

Gender Dynamics in Seed Systems in Sub-Saharan Africa and Worldwide Lessons Workshop

Report of Proceedings of the Multi-stakeholder
Technical Workshop

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Nairobi, Kenya



Partners



STMA
Stress Tolerant
Maize for Africa

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Team Leader: Rahma I. Adam (Gender and Development Specialist at CIMMYT)

Writers

Rahma I. Adam

Pauline Muindi (Research Associate at CIMMYT)

Editor: Fred Okono

Layout and Design: Maina Wainaina (Maina Wainaina Studio)

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List of abbreviations and acronyms

ACGG	African Chicken Genetic Gains
AfDB	African Development Bank
AGRA	Alliance for a Green Revolution in Africa
AGMARK	Agricultural Market Development Trust
AIMS	African Institute for Mathematical Sciences
AWARD	African Women in Agricultural Research and Development
Bioversity	Bioversity International
CABI	Centre for Agriculture and Bioscience International
CEO	Chief Executive Officer
CGIAR	Consortium of International Agricultural Research Centers
CIAT	International Center for Tropical Agriculture
CIMMYT	International Maize and Wheat Improvement Center
CIP	International Potato Center
CRR	CIMMYT Regional Representative
CRS	Catholic Relief Services
DRC	Democratic Republic of Congo
DVM(s)	Decentralized Vine Multiplier(s)
ECABREN	East and Central Africa Bean Research Network
ECI–Africa	Emerge Center for Innovations-Africa
ESA	Eastern and Southern Africa
FAO	Food and Agriculture Organization
FFS(s)	Farmer Field School(s)
ICRAF	World Agroforestry Centre
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ILRI	International Livestock Research Institute
IMTR	Institute of Meteorological Training and Research
IRRI	International Rice Research Institute
ISABU	<i>Institut des Sciences Agronomique du Burundi</i>
KALRO	Kenya Agricultural and Livestock Research Organization
KENAFF	Kenya National Farmers Federation
KEPHIS	Kenya Plant Health Inspectorate Service
MB	Marando Bora (Quality Vines)
MoALFI	Ministry of Agriculture, Livestock, Fisheries and Irrigation
NARS	National Agricultural Research Systems

NGO(s)	Non-governmental organization(s)
PABRA	Pan-African Bean Research Alliance
PICS	Purdue Improved Crop Storage
RTB	CGIAR Research Program on Roots, Tubers and Bananas
SABRN	Southern Africa Bean Research Network
SNV	Netherlands Development Organisation
STAK	Seed Trade Association of Kenya
STMA	Stress Tolerant Maize for Africa Project
TAAT	Technologies for African Agricultural Transformation
USAID	United States Agency for International Development
WECABREN	West and Central Africa Bean Research Network
WoFaAK	Women Farmers Association of Kenya

Acknowledgments

CIMMYT thanks all the participants and organizations present at the workshop. We are particularly grateful to the luminary keynote speakers, Dr. Jemimah Njuki, Senior Program Specialist, International Development Research Center (IDRC), and Dr. Joe DeVries, President, Seed Systems Group. Their knowledge and contributions were crucial in shaping the workshop discourse, making for rich and meaningful interactions on an important topic, and on critical aspects of it.

Special thanks to our sister and brother CGIAR centers – Bioversity, CIP, CIAT, ICRAF, ICRISAT, ILRI, and IRRRI for their participation, as well as other research and development organizations that presented and attended the workshop, namely: AfDB, AGMARK, AWARD, Bill & Melinda Gates Foundation, CABI, CARE International, CRS, ECI Africa, FAO, Government of Kenya (KALRO and MoALFI), Hivos East Africa, Kenya Seed Company Ltd, Leldet Seed, Norwegian University of Science and Technology, SeedCo, SNV, STAK, Snygenta, University of Nairobi, USAID, WoFaAK, World Vision Kenya, KENAFF and Seed Savers Network. In addition, we would like to thank Kipenz Films for their photography and video production work.

The workshop was organized by CIMMYT under the leadership of Dr. Rahma Adam, Gender and Development Specialist and CIMMYT's focal point for gender related research work in Africa. Special assistance to organizing the workshop was provided by Ms. Pauline Muindi, Research Associate at CIMMYT and Ms. Carol Mukundi, Senior Program Administrator at CIMMYT, Nairobi office. Further thanks go to Ms. Jessica Osanya, Ms. Mariam Gharib, Dr. Rosina Wanyama and Ms. Harriet Mawia for taking notes during the workshop.

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Agency for International Development (USAID) under the Stress Tolerant Maize for Africa (STMA) project. The current on-going project, Stress Tolerant Maize for Africa (STMA), was launched in 2016. The project aims to help farmers mitigate the combined effects of multiple stresses such as drought, heat, poor soil fertility and diseases that affect maize production and farming, in order to improve food security and smallholders' livelihoods across sub-Saharan Africa. For more information, visit <https://stma.cimmyt.org/>

CIMMYT – the International Maize and Wheat Improvement Center – is the global leader in publicly-funded maize and wheat research and related farming systems. Headquartered near Mexico City, CIMMYT works with hundreds of partners throughout the developing world to sustainably increase the productivity of maize and wheat cropping systems, thus improving global food security and reducing poverty. CIMMYT is a member of the CGIAR System and leads the CGIAR Research Programs on Maize and Wheat and the Excellence in Breeding Platform. The Center receives support from national governments, foundations, development banks and other public and private agencies. For more information, visit www.cimmyt.org.

The CGIAR Research Program on Maize (MAIZE) is an international collaboration led by the International Maize and Wheat Improvement Center (CIMMYT) and the International Institute of Tropical Agriculture (IITA) that seeks to mobilize global resources in maize research and development, in order to achieve greater impact on maize-based farming systems in Africa, South Asia and Latin America. MAIZE strategy draws upon learning and experiences obtained through decades of extensive partnerships with national and international research and development partners, including both public and private institutions, and farming communities. For more information, visit www.maize.org.

Executive Summary

Seed is life. Seed systems are complex and multi-layered, involving diverse interdisciplinary and inter-sectoral actors in multiple fronts, from seed conservation to multiplication; improved breeding; regulatory sanitary and phytosanitary measures (for safety and quality assurance); and distribution and sale. Seed systems are also highly dynamic, constantly forming and reforming. The gender challenge then is to first clearly understand how these dynamics affect women, youth, men and other marginalized groups, and then to ensure that these shifting dynamics and end-results do not however widen the gaps, especially by gender. Thus, the *Gender Dynamics in Seed Systems in Sub-Saharan Africa and Worldwide Lessons Workshop* was convened on 2nd December 2019 in Nairobi, Kenya, to examine this challenge, and how to address it.

Main objectives were to share research findings on gender and seed-systems research, to discuss lessons learned by researchers and development practitioners operating in the nexus of gender and seed systems, to identify knowledge gaps and to exchange ideas on promising – and implementable – interventions and approaches that expand opportunities for women in the seed sector.

From the workshop deliberations, it emerged that funders such as the Bill & Melinda Gates Foundation and USAID have invested heavily in breeding improved crops that are tailored to agro-ecological zones primarily targeting farmers who continue to use and recycle unimproved seeds. Nevertheless, much more remains to be done in gender responsiveness to more precisely address distinct variety preferences by women and men farmers. This calls for more research funding to enable gender and social scientists to work with breeders, food technologists, nutritionists and marketers in an integrated manner, right from breeding to product development and market studies.

Moreover, although notable progress has been made in parts of Africa on women's participation and involvement in agri-business and crop science, much more needs to be done to increase the numbers of women and to substantively deepen their involvement in the seed sector. Interventions to support women in the seed-sector business and/or science should be broad and far-reaching, focusing on the entire seed value chain. There is an urgent need to provide

facilitative information and support to smallholders – particularly women and youth – and to assist women-owned micro-enterprises to access opportunities in existing affirmative-action policies and programs. For instance, the Kenya government is implementing an affirmative-action policy to preferentially award 30% of tenders in each government ministry to businesses owned by women, youth and persons with disabilities.¹ This policy was supposed to empower women across all categories, but thus far, smallholder women farmers and women-owned micro-enterprises have not taken full advantage of this opportunity, as they are unaware of this policy.

Besides the barriers to actively engage in the seed business sector, women also face numerous barriers in adopting improved seeds. One solution is gender-transformative approaches that empower women to take charge of their own destiny in addressing their food-security needs and problems.

The youth also face barriers similar to women, meaning young women are up against a double barrier, being both women and youth at the same time. As such, gender-responsive seed value chains must necessarily also be youth-responsive as well, to ensure that this ultra-vulnerable, doubly burdened and potentially very productive critical core group is not left behind. Studies have shown that women play a major role in agriculture in Africa, and the value of catching them while young is inestimable and exponential.

Fake seeds persist and seed quality-control standards remain weak. Even then, seed-import policies and regulations are not business-friendly due to the multiple clearances required by and through different government agencies.²

Main workshop achievements were deepening interdisciplinary links amongst various actors and organizations in a position to influence gender dynamics within the seed systems, identifying the gender research gaps in seed systems, investment and policy priorities, and launching a Gender and Seed Systems Community of Practice for continued post-conference dialogue on this critical topic to enhance and sustain greater food security right at the heart and very foundation of agricultural production – seed systems.

¹<https://agpo.go.ke/pages/about-agpo>

²<https://infotradekenya.go.ke/procedure/291?l=en>

Introduction and background

Seed is the foundation and very beginning of any and all agricultural production, and fundamental to food and nutritional security. Therefore, as the spring and source of all agricultural production, seed must be of high quality and readily accessible.

The seed sector has rapidly evolved in ways that have greatly altered the landscape of seed delivery to developing-world smallholder farmers, including in Eastern and Southern Africa. This is largely due to direct interventions through widespread support from funders, national governments and research institutions.

It is therefore timely to review how these changes have evolved, and their implications for women's involvement downstream and upstream in the seed system. Do women have equal opportunity to participate in the seed sector? Are interventions to enable this (increase in participation and engagement of women) needed, and more so for staples such as maize, rice, legumes, and roots and tubers?

Because most of Africa's poor population depends largely on subsistence farming, increasing agricultural productivity is critical for agricultural growth in Africa. Overall, agricultural growth in Africa lags behind economic growth, with only moderate increases since the 1960s. A major constraint is limited availability of inputs for smallholders, particularly lack of seeds for improved varieties; most farmers rely on traditional seed varieties that are recycled and generally have very low yields.

Improved varieties have relatively higher yield potential, better adaptation to common biotic and abiotic stresses such as diseases, pests, drought and low nutrients, and are water-efficient, thus raising actual and potential smallholder productivity.

Studies have shown that women play a major role in agriculture in Africa and other regions of the developing world. And yet, entrepreneurs in the agricultural value chain pay only low attention to women farmers. Women remain largely marginalized and have less access than men to productive resources and opportunities, including to inputs such as seeds and fertilizer. Women farmers, for example, are less likely to use improved seed than men, leading to relatively lower productivity levels for women compared to men.

If not addressed, these gender gaps represent real costs to households, seed companies, agro-dealers, communities and nations. Consequently, stakeholders in the sector have recognized – and prioritized – the need for increased and well-targeted support for women in agriculture. For instance, the

African Union's June 2014 Malabo Declaration, includes a commitment to reduce poverty in Africa by 50% by 2025, through, among other measures, supporting and facilitating the preferential entry and participation of women and youth in gainful and attractive agri-business opportunities.

