

Report on strategies for mainstreaming gender

Deliverable 1.3



Horizon 2020
European Union funding
for Research & Innovation

This project has received funding from the European's Union H2020 research and innovation programme under Grant Agreement No. 727201



Document summary		
Project Information		
Project title	Innovations in Technology, Institutional and Extension Approaches towards Sustainable Agriculture and enhanced Food and Nutrition Security in Africa	
Project Acronym	InnovAfrica	
Call Identifier	H2020-SFS-2016-2	
Grant agreement no.	727201	
Project duration	Starting date 01.06.2017	End date: 31.05.2021
Website address	www. InnovAfrica .eu	
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Report Information		
Deliverable name	Report on strategies for mainstreaming gender	
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Deliverable number	D1.3	
Work package	WP1	
WP leader	Kenya Agricultural and Livestock Research Organization (KALRO), BecA-ILRI Hub	
Task number	1.3	
Task leader	Norwegian University of Life Sciences (NMBU)	
Dissemination level	Public	
Deliverable type	Demonstrator	
Delivery date	31.07.2018	



Summary

The purpose of this study is to assess factors at household level and beyond that enhance or hinder agricultural innovations to have a positive impact on women smallholders farmers in Africa as regards to sustainable production, and food and nutrition security. The approach is based upon literature review, focus group discussions, and a questionnaire survey carried out in six countries in sub Saharan Africa including 3,814 respondents. The main finding is that in spite of decades of efforts towards promoting gender equality, there are still several factors that hinder innovations in agriculture to work for women smallholders. However, there was great variations among the six countries included in the study. In Malawi, Rwanda and South Africa women farmers appear to have a slightly stronger say than their husbands in many household level decisions making for agricultural production, income and participation in certain organizational activities. While this is not the situation in Ethiopia and Tanzania, where husbands play major roles in agriculture related resources allocation and decisions making. Women in all six countries were found with heavy workload. Reducing the gender gap in these case countries would have an important impact on increased production, productivity, income as well as improved food and nutrition security. The report recommends both specific gender equality measures to be realized at country level as well as the below general framework for measures to be implemented by different actors at national level.



General framework for measures to be implemented by different actors at national level

Individual women level	Household level	Community level – informal institutions	Formal institutions and organizations	Policy and legislation	Research and innovation: InnovAfrica
Empowerment of women	Target men in awareness as regards gender equality and workload on women	Change culture, customary law that discriminate women	Implement gender equality policy	Gender equality in policy and legislation – focus on implementation of policy	Gender equality in objectives of research and innovation activities
Women stand up for their rights	Raise awareness at household levels regarding just access to household resources and assets (recognize differences among countries)	Implement changes to ensure equal access to land and other resources by both men and women	Implement enabling environment for women smallholders (access to affordable inputs, credit, extension and training, and markets)	Create enabling environment for women smallholders (access to affordable inputs, credit, extension and training, organizations, and markets)	Implement objectives regarding women smallholders (not only paper tigers).
Intra household negotiation to improve women's influence in agriculture related decision-making (e.g. what crops and how to use income)	Just involvement of husband and wife in production and income decision-making (Rwanda, South Africa and Malawi doing OK)	Recognize that women farmers can hold leadership position in agriculture	Employ women in public extension and advisory services	Employ women in leadership positions in agriculture	Gender equality in staffing at all levels. Gender equality in targeting of smallholder farmers
Be willing to take part in village groups, organizations, extension and training activities	Encourage women HH members to take part in village groups, organizations, extension and training activities	Involve women farmers in community groups and be willing to be represented by women farmers in agricultural fora	Target women smallholders in extension and training activities, field days, farmer-to-farmer extension	Make strategies that promotes gender equality in organizations, extension and training	Gender equality in collaboration with partners such as researchers, extension officers and other service providers
Possible collective action to organize child care to free women's time for agriculture	Just workload among household members. Domestic chores should not hinder mobility of women	Change traditional gender roles to reduce the work burden on women. Run child care facilities	Implement technologies and activities that can reduce the work burden on women. Run child care facilities	Allocate resources towards labor saving technologies. Establish child care facilities	Gender equality in M & E of progress in relation to impact – pay special attention to workload of women
		Mainstream gender in customary laws (e.g. land) and do away with cultural norms that discriminate against women in agriculture	Implement gender equality in all activities not only in special programs oriented towards women in agriculture	Integrate gender equality in agricultural sector policy and not only in special women ministries	Mainstreaming gender in all work packages and not only in task 1.3 e.g. in the work on value chains (WP4)



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1 Introduction

To achieve sustainable food and nutrition security (FNS) in Africa, there is need for integrated innovation processes that are implementable, sustainable and contribute to higher productivity and income of smallholder farmers. This is indeed a big challenge due to several technological, socio-economic, institutional and policy constraints. Different kinds of innovations have the potential to improve men and women's income, and food and nutrition security but, due to a complex set of factors, such innovations might not have the expected impact. Often, researchers, policy-makers and development practitioners do not pay adequate attention to gender roles in agriculture. There might be a lack of understanding as to what degree the technologies and policies address the constraints women farmers face that hinder innovations to improve their situation. Although technological and institutional innovations may aim at improving income, and food and nutrition security for both men and women smallholder farmers, the results might be disappointing. For example, agricultural interventions that result in production increase, do not necessarily improve individual household members' nutritional status (Johnston *et al.*, 2018).

