient to deliver transformative change.

Historically, many efforts have focused on accommodating women within existing systems rather than reshaping those systems. These approaches, such as adjusting training schedules around childcare responsibilities, targeting small-scale inputs, or promoting activities perceived as compatible with women's roles have helped correct the long-standing invisibility of women in agricultural data and policy. However, progress has frequently stalled where deeper structural constraints remain intact.

To address these limitations, research institutions such as the *Consultative Group on International Agricultural Research (CGIAR)* have adopted analytical frameworks that move beyond access-based solutions. These frameworks distinguish between formal and informal systems, and between individual and structural dimensions of inequality, drawing attention to constraints embedded in:

- Policy and legal environments, including land tenure systems, inheritance laws, and regulatory frameworks;
- Institutional arrangements that shape who participates, who decides, and who benefits;
- Social norms and power relations that continue to restrict women's agency even where resources are nominally available.

Two dimensions emerge as particularly critical and historically under-addressed:

- Agency— a woman's ability to articulate aspirations, make choices, and act on opportunities;
- Social norms— the informal rules that define what is considered acceptable or permissible for women.

Together, agency and norms often explain why women remain excluded even when technical access has been achieved. This dynamic is evident in livestock systems, where women are commonly encouraged to manage poultry or small ruminants, while ownership of larger livestock such as cattle remains culturally coded as male. These patterns reflect not technical efficiency, but deeply embedded expectations about women's roles and ambitions.

Technology cannot be assumed to be inherently empowering. Agricultural innovations introduced without attention to power relations, decision-making authority, and market access risk reinforcing existing inequalities. A water pump, for example, does not empower a woman unless she also has secure access to land and water, control over production decisions, and viable pathways to markets. Transformative change therefore requires socio-technical innovation bundles—integrated approaches that align technology with policy reform, institutional support, norm change, and women's agency. Without this alignment, innovation risks being inclusive in appearance while unequal in impact.



Transformation requires changing norms, strengthening agency, and aligning technology with social and institutional realities."

—Dr. Nicoline de Haan, Platform Director, CGIAR Gender Impact Platform



Rebuilding the System: Law, Markets, and Technology in a World Not Designed for Women

Nikolet Zwart examined women's participation in agriculture through the interlinked lenses of legal frameworks, market structures, and technology. Constraints ranging from discriminatory legal systems to barriers in market entry and upgrading do not represent isolated policy failures, but rather a system whose foundational design has historically excluded women.

The prevailing agricultural and legal architecture reflects an inherited structure built over more than a century from a predominantly male perspective, operating within closed and concentrated markets dominated by a limited number of actors. While individual components of this system can be repaired, its underlying design continues to limit meaningful inclusion, explaining why incremental reforms struggle to deliver systemic change.

What emerges is not an implementation gap, but a design problem. Fragmented interventions—however well intentioned—tend to address symptoms rather than root causes. Rebuilding inclusion requires a holistic reimagining of how law, markets, and technology interact, with equity embedded into system architecture rather than added as a corrective afterthought.

Key structural barriers are reinforced across three mutually reinforcing domains:

- Legal frameworks, where inheritance rules, asset ownership laws, and regulatory recognition restrict women's economic participation;
- Market structures, where entry barriers, upgrading constraints, and concentration limit women's access to higher-value activities;
- Technological systems, where design, data, and governance often reflect male-dominated assumptions.

Emerging digital technologies and artificial intelligence present a rare opportunity to rethink this architecture rather than perpetually retrofit it. Yet regulatory frameworks consistently lag behind practice, particularly in fast-evolving areas such as digital finance, AI-enabled advisory services, and blockchain-based cooperative models. These regulatory blind spots disproportionately affect women, who already face constraints related to asset ownership, digital access, and technological literacy.

Without deliberate safeguards, new technologies risk reproducing historical gender biases, as digital systems are often designed, trained, and governed using male-dominated data and perspectives. Addressing this challenge requires more than increasing women's representation within existing systems. It demands the intentional integration of women's lived experiences, practices, and priorities into the design of digital infrastructure, market rules, and legal frameworks.

Rebuilding the system for inclusion is therefore not a marginal adjustment, but a structural task—one that will determine whether future food systems replicate past inequalities or enable genuinely transformative change.



Laws and regulations always come last, they cannot lead if there is no shared understanding of what is changing."