It is in this spirit that the *Gender Dynamics in Seed Systems in Sub-Saharan Africa and Worldwide Lessons Workshop* was convened on 2nd December 2019 at Nairobi Safari Club, Nairobi, Kenya. The workshop was organized by the International Maize and Wheat Improvement Center (CIMMYT). Attending were researchers, development practitioners, funders, farmer representatives, farmers, seed companies and other private-sector actors. Institutions participating and represented are listed in Annex 1. The agenda of the workshop can be found in Annex 2.

Workshop objectives were: (i) to share findings from research on gender and seed systems, lessons learned by practitioners who are working closely with farmers on the ground, as well as private-sector actors and funders in gender and seed systems; (ii) identify knowledge and research gaps in gender and seed systems; and, (iii) pinpointing promising interventions or models, and jointly identifying implementable solutions to increase opportunities for women in the seed sector.

The multi-stakeholder workshop was held as part of a process towards promoting equitable participation and opportunities for African women in development, particularly in the formal seed sector along the entire value chain from production to use.

Outputs and outcomes included: (i) launching a gender and seed-systems community of practice and deepening links among researchers, development practitioners and funders in the seed sector agriculture and gender; (ii) increased awareness by participants of the knowledge gaps in gender and seed-systems research, as well as the challenges and opportunities for women's participation in seed systems; and, (iii) sharing lessons and good practice amongst researchers, private sector, government agencies, development partners and non-governmental organizations (NGOs) for creating promising models for intervention to increase women's participation in seed systems across the entire value chain.

The workshop had five components: (i) welcome remarks and two keynote addresses; (ii) findings from CGIAR researchers; (iii) panel discussion with development agencies, funders and NGOs, and with public and private sectors; (iv) breakouts on pressing problems; and, (v) reflections and closing remarks.

Part 1: Opening remarks and scene-setting



Dr. Stephen Mugo

Principal Scientist
& CIMMYT
Regional
Representative
(CRR) for Africa

Photo: CIMMYT/Kipenz Films

Highlights of the opening remarks

Dr. Mugo welcomed participants, noting that CIMMYT's mission aligns itself with the CGIAR strategy to advance agricultural science and innovations to enable poor people – especially women – to better nourish their families, and improve their productivity and resilience so they can effectively participate in economic growth and manage natural resources in the face of climate change and other challenges (*CGIAR System 3-Year Business Plan 2019–2021*).³

CIMMYT deeply cherishes inclusivity, and women and youth are an integral part of CIMMYT's work so as to enable equitable access by women and marginalized groups to knowledge, markets, technology and training (*CIMMYT Strategic plan 2017–2022*).⁴ Gender and social inclusiveness in research and its outcomes are amongst CIMMYT's core competencies, since social differences such as gender, age, wealth and ethnicity play a key role in successful agricultural interventions. More than any other sector, agriculture requires social inclusiveness.

The workshop objectives are to learn, and to share experiences, results and lessons from various existing seed-system interventions in legumes, cereals, trees, roots and tubers, and livestock.

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Gender
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its outcomes
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³<https://storage.googleapis.com/cgiarorg/2019/02/CGIAR-Business-Plan-Web.pdf>

⁴<https://repository.cimmyt.org/xmlui/bitstream/handle/10883/17675/57993.pdf?sequence=7&isAllowed=y>

Introduction of participants

Introduction of the participants of the workshop was done by Mr. Julius Nyangaga, the moderator for the workshop. He opened the workshop by recognizing all the different partners and stakeholders in seed systems present. He asked volunteer representatives from each of the stakeholder attendees (farmers, farmers' associations, CGIAR researchers, national agricultural research systems [NARS], development partners, NGOs and private seed sector) to stand and give a few remarks.

A farmer representative from Machakos County, Mwala Sub-county, Mr. Peter Mutinda, said he wanted to learn from the experts about the different seed systems and the use of improved seed varieties to improve the productivity on his farm.

Teaching and training farmers on the importance of adopting new technologies such as improved seeds is a role played by the Kenya National Farmers Federation, said Ms. Mercy Nkatha. Ms. Nkatha represented farmers' organizations.

Mr. Bernard Rono a Rural Sociologist, KALRO–Embu noted that gender aspects must be incorporated within the seed systems to deliver demand-derived seeds for improved food security and productivity. Mr. Rono represented the NARS.

Ms. Kamau, Team Leader, Resilient Food and Livelihoods Systems. Ms. Kamau remarked that FAO's role is to support the government and partners, and to collaborate with funders to ensure a world free of hunger, and with secure food nutrition for all. Ms. Kamau represented development partners and NGOs.

Greetings from the private sector were presented by Dr. Peter Mbogo, Senior Maize Breeder at SeedCo, Kenya. Dr. Mbogo said that for many seed companies, research is followed by commercialization. As such, this workshop is important so that companies understand gender aspects in seed systems throughout the value chain, and not just at marketing.

Greetings from the CGIAR centers were presented by Dr. Jan Low, Principal Scientist and Agricultural Economist at the International Potato Center (CIP) and leader of the Roots, Tubers and Banana Consortium, and the 2016 World Food Prize Laureate. Dr. Low said that as progress towards One CGIAR continues, researchers are committed to providing improved seeds to farmers through inclusive seed systems to ensure the needs of men and women are integrated in crop breeding.



Mr. Julius Nyangaga, moderator (left) and Mr. Peter Mutinda, farmer (right). Photo: CIMMYT/Kipenz Films



Dr. Joe DeVries

President, Seed Systems Group

Photo: CIMMYT/Kipenz Films

Keynote 1: Overview of seed systems in Africa

“ Generally, women’s participation and leadership along the seed value chain is quite impressive but not as well documented as it should be. ”

Dr. DeVries (formerly Director, Seed Systems, Alliance for a Green Revolution in Africa), President, Seed Systems Group, said that though there has been progress, achieving a green revolution in Africa is no simple undertaking. Developing seed systems in Africa is somewhat complex given the wide range in crops and agro-ecologies. Therefore, increasing crop productivity across agro-ecologies calls for focus on seed quality and productivity potential. And while there is greater emphasis on maize and rice, other crops too also count and have made some progress: for example, improved cowpeas resistant to drought, striga and foliar diseases. Funders such as the Bill & Melinda Gates Foundation and USAID have heavily invested in breeding improved crops tailored to agro-ecological zones, and in targeting farmers who continue using landraces. CGIAR centers have played a paramount role in developing these improved varieties, thus providing farmers with

better alternatives. Africa’s agriculture is on the move with focus on good-quality seed. There has been a significant improvement in seed-system development over the past decade. This – coupled with better seed-delivery systems over the years – have largely contributed to improving productivity. Four primary pillars for improving Africa’s seed system are:

- Capacity building and education; invest in training and knowledge for the current and next generation (MSc and PhD);
- Crop breeding; investment at the international and local levels;
- Increase farmer awareness – this has not been given enough attention, but methods are available, e.g., providing free sample of small seed packets to women and disadvantaged farmers ; and

- Seed companies and agro-dealers ought to be placed at strategic positions to enhance seed supply and access.

In countries with improved seed systems for farmers, there has been significant improvement in productivity, and also in investing in seed supply in a practical way through which Africa will attain food security. Seed system revolution and development in Africa is a potential solution to perennial food insecurity. Women are part of this revolution and development as plant breeders, seed-company owners, seed producers and seed inspectors.

But we still do not have enough women in seed development in Africa. However, there is hope as a new generation of women is being trained at different levels in seed systems. We also have quite a number of women CEOs and managers in Eastern and Southern Africa (ESA) seed companies. For example, approximately 40% of agro-dealers in Kenya's seed value chain are women. There are complex problems to be solved to feed Africa, and women have demonstrated capacity in taking the lead. They

have a better understanding of the role of food and nurturing society. Generally, women's participation and leadership along the seed value chain is quite impressive but not as well documented as it should be.

Nevertheless, despite their potential, and their demonstrated capacity to take the lead in solving seed security, nutrition and food-security challenges, women have historically been at a disproportionate disadvantage in the seed system. More opportunities should be provided, and enabling factors and hindering encumbrances identified. Enablers include providing a conducive environment for women in their reproductive age to combine reproductive activities and seed-sector development. And, despite multiple encumbrances, some women, particularly in ESA, are still taking the lead in seed-sector development. These women should be supported so that they can further extend the benefits of seed development to all farmers. By prioritizing women needs in seed development, it is possible to transfer the development in ESA to other regions in Africa.

Dr. Jemimah Njuki

Senior Program Specialist, IDRC

Photo: CIMMYT/Kipenz Films



Keynote 2: High correlation between gender inequality and food insecurity – IDRC investments in gender

Dr. Njuki, said that seed systems are the starting point for food security, because food-security programs are premised on improved seed. There is a high correlation between gender inequality and food insecurity. The countries that have the highest levels of gender inequality also have high food insecurity. Women play a critical role in achieving food security. If we remove the barriers women face, women would work more productively, will be empowered, and they would not have to face hurdles getting into leadership. But all is not lost: seed systems are evolving, providing fresh opportunities to embed and mainstream gender in the seed sector. Gender equality should not be an add-on but an integral part of existing and emerging seed systems. There is a renewed focus on gender equality, especially in agriculture and food sector. How do we position research and evidence to link to major investments on gender equality? For instance, a World Bank report entitled *Profiting from Parity: Unlocking the Potential of Women's Businesses in Africa*⁵ noted that Africa has more women entrepreneurs than men entrepreneurs. However, women's profit is 38% less compared to men's profitability. So why is this the case yet they are operating within the same politico-economic context? The differences stem from capital, labor and sectoral choices. Women tend to be more in the traditional sector, e.g., in sweet potatoes than maize or rice. Basically, women are more likely to be involved in the informal than formal sector, and their businesses tend to be smaller.

The critical role of women in agriculture is clear, with an equally clear distinction between a focus on women and a focus on gender. However, the two must be linked to effectively tackle the gender gaps and differences by identifying the innovations and solutions

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Gender equality should not be an add-on but an integral part of existing and emerging seed systems.”

⁵<https://openknowledge.worldbank.org/bitstream/handle/10986/31421/135420-ProfitingfromParityFullReport.pdf?sequence=1&isAllowed=y>

to close these gaps. In addition to the seed-system revolution, favourable institutional arrangements, and the increased women participation in seed systems, all provide good opportunities. Barriers include gender gaps in access to resources such as land, capital, labor and extension services. There are also several inter-related challenges:

- Seed systems are still heavily masculine. Most institutions, programs, policies and interventions still view farmers as male, and/or are male-biased.
- There is a disconnect between the reality on farms and related institutions. Gender is not simply a matter of including women. Although this is necessary and important, in and of itself, it is insufficient for gender equality, because there are key gender barriers warranting research to overcome the challenges.
- It is important to link gender gaps and seed systems, examining access to resources, seed at farm level and knowledge and information. Oftentimes, we address the symptoms of gender inequality rather than tackling the root causes such as gender and socio-cultural norms. For example, the ability to access seed, use seed, or become seed entrepreneurs is determined by cultural and social norms that define what women can and cannot do, the women's own aspirations, and what they own or do not own.

Given this background, the following steps are necessary:

1. Develop, test and scale-up inclusive innovative solutions that work for men, women and youth. These includes transformative financing through institutional change. For example, approaching financial institutions by making women an attractive value proposition and mobilising them into groups which makes them more 'bankable', training and educating them to further enhance their value proposition to financiers, and organizing a guarantee scheme as an assurance for financial institutions investing in women. However, we need to change the mindsets of financial institutions about women. Evidence shows that women are more likely to repay loans on time. And yet, more is expected from women (e.g., training, converting them into 'bankable') upfront for them to access these loans, including collateral they may not own and therefore cannot readily provide. This requirement and other stringent conditions in accessing loans demonstrate that the problem is more institutional than women-related. It is therefore important to make financial

institutions 'womenable', especially because the institutions have instead been trying to make women 'bankable'.