The Sustainable Development Goal 5 (UN, 2015) on gender equality and women's rights address gender, but also most of the other SDGs require gender indicators to achieve the aim of leaving no one behind. Women farmers play a very important role in agriculture and food production in Africa, and a current trend in many places in Africa is feminization of agriculture as youth and men are migrating to urban areas in search for employment (FAO, 2017). The socio-economic status of women farmers vary as women are, by no means, one homogenous group. Rural women can be poor or better off, educated or without formal education, young or old, married, divorced or single. However, in general, women farmers have poorer access to production factors such as land, labor, capital, inputs, services, and markets than men farmers (Bezner Kerr, 2008; Quisumbing *et al.*, 2014). Regarding extension and advisory services, men have more contact with extension officers than women (Quisumbing *et al.*, 2014). When analysing gender roles, there are several myths on how disfavored women farmers are in comparison to men, which are not necessarily supported by solid evidence (Doss *et al.*, 2018). For example, it is difficult to find evidence to support the myth that women own only one percent the world's land (Doss *et al.*, 2018). Access to resources, services, capital and markets as well as voice in decision-making are important elements to consider to achieve gender equality in sustainable agricultural intensification (CGIAR, 2018). It is also important to recognize that many households are headed by women. For innovations to benefit women farmers, it is important to understand linkages and interactions through the value chain and not only individual behavior and market access (Reardon *et al.*, 2017).

The needs and demands of women differ from men in the farming sector e.g. because of their reproductive role. As regards to food and nutrition security, women often have the main responsibility for making sure food is on the table and that the whole family gets a healthy diet (FAO, 2011). Agricultural technology changes might contribute towards increasing the time burden on women members of a rural household. Johnston *et al.* (2018) found that agricultural intervention often reduce women's time for feeding and cooking, however, many women cope by extending their working day or transferring tasks to other household members often younger girls. Although agricultural innovations might lead to increased production and income, there is no guarantee that more income will improve the food and nutrition security at household level. Who controls income and how decisions are made in relation to use of additional income



will be important in determining to what degree food and nutrition security will improve (Alkire *et al.*, 2013).

In this study we recognize the mixed evidence regarding to what degree agricultural interventions have a positive impact on nutrition. We also take into account different ways of ensuring that there is a positive link between agricultural innovations and nutrition. According to Ruel and Alderman (2013), the impact on nutrition could be enhanced by improving targeting; stimulating participation; strengthening nutrition goals and actions; and optimizing women's time, their physical health and empowerment. For the innovations identified in the **InnovAfrica** project to contribute to improved food and nutrition security, understanding the depth of gender equality both at household level and beyond are of crucial importance. Accordingly, the purpose of this study is to assess factors both at and beyond household levels that hinder or enhance different kinds of innovations to have a positive impact on women smallholder farmers in six countries in Africa (Kenya, Rwanda, Ethiopia, Tanzania, Malawi and South Africa) as regards to food and nutrition security.

The following objectives are addressed:

- Assess factors beyond household level including policy environment and access to information, inputs, capital and markets, that enhance or hinder positive impacts of **InnovAfrica** selected innovations on women smallholder farmers in Africa as regards to food and nutrition security.
- Assess factors at household level including access to and control over resources and decision-making that enhance or hinder positive impacts of **InnovAfrica** selected innovations on women smallholder farmers in Africa as regards to food and nutrition security.
- Discuss how to address factors that hinder positive impacts of **InnovAfrica** selected innovations on women smallholder farmers including strategies to mainstream gender.

In Table 1.1. the innovations of **InnovAfrica** are presented that will be piloted and assessed in a gender sensitive way combining different gender tools and frameworks.

Table 1.1: Innovations that will be tested and/or piloted in the six case countries

<i>Innovations</i>		<i>Ethiopia</i>	<i>Kenya</i>	<i>Malawi</i>	<i>Rwanda</i>	<i>Tanzania</i>	<i>South-Africa</i>	<i>Scale</i>
<i>Technology</i>	<i>Maize-legume CS</i>	×		•			•	Field
	<i>Diversified millet-legume CS</i>			•		×		Field, Farm, Village
	<i>Brachiaria forage-livestock system</i>		×/•		×/•	×		Field
<i>Institutions</i>	<i>Integrated seed delivery system</i>	•		×/•		×/•		National
	<i>MAPs</i>	×	×	×	×	×	×	National
<i>Extension</i>	<i>Integrated farm plan</i>	×			×		×	Farm
	<i>Village knowledge centers</i>		×			×		Village
	<i>FPR teams + F2FE</i>			•				Farm, Village

2 Approach

2.1 Study sites

Agriculture is the backbone of national economy and main means of livelihood for a large proportion of the population in Ethiopia, Kenya, Malawi, Rwanda, Tanzania and South Africa. The six case countries and the 12 pilot sites (two sites in each case country) were selected based on: i) representative agro-ecological zones (AEZs) in the respective case countries; ii) the potential they provide to promote mixed crop-livestock production system in SAI; iii) the active stakeholder networks of the consortium; and iv) the constraints and opportunities in EASs that can help in technology, extension and institutional innovations and policy outreach. The map shows where the selected sites are situated.