– Nikolet Zwart, Lawyer and Chair, BioLegal and CERES Food Security



Women at the Core of Food Security: Leadership, Institutions, and Economic Power

Haifa Al Kaylani OBE situated women's roles in agriculture at the intersection of food security, water scarcity, climate change, and economic instability, with particular relevance for Africa and the MENA region. Women's participation in agriculture, she emphasized, is not peripheral to these challenges but central to sustainable development, resilience, and inclusive economic growth.

Agriculture remains one of the most powerful levers for poverty reduction and food security globally, accounting for roughly one-third of global GDP and sustaining the livelihoods of the majority of the world's rural poor. Women are indispensable to this system, representing approximately 43 percent of the global agricultural labour force and playing a critical role in productivity, innovation, and food systems resilience.

In Africa, women generate nearly 80 percent of their income from agriculture and constitute approximately three-quarters of the agricultural workforce. In the MENA region, women account for roughly half of agricultural labour, exceeding 60 percent in countries such as Jordan, Libya, Syria, and Palestine. Despite this scale of participation, women remain systematically excluded from assets, finance, and formal markets. Across MENA, women own less than 5 percent of agricultural land, and only a small fraction have access to formal financial services, limiting their ability to invest in climate-resilient practices and higher-value production.

Country-level patterns reinforce the structural nature of these constraints. In Tunisia, women comprise the majority of the agricultural workforce yet earn significantly less than men. In Egypt, women dominate animal husbandry while owning almost no land. In Morocco, women form the backbone of agricultural employment but are largely confined to informal work without social protection. These outcomes reflect not a lack of contribution, but persistent institutional and economic failures to recognize and support women's roles.

Across contexts, barriers to women's productivity and economic participation remain strikingly consistent, while climate change compounds these constraints through drought, water scarcity, and land degradation even as women remain central to adaptation and resilience-building.

Key structural constraints include:

- Insecure land tenure and weak inheritance rights
- Financial exclusion driven by collateral-based lending systems
- Limited access to inputs, technology, and extension services
- Persistent digital gender gaps
- Concentration of women's labour in unpaid and informal roles
- Exclusion from cooperatives and decision-making bodies

Women's agricultural engagement also extends into urban and peri-urban food systems, where livelihoods are shaped by regulatory barriers, informal markets, and mobility restrictions. In many cities, municipal regulations limit women's ability to transport and sell produce, directly affecting income and household food access. Strengthening women's roles in urban food systems requires policy coherence across agriculture, transport, health, and urban governance, alongside explicit recognition of urban and peri-urban agriculture in national food system strategies.

Translating policy commitments into durable outcomes depends on strong, inclusive local institutions. Farmer cooperatives and community organizations particularly those that actively include women play a central role in adapting national and international initiatives to local realities, strengthening accountability, coordination, and long-term sustainability.

Ultimately, advancing food security requires moving beyond diagnosis toward leadership, institutional reform, and women's economic participation. Structural change is essential to translate women's labour into agency, income, and influence—positioning women not only as contributors, but as central economic and institutional actors within food systems

Sustainable agriculture cannot be achieved without women's leadership, economic participation, and institutional representation."

— Haifa Al Kaylani OBE, President and Founder,
Arab International Women's Forum



04 Climate Change Is Not Gender-Neutral: Women's Land Rights, Resilience, and Climate-Smart Solutions

Nour El Jundi examined the gendered impacts of climate change on agriculture through field-based experience across Sub-Saharan Africa and Central Asia. Climate change affects women and men differently, particularly in contexts where women lack secure land rights and decision-making authority, constraints that fundamentally limit their ability to adapt, diversify production, and build resilience.

Women farmers are increasingly seeking to transition away from climate-vulnerable cash crops toward climate-smart and neglected crops such as millets, which offer greater resilience and nutritional value. Yet in many settings, women remain excluded from decisions over crop choice and land use, even when they perform much of the agricultural labour. This disconnect is evident across Sub-Saharan Africa, including in Uganda, where women's agronomic knowledge and adaptation priorities are constrained by land tenure systems that deny them control over productive assets.

Land insecurity intersects with broader structural barriers. Limited access to inputs, finance, skills, and training continues to restrict women's capacity to adopt climate-resilient practices. Even where capacity-building initiatives exist, men are often prioritized as landowners, while women remain concentrated in informal and unpaid agricultural roles. These exclusions undermine both gender equality and climate resilience, weakening adaptation outcomes at scale.