2. Transforming gender and social norms is crucial, by carefully selecting how and with whom we partner. It is important to understand the social norms that undergird – and therefore define – inequality. This can be done through participatory methods such as the gender-transformative farmer field schools (FFSs) used by CARE International to create a dialogue on workload-sharing, women decision-making and ownership of resources in the FFS curriculum. Community theater can also be an important tool to change norms, decision-making and ownership of resources.
3. Adopting a more synchronised, holistic and cohesive approach on gender inequality: currently, different pieces are sitting in different places at different times. For instance, various groups and institutions are working to build capacity, mentor women, and reform social norms. However, when separated and uncoordinated, these noble undertakings nevertheless paradoxically render it impossible to see the full picture – and to appreciate the immense complexity – of gender integration in agriculture. Gender-transformative food-systems research includes:
 - a. building women's agency and leadership;
 - b. improving seed access and control of resources;
 - c. changing norms – involve and engage men and boys, the gatekeepers of norms and culture; and;
 - d. institutional and structural changes.

Notable examples are evident in Malawi where a combination of norm-change and technical innovation reduced post-harvest losses by 60%, and increased women's ownership of resources. Seed systems must be fitted within the broader value chain and social context.

IDRC invests in gender in various ways including:

- Support to women scientists and gender researchers, e.g., fellowships, African Institute for Mathematical Sciences (AIMS), One Planet Fellowship led by the African Women in Agricultural Research and Development (AWARD) and supporting women scientists to advance their careers.
- Gender-specific projects – where gender is not just integrated but is indeed the core project.

- Streamlining processes to ensure gender is an integral part of the research process in calls for proposals and project design. Gender-blind proposals are ineligible, because gender-blind interventions have potential to further increase women's marginalization and workloads.
- Knowledge sharing, such as *Lessons Learned Synthesis Paper: Gender Integration and the Canadian International Food Security Research Fund*.⁶



Q1: Transformational research takes time and resources compared to project timeframe and funding. How can we do things concurrently so you can be working for change but still recognizing the reality of time and resources? Is it possible to track social change and still be mindful of funding and timeframe requirements?

A (Dr. Jemimah Njuki): Regarding the time aspect, it is important to track the short-term changes that are leading to a norm-change that has a long-term effect. The second aspect depends on what is changing, and the approaches that accelerate change, e.g., getting a critical mass of men as change champions. It is important to adopt approaches that accelerate change, and to clearly understand and determine which norm you want to change, how best to change it, and who its gatekeepers are. Changing social norms requires more approaches, primarily because the social-change process happens within the context of other socio-cultural issues. Power relations within the systems must be clearly understood before addressing social norms.

Q2: How can access to loans be enhanced among women?

A (Dr. Jemimah Njuki): Capping of bank interest rates in Kenya made the banks more risk-conscious and hence this affected general lending but more especially lending to women, as they are not able to provide collateral, e.g., title deeds in their name. Future research is therefore focusing on understanding women's needs and accordingly customizing financial products. However, this will take time.

⁶<https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/57119/IDL57119.pdf?sequence=2&isAllowed=y>

Part 2: CGIAR research findings

CGIAR is a global partnership that unites international organizations engaged in research for a food-secure future. CGIAR research is dedicated to reducing rural poverty, increasing food security, improving human health and nutrition, and ensuring sustainable management of natural resources. It is carried out by 15 centers that are members of the CGIAR Consortium, in close collaboration with hundreds of partners, including national and regional research institutes, civil-society organizations, academia, development organizations, and the private sector. Its network of 15 research centers is known as the CGIAR Consortium of International Agricultural Research Centers. These research centers are spread around the globe, with most centers located in the Global South.

A) CIMMYT: Socioeconomic research by the Stress-Tolerant Maize for Africa (STMA) Project



Dr. Paswel Marenya

Senior Scientist and Agricultural Economist, CIMMYT

Photo: CIMMYT/Kipenz Films

(i) Client-responsive maize seed system in East Africa: What do women farmers want in their maize varieties?

According to Dr. Marenya, society demands much from crop-improvement programs. For instance, improved seed should be stress-resilient, meaning able to withstand drought, heat, poor soil fertility and diseases, among other factors. Therefore, farmer demands must be prioritized, bearing in mind that there are no silver-bullet solutions, and so we cannot pack all these demands from the society into a single seed.

The study findings presented here are based on preference elicitation experiments and econometric choice analyses using data from more than 1,200 respondents.

More than 80% of households in eastern Africa are male-headed. The decision on what variety to plant is often made by the household head (of whom 80% are male). Disaggregated country results are however more encouraging from a gender

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In all three countries... clearly, women have very little power in decisions on different aspects of maize production.

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perspective for what they reveal: percentages for joint variety choice were 67% (Ethiopia), 34% (Uganda) and 47% (Tanzania). Spouses (mostly women) made the variety choices in 10% of the cases in Uganda, 2% in Tanzania. There were few cases of women making sole variety decisions in Ethiopia. Single-gender decision over control of maize harvest is mainly by men (Ethiopia 28%; Uganda, and 54%; and Tanzania, 46%) compared to women (Ethiopia, 1%; Uganda 10%; Tanzania, 2%). In all three countries, clearly, women have very little power in decisions on different aspects of maize production. Different methods were used for robustness of the analyzed data; such as choice experiment. Focus group discussions were conducted on grain varieties. A tradeoff analysis in seed-variety characteristics is important so that breeders prioritize specific traits that are preferred by farmers, and that suit them, especially women.

To surface the tradeoffs women and men farmers are willing to make in variety choice or prioritization of variety preferences, a willingness to pay study was conducted in Ethiopia and Kenya. Findings were:

- Women appear not to prefer large grain size and hence prefer medium-size grains. One of the reasons behind this is milling for flour conversion: conventional wisdom is that small grains are more efficiently converted to flour than large grain sizes.
- Women prefer varieties that store well more than twice as much as men. Typically, storability is related to the flintiness of the grain. This therefore suggests that flint varieties will be greatly preferred by women compared to similar dent varieties. Given women's role as custodians of household food security, ability to store grain well for several months is crucial. Barring financial or other pressures, women and their households expect to store harvested maize grain for as long as possible to assure household supply.

- Controlling for socio-economic variables in the analysis (such as experience in farming, education, income, age and gender), men prefer closed-tip varieties nearly 10 times more than women. But without the control, the results are similar for women and men.
- Women value drought- and striga-tolerant maize nearly twice more than men. This finding can be used by seed companies to specifically target women.
- Yield, grain size, closed tip, storability, drought and striga are among the top traits for consideration among the farmers.
- It was also observed that women farmers are more sensitive to improved seed prices i.e., they find them to be costly.

In summary, women valued storability three-and-a-half times more than men: women valued storability five times more than early 90-day maturity, men valued closed tips 10 times more than women, women valued drought- and striga-tolerant maize varieties nearly twice more than men, while men valued nitrogen efficiency 20 times more than women.

Therefore, product differentiation is important to determine consumer (farmer) preferences and needs in different markets. Secondly, market segmentation is key for different farmers in different segments. In conclusion, there is a tale of two principles: what to breed for, and whom to breed for. It is well known that no single product can have all the desired traits simultaneously. Therefore, breeding programs should focus on a manageable number of traits per product, guided by principles of market segmentation based on client needs. Seed companies can then segment their seed markets based on traits demanded in specific geographies as delineated by socioeconomic and production factors, coupled with market studies.



Q1: Could there be a backup (an explanation behind why) for the results obtained? For instance, why medium grain sizes are preferred by women?

A (Dr. Paswel Marenja): Perhaps due to flour conversions.

Q2: What if other aspects such as nutrition and other stakeholders were incorporated in this study? Could this inform more on variety characteristics?

A (Dr. Paswel Marenja): Indeed, it would. Women preferences could be controversial because they are influenced and informed by family preferences. Hence, incorporating other stakeholders and aspects such as nutrition could inform more on variety characteristics and tradeoffs.



Dr. Rahma Adam

Gender and
Development Specialist,
CIMMYT

Photo: CIMMYT/Kipenz Films

(ii) Gender dynamics in the formal maize seed systems in sub-Saharan Africa

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Men hold leadership positions in seed production, processing, product development, sales and marketing, and management. Additionally, in a majority of the cases, breeders, agronomists and technicians are also usually men.

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Dr. Adam emphasized the need to understand the rationale behind gender-responsiveness in seed systems, and why this responsiveness is important. It is well-documented that women farmers are less likely to use improved seed than men. The gender gaps in adoption of improved varieties of seed represent real costs to households, seed companies, agro-dealers and society.

a) Women in maize seed business

Nine women-owned and co-owned seed companies were identified in ESA. Details are in the study *Women in the maize seed business in East and Southern Africa*.⁷ These women are in a male-dominated field. Their production portfolio is small, with output ranging between 33.3 and 1,411.3 tons of maize. These women-owned and co-owned seed companies have established unique innovative mechanisms for marketing. For instance, in Uganda, Ms. Josephine Okot of Victoria Seeds uses a mobile seed shop tricycle (*tuk-tuk*) to reach farmers in remote villages, small seed packs (*maendeleo* pack) and visiting cattle markets to reach women farmers, works with women lead farmers respected in their communities, and takes different promotional approaches with women-targeted branded materials, e.g., maternity-ward sheets. Majority of the employees in these seed companies are women who handle seed processing (sorting, cleaning and grading, which all require fine precision and attention to detail), while men mostly load and off-load maize-seed bags. If land ownership were tackled, it could create more opportunities for women to become out-growers.

⁷Adam, R.I, Sipalla, F, Muindi, P., and Kandiwa, V. (2019). Women in the maize seed business in East and Southern Africa. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/20141>

Challenges for women in the seed business include:

1. Delay of payments for contracts, especially in Zambia. This affects competition with other companies, and profit margins.
2. Societal discrimination and bias of women's entrepreneurial and leadership skills in seed companies.

b) Gender mainstreaming in seed companies: A case from Uganda

A total of 13 companies were interviewed and studied, representing 80% of the market share in Uganda. Men hold leadership positions in seed production, processing, product development, sales and marketing, and management. Additionally, in a majority of the cases, breeders, agronomists and technicians are also usually men. Women are the majority employees, dominating the seed-processing sector, though majority of the employees are seasonal workers and men are the majority of out-growers since land control locks out many women. The findings of the study showed that 62% of the engaged seed out-growers are men. While there are a few seed companies that have an inclusive marketing approach targeting women, most seed companies have employed a one-size-fits-all marketing strategy with no gender lens to reach women farmers, nor deliberate avenues by which to reach women as a distinct market segment.

c) Synthesis of maize trait preferences by gender in Kenya and Rwanda

The results of the farmers' evaluation study (2016–2017, two country datasets), showed that the stated preferences are the same for men and women. In Kenya, men and women farmers gave higher ranking for germination, yield, and early maturing. In Rwanda, the stated preferences reported were similar for men and women, and topmost traits for both were germination, drought resistance and cob size. However, the results of the by-gender analysis revealed criteria from Kenya and Rwanda showed that other than resistance and lodging, there were statistically significant differences between men and women farmers in the revealed traits. Nevertheless, the relative importance between criteria has not changed, and it is more or less similar for both men

and women. As a result, the evaluations of the different hybrids did not differ between men and women. The findings indicate that we need to go beyond traditional traits only and also investigate other aspects such as post-harvest and processing. There is also a need for nutritionists and other food technologists to identify if there are any differences between men and women farmers in taste preferences for different varieties of maize (sensory evaluation).

d) Capacity-building: How do we create awareness of improved seed?