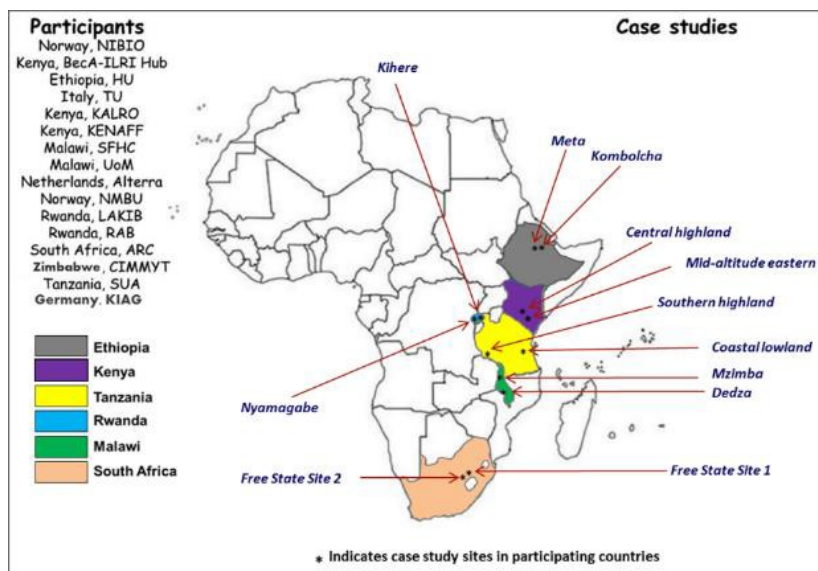


Figure 2.1: Map of study sites

Table 2.1: Summary of country case study sites descriptions

Country/ Study sites	Major farming systems and constraints	Challenges for adoption and knowledge uptake
Ethiopia <i>Kombolcha & Meta</i>	Cereal and vegetable- based mixed farming system	Weak linkages among the research, extension and farmers Use of traditional methods for extension; women not targeted
Kenya <i>Central highlands & Mid-altitude eastern region</i>	Mixed crop livestock system and the major constraints are: Erratic rainfall and frequent drought, low soil fertility, low income inadequate livestock feeds, declining per capita land, availability, high cost of fertilizer	Weak research extension linkages Limited resource available for agricultural R&D
Malawi <i>Mzimba District & Dedza District</i>	Maize-based farming system and the major constraints are: Poor market incentives, Lack of rural finance schemes	Lack of resources to upgrade EAS facilities Lack of incentives to EAS personnel
Rwanda <i>Nyamagabe & Kirehe</i>	Crop-livestock farming system Declining pasture land and forage availability	Weak linkages between various extension services and farmers
Tanzania <i>Southern highlands, Zanzibar & Coastal lowlands</i>	Maize-based farming system rice-cassava cassava-sorghum based farming system and the major constraints are: Poor quality seeds, poor governance of seed industry; certified seeds quite expensive, limited accessibility to quality seeds	Lack of conducive frame conditions for small-scale farmers to invest in agriculture Low affordability/access to inputs
South Africa <i>Free State Site 1 & 2</i>	Crop-livestock integrated farming system and the main constraints are: Land tenure arrangements, low affordability/access to resources	Low priority of government Women not targeted

2.2 Methodology

The research method for this study was based on literature review, focus group discussions and quantitative sample survey including 3814 interviews in six case countries. With these methods, data on the socio-economic status of farmers, youth and gender issues, challenges to implement innovations, agriculture value chains were collected.

The interdisciplinary questionnaire survey focusing on smallholder farmers was organized in the 12 **InnovAfrica** project sites (two sites from each case country; Figure 2.1). The questionnaire was developed with inputs from several project partners and focused on topics including the socio-economic profiles of smallholder farmers, current sustainable agriculture technologies, institutional and policy arrangements and extension approaches in practice.

Pilot testing was carried out in all the sites during October to November 2017 using paper based questionnaire and KIPUS online tool. Based on the pilot test feedback the survey questionnaire instrument was revised. KIPUS is an innovative tool that allows to collect data directly using a



tablet and subsequently synchronized. The main survey was, however, done manually, using paper questionnaires due to certain constraints. Later the data was punched into the KIPUS system and synchronized (January-March 2018). Dozens enumerators mostly young researchers and students were trained in each case country to carry out the survey. In each of the 12 sites, the respondents were selected by random sampling. Table 2.2 shows the distribution between male headed and female headed households participating in the questionnaire survey.

Table 2.2: Gender of the household head in actual numbers from the questionnaire survey.

	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	Total
Female	47	132	173	135	301	116	904
Male	568	497	480	481	303	581	2910
<i>Total</i>	<i>615</i>	<i>629</i>	<i>653</i>	<i>616</i>	<i>604</i>	<i>697</i>	<i>3814</i>

The focus group discussions were also carried out in each of the six case countries. The participants were purposely selected from different stakeholders such as men and women farmers, value chain actors, extension and advisory service providers, researchers, ministry employees and policy-makers. Each focus group consisted of 10-15 participants. When some of the actors were missing in the group, additional key informant interviews were undertaken.

2.2.1 Data analyses

The information from the *focus group discussions* were analyzed according to qualitative assessments and no generalization was made from these discussions. The data from the *quantitative questionnaire survey* were cleaned and then analyzed using descriptive statistics. The indicators presented below were used as a framework in the data analysis at household and beyond household levels.

a) *Beyond household level*

Indicators used when analyzing factors beyond household level that enhance or hinder positive impact of **InnovAfrica** innovations on women smallholder farmers as regards to food security are (based on Overholt et al. 1984; Birner et al. 2009; UN-Women 2014; Mulema 2014):

Agricultural Policy – enabling environment for women smallholders

- Availability and access to appropriate inputs (re **InnovAfrica** innovations)
- Availability and access to credit opportunities
- Availability and access to markets by women smallholders (re **InnovAfrica** innovations).
- Availability and access to transport of **InnovAfrica** innovation produce by women smallholder farmers.
- Profitability of **InnovAfrica** innovation produce from women perspective.

Extension and advisory service (EAS)

- Availability and access by women smallholder farmers to different EAS providers (public, private, NGOs, farmer organizations, farmer groups/cooperatives, agro-dealers, others).
- Mobile phone access and use for agricultural purposes.



- Women smallholder farmers' access to special EAS initiatives for women (of relevance to **InnovAfrica** innovations).