Key constraints shaping women's climate vulnerability include:

- Insecure land tenure and lack of decision-making authority
- Exclusion from crop and land-use decisions despite high labour contribution
- Limited access to climate-smart inputs, finance, skills, and extension services
- Gender bias in capacity-building and adaptation programmes
- Concentration of women's work in informal and unpaid agricultural roles

Addressing these gaps requires climate action frameworks that place women’s agency at the center. The Women Alliance for Climate Action in Agriculture (WAKA), launched by the International Center for Biosaline Agriculture at COP28, reflects this approach by grounding solutions in women’s lived experiences. Through regional consultations in Central Asia and Africa, the initiative documents women’s own assessments of constraints and priorities, responding to a persistent gap in which climate solutions are designed without women’s voices.

Across these consultations, women consistently identify priority areas for action:

- Training in climate-smart and resilient agricultural practices
- Legislative reforms to enable land ownership and tenure security
- Improved access to microfinance, inputs, and productive assets
- Development of local markets closer to farms, particularly where mobility is restricted
-

Strengthening women’s leadership is also essential for long-term resilience. Initiatives such as the Arab Women Leaders in Agriculture (AWLA) focus on building the leadership pipeline of women researchers and practitioners in the MENA region, enabling them to influence policy, mobilize resources, and translate research into practice.

Climate and agricultural policies that fail to account for gendered realities risk entrenching vulnerability rather than reducing it. Effective climate action depends on recognizing women not only as frontline responders to climate change, but as leaders, decision-makers, and innovators at the center of resilient food systems.



Climate change is not gender-neutral, especially when women do not have access to land or decision-making power.”

–Nour El Jundi, Project Development Specialist, International Center for Biosaline Agriculture (ICBA)



Why Gender Inequality Persists- Context, Complexity, and System Design

Dr. Nicoline de Haan located the persistence of gender inequality in agriculture in an often avoided but foundational factor: power. Gender inequality, she argued, is not simply a question of unequal access to resources, but of power relations that determine who makes decisions, whose knowledge is valued, and whose aspirations are considered legitimate. Interventions that ignore these dynamics risk being technically robust yet socially ineffective.

Gender relations in agriculture are deeply context-specific. Women's roles, constraints, and opportunities vary across countries, communities, production systems, and livelihood strategies. Even within a single national context, gender dynamics can differ sharply from one locality to another, shaped by social norms, legal frameworks, land tenure arrangements, and market structures. Effective responses therefore depend on close engagement with national and local actors who understand these dynamics at a granular level.

The persistence of inequality also exposes the limits of simplified solutions. Treating "women" as a homogeneous category obscures significant differences across geography, culture, and livelihood, weakening the effectiveness of policy and programming. Meaningful transformation requires engaging with complexity rather than bypassing it, and treating diversity as a core design parameter rather than an inconvenience.

Several structural drivers explain why inequality endures despite decades of intervention:

- Power imbalances that shape decision-making, legitimacy, and control over resources
- Deeply embedded social norms that constrain women's roles and aspirations
- Context-specific legal, land tenure, and market systems that vary across and within countries
- Overreliance on generic solutions that fail to account for diversity among women
- Persistent gaps between technical access and the actual agency

Data plays a critical role in shaping understanding and accountability, yet important gaps remain. Global datasets, including those produced by FAO, have significantly improved visibility of women in agrifood systems, but coverage remains uneven, particularly in parts of Africa. Equally important is how data is interpreted. Interventions such as land ownership may be empowering in some contexts, yet socially disruptive in others, including pastoralist systems where collective arrangements prevail.

Addressing these challenges requires gender-transformative approaches that move beyond access and participation. Across CGIAR's work, this includes:

- Engaging men and boys to shift discriminatory norms
- Investing in women's leadership, education, and skills
- Embedding gender responsiveness into innovation design from the outset, rather than retrofitting it later

The objective is not to adapt women to existing systems, but to reshape systems around women's aspirations, priorities, and realities.

Women's agency emerged as a foundational condition for both gender equality and food sovereignty. Empowerment is not defined solely by improved outcomes, but by the ability to articulate aspirations, influence decisions, control resources, and shape food systems at household, community, and institutional levels. Without agency, concepts such as food sovereignty remain abstract—particularly for women whose labor sustains food systems but whose voices are routinely excluded.