CIMMYT has produced publicly accessible and widely disseminated training and capacity-building materials for gender-responsiveness in seed systems. These tools and manuals have been formulated to ensure gender-responsive budgeting, gender-responsive promotional approaches of improved seed varieties (via field days and demonstrations), and breeding. The materials are designed for various stakeholders such as seed companies; agro-dealers; research institutions; breeders and technicians; NGOs; and development, public and donor agencies, and are listed in Annex 3.

e) Success story

NASECO Company in Uganda moved from producing 20 tons of maize seed in 1990 to 3,000 tons by 2017, also supplying Democratic Republic of Congo and Burundi where seed-supply systems are considerably poorer. CIMMYT-supported demonstration plots helped in reaching more farmers and continue to do so.

f) Conclusion, and way forward

Gender gaps in the adoption of improved maize-seed varieties must be bridged, and better farming practices strengthened. Seed companies should be gender-responsive externally in product positioning, and internally in workplace operations. Additionally, trait preferences for all farmers need to be synthesized, and further studies conducted in post-production characteristics, i.e., processing, cooking and consumption.



Q1: How do we distinguish between the stated preference versus the revealed importance?

A (Dr. Rahma Adam and Dr. Hugo De Groot): Even though the stated and revealed preferences are conceptually the same, empirically and methodologically, they are clearly distinct variables. The stated preferences collect replies on hypothetical situations: the respondents are asked to imagine that they find themselves facing a choice, and to state which alternative they prefer from amongst the choices. The revealed preferences, on the other hand, are real, actual choices made by farmers in a determined context. Comparing the two, farmers tend to overstate the importance of minor characteristics in stated preferences, thus making revealed preferences a good indicator of what farmers would actually prefer. Therefore, revealed preferences is more preferred as a good (and closer) indicator of farmer preferences, but it is more time-consuming and its data-collection costly.

Dr. Pieter Rustaert

Markets and Value
Chain Specialist,
CIMMYT

Photo: CIMMYT/Kipenz Films



(iii) The role of agro-dealers in driving variety turnover for men and women farmers

“ Eight out of 10 farmers stuck to what they know when buying seed. ”

Dr. Rustaert examined the formal seed system, covering variety development, dissemination to seed companies, and onwards to agro-dealers who sell seed to farmers. Despite considerable investment in agro-dealers, especially by AGRA, there are few studies or scientific knowledge on seed-distribution systems, and how farmers make seed-purchase decision.

In the Access Seed Index Report, seed companies indicated that agro-dealers are the best option to reach rural farmers, as the most sustainable and scalable approach for seed distribution within the formal sector. They provide affordable and convenient access to technologies and provide advice on how to use these technologies. In Kenya, numbering nearly 10,000, agro-dealers dominate hybrid seed sales.

The study presented examined:

- agro-dealer choices and strategies in maize seed sales;

- seed-company support to agro-dealers to sell maize seed;
- how farmers decide on what seed to buy once in agro-dealer store; and,
- to what extent agro-dealers influence farmers' seed-purchase decisions.

Agro-dealers and farmers (while at the agro-dealers buying seed) were both interviewed. Nearly 59 different seed varieties were on sale, with three new varieties introduced in the last five years in Kenya, and 81% of agro-dealers having introduced at least one new variety in the last 5 years. Agro-dealer maize-seed sales are demand-driven. Six out of 10 agro-dealers indicated that seed companies notify them of new products and provide information on geographical suitability and performance. Four out of 10 and three out of 10 agro-dealers said seed companies provide sales support and credit support respectively. Farmer seed selection appears to be rapid, automatic and intuitive. Beyond pure sales,

farmer interaction with agro-dealers is limited: only 1 out of 10 farmers asked for information and looked at store offers. Eight out of 10 farmers stuck to what they know when buying seed. Notably, behavior was very similar in male and female farmers, and young and old farmers.

Farmers make decision on what seed to buy before going to the agro-dealers. Eleven percent of the farmers got advice from agro-dealers and of these, only 9% of the farmers followed the advice. About 20% of the farmers bought new varieties. The two main factors for variety change were agro-dealer and social-network recommendations, of which the latter remains very crucial (e.g., visible performance in neighbor's farm). For promoting new varieties, demand creation for end user is vital. Demand pull can be created by showcasing the product, and through product demonstration plots. Radio, TV and

other media channels are less important at the point of sale. Supply push (where, instead of people asking for the product, it is delivered to them) is rarely used. Prominent display at purchase points is also supply push. For this reason, packaging requires careful thought so as to drive sales by assuring better visibility to create awareness and exposure. It is strategic to focus on active salespersons (for accurate and informed decision-making) and establish the level at which to set competitive prices. Failure to do effective supply push presents a risk of leftover stock. Market research is very important as promotion of products to both men and women is context-specific and can be challenging and sensitive. Therefore, understanding response to push marketing from male and female farmers will be key.



Dr. Hugo De Groote

Principal Scientist and Agricultural Economist, CIMMYT

Photo: CIMMYT/Kipenz Films

(iv) Gender-sensitive participatory evaluation of climate-smart agriculture technologies

Dr. De Groote examined men and women maize varietal preferences to determine what they like about varieties. CIMMYT conducts these evaluations twice a year (mid-season and end-season). The study presented was conducted in Makueni, eastern Kenya.

To better understand the gender differences in maize trait preferences, it is important to first understand the roles men and women play in agriculture. Findings were:

- Overall, there is substantial difference in roles for men and women.
- While women are involved in cooking, washing and other home chores as well as farm work, men are involved in purchasing of inputs and improved seed, and plowing.
- Variety choice is joint, and women have a major role in decision-making.
- Major household expenses are mainly decided by men, while minor ones are by women.
- Women attend farmer and agricultural group meetings more than men and are more active.
- The reason men do not show up for the group meetings is because they are in formal employment (73% of women said their husbands are employed in the formal sector), doing farm work, or conducting other business: in sharp contrast, only one-third of the women are in formal work.
- While distance was a problem, employment was the main reason men did not attend.
- Women make substantial contributions to agricultural activities and decision-making.

“ For men, important traits included yield, and stalk and cob size, while for women, it was early maturing, germination and insect resistance. ”

Statistical analysis reveals differences in varietal preferences between men and women.

While there were no statistically significant differences between men and women farmers regarding stated preferences of traits, there were however stark differences between men and women on revealed traits. For men, important traits included yield, and stalk and cob size, while for women, it was early maturing, germination and insect resistance. According to Dr. De Groot, the results are somewhat confounding: when rating important traits for maize seed during farmers' varietal evaluation, the results are similar for men and women. But when you use

another methodology to evaluate farmers' trait preferences – like the one described by Dr. Paswel Marenja above – there are statistical differences between men and women. Scores ranged between 3.0 and 3.9 for different varieties, with men assigning the same score to almost all the varieties (only one variety was distinct from other varieties), while for women, one variety scored 3.2 and another 3.8. And although men and women stated similar importance of criteria, women have a more critical, nuanced evaluation of varieties and clearly distinguish between varieties, and more women than men participate in variety evaluations.

B) Research findings from other CGIAR researchers



Dr. Jan Low

Principal Scientist and Co-Leader, Sweetpotato for Profit and Health Initiative at International Potato Center (CIP)

Photo: CIMMYT/Kipenz Films

(i) Highlights of the presentation on understanding the gender gap in sweetpotato seed systems

Dr. Low said CIP is working to improve access to seed by farmers by taking gender implications into account, in partnership with other organizations in 15 countries. Of the direct beneficiaries reached (n = 350,000), 58% were women.

When projects end, does sweetpotato vine production continue? Distributing vegetatively propagated seed is not viable business for most dealers because farmers retain their seed.

To assess the post-project scenario, a quick 2019 snapshot was done on the status of vine multipliers by gender in 11 countries. Of the 1,030 multipliers, 925 were reached, of whom 741 was by phone (to minimize costs).

The results showed that 76.2% were still producing vines, of whom 29.7% were women. Tanzania has the highest number of multipliers (n=67). Vine multiplication by farmer groups is common, and more so for women farmers, particularly in eastern and southern Africa (Tanzania, Ethiopia, Uganda and Malawi). Updates are posted to the SweetPotato Knowledge Platform⁸ showing the status, location

and contact number of the vine multipliers to increase their visibility to NGOs for example. Women dominate production of traditional crops such as cassava and sweetpotato as opposed to potato production where men tend to dominate. The CGIAR Research Program on Roots, Tubers and Banana (RTB) has developed a multi-stakeholder framework that includes gender-analysis tools for intervening in RTB seed systems. These are:

- **Gender-based constraints analysis tool:** To understand gender division of labor in the sweet potato vine multiplication business – a focus group discussion guide
- **Ladder of Life:** to describe household socio-economic types in an area or region (better-off and poor households), assess their involvement in the sweet potato vine multiplication business, and whether the commercialization of sweetpotato vine production has influenced their position in the 'ladder of life'
- **Ladder of Empowerment:** what has happened before and after a project intervention

⁸www.sweetpotatoknowledge.org

“ CIP is working to improve access to seed by farmers by taking gender implications into account, in partnership with other organizations in 15 countries. ”

Quality-control standards are needed for sweet potato and cassava. A study led by Margaret McEwan on the Marando Bora Project (Quality Vines) covered five varieties distributed to Tanzanian 110,000 households within 2.5 years in Mwanza, Mara, Shinyanga and Kagera regions through an established network of 88 Decentralized Vine Multipliers (DVMs) to serve communities and train vine multipliers to produce quality vines. However, not many women were selected because they had no access to land with a reliable water source, and their inability to keep records due to lack of skills to do so. The criteria were then modified to include group multiplication, which enabled more women to participate.

After five years, of the original 88 DVMs, 81 were located for follow-up studies. Of these, 22% were still selling planting material of Marando Bora (MB) varieties, 21% kept MB varieties for their own use, but were no longer selling. Of the original 59 DVM groups that were traced, 42 were no longer functioning as a group, 10 were still selling and 14 previous group members began selling vines as individual multipliers. Women reported that becoming multipliers raised their status in their households and communities, and in joint negotiations for land use. In Tanzania, sweetpotato became a cash crop after vines were commercialized. The willingness to pay for quality vines is increasing, especially for vines from well-managed fields. Women became more involved in vine multiplication and managing its social and commercial aspects. The social aspects included sharing of vines with neighbors in need. It

is a time-honored traditional practice, as a means to make sure communities are food secure. If the vine is of good improved quality, the multipliers will only give out a few vines or cuttings for free to continue an encouraged (and expected) social construct because someday, the vine producer too may need help, while still maintaining their vine enterprises. If they were improved varieties, women would give away fewer vines. Women are now being encouraged to establish vine root enterprises. In the event of drought, business boom is guaranteed if one has irrigation.

Questions and considerations for further research work

- How can we scale up these models using key food-security crops? We need to make sure that cassava and sweetpotato are integrated into these models (they are food-secure crops).
- Do women-led seed enterprises reach other women better and more effectively? How are women helping other women? Information on that is needed.
- Is it better to take a household enterprise approach? That is, working with both men and women for quality vine multiplication?
- Will harmonization of seed-release policies lead to empowerment and equal access to seeds for all?