Institutions and organizations

- Availability of different organizations of relevance for **InnovAfrica** innovations and women access and membership to such organizations (production groups, farmer field schools, credit and saving groups, women groups, farmer organizations, cooperatives etc.).
- Indicators used when analyzing factors at household level (such as access to and control over resources and decision-making) that hinder or enhance **InnovAfrica** selected innovations to have a positive impact on women smallholder farmers as regards food security.

b) Household level

Indicators used when analyzing factors at household level that enhance or hinder positive impact of **InnovAfrica** innovations on women smallholder farmers as regards to food security are shown in Table 2.1. These are based upon indicators used in the Women's Empowerment in Agriculture Index (WEAI) (Alkire et al. 2013; IFPRI 2012):

Table 2.1: Factors at household level that enhance or hinder positive impact of **InnovAfrica** innovations on women smallholder farmers

Factors	Indicators
<i>Production</i>	<ul style="list-style-type: none"> • Input in production decision • Autonomy in production
<i>Resources</i>	<ul style="list-style-type: none"> • Ownership of assets (land and production tools) • Access to credit
<i>Income</i>	<ul style="list-style-type: none"> • Control and use of income
<i>Leadership</i>	<ul style="list-style-type: none"> • Group membership
<i>Time</i>	<ul style="list-style-type: none"> • Leisure • Workload

Possible measures

Measures to address factors that hinder **InnovAfrica** selected innovations to have a positive impact on women smallholder farmers including strategies to mainstream gender and how **InnovAfrica** will follow up on gender:

- Policy change, institutions and organizational change (beyond household level factors, see above)
- Household level change (empowerment of women) (see above)
- Strategies to mainstream gender and how **InnovAfrica** will follow up on gender (men and women farmers, experiments, innovations, staffing, MAPs etc.).

2.3 Country cases

The following chapters address the objectives presented in Chapter 1 for each of the six case countries, i.e. Ethiopia, Kenya, Malawi, Rwanda, South Africa and Tanzania. Each case country will discuss the following topics:



Introduction

- Gender equality in food and agriculture in the case country

Factors beyond household level

- Factors such as policy environment and access to information, inputs, capital and markets, that enhance or hinder **InnovAfrica** selected innovations to have a positive impact on women smallholder farmers in Ethiopia as regards to food security

Factors at household level

- Factors such as access to and control over resources and decision-making, that enhance or hinder **InnovAfrica** selected innovations to have a positive impact on women smallholder farmers in the case country as regards to food security

Measures addressing hindering factors

- Measures to address factors that hinder **InnovAfrica** selected innovations to have a positive impact on women smallholder farmers in the case country including strategies to mainstream gender and how **InnovAfrica** will follow up on gender



3 Ethiopia: making innovations in agriculture work for women smallholder farmers

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3.1 Introduction: Gender equality in food and agriculture

Gender equality and female empowerment are core development objectives, which are fundamental for the realization of human rights and sustainable development outcomes. Society cannot develop successfully without providing equitable opportunities, resources, and life prospects for males and females so that they can shape their own lives and contribute to their families and society (USAID, 2012).

Ethiopia is one of the low income countries with a predominantly agrarian society, having diverse mixes of ethnic and linguistic background. It has more than 80 different ethnic groups each with its own language, culture, custom and tradition. Gender inequality is prevalent though the degree differs based on different factors like culture, ethnicity, location and others. Gender division of labor in rural Ethiopia also varies in terms of farming systems, cultural settings, location, and the like (Mulatu, 2016).

About 51 percent of the total population in the country are women. More than 85% of Ethiopian women live in rural areas. They experience extreme hardships throughout their lives, doing everything from carrying heavy loads over long distances, cooking, raising children, working at home, and manually grinding grains for meals and other household chores. They have fewer opportunities for education, employment, and personal growth compared to men (Rainbow for the Future, 2018).

In many parts of Ethiopia, agricultural production is characterized by labor-intensive and low level of modern technology utilization. Hence, the household labor in general and women's labor in particular is important. Though women provide the majority of the agriculture labor in farming communities, their access to resources and community participation are usually mediated through men, particularly husbands. The contributions women make to agriculture often go largely unrecognized. Additionally, when women have access to their own income, they are more likely than men to spend it on the betterment of their families and successfully participate in village savings or pay school fees for their children (USAID, 2018).

Conditions in agriculture are especially harder for women than men. Although women represent at least half of the workforce in agriculture, they lag behind men in many aspects. Often the work women do in agriculture is not visible and valued. In addition to the load of unpaid work at home, high levels of illiteracy and lack of bargaining power create significant economic disadvantages for women compared to men. As a result, they do not reach their potential as workers, entrepreneurs or consumers (KIT *et al.*, 2012).

3.2 Factors beyond household level

Ethiopia has formulated policies and ratified major international conventions and treaties that promote gender equality. The 1993 National Policy on Ethiopian Women, the 1995 FDRE Constitution, the Revised Family Law, and the Revised Criminal Code are among the major national policies and legal frameworks promoting gender equality. Furthermore, the Ethiopian



Training and Education Policy and Higher Education Proclamation promote gender equality in education and training at all levels. With the announcement of the National Policy of Women in 1993 and the promulgation of the new Constitution in 1995, the Ethiopian Government declared its commitment to the equitable socio-economic development of women. The National Policy on Ethiopian Women aims to institutionalize the political, economic and social rights of women by creating appropriate structures in government offices and institutions so that public policies and interventions become gender responsive to ensure equitable development for all Ethiopians. Among the major regional and international instruments Ethiopia has ratified the following: The Convention for the Elimination of Discrimination against Women (CEDAW), the Beijing Platform for Action (BPA), the Millennium Development Goals (MDGs) and the Protocol to the African Charter on Human and People's Rights on the rights of Women in Africa (Maputo Protocol) (Hirut *et al.*, 2015; Helina, 2015).

In Ethiopian communities, women are expected to care for children and the elderly, collect and fetch water and firewood, cook and clean, as well as provide important agricultural labor in activities such as sowing, weeding and harvesting. Men's roles are more focused on agriculture, with ploughing, in particular, considered to be an exclusively male activity. The government understands these norms on gendered division of labor and argues that it is important to ensure secure land access to women through land registration and provide protection for women since these measures would enable female landholders without access to male labor to rent out their land for cash or sharecropping, thereby generating their own income (Lavers, 2014; 2017).