Emerging technologies introduce both risks and opportunities. Without deliberate intervention, digital and AI-driven agriculture risks amplifying existing gender biases due to data gaps and exclusion from design processes. CGIAR's recent establishment of an AI hub with a strong gender mandate reflects an effort to intervene early, before bias becomes embedded in digital infrastructure.

Climate stress further compounds inequality. Heat stress is an increasingly gendered risk, as women often work longer hours under extreme conditions while remaining underrepresented in climate adaptation research and policy responses. Failure to address these dynamics threatens both equity and resilience.

Building agrifood systems that women actively shape, rather than merely serve, requires confronting power, embracing complexity, and placing agency at the center of system design.

06 Women's Leadership & Economic Participation

Haifa Al Kaylani OBE positioned women's empowerment in agriculture as a question of leadership, governance, and economic participation across the entire agri-food value chain. Women's roles extend well beyond primary production into processing, enterprise development, research, and institutional leadership, yet these contributions remain structurally undervalued and insufficiently supported.

Women's economic empowerment in agriculture is a foundational condition for inclusive growth and food systems resilience. When women gain economic agency, benefits extend across households and communities, strengthening incomes, nutrition, and social stability. Agriculture therefore represents one of the most effective entry points for advancing wider development outcomes through women's leadership.

Enabling women's transition into higher-value roles requires coordinated structural reform. Secure land and property rights are essential to unlock investment and decision-making power. Gender-responsive financial systems are needed to overcome collateral constraints and expand access to credit, insurance, and capital. Investments in climate-smart agriculture and sustainable water management must explicitly include women as economic actors, while cooperatives and producer organizations must evolve to reflect women's participation and leadership across value chains.

Social protection and digital inclusion remain critical, particularly given women's concentration in informal agricultural work. Access to technology-driven markets depends not only on connectivity, but on legal recognition, institutional support, and financial inclusion. Without these foundations, digital tools risk reinforcing existing inequalities rather than expanding opportunity.

To translate women's labour into leadership and economic influence, a three-level framework for transformation is needed:

1. Governance and policy reform, including the elimination of discriminatory laws, enforcement of equal pay, and gender-disaggregated data systems.
2. Institutional and leadership change, ensuring agricultural organizations actively recognize women as leaders, clients, and innovators.
3. Cultural and normative shifts, addressing unpaid care burdens, gendered time poverty, and the persistent undervaluation of women's work.

Repositioning women as visible drivers of agricultural innovation and economic growth is central to building resilient, inclusive food systems. Progress depends not on increasing participation alone, but on enabling leadership, agency, and influence across economic and institutional structures.

Nikolet Zwart reflected on the long-standing global recognition of women's central role in agriculture and food security, while underscoring the persistent gap between recognition and systemic change. Women influence the majority of household food decisions worldwide and frequently act as seed producers and custodians of agricultural biodiversity, yet they continue to be treated instrumentally rather than as strategic economic and policy actors.

Transformative change, the discussion emphasized, cannot be delivered by any single sector acting alone. Public-private partnerships and supranational platforms play a distinctive role in bridging fragmented governance landscapes and enabling experimentation beyond the constraints of national regulatory silos. Platforms such as the World Agriculture Forum have the for their capacity to convene diverse actors, test approaches, and generate learning that can inform formal regulatory processes particularly in fast-evolving technological domains.

The convergence of technology, youth, and gender is a critical opportunity for reimagining governance and economic participation. Expanding digital connectivity and the growing accessibility of tools such as artificial intelligence, blockchain, and crowdsourced data systems create new entry points for women especially in collaboration with younger generations to influence decision-making, shape data ecosystems, and participate more fully across agri-food value chains.

Regulatory lag, often framed as a limitation, is a window of opportunity. Before legal frameworks fully solidify, there is space to:

- Experiment with inclusive governance models
- Build coalitions that elevate women's voices
- Shape narratives that redefine who food systems are designed to serve

Unlike purely commercial actors driven by scale and speed, public-interest alliances can prioritize inclusion, elevate women's voices, and reframe food systems governance in ways that embed equity and agency from the outset.