Q1: What advice would you give a farmer who wants to venture into vine multiplication?

A (Dr. Jan Low): Do research on the various varieties available. Compare the old with the improved varieties in terms of output. Farmers tend to make decisions based on what they see, emphasizing the importance of demonstrations.

Q2: It is very common in sweet-potato farming for women to be greatly involved in the production process, but when it comes to controlling income, the men take over. How can this be addressed?

A (Dr. Jan Low): By making a deliberate and conscientious effort to include women in all aspects of the value chain, and by paying attention to – and designing for – it right from the outset, anticipating eventual commercialization.



Dr. Alessandra Galie

Senior Social Scientist, Gender, International Livestock Research Institute (ILRI)

Photo: CIMMYT/Kipenz Films

(ii) Highlights of the presentation on livestock in seed systems

Dr. Galie demonstrated how we can bring livestock into seed systems, a topic rarely discussed. In response to a 2018 call for proposals on *Seed Systems Development Enabling and Scaling Genetic Improvement and Propagation materials of Crops, Livestock and Fish*, ILRI submitted a proposal entitled *Women in business: chicken seed dissemination in Ethiopia and Tanzania*, to bring livestock into seed systems.⁹ This project aims to develop, promote and test women-led chicken businesses in Ethiopia and Tanzania, with the goal of promoting the economic empowerment of young women, and also of improving the food and nutrition security of their households. The resultant project by the same title has proposed an innovative solution for reaching women farmers. This is a scaling out of the African Chicken Genetic Gains (ACGG) Project, where high-yielding breeds of chicken were tested for suitability in selected areas in Tanzania and Ethiopia. The project is about disseminating locally selected chicken seed stock of improved breeds.

Two private companies – one in each country – have been identified to multiply and sell day-old chicks to brooders. They package the day-old chicks together with feed, vaccines and information needed and deliver them to the brooders. The brooders are women and men in different villages, who raise them to 45-day-old chicks then sell them to neighboring farmers. A challenge identified during project assessment was that brooders have difficulty reaching bigger distant markets. Solutions include expanding the reach of ‘chicken seed’, by connecting the brooders with women farmers in remote areas. The chicks will be

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The project wants to replicate this agent’s model, but in a more gender-inclusive and sustainable way, as it is very male-dominated.

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⁹<https://www.nwo.nl/en/research-and-results/programmes/nl-cgiar/instruments/seed>

brought to women farmers through women vendors. The vendors will be young graduates,¹⁰ who have been trained and are qualified to handle vaccines. Brooders will deliver the 45-day-old chicks to women farmers (the project goal is to empower women) in remote areas and collect from them market-ready chickens for sale in the more lucrative distant markets. This market model already exists in Ethiopia and Tanzania, where agents – mostly men – buy chicken from farmers and take them to towns for sale. The project wants to replicate this agent model, but in a more gender-inclusive and sustainable way, as it is very male-dominated. The young women graduates will undergo a business incubation program, in which they will be trained and provided with resources such as finance to be able to start their activities. There will be community engagement in discussions to design

gender-transformative approaches that ensure – and deliberately target – inclusion of women in economic activities.

Questions that need to be addressed in the ILRI assigned project above are:

- What are the best women-led business models to expand rural women's access to relevant chicken breeds?
- Can chicken businesses support women's economic empowerment? If yes, how?
- How does economic empowerment of women affect household nutrition?



Q: How do we resolve the difficulties women face in transporting chickens purchased from different farmers and harassment by male farmers?

A (Dr. Alessandra Galie): Unfortunately, access to transport is a major constraint for women farmers, with a cascade of consequences as result. It must be tackled, and transport facilitated. Women can engage in collective action in the communities and try to find solutions to the problem. On harassment, the project will endeavor to ensure gender-transformative approaches are established to address harassment.

¹⁰Project implementers must be conversant with the legal requirements in each country (for these vendors to handle animal drugs and must involve young women meeting the requirements).

Dr. Esther Njuguna-Mungai

Senior Gender Research Scientist, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Photo: CIMMYT/Kipenz Films



(iii) Highlights of the presentation on legume case studies on challenges faced by women and youth in seed systems

Dr. Njuguna-Mungai presented two case studies on challenges faced by women and youth in seed systems. The first case study was from Ethiopia, where the project donor – the Bill & Melinda Gates Foundation – required that a minimum of 30% of project participants be women. However, women in Ethiopia could not take part in the participatory variety selections because social norms and structures did not allow them to go far away from the household. Older women in the communities were the custodians of the younger women and made sure that these norms were adhered to. Funds were withheld until the requirement of women involvement was fulfilled. Consequently, widows, elderly women and single women were the ones selected for the variety selections. With time, the women who got involved in the project increased their food production and improved their food security and nutrition. This led to a social transformation of sorts in the communities, as married men requested that their wives be involved in the chickpea breeding project since they had witnessed how it had changed the lives of the women who were initially selected.

The second case study was on youth and gender. Gender issues transect age, and most youth issues are also gender issues. Youth involvement in agriculture was investigated, and a qualitative tool designed to identify the youth, and what they were engaged in. In a focus group discussion in Tanzania, the young men said that a man can be a youth until he is 40, but a woman who is 23 ceases to be a youth. Dr. Njuguna explained that according to the young boys, a man or boy can be youth until they are 40, but a girl who is 23 can never be called a youth because by ages 16, 17, or 18, young girls already have children, automatically making them adults. But despite this socially constructed 'adult' status, they are however excluded from society, in that they cannot access

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This led to a social transformation of sorts in the communities, as married men requested that their wives be involved in the chickpea breeding project since they had witnessed how it had changed the lives of the women who were initially selected.

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land, engage in meaningful economic activities or follow their aspirations, in and addition to their child-care burden.

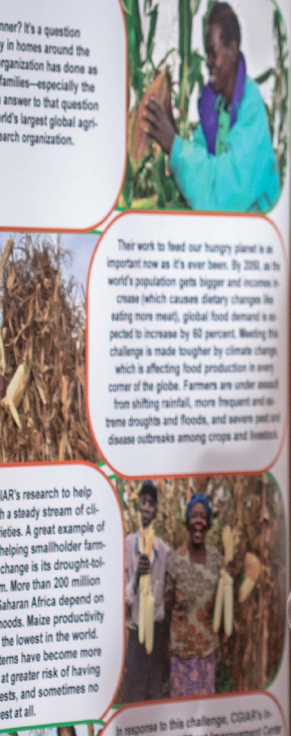
Therefore, an effective youth project must be designed from a gender perspective. The women above end up as casual workers in agriculture. Their limited access to resources and inability to access credit mean that they cannot undertake meaningful agricultural work. In order to obtain access to resources, these women sometimes must trade their dignity or get married.

In this patrilineal society, women mainly get land through their husbands. What does this mean for the economy and society? Studies on this are needed, as well as interventions that build agency and capacity for these women, because they must negotiate for land, credit, etc., at a very young age. Are our seed value chains youth-inclusive and youth-responsive?



Q: Will the seed harmonisation initiative result in better and faster access to legumes like cowpeas in Kenya?

A (Dr. Esther Njuguna): This is the anticipated result.



Ms. Ana Maria Paez-Valencia

Social Scientist, Gender,
World Agroforestry Centre
(ICRAF)

Photo: CIMMYT/Kipenz Films

“ Rural women have been the custodians and domesticators of trees, for which they require specialized knowledge of trees and forests, yet they have limited access to – or control on – land, trees, information, extension services and time ”

(iv) Women in tree seed systems

Ms. Ana Maria Paez-Valencia, Gender Specialist, World Agroforestry Centre (ICRAF), said that rural women have been the custodians and domesticators of trees, for which they require specialized knowledge of trees and forests, yet they have limited access to – or control on – land, trees, information, extension services and time: women have to fulfill the triple roles – home and childcare, farming, and community work.

Key challenges pertaining to seed systems include:

- Low monetary value of high-quality germplasm. There is a high dependence on NGO projects that provide free high-quality germplasm, which crowds out private entrepreneurs.
- Low seed replacement rate for trees and low seed requirements of smallholders further hamper development of viable tree-seed enterprises.
- National tree seed systems have problems delivering extension services. This can be solved by adapting community mechanisms for delivery of seed information.
- There are two ways to engage using community-based mechanisms:
 - i. Rural resource centers – venues found in rural areas, run by community-based organizations, where farmers can go for

training, information, multiplication of planting material, etc. These have been effective in reaching women and youth (agricultural information addressing women’s needs), and for on-time dissemination and accessibility.

- ii. Farmer-to-farmer extension – this is through the creation of farmer trainers who train other farmers. But how effective and sustainable is this approach? Women farmers tend to reach out to more fellow women farmers than they would to men farmers, leading to a significant multiplier effect in terms of the number of women farmers reached for access to seed and information.

Emerging questions:

- What is the impact of increased women’s participation in tree seed systems on women’s empowerment, and contributing to gender equality?
- How do more equal gender relations at the household and community level contribute to more effective, low-cost, sustainable, community-based germplasm production and distribution systems?

Dr. Josey Kamanda

Social Scientist,
International Center
for Tropical Agriculture
(CIAT)

Photo: CIMMYT/Kipenz Films



(v) Highlights of the presentation on increasing seed access and use, and empowering women through partnerships across bean corridors



CIAT intends to engage more women and build their capacity as bean-seed entrepreneurs by making the business case for women entrepreneurs along the bean corridors and by catalyzing and encouraging private-sector investment in women entrepreneurs.



Dr. Kamanda presented on behalf of Dr. Eileen B. Nchanji, Gender Specialist at CIAT. In Africa, CIAT mainly works on beans through the Pan-African Bean Research Alliance (PABRA). Based on the data from bean trade production and flows in Africa, PABRA has developed nine corridor maps across its three networks – the East and Central Africa Bean Research Network (ECABREN), Southern Africa Bean Research Network (SABRN), and West and Central Africa Bean Research Network (WECABREN). The corridors span 17 countries: 7 in West Africa, 3 in Southern Africa, and 7 in Eastern Africa. PABRA was established in 1996. It has 517+ partners in both the private and public sectors. The corridor approach focuses on improving the ‘bean flow’ – intensifying production, linking farmers and businesses, and mainstreaming nutrition in the value chain. Bean corridors are characterized by production, distribution, and consumption hubs.¹¹

Through PABRA, CIAT and other institutions are endeavoring to close the gender gap in access to bean seed. For instance, through the TAAT Project, CIAT is increasing access to improved seeds to communities through school gardens in Tanzania, Uganda and Zimbabwe. Bean processors in Burundi now contract bean farmers (60% women) to grow improved bean varieties with seeds from

ISABU (*Institut des Sciences Agronomique du Burundi*; Burundi’s National Agricultural Institute). Out of 63 seed enterprises (of which 33 are private, nine public and 21 farmer seed enterprises in Burundi, Kenya, Malawi, Rwanda, Tanzania Uganda, and Zimbabwe), 11 are women-owned (17.6%) and contribute about 7.5 % of 25,926.8 tons of seed production. CIAT intends to engage more women and build their capacity as bean-seed entrepreneurs by making the business case for women entrepreneurs along the bean corridors and by catalyzing and encouraging private-sector investment in women entrepreneurs. In Malawi, Ms. Grace Mijiga initiated a bean art business line. She does home and office decor with beans as well as green jewelry from bean seeds attacked by weevils. This offers additional livelihood options for women after the bean season. In addition, introducing the mobile bean thresher has created youth employment, reduced drudgery for women farmers and encouraged mono-cropping of improved bean varieties. A solar bubble drier was also given to a women’s group in Tanzania to maintain good seed quality after harvest for better prices and reduce post-harvest losses especially in face of the reality of climate change.