The Ministry of Agriculture (MOA) of Ethiopia has designed gender inclusive agricultural policies and established Women and Youth Affairs Directorate (WYAD) to facilitate gender mainstreaming process, and women and youth empowerment in the agriculture sector. The directorate has in turn developed guidelines for facilitating gender mainstreaming process in the sector. All departments under the Ministry of Agriculture are also supposed to take their own actions to pursue gender mainstreaming initiatives in their own operational programs. Among these is Agricultural Extension Department which is making efforts to mainstream gender in all its programs and involve women to benefit from agricultural extension services. In general, gender inclusive policy dimensions and provisions are already set in place for women to exploit the benefits from agricultural extension and beyond. But in spite of all the efforts and endeavors being made, much of it still remains to ensure women participation and utilize the services of agricultural extension. As the Tables 9.2 and 9.3 show, proportionally, more male-headed than female-headed households are being visited by extension and advisory services and male-headed households have access to a diverse group of service providers while women-headed households only have access to public extension.

Implementation of policy provisions has not ensured expected economic benefits to most rural women which contributed little to the effort of alleviating poverty. Moreover, the standard guidelines and regulations established at national levels to help promote participation of rural women in agricultural extension services has not been cascaded to lower structures, such as regional, zonal and district levels. Given decentralization and regional autonomy, it is the right of regions to structure their own women's services, in accordance to the revised and expanded mandate. As a result, the design and formation of women's affairs bureaus vary by region (Women and Youth Affairs Directorate of Ministry of Agriculture and Agricultural Transformation Agency, 2015).



3.3 Factors at household level

Women in Ethiopia spend more time than men in providing uncompensated labor both inside and outside homes, while men tend to get paid and earn more for their productive work. In both urban and rural areas, women and girls have tremendous domestic workloads and are mainly responsible for caregiving and unpaid community work. Consequently, they have less time than men to pursue education, consult media sources, or participate in leisure activities. Directly or indirectly, the limitation on women's times prevents them from being wage earners, informed decision-makers, and innovators in knowledge societies (Helina, 2015).

Ethiopian rural women often face difficulties than men in gaining access to and control over resources due to various reasons although it is culture-and time-specific. Given women's limited access to and control over resources and the various constraints that prevent them from getting benefits of the revenues they generate from their work, the majority of the people living in chronic poverty in Ethiopia are rural women (Anteneh, 2008). The tables in Chapter 9 regarding decision-making in relation to what crop to grow (Table 9.5 and 9.6), credit (Table 9.8), sale of crop produce (Table 9.9), and use of income from sale of crop produce (Table 9.10) reveal the lesser role of women in decision-making).

In the constitution and land proclamations of Ethiopia, women and men are given equal rights to land and other property, titles jointly issued to the husband and wife in a household, giving women equal rights to make decisions about land use. However, land registration in Ethiopia has had some important, positive impacts on women's land rights, gender inequality goes much deeper than just access to land. First, the agricultural system of production and the division of labor being gendered, in particular by local norms that prevent women from ploughing, favoring male agricultural labor. This means that households lacking adult male labor, including female-headed households, the elderly and disabled, earn a fraction of the income of a household with male labor, while young women have no means of accessing an agricultural income except through dependence on men (Lavers, 2014). The disadvantage experienced by rural women in Ethiopia in terms of access to and utilization of resources is varied and complex. These include gender division of labor, some cultural values working against women, limited membership in farmers associations, smaller size of the household land, gender biases of local officials, and lack of access to critical resources and services. Ethiopian women own property and assets at a lower rate than men (Helina, 2015).



Figure 3.1: Some photos taken from **InnovAfrica** study areas showing the roles of men, women, youth and children in the area.

3.4 Measures addressing hindering factors

Measures to address factors that hinder **InnovAfrica** innovations to have a positive impact on women smallholder farmers in Ethiopia as regards food security;

- Raising awareness in the society about gender to facilitate change in attitudes towards women, gender norms that constrain women's actions, access to and control of resources.
- Identifying needs of rural women, promoting improved women-friendly technologies that enhance labor productivity of women workers and reduce their work burden.
- Enhance access of women farmers in meetings, training, exposure visits and demonstrations.
- Encouraging women farmers to participate in meetings and discussions as well as facilitating joint participation of men and women from same households in training, meetings, demonstrations, etc.
- Identifying and training of active women in the communities to experiment and practice improved technologies, using their fields as demonstration plots for training of other women and to encourage participatory adoption of technologies.
- Organize field days, farmer-to-farmer trainings and site-to-site exchange visits for women and men to share experiences on agricultural intensification and impact on gender.



4 Kenya: making innovations in agriculture work for women smallholder farmers

Jessica Ndubi and Mercy Mburu

4.1 Introduction: Gender equality in food and agriculture

Agriculture is the mainstay of Kenya's economy contributing 26% of the country's gross domestic product (GDP) and another 27% GDP indirectly through linkages with other sectors such as manufacturing, distribution and the service sectors (FAO, 2018; Republic of Kenya, 2013). Although both men and women play different roles in this sector, gender equality is a farfetched cry. This is evidenced by the latest national gender gap report that revealed that it will take over two centuries to achieve gender parity because progress is backsliding, in the face of unmatched global movement for women's access to fundamental rights such as education, pay, and agricultural production resources including land and decisions making (Kenya Daily Nation March 8, 2018; World Economic Forum, 2017). Indeed Kenya was among the countries that moved backwards in gender parity, mainly due to a drop in the share of women in decision making at the household and national levels. In the 2017 Global Gender Gap Index, Kenya ranked 76th out of 144 countries with a score of 0.69, which was just above the global average of 0.68 but one point less than what it was in the previous year (World Economic Forum, 2017).