The stakes are high. If women are not actively involved in shaping new legal and technological architectures, transformation will proceed without their perspectives—and potentially against their interests. Ensuring women's leadership in the design of governance frameworks is therefore not an optional add-on, but a precondition for building equitable, resilient, and future-ready agriculture and food systems.

Noor El Jundi grounded the discussion in practical, evidence-based interventions focused on climate-smart agriculture and women's empowerment across value chains. Experience from implementation highlights that while capacity building is a critical enabler, it delivers sustained outcomes only when combined with access to inputs, markets, finance, and supportive institutions. Training in isolation, without pathways to application and income generation, risks reinforcing existing constraints rather than overcoming them.

Integrated climate-smart approaches that address crops, soil, water, and climate adaptation simultaneously have demonstrated stronger results than fragmented interventions. Central to these efforts is the use of "best-fit technologies" solutions that are affordable, context-appropriate, and both physically and socially accessible to women. Such technologies explicitly account for structural constraints faced by women farmers, including limited land rights, time poverty, mobility restrictions, and social norms that shape access to resources and decision-making.

Experience across Sub-Saharan Africa shows that innovation is most effective when embedded within local and national systems. Programmes combining farmer field schools, climate-resilient crops, seed multiplication, and partnerships with national research institutions have demonstrated greater potential for sustainability beyond project lifecycles. Anchoring innovation within cooperative structures and public research systems enables adaptation to local contexts while strengthening accountability and continuity.

Value-chain integration further reinforces resilience and economic empowerment. In Morocco, quinoa development was approached not as a technical substitution but as a market-driven process. Working with women's cooperatives to adapt quinoa into culturally accepted products enabled market access, income generation, and local ownership, illustrating how climate-smart crops succeed when aligned with social and economic realities.

Digital and smart agricultural technologies are important enablers of resilience, but not as solutions in themselves. Their impact depends on how they are designed, governed, and adopted. Technologies developed without women's participation risk reproducing existing inequalities through inaccessible formats, biased assumptions, or exclusion from decision-making. In contrast, participatory design approaches that engage women early, accommodate diverse literacy levels, and prioritize low-barrier solutions such as SMS-based services, voice platforms, and locally adapted interfaces significantly improve adoption and effectiveness.

Digital learning platforms further expand women's access to skills, certification, and professional advancement, particularly for those constrained by geography, mobility, or caregiving responsibilities. Multilingual, accredited e-learning initiatives reduce barriers to continuous learning and strengthen women's roles across value chains.

At the system level, initiatives such as the **Women Alliance for Climate Action in Agriculture (WACAA)** and the **Arab Women Leaders in Agriculture (AWLA)** demonstrate how innovation can be coupled with leadership development and policy engagement. By linking grassroots experience with regional dialogue and institutional pathways, these platforms function as pipelines for long-term, systemic change aligned with the objectives of the International Year of the Woman Farmer.

What We Heard Across the Dialogue

Gender inequality is a power issue, not a participation issue

Technology must be co-created, not just deployed

Climate solutions fail without land, markets, and agency

Institutions, not just projects determine scale

Who Must Act

Governments: Reform land tenure, legal frameworks, and data systems to secure women's rights, enable accountability, and support inclusive governance.

Technology Developers: Design digital and agricultural technologies with women's participation from the outset, ensuring accessibility, relevance, and fairness by design.

Private Sector: Invest in women-led value chains, inclusive business models, and market platforms that expand access to finance, inputs, and buyers

Multilateral Institutions: Align climate, gender, agriculture and food system agendas; support integrated financing and policy coherence; and elevate evidence that drives systemic reform.

Key Recommendations

1

Secure Women's Land and Tenure Rights

Prioritize legal reform, inheritance rights, and practical mechanisms that enable women to access, control, and benefit from land.

2

Adopt Gender-Transformative Approaches

Move beyond gender-neutral programming to interventions that explicitly address power, norms, and agency—engaging men, institutions, and communities.

3

Design Technology With Women, Not For Them

Ensure women co-create digital platforms, AI systems, and agricultural technologies, using low-barrier, accessible formats grounded in real needs.

4

Strengthen Cooperatives and Local Institutions

Invest in farmer cooperatives and community organizations as anchors for policy implementation, inclusion, and sustainability.

5

Build Shared, Open Knowledge Platforms

Support unified, bottom-up platforms for gender and agriculture data, research, and tools to reduce duplication and accelerate learning.