¹¹https://cgspace.cgiar.org/bitstream/handle/10568/80540/PABRA20_Bean_Corridors_BRIEF.pdf?sequence=5

Part 3: Panel discussion – development actors and private sector

The workshop included two panel discussions, one with development agencies, funders and NGO representatives, and another with public- and private-sector representatives. The first had panelists from the Centre for Agriculture and Bioscience International (CABI), CARE International, World Vision and Food and Agriculture Organization (FAO). The second panel comprised the Agricultural Market Development Trust (AGMARK), SeedCo-Kenya, Seed Trade Association of Kenya (STAK), Leldet Seed Company, Kenya Agricultural and Livestock Research Organization (KALRO) and Ministry of Agriculture, Livestock, Fisheries and Irrigation (MoALFI). Panelists provided a brief on the work of their organizations, making specific references to gender dynamics in terms of addressing gender equity in seed systems, and their successes and challenges in improving smallholder access to improved seeds.



From right to left: Dr. Daniel Karanja, Deputy Director, Development, Africa at CABI; Ms. Jedida Mwendwa, Policy and Advocacy, Livelihood Specialist at World Vision; Ms. Mwende Kusewa, East Africa Regional Program Advisor at CARE International and Ms. Elizabeth Kamau, Resilient Food and Livelihood Systems Sub-Program Leader at FAO-Kenya.

Photo: CIMMYT/Kipenz Films

(A) Development agencies, funders and non-governmental organizations

The Centre for Agriculture and Bioscience International (CABI) was presented by Dr. Daniel Karanja, Deputy Director, Development, Africa. According to Dr. Karanja, CABI has initiatives such as Good Seed Initiatives¹² which works with farmers in both informal and formal seed systems. In the informal seed systems, CABI works with farmer groups, and with men and women contract seed out-growers in Kenya, Tanzania and Uganda.

World Vision was presented by Ms. Jedida Mwendwa, who is a Policy, Advocacy and Livelihood Specialist. According to Ms Mwendwa, World Vision has more than 30 food-security related projects. They work

with farmers, farmer groups and other stakeholders in agricultural issues. More than 66% of the project participants are women. Accessibility of quality seeds by farmers is a priority. World Vision supports institutions to spearhead agricultural production, for the sole purpose of increasing food and nutritional security for the households and provide local savings mechanisms.

CARE International was presented by Ms. Mwende Kusewa, who is the East Africa Regional Program Advisor. CARE runs food- and nutrition-security projects, including an initiative entitled *She Feeds the World: CARE's Programmatic Framework for Food*

¹²[https://www.cabi.org/Uploads/seed%20\(1\).pdf](https://www.cabi.org/Uploads/seed%20(1).pdf)

and Nutrition Security.¹³ Focus is on increasing food production, gender equity and climate resilience. CARE has assisted in creating the farmer business schools' approach, and integrated different business aspects in its approaches to help farmers. CARE provides training and has initiated models such as the gender-transformative model in training farmers. CARE also use social-analysis models to train its staff, who later then train farmers on gender inclusivity. There is a need to work with both men and women to influence change. CARE ensures women's access to information on climate change to understand their cropping seasons better, in addition to providing them with appropriate quality seed. CARE also engages in savings, collective investments, collective marketing and credit facilitation approaches to help farmers access funds and markets.

The Food and Agriculture Organization (FAO) was represented by Ms. Elizabeth Kamau, who is a team leader of one of the FAO's sub-programs in the

Kenya office called Resilient Food and Livelihoods Systems. The program works on the following areas of agriculture: seed security, plant protection (maize lethal necrosis, potato cyst nematode and fall armyworm), and seed availability, quality and access. FAO is involved in community-based seed production for pulses, grains, legumes and green grams in both arid and semi-arid areas to ensure localized supply. FAO builds resilience by reducing vulnerability, and by direct humanitarian assistance, giving farmers free seed after drought and floods. They also have social-protection projects to improve livelihoods which include working with refugees. FAO is recognized for its role in knowledge dissemination and capacity building for farmers and small seed enterprises.¹⁴ They use farmer field approaches for extension and hold field demonstrations and seed fairs. They are committed to research for development. FAO also works on national policy formulation and legal drafting.

Q1: Are any of the organizations trying to use gender-transformative approaches? If yes, is it working? What are we learning?

A (Dr. Daniel Karanja): In Tanzania, we are working with a women's group in production of traditional vegetables. They obtain seed from open markets and buy seed from trusted people who however have a challenge accessing quality seed. In processing and in labor-savings technologies, women are the majority. CABI had an initiative where women in private seed production came together and were linked to labor-savings technology, which created and increased opportunities for women.

A (Ms. Jedida Mwendwa): Our focus at World Vision is now more towards gender equity and social inclusion. We have tools that help us investigate the extent of vulnerability, priorities, analysis on resource access, decision-making and participation, and issues around equitable systems that will help with accurately targeting particular groups with specific interventions.

Q2. How do you ensure that information on climate issues is delivered to farmers on time?

A (Ms. Mwende Kusewa): CARE International works closely with Kenya Meteorological Department to get location-specific information, then organize participatory scenario-planning workshops before every season (with Kenya Met Department Institute of Meteorological Training and Research [IMTR], traditional forecasters, agricultural officers and farmers). Thereafter, an advisory is drafted for the area on rains information and which crops suit the quantity of rains forecasted for a particular time or area. Farmers learn about the expected time, quantity of rain and what to grow.



¹³https://www.care.org/sites/default/files/documents/she_feeds_the_world_final_-_061318.pdf
¹⁴<http://www.fao.org/3/CA1490EN/ca1490en.pdf>



From right to left: Dr. Jessica Ndubi, Senior Research Scientist at KALRO; Dr. Jacinta Ngwiri, Assistant Director of Agriculture at Kenya's Ministry of Agriculture; Dr. Peter Mbogo, Senior Maize Breeder at SeedCo-Kenya; Mr. James Mutonyi, Managing Director of AGMARK and Ms. Janey Leakey, Director of Leldet Seed Company.

Photo: CIMMYT/Kipenz Films

(B) Public and private sectors

Leldet Seed Company was presented by Mrs. Janey Leakey, founder and owner of the Kenya-based seed company. “As an innovative way to get seed to farmers, we pack seed in the small *maendeleo* pack because we know that women are very risk-averse in trying out new seed types” this was noted by Mrs. Leakey. The company targets women in markets and presents the seed-pack to women. Through a food-and nutritional-security approach and sustainable management of the soil, the farmers are encouraged to grow maize and legumes on the same plot. Cowpea leaves provide additional food, beans provide much-needed protein for children and the family, maize grain sell as green maize and sorghum grain is used to make porridge.

Agricultural Market Development Trust (AGMARK) was presented by Mr. James Mutonyi who is a Managing Director of the organization. AGMARK develops the capacity of retailers, that is agro-dealers, who serve farmers by providing seed. They also work with government subsidy programs. Kenya has two subsidy programs implemented through agro-dealers. AGMARK has a research program, Innovations in Gender Equality to Promote Household Food Security, which has three components: incorporating gender issues by building agro-dealer capacity, increasing the participation of women agro-dealers, and supporting women to access inputs.¹⁵ In western Kenya, AGMARK works with 60 agro-dealers and 600 farmers. AGMARK encourages farmers to save small amounts of money at a time throughout the year on an *M-PESA* platform that is linked to agro-dealers. This enables farmers purchase inputs (seed and fertilizer) in time for the planting season.

SeedCo-Kenya was presented by Dr. Peter Mbogo, who is a Senior Maize Breeder at the company. SeedCo's biggest clients are small- and large-scale farmers, whom they serve through digital platforms, as well as through field days and demonstrations. SeedCo's main challenge is border control while importing seeds, and the requisite certificates of conformity. But biotic and abiotic challenges are also important. According to Dr. Mbogo, management should deliberately include gender in their programs. For every three internship positions SeedCo offers each year, two are purposely considered for women. He also noted that most job applicants in the agricultural sector are male, depicting a limited pool of qualified women. However, there are more women in agribusiness side than in field-based work. Strong mentorship programs are needed, especially for women, and a pool of highly qualified women that the private sector can tap into.

Seed Trade Association of Kenya (STAK) was presented by Mr. Duncan Onduu who is CEO of the organization. STAK is a membership of seed companies dealing with formal seed. STAK pays attention to gender inclusion. According to Mr. Onduu, oftentimes, women farmers are heard saying phrases like “*Nataka ile mbegu ya akina mama*”, which translates to, “I want that variety that belongs to women”. What does this statement mean? STAK works with seed companies to ensure varieties that are appealing to women farmers are brought to the company's attention. To counter fake seed, STAK together with MoALFI and the Kenya Plant Health Inspectorate Services (KEPHIS) have established a user-friendly SMS platform which uses a code

¹⁵<https://www.cnfa.org/program/kenya-agrodealer-strengthening-program/>

printed on the seed packets. A farmer uses this code to confirm whether the seed is genuine or counterfeit. The number of students attending a seed congress are gender-balanced at 50-50, as are participants at seed demonstrations.

KALRO was presented by Dr. Jessica Ndubi, who is a Senior Research Scientist at the organization. KALRO has attempted to ensure gender equality in most of their projects. For instance, all gender categories are incorporated right from project conception to implementation and monitoring and evaluation. Women have many challenges, especially on access to productive resources. These could be solved through technological innovations, using participatory variety selection and women empowerment.

MoALFI was presented by Dr. Jacinta Ngwiri who is an Assistant Director of Agriculture. The government provides adequate policy and regulatory environment for all actors in the sector. The government has developed a draft policy document on gender and is in the process of implementing the Big Four Agenda. As part of this agenda, it has identified key value chains that promote food and nutrition security. On gender,

the government has documented affirmative action including youth and women funds implemented to help individuals in these groups to access investment funds. Other seed-specific programs include:

- The Kenya seed enhancement program;
- Youth in agriculture program;
- Food and crop diversification program – provides grants to women and youth to start crop and food projects;
- Fruit trees program – targets youth since majority of nurseries are manned by the youth. Women are also good at grafting; and
- Land access – this has been made possible for women and youth, plus other factors of production.

However, there are only limited data on the number of individuals participating in – and benefitting from – these initiatives. More research is needed to develop varieties largely grown by women, e.g., cowpeas, among other crop varieties.



Q1: Packaging: How does Leldet work with seed regulators in labelling and packaging the maendeleo pack?

A (Mrs. Janey Leakey): The seed is fully certified, and one sticker can be used to show the seed details for the different seeds.

Comment 1: Private–public partnership can be one strategy to enhance information access.

Q2: Is it possible to reduce the 16% VAT on vegetable seed?

A (Dr. Jacinta Ngwiri): Taxation is for revenue and protection of local industries. For instance, imported maize attracts 50% taxation. It is important to first understand the rationale for the tax.

Comment 2: Regarding the youth and women fund, the situation on the ground is very different on beneficiaries. There is need to create more awareness.

A (Dr. Jacinta Ngwiri): It has been noted that farmers do not heed to the call to self-organize for collective action. Funds are for groups, not individuals. More information is made available to groups as opposed to individuals. This information is made available at the sub-county offices.

Part 4: Breakouts – Agricultural groups

Because not all agricultural crops and/or livestock face similar gender research gaps or demands from stakeholders, for the breakouts, participants were divided into four agricultural groups: (i) legumes; (ii) livestock, fodder and trees; (iii) vegetables, roots and tubers; and, (iv) maize and rice.