In food and the agricultural sector gender inequalities exist in all areas of the value chains, from production to marketing, processing and consumption (FAO, 2011; Oduol *et al.*, 2018). Gendered patterns of behaviour condition men's, women's, boys' and girls' roles, in decision making processes, the distribution of resources and benefits derived from income generating activities in the chain, and the efficiency and competitiveness of value chains in the market. Of the 70% of the labor force in agriculture, women make up 75% to 89% (Tologbonse *et al.*, 2013; Republic of Kenya, 2013). The majority of women are involved in on-farm agricultural activities whilst the majority of men take up off-farm both agricultural and non-agricultural related activities with the majority in the latter (Njuki, 2011). Despite such disparities in gender involvement in agriculture, it is surprising that most of the returns are accrued to men who control the commercially viable agricultural enterprises whilst most women produce for domestic consumption. This gender inequity is therefore the major factor holding back agricultural productivity, perpetuating poverty as well as food and nutritional insecurity in Kenya. In fact, if women could be provided with equal access to productive resources as men, this would result in 20-30% yield increase translating to 2.4% to 5% rise in agricultural output leading to enhanced food security (World Bank, 2012; FAO, 2011, 2018).

4.2 Factors beyond household level

4.2.1. Access to productive resources

The study shows that in both Machakos and Kirinyaga Counties, women farmers own fewer electronics (computers, TVs, radios, mobile telephones) and technical equipment (biogas, irrigation equipment, silage pit, water pump and zero grazing unit) as shown in Figure 4.1 and Figure 4.2 respectively. Women in both Counties own less than 12% of electronics except for mobile/telephones where they own 38% in Kirinyaga and 33.8% in Machakos which can be attributed to the fact that mobile technology is widespread in the country across all gender and

age categories. Children mostly own computers. For instance children own 38.7% of computers in Machakos while they own 32.4% in Kirinyaga. Children also own 19.2% and 16.3% of mobiles/telephones in Machakos and Kirinyaga Counties respectively. In fact lower access to productive inputs such as land, irrigation equipment, water pump and zero grazing unit for women is one of the root causes of the productivity gap between men and women in the farm.

These findings show that although the 2010 Kenyan constitution gives equal rights to men and women, boys and girls to own assets including land (Republic of Kenya 2010), this is just not happening. These results are further supported by a report released recently by the Kenya Land Alliance that indicated that only 10 % of land titles were issued to women between 2013 and 2017. Even more discouraging was the size of land owned by women. Of the 10.1 million hectares of land that have title deed, women owned a paltry 1.62% while men had 97.7 % (Kenya Daily Nation, March 8, 2018). Indeed this is not only unfair, but it's not good for the country because, limited control over land affects women's ability to make choices on land use and crop management practices or adopt new agricultural practices. Joint or sole ownership of assets by women has been shown to improve their bargaining power in the household, increased agricultural productivity and enhanced food and nutritional security (Njuki and Mburu, 2013). These inequalities are caused by *inter alia*, limited access to information, cultural practices that exclude female members to own assets or minimize the status of girls and women. The other precursor is fewer educational opportunities for females. Traditional norms regarding asset division which marginalize women and girls. These gender inequalities make it very difficult for women to move beyond subsistence agriculture. These findings resonate with other gender scholars (Quisumbing and Pandolfelli, 2011; Fletschner and Kenney, 2014; Njuki and Mburu, 2013).