6

Link Climate Action to Women's Leadership

Integrate women's agency, market access, and decision-making into climate adaptation, mitigation, and resilience strategies.

7

Invest in Data for Accountability

Expand gender-disaggregated data systems to inform policy, guide investment, and track impact over time.

Conclusion

Women's exclusion from agri-food systems is neither accidental nor peripheral. It is systemic, shaped by entrenched power relations, institutional design choices, and long-standing social norms. As this report demonstrates, gender inequality in agriculture cannot be addressed through isolated projects or incremental adjustments. It requires structural change across policies, markets, technologies, and governance systems.

At the same time, momentum for transformation is unmistakable. Across regions, initiatives grounded in women's leadership, secure land access, cooperative models, and climate-smart innovation are already delivering measurable gains in food security, incomes, and resilience. These experiences show that change is possible when women's realities and aspirations shape decision-making rather than being appended to it.

Strengthening data and accountability systems is central to sustaining this progress. Without robust, gender-disaggregated data across geographies, crops, production systems, and value chains, policies remain insufficiently targeted and outcomes difficult to measure. Evidence is not only a technical requirement; it is a condition for accountability and long-term impact.

Equally critical is local ownership. National strategies and global commitments translate into durable results only when they are anchored in strong, inclusive community-level institutions. Empowered cooperatives and local organizations enable adaptation to context, strengthen accountability, and ensure that interventions endure beyond project cycles. Where communities are positioned as co-owners rather than beneficiaries, implementation succeeds.

Leadership emerges as the defining lever of change. Aligning formal institutions with informal norms is essential for repositioning women not merely as contributors to agriculture, but as decision-makers and system shapers. This alignment determines whether women's labor translates into agency, income, and influence or continues to be absorbed without recognition.

As the world enters the International Year of the Woman Farmer, recognition alone is insufficient. This moment demands action: securing women's land and tenure rights; co-creating technologies that reflect women's needs; investing in women-led value chains; strengthening cooperatives and institutions; and aligning climate action with gender equality.

Advancing women's roles in agriculture is not a zero-sum proposition. When women thrive, households become more food secure, communities more resilient, economies more productive, and food systems more sustainable. The opportunity is clear, the responsibility is shared, and the time to act is now.

Annex I: Key Concepts Referenced

1. Gender-Transformative Approaches

(See: *Core Insights; From Access to Power*)

Gender-transformative approaches address the structural drivers of gender inequality, including power relations, discriminatory social norms, and institutional design. These approaches go beyond gender-neutral or gender-sensitive interventions to deliberately shift agency, decision-making authority, and control over resources.

2. Agency and Social Norms

(See: *From Access to Power; Gender Inequality as Power*)

Agency refers to women's ability to articulate aspirations, make meaningful choices, and act upon them. Social norms—informal rules governing acceptable behaviour often constrain agency even when formal access exists.

3. Formal and Informal Systems

(See: *Rebuilding the System; Core Insights*)

Agri-food systems operate through both formal mechanisms (laws, policies, markets, institutions) and informal systems (customary practices, social relations, norms).

4. Land Tenure Security

(See: *Climate Change Is Not Gender-Neutral*)

Land tenure security encompasses ownership, use rights, inheritance, and control over production decisions. Securing land rights is a foundational enabler of women's economic participation, food security, and climate resilience.

5. Socio-Technical Innovation Bundles

(See: *From Access to Power; Rebuilding the System*)

Socio-technical innovation bundles integrate technology with enabling policies, institutions, markets, and norm change. This concept reflects the understanding that technology alone cannot deliver inclusion without supportive governance and agency.

6. Climate-Smart Agriculture (CSA)

(See: *Climate Change Is Not Gender-Neutral; Climate Solutions in Practice*)

Climate-smart agriculture integrates productivity, adaptation, and mitigation objectives. From a gender perspective, CSA must address unequal access to land, inputs, and decision-making power to ensure equitable resilience outcomes.

Annex II : Platforms and Initiatives Referenced

CGIAR Gender Impact Platform

The CGIAR GENDER Impact Platform works across CGIAR, synthesizing and amplifying research, filling gaps, building capacity and setting directions to enable maximum impact on gender equality, opportunities for youth and social inclusion in agriculture and food systems.