However, the four groups all tackled the following common questions as they related to their cluster: (i) What are the knowledge or research gaps in gender and seed systems, which need to be addressed? (ii) What are the main demands or needs from stakeholders in terms of investment priorities, policy and institutional focus in order to address any gender gaps in the area of seed supply, demand, production and the whole value chain in general?

The outcome of group discussions are presented below.

Table 1a: Knowledge gap across all agricultural, food and livestock groups

Issues raised	Questions raised
Seed health and safety	How do we work with KEPHIS to produce quality seed that does not increase the production cost?
	How is seed managed at household level? Who has access to this seed and what varieties? (including other farm inputs)
	How do formal and the informal seed system work? And how do gender relations work in each of the systems?
	What is the role of women groups in ensuring access to improved varieties of seeds to women and other marginalized groups?
	What are the effective approaches of making sure that women, youth and marginalized groups have access to improved varieties of seed?
Seed demand	How will quality seed demand and supply be integrated with market information systems so that quality seed is available at the time and locations it is needed by women, youth, men and other marginalized farmers?
	What is the effect of farm input subsidy and duration of the subsidy program on seed business demand?
	What will the location-specific demand assesment tell us about gender and seed acquisition?
	What is the best approach to use in order to increase the knowledge of women and men farmers about performance of improved varieties of seed?
	What is the best approach to build demand for nutritious crops?
Social norms, culture and perspectives	What are the impact pathways by which seed systems in Sub-Saharan Africa influence gender equality?
	How can a country increase the number of women entrepreneurs in the seed sector?
	How do social norms and culture in difference parts of the world enable or disable women from accessing improved varieties of seed?

Table 1b: Investment priorities across all agricultural food and livestock groups

Investment priorities	How to achieve the priorities
Extension services	Need to invest in demonstrations, field days and seed fairs that are gender-sensitive
	The need to engage media in seed promotions and provide free seed packs especially to women and marginalized farmers
	The need to equip women and marginalized farmers with good technical knowledge of farm practices and seed handling through training, exposure and mentorship
Increasing women's participation in the seed sector	Support for female researchers, i.e., provide more funding opportunities for them to do research in agriculture
	Create strong mentorship programs or opportunities for young women in agricultural sciences
	Provide financial and technical support to women who want to venture into the seed-sector business, i.e., as agro-dealers, seed-company owners
Monitoring and evaluation	Need to invest in collecting and documenting gender-disaggregated data on adoption of improved seed, women participation and involvement (quality and quantity) in the whole seed sector value chain, among other variables

Table 1c: Policy and institutions across all agricultural food and livestock groups

Policy and institutions	How to achieve policy and institutions priorities
Policy reinforcement	Ensure that national seed health and safety standards are followed and abided to
	Policies that enable women entrepreneurs in the agricultural sector to thrive need to be followed and be well implemented. If these policies are not strong, they need to be revisited and strengthened in order to create enabling conditions for women in the seed sector enterprise to thrive
	Make women and other groups of smallholder farmers aware of the policies that exist and how they might benefit from those policies
	Government institutions need to create harmonious environment in order for policies to be well-implemented and succeed. In Kenya AFA (Agriculture and Food Authority) is supposed to coordinate all government agricultural and environmental government agencies. There are tensions between national and County governments. Counties are very protective and territorial
Increase women participation in the seed sector	Have policies that encourage women to pick agricultural as a top career choice
Institution partners to facilitate research and development activities to achieve gender equity in the seed sector	Financial institutions – need to prioritize advocacy and allocate adequate budget
	Community and religious leaders – as gatekeepers of social norms
	Social scientists – behavior and community specialists
	Government partners – extension, cooperatives
	Human-centered IT expertise
	Pre-basic or foundation seed providers

Table 2: Knowledge gaps and investment priorities for legumes; livestock, fodder and trees; vegetables, roots and tubers; and maize and rice.

Agricultural crop and livestock	Knowledge gap	Investment priorities
Legumes	Strategic gender research on post-harvest losses, to be able to uncover all the gender matters as they relate to aflatoxin control, getting access to storage facilities, among others	Community-based seed production
	Nutritional sensitivity in legume value chains: which legumes should be consumed, by whom and when?	Seed production and multiplication
		Invest more in the breeding, releasing and encourage adoption efforts by the public of nutritional legumes for farming and consumption
Livestock, fodder and trees	Studies to generate knowledge on interventions and pathways to increase women's participation in agri-business, e.g., women as chicken vendors or milk traders	See Table 1b
	Beyond gender matters, breeders and technicians must come up with faster and more efficient methods of releasing new varieties of grasses and forage crops	
Vegetables, roots and tubers	More recipes and food-preparation methods for root and tuber crops, i.e., sweetpotatoes, cassava, yams, among others, in order to increase demand for these crops	See Table 1b
	Understand how to cost and set price for seed. A demand in roots and tubers will lead to a demand in 'seed'	
Maize and rice	Strategic gender research on post-harvest losses, to be able to uncover all the gender matters as they relate to aflatoxin control, getting access to storage facilities, among others	See Table 1b

Part 5: Reflection and closing

Ms. Amanda Lanzarone

Program Officer, Bill and Melinda Gates Foundation

Photo: CIMMYT/Kipenz Films



Ms. Amanda Lanzarone, Program Officer, Bill & Melinda Gates Foundation, said the Foundation has four main outcomes articulated in its Agricultural Development Strategy.¹⁶ These are increased agricultural productivity; increased income for smallholder farmers; increase women's empowerment in agriculture; and equitable consumption of safe, affordable and nutritious foods. It is widely recognized that women are vital drivers for economic and social development. Yet, they lack decision-making power in agricultural systems and in households. Women face inequitable access to information, inputs and land, which not only affects agricultural productivity but also empowerment outcomes. The workshop clearly showed that social norm changing starts with individuals before going to communities. It was an excellent, rich and insightful workshop. Workshop deliberations provided evidence on the need for continued discussions and research focused on understanding women's roles within seed systems, how these seed systems serve women – or put them at a disadvantage – and why gender should remain a focus within our work goals.

Dr. Rahma Adam, Gender and Development Specialist, CIMMYT, gave the final remarks and mapped the way forward, noting that the workshop

provided the participants with an opportunity to learn, connect, interact, engage and cultivate deep links amongst themselves.

The two main outcome of the workshop were:

1. Deepening links amongst and across CGIAR organizations, funders, NGOs, public sector, private companies, and other development actors. Presenters showcased their research, work and knowledge, and had an opportunity to share and interact on key lessons focused on gender dynamics within seed systems.
2. Launching a Gender and Seed Systems Community of Practice to raise awareness of the gender matters in seed systems and continue the dialogue on the challenges and opportunities for women's participation in seed systems amongst researchers, development practitioners and donors. The workshop was a platform for all to learn and reflect on how best to distinctly serve women, men and youth smallholder farmers within these seed systems, now and in the future.

Dr. Adam formally closed the workshop and thanked all the participants and presenters for their attendance.

¹⁶<https://www.gatesfoundation.org/what-we-do/global-growth-and-opportunity/agricultural-development>

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ANNEX 1: Workshop Participants

No.	Name	Gender	Job Title	Organization
1.	Dr. Stephen Mugo	M	Principal Scientist & CIMMYT Regional Representative for Africa	CIMMYT
2.	Dr. Rahma Adam	F	Gender and Development Specialist	CIMMYT
3.	Dr. Hugo De Groot	M	Principal Scientist & Agricultural Economist	CIMMYT
4.	Dr. Pieter Rutsaert	M	Market and Value Chain Specialist	CIMMYT
5.	Dr. Paswel Marenza	M	Senior Scientist, Economist	CIMMYT
6.	Dr. Walter Chivasa	M	Maize Commercial Seed Scaling Specialist, Africa	CIMMYT
7.	Dr. Mosisa Regasa	M	Maize Seed System Specialist	CIMMYT
8.	Dr. Michael Misiko	M	Innovation Scientist	CIMMYT
9.	Dominic Karanja	M	Project Manager	CIMMYT
10.	Jerome Bossuet	M	Communication Officer	CIMMYT
11.	Francis Mwatuni	M	Project Manager, MLN Diagnostics & Management	CIMMYT
12.	Rose Mburu	F	Programme Administrator	CIMMYT
13.	Carol Mukundi	F	Senior Programme Administrator	CIMMYT
14.	Pauline Muindi	F	Gender Research Associate	CIMMYT
15.	Harriet Mawia	F	Consultant	CIMMYT
16.	Dr. Rosina Wanyama	F	Consultant	CIMMYT
17.	Bernard Munyua	M	Research Assistant	CIMMYT
18.	Mariam Gharib	F	Research Associate	CIMMYT
19.	Julius Nyangaga	M	Facilitator	Right Track Africa
20.	Dr. Esther Njuguna-Mungai	F	Senior Scientist, Gender Research	ICRISAT
21.	Dr. Alessandra Galiè	F	Senior Social Scientist, Gender	ILRI
22.	Dr. Annet Mulema	F	Social Scientist, Gender	ILRI
22.	Dr. Jan Low	F	Principal Scientist & Co-Leader of the Sweet Potato for Profit and Health Initiative, SASHA Project Manager	CIP
23.	Ana Maria Paez-Valencia	F	Social Scientist, Gender	ICRAF
24.	Dr. Josey Kamanda	M	Social Scientist	CIAT
25.	Catherine Mungai	F	Partnerships and Policy Specialist, Gender	CCAFS/ILRI
26.	Dr. Mary Kanui	F	Postdoctoral Fellow, Gender and Youth	IRRI
27.	Dr. Céline Termote	F	Country Representative for Bioversity-Kenya	Bioversity International
28.	Eleanor Mavis	F	Communications Assistant	ICRISAT
29.	Ida Tarjem	F	PhD student	Norwegian University of Science and Technology
30.	Sabina Bwire	F	Administrative Officer	AWARD
31.	Dr. Jemimah Njuki	F	Senior Program Specialist & Gender Expert	IDRC

32.	Dr. Joe DeVries	M	President	Africa's Seed Systems Group
33.	Amanda Lanzarone	F	Program Officer	Bill & Melinda Gates Foundation
34.	Samson Okumu	M	Project Management Specialist	USAID
35.	Mildred Irungu	F	Project Management Specialist	USAID
36.	Dana Elhassan	F	Senior Gender Expert	AfDB
37.	Elizabeth Kamau	F	Resilient Food and Livelihood Systems Sub-Programme Leader	FAO
38.	Florence Munyiri	F	Social Inclusion Officer Eastern and Southern Africa	IFAD
39.	Leah Njeri	F	Gender Advisor	SNV
40.	Mwende Kusewa	F	East Africa Regional Program Advisor	CARE
41.	Dr. Daniel Karanja	M	Deputy Director, Development, Africa	CABI
42.	Bethel Terefe	F	Gender Coordinator	CABI
43.	Anne Majani	F	Programme Officer	HIVOS East Africa
44.	Jedida Mwendwa	F	Policy, Advocacy and Livelihood Specialist	World Vision Kenya
45.	Lonah Wanjama	F	Regional Technical Advisor on Gender Equality and Social Inclusion	CRS
46.	Edward Buoro	M	Gender, Youth & Social Dynamics Lead	CRS
47.	Jessica Osanya	F	Program Officer	ECI- Africa
48.	Christine Awour	F	Assistant Program Officer	ECI- Africa
49.	Sheba Akinyi	F	Programs Officer	ECI- Africa
50.	Dr. Jacinta Ngwiri	F	Assistant Director of Agriculture	MoALFI
51.	Beatrice Mwaura	F	Gender Officer	MoALFI
52.	Dr. Japheth Jamoza	M	Principal Research Scientist	KALRO
53.	Bernard Rono	M	Research Officer- Rural Sociologist	KALRO
54.	Dr. Jessica Ndubi	F	Senior Research Scientist	KALRO
55.	Dr. Dora Kilalo	F	Senior Lecturer	UON
56.	Duncan Onduu	M	Executive Officer	STAK
57.	James Mutonyi	M	Managing Director	AGMARK
58.	Catherine Gachuhi	F	Digital Analyst	Syngenta
59.	Dr. Peter Mbogo	M	Senior Maize Breeder	SeedCo-Kenya
60.	Janey Leakey	F	Founding Director	Leldet Seed
61.	Alphonse Laboso	M	Plant Breeder & Head of Research & Development	Kenya Seed Co. Ltd
62.	Peter Mutinda	M	Farmer	
63.	Doris Muia	F	Farmer	
64.	Lynette Gakii	F	Communication Officer	WoFaAK
65.	Mercy Imathiu	F	Gender Officer	KENAFF
66.	Dominic Kimani	M	Advocacy Officer	Seed Savers Network
67.	Duncan Mboyah	M	Journalist	Xinhua News
68.	Brian Okinda	M	Reporter	Daily Nation
69.	Gilbert Nakweya	M	Reporter	SciDev.Net