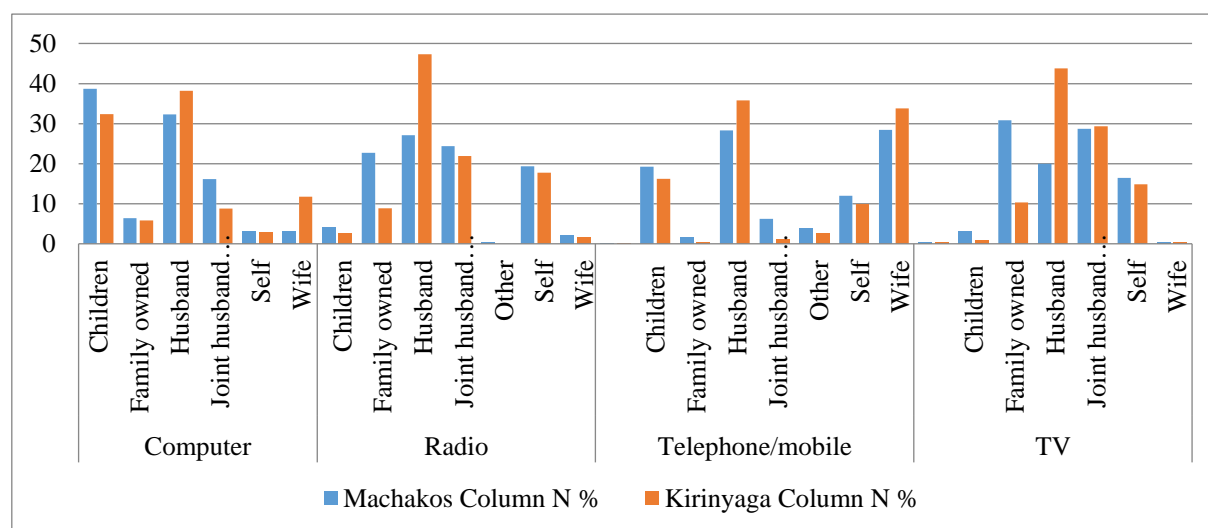


Figure 4.1: Ownership of electronic equipment

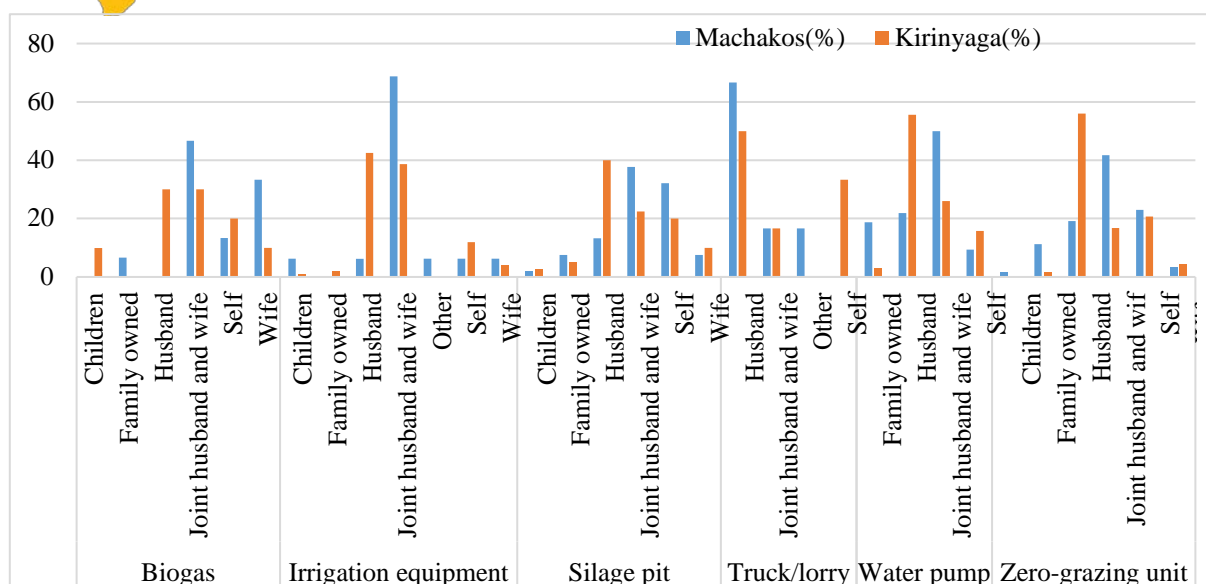


Figure 4.2: Ownership of technical equipment by gender (%)

4.2.2. Access to credit

The result shows that a bigger percentage of farmers 65.2% women and 64 % men do not have access credit while a small percentage 36% men and 34.8% women have access to credit (Table 4.1). Factors contributing to this big percentage (over 60%) of farmers not accessing credit includes: (a) lack of information on formal sources of credit, (b) high transactional costs, (c) high and fluctuating interest rates, (d) and perception of agricultural enterprises such as dairy and entrepreneurship as high risk. These factors affect both male and female actors but are exacerbated by gender disparities in asset ownership, literacy and exposure

Table 4.1: Proportion (%) of households accessing credit

	Machakos		Kirinyaga		Total sample	
	Female	Male	Female	Male	Female	Male
No	63.2	69.6	67.9	58.8	65.2	64.0
Yes	36.8	30.4	32.1	41.2	34.8	36.0

4.2.3. Access to market

A big percentage of all transport equipment in both Counties is owned and controlled by men as shown in Figure 4.3. Men own bicycles at 58.1% in Machakos and 71.3% in Kirinyaga, cars at 54.5% in Machakos and 64.9% in Kirinyaga. Ox carts at 30.4% in Machakos and 55% in Kirinyaga. This implies that women have restricted access to markets because they are unable to transport their goods as most of the transport equipment (trucks/lorries, bicycles, cars, motor bikes and ox carts) are owned by men. Another factor that might influence this scenario of women having limited access to markets is the tendency of men appropriating an enterprise once it enters the market economy, resulting in women not benefiting from market oriented production (Njuki *et al*; 2011 and Oduol *et al.*, 2018; Quisumbing and Pandolfelli, 2011). Additionally, women reproductive responsibilities can affect their access to markets. For example, women's role of household provisioning versus men's role of providing cash requirement of the household may affect women's ability to participate in markets. Other

factors restricting women in accessing markets include lack of basic knowledge of business and accountancy.

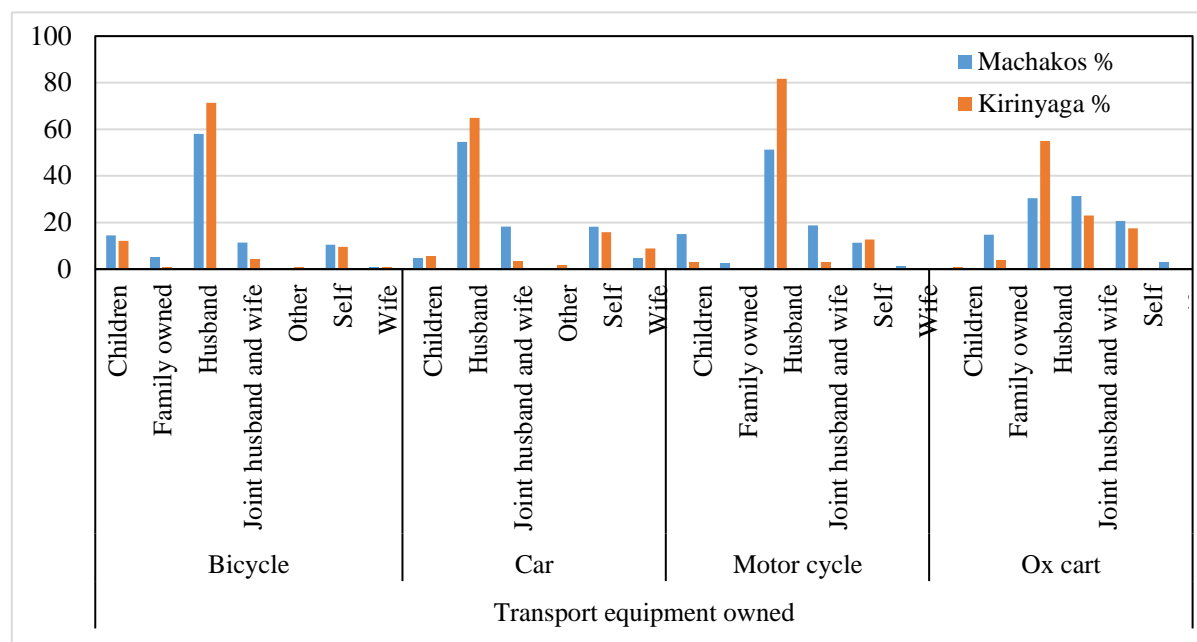


Figure 4.3: Ownership of transport equipment by gender (%)