<https://gender.cgiar.org/>

Women Alliance for Climate Action in Agriculture (WACAA)

WACAA is a global initiative launched by ICBA at COP28 to advance women-centered climate action in agriculture. The platform aims to reach one million women by 2050 by amplifying women's voices, strengthening leadership, and co-creating climate-smart solutions grounded in women's lived realities. WACAA documents women's priorities and constraints related to land, finance, markets, and climate adaptation, addressing a persistent gap in top-down climate programming.

<https://www.wacaa-alliance.org/>

Arab Women Leaders in Agriculture (AWLA)

AWLA focuses on strengthening the leadership pipeline of women researchers and practitioners in the agriculture and food sectors across the Middle East and North Africa. The initiative supports women to influence policy, access funding, and translate research into practice, with an emphasis on long-term institutional change rather than project-based inclusion.

<https://www.awlafellowships.org/>



Annex III: Speaker profiles

Moderator:



Ramona Angelescu Naqvi has a 20-year+ career across international development and the private sector. She is currently the Chief Operating Officer of the World Agriculture Forum, overseeing the organization's strategy and organizational development, partnerships, high level events, knowledge products and global impact. Until 2023, she was Director of Strategic Partnerships at the Global Development Network (GDN), an International Organization launched by the World Bank coordinating the organization's diverse stakeholder engagements and partnership building across the globe, fundraising, external relations, strategic impact and communications. From 2010 to 2017 Ramona served as Director of Programs at GDN, leading the entire global portfolio of research and capacity building programs, across sectors and thematic areas, in over 80 countries across the globe. She is also a co-founder of an organic blueberry business and has led its external relations functions and expansion. Prior to joining GDN, she worked in strategy consulting and development cooperation in the United States.

Panelists:



Dr. Nicoline de Haan is the Director of the Gender Equality and Inclusion Accelerator, bringing over 20 years of experience in agriculture and international development. Her work has focused on gender, rural livelihoods, livestock and natural resource management across a range of global organizations. Most recently, she has led efforts within the CGIAR to advance gender equality and women's empowerment, through both the GENDER Impact Platform and the Gender Equality Initiative. She held key roles in institutions such as the Food and Agriculture Organization of the United Nations in Rome—leading the global socio-economic team on animal health—and the International Water Management Institute. More recently, she led the gender team at the International Livestock Research Institute.



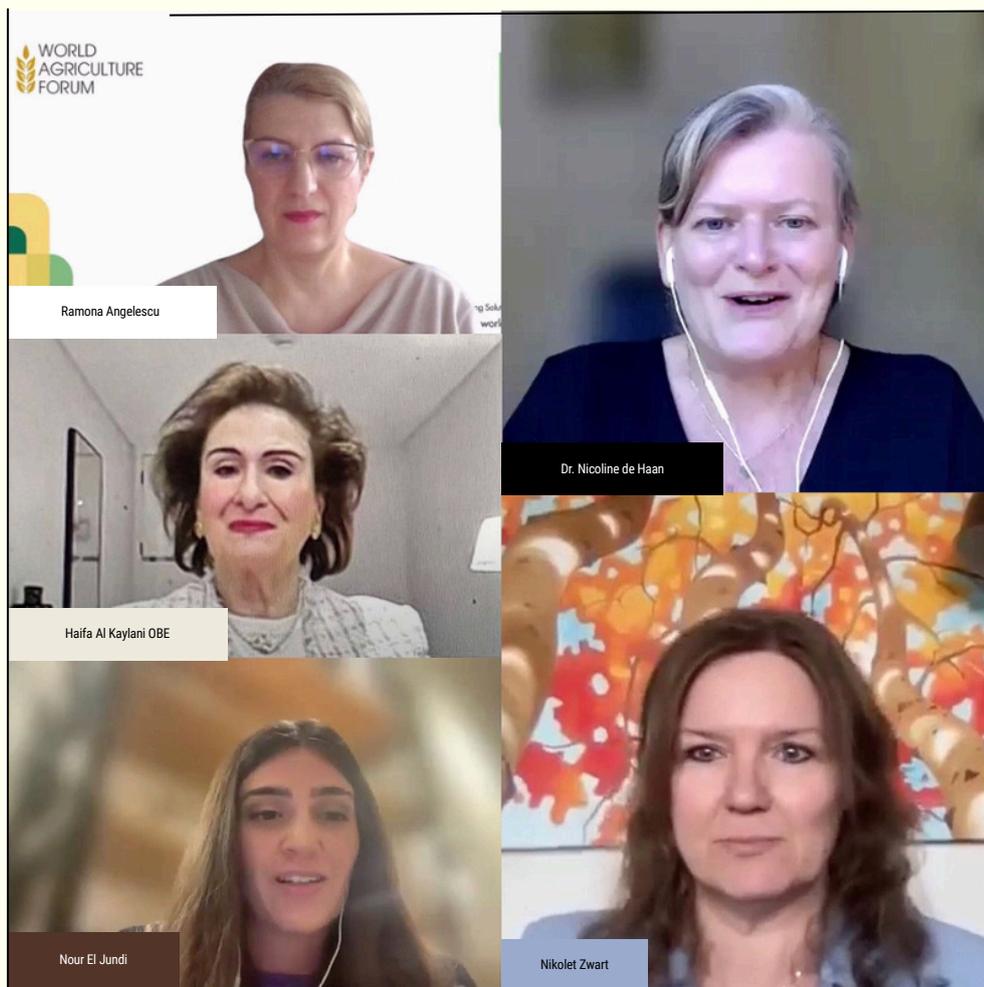
Haifa Al Kaylani OBE founded the Arab International Women's Forum in London in 2001 as a development organisation committed to supporting women's leadership in social and economic growth in the MENA region and internationally and creating equality of opportunity for all. Haifa served as the Chair of AIWF for 20 years and under her leadership, AIWF has become one of the world's most respected development organisations for the economic empowerment of women and young people, working at the highest levels with a global network of corporate, institutional and global advocacy partners to advance momentum for women's leadership in all sectors and spheres. She was appointed an Officer of the Most Excellent Order of the British Empire (OBE) in King Charles' New Year 2024 Honours List in recognition of her services to Women, Young People and to Cultural Relations between the UK and the countries of the Middle East and North Africa (MENA) region.