ANNEX 2: Workshop Agenda

AGENDA

DATE: Monday 2nd December 2019

8:00 am to 9:00 am	<p>Registration and Coffee</p> <ul style="list-style-type: none"> Ms. Carol Mukundi– CIMMYT
9:00 am to 9.30 am	<p>Welcome Participants and Overview of Workshop</p> <ul style="list-style-type: none"> Dr. Stephen Mugo– Principal Scientist & CIMMYT Regional Representative (CRR) for Africa <p>Introductions of Participants</p> <ul style="list-style-type: none"> Julius Nyangaga– Moderator & Dr. Rahma Adam– Gender and Development Specialist, CIMMYT
9.30 am to 10.30 am	<p>Keynote Speakers- Overview of Seed Systems in Africa</p> <ul style="list-style-type: none"> Dr. Jemimah Njuki– Senior Program Specialist, International Development Research Center (IDRC) Dr. Joseph DeVries– President, Seed Systems Group <p>Q&A 10 minutes- Julius Nyangaga</p>
10:30 am to 10:45 am	Coffee/Tea Break
10:45 am to 11:45 am	<p>Socio-economic Research under the Stress Tolerant Maize for Africa (STMA) project</p> <p>This session will provide insightful results of CIMMYT studies on seed systems in STMA</p> <ul style="list-style-type: none"> Dr. Rahma Adam– Gender and Development Specialist, CIMMYT Dr. Hugo DeGroot– Principal Scientist, Agricultural Economist, CIMMYT Dr. Pieter Rutsaert– Market and Value Chain Specialist, CIMMYT Dr. Paswel Marennya– Senior Scientist, Agricultural Economist, CIMMYT <p>Q&A 10 minutes- Julius Nyangaga</p>
11:45 am to 12:45 pm	<p>Panel Discussion</p> <p>Consortium of International Agricultural Research (CGIAR) Centers</p> <p>This session will present research findings and recommendations from CGIAR</p> <ul style="list-style-type: none"> Dr. Esther Njuguna Mungai– Senior Scientist, Gender Research, ICRISAT Dr. Alessandra Galie– Senior Social Scientist, Gender, ILRI Ms. Ana Maria Paez Valencia– Social Scientist- Gender, ICRAF Dr. Jan Low– Principal Scientist & co-Leader of the Sweetpotato for Profit and Health Initiative, CIP Dr. Josey Kamanda– Social Scientist, CIAT <p>Q&A 20 minutes Julius Nyangaga</p>
12:45 pm to 1:30 pm	Lunch

1:30 pm to 2.20 pm	<p>Panel Discussion</p> <p>Session 1: Development partners, donors and Non-Governmental Organizations (NGOs)</p> <p>This session consists of development partners and NGOs sharing their experiences from the field and lessons learned</p> <ul style="list-style-type: none"> • Ms. Elizabeth Kamau–Team Leader, Resilient Food Systems and Livelihoods, FAO-Kenya • Ms. Mwende Kusewa– East Africa Regional Program Advisor, CARE International • Ms. Jedida Mwendwa– Policy and Advocacy, Livelihood Specialist, World Vision • Dr. Daniel Karanja– Deputy Director, Development-Africa, CABI <p>Q&A 10 minutes Julius Nyangaga</p>
2.20 pm to 3.30 pm	<p>Session 2: Government, Public and the Private Sectors</p> <p>This session consists of speakers affiliated with the government, public and the private sectors sharing their involvement and recommendations to address gender equality matters in seed systems in sub-Saharan Africa</p> <ul style="list-style-type: none"> • Dr. Jacinta Ngwiri– Assistant Director of Agriculture, Ministry of Agriculture Livestock and Fisheries (MOA), Kenya • Mrs. Janey Leakey (Director of Leldet Seed Company, Kenya) and Dr. Peter Mbogo (Senior maize breeder, Seed Co, Kenya)– Seed Companies • Dr. Jessica Ndubi, Senior research scientist, KALRO • Mr. Duncan Onduu– CEO of Seed Trade Association of Kenya (STAK) • Mr. James Mutonyi– Managing Director of Agricultural Market Development Trust (AGMARK) <p>Q&A 10 minutes Julius Nyangaga</p>
3.30 pm to 3.45 pm	<p>Break</p>
3.45 pm to 4.30 pm	<p>Break-out Session</p> <ul style="list-style-type: none"> • Julius Nyangaga
4:30 pm to 5:00 pm	<p>Group Presentations</p> <p>*Presenting results from the break-out groups</p> <ul style="list-style-type: none"> • Julius Nyangaga
5:00 pm to 5:30 pm	<p>Donor and Development Partners Reflections, Wrap-Up and Close</p> <ul style="list-style-type: none"> • Julius Nyangaga

ANNEX 3: CIMMYT's gender and seed systems capacity building materials

Adam, R.I, Sipalla, F., Muindi, P., and Kandiwa, V. (2019). Women in the maize seed business in East and Southern Africa. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/20141>

Adam, R. I., Kandiwa, V. and Muindi, P. (2019). Gender-responsive demonstration plots and field days for the promotion and enhanced adoption of improved maize seed in Africa. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/20606>

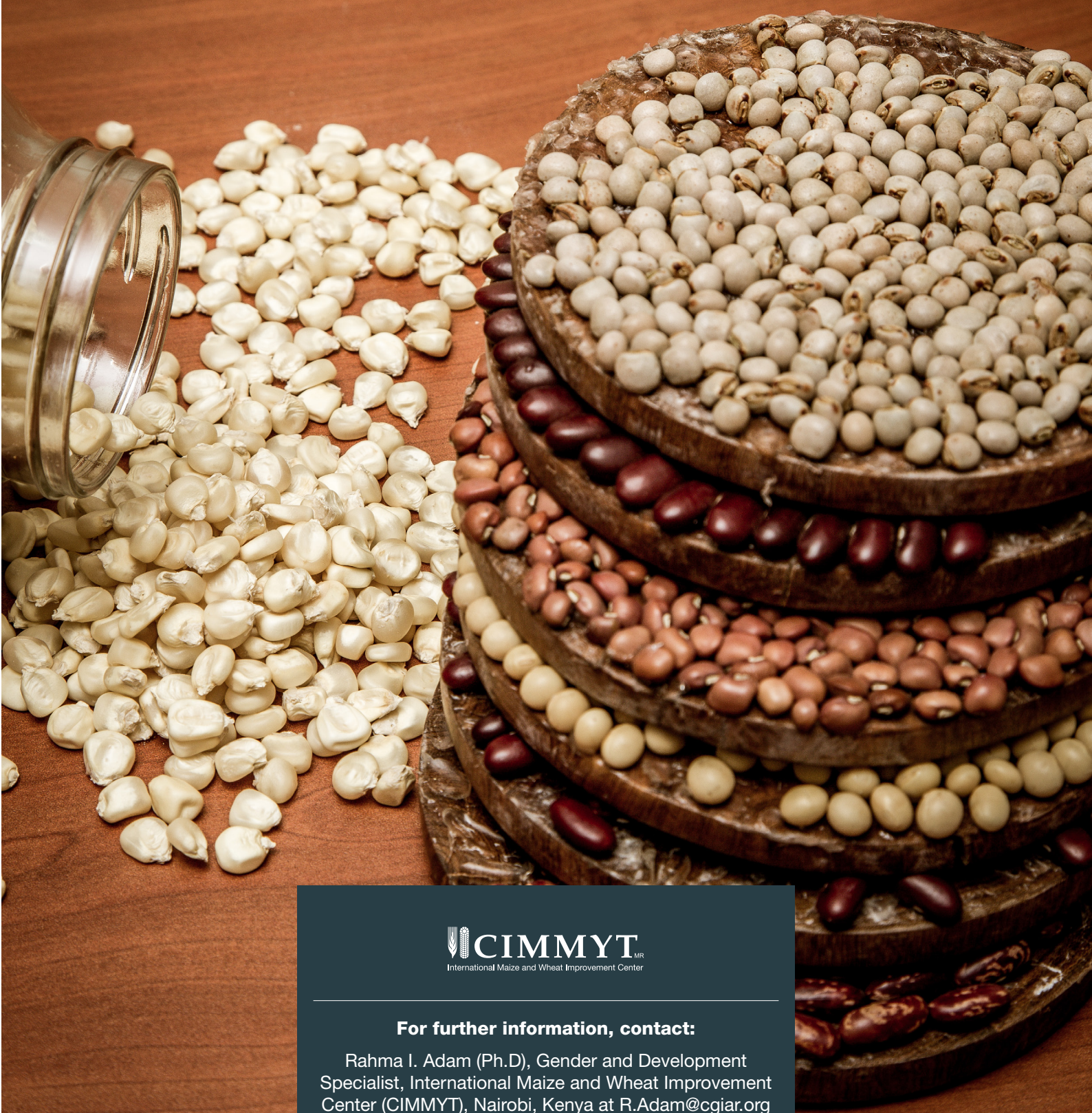
Adam, R.I, Kandiwa, V., David, S. and Muindi, P. (2019). Gender-responsive approaches for enhancing the adoption of improved maize seed in Africa: a training manual for agro-dealers. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/20139>

Adam, R.I, Kandiwa, V., David, S. and Muindi, P. (2019). Gender-responsive approaches for enhancing the adoption of improved maize seed in Africa: a training manual for seed companies. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/20138>

Adam, R.I, Kandiwa, V., David, S. and Muindi, P. (2019). Gender-responsive approaches for enhancing the adoption of improved maize seed in Africa: a training manual for breeders and technicians. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/20140>

Adam, R.I, Kandiwa, V., and Muindi, P. (2018). Gender-responsive budgeting tool to be used for the promotion of improved maize seed in Africa. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/19940>

Kandiwa, V., Adam, R., Lweya, K., Setimela, P., Badstue, L., and Muindi, P. (2018). Gender-responsive approaches for the promotion of improved maize seed in Africa. Mexico, CIMMYT. <https://repository.cimmyt.org/handle/10883/19936>



For further information, contact:

Rahma I. Adam (Ph.D), Gender and Development Specialist, International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya at R.Adam@cgiar.org