Nikolet Zwart is a Dutch lawyer with more than 25 years of experience in international partnerships, R&D, entrepreneurship, and agribusiness. She specialises in international public-private partnerships within biotechnology and vegetable breeding, with a strong track record of enabling collaborative innovation between private sector, research institutions, and social enterprises. Her work is driven by a commitment to strengthening the "meso sector"—women's networks, education systems, and social entrepreneurs by equipping them to solve complex global challenges such as food insecurity, climate change, migration, water scarcity, and gender inequality.



Nour El Jundi is a consultant at ICBA with a Master's degree in Food Security she has conducted research across multiple dimensions of sustainable development. Before joining the International Center for Biosaline Agriculture (ICBA), she worked with the United Nations in Lebanon, contributing to programmes aimed at strengthening food systems and supporting vulnerable communities. Her work focuses on advancing evidence-based solutions for food security in climate-stressed regions.



Annex IV: Recording link

<https://www.youtube.com/watch?v=YgbmJRgJ-QA&t=418s>

WAF Interactive Webinar on "Women in Agriculture: Roles, Challenges, and Opportunities" Copy link

WORLD AGRICULTURE FORUM **INTERNATIONAL YEAR OF THE WOMAN FARMER 2026**

Women in Agriculture : Roles, Challenges, and Opportunities

Thursday, 11th December 2025 02:00 PM CET

Speakers

- Moderator**
Ramona Angelescu
Naqvi
Chief Operating Officer
World Agriculture Forum
- Dr. Nicoline de Haan
Director of the CGIAR
Gender Equality and
Inclusion Accelerator
- Haifa Al Kaylani OBE
President & Founder,
The Arab International
Women's Forum
- Nikolet Zwart
Lawyer and Chair,
BioLegal and CERES
Food Security
- Nour El Jundi
Project Development
Specialist at the
International Center for
Biosaline Agriculture
(ICBSA)

Watch on YouTube



About the World Agriculture Forum (WAF)

The World Agriculture Forum is global platform connecting diverse stakeholders to drive sustainable agricultural development through policy advocacy, trade facilitation, and technology-driven solutions. WAF unites governments, farmers, agribusinesses, experts, and development institutions to bridge implementation gaps and drive sustainable agriculture and food systems transformation towards a resilient, food-secure future. With a strong focus on collaboration, innovation all along the value chain, and public-private partnerships, WAF is committed to transforming agriculture worldwide.