4.2.4. Commitment and engagement in farmer organizations

Table 4.2 shows that, men are the ones who mainly participate in farmers groups/organizations at 55.3% and 66.7% in Machakos and Kirinyaga respectively while women had limited participation at 17.1% in Machakos and 12.2% in Kirinyaga. Alkire et al., (2013) and Akter et al. (2016) in their studies also found that more men than women participate in farmer organizations. This implies that many women do not have access to important services such as technology and information that are usually offered in farmer organizations. Some of the reasons that hinder women from participating in farmer organizations include: (a) limited access to assets, resources and services, required to join groups; (b) women double and triple roles means that they may not have time to participate in these organizations; (c) Some producer organizations have strict rules of entry requirements that may restrict women from joining; (d) the embedded belief that men as bread winners of households must be more market-oriented than women and since groups are crucial in accessing markets with better prices for produce as well as credit for purchase of inputs, then men stand a better chance of enhancing their marketing and commercialization ventures in organized markets with better prices and increased cash profits.

Table 4.2: Proportion (%) of household members who are in groups

	Machakos	Kirinyaga	Total sample
Children	2.6	1.3	1.8
Husband	55.3	66.7	62.2
Parents	2.0	0.8	1.3
Self	22.4	19.0	20.3
Sibling (brother/sister)	0.7	0.0	0.3
Spouse(women)	17.1	12.2	14.1
Total	100	100	100

4.3 Factors at household level in Kenya

4.3.1 Decision making on livestock production and marketing activities

The results show that in Machakos most of the decisions regarding livestock production and marketing are made jointly by men and women and in a few cases by men. Joint decisions are made by 37% on selecting livestock breed, 38.9% on what farm implements to sell or purchase, 42.1% on mode of negotiation for products, 44.6% on what agricultural inputs to purchase, 44% on buying, selling and consumption of livestock, 28.2% on use of cash from milk sales and 32.3% on borrowing of money. Men make decisions on what pasture and fodder to grow at 28.5% while decisions on when and where to sale milk and milk products are made by women at 20%. Children and family are minimally involved in decision making at only 3% and below.

In Kirinyaga, most decisions are made by husbands and in some cases jointly. Husbands make 47.6% decisions on what pasture and fodder to grow, 51% on what livestock to breed, 28.2% on use of cash from sale of milk, 48.6% on borrowing of money, 46.6% on adoption of pasture and fodder production technologies and 35.4% on what agricultural inputs to purchase. Joint decisions are made by 37% on what farm implements to sell or purchase, 37.4% on mode of negotiation for products, 41.9% on buying, selling and consumption of livestock and 35.4% on what agricultural inputs to purchase. Women make decisions on when and where to sell milk and milk products at 36 %. Only a negligible 1% and below of children and the family are involved in decision making in this County.

In both Counties, women make very minimal decisions. In Machakos, women make decisions on mode of negotiation for products at 16.5%, use of cash from milk sales at 16% and what pasture and fodder to grow at 13%. Women's decision making in the rest of activities is below 10% with the least being on use of borrowed money at 3.2% and on borrowing money at 2.5%. This trend is replicated in Kirinyaga with almost similar percentages for decisions on pasture production at 12.8%, mode of negotiation for products at 18.8%, use of cash from milk at 16.5%, adoption of pasture and fodder production technologies at 12.5% and borrowing of money at 10.2%. Their involvement in the rest of the activities is below 10%. Their least cases are in use of borrowed money at 1.6% and buying, selling and consumption of livestock at 2%.

This means that men dominate in making decisions regarding livestock production and marketing while women and children, remains muted and this is especially so in Kirinyaga County. Additionally, a higher percentage of men than women control the use of income while a higher percentage of women make decisions on a few elements such as when and where to sell milk and milk products. Women make decisions on the sale of milk and milk products because of low milk production which is usually sold at farm gate, neighbours, other farmers



and traders. Similar findings were observed by Njuki *et al.* (2011) and Waithanji *et al.* (2011). Formalization of the milk market can easily deny women the powers to control sale of milk and by-products because it is widely recognized that market oriented production can result in the capture of the benefits by men to the detriment of women thereby decreasing their decision making power in this aspect. A higher percentage of men than women also make decisions on the sale of cattle, while a higher percentage of women make decisions on the sale of chicken. A similar pattern is replicated on the use and control of resources from the sales. Thus women do not have as much power as men to liquidate livestock, are restricted in ability to engage in commercial livestock production, generate lower incomes and have limited control over the benefits of cattle

The factors that influence this phenomenon of gender inequality in decisions making regarding livestock production and marketing is embedded in culture. Kenyan traditions dictate that, in a family set up, livestock especially dairy cattle belongs to men who are regarded as heads of households. Consequently, a higher percentage of men than women also make most of the decisions pertaining to this kind of livestock such as what breed to raise and what kind of pasture and fodder to adopt. A similar pattern pertains to what kind of farm implements to purchase and sell. Thus women do not have as much power as men on what farm implement to sell and purchase. Other factors contributing to women's minimal participation in decision making include: women limited access to education, limited employment opportunities, their perceived low status to men in the household and lack of access to media.

4.3.2 Ownership of manual equipment by gender

Results show that in both Counties, a big percentage of manual equipment is owned by men followed by joint ownership. Men in Machakos own 60% of boreholes, 36.6% of animal traction, 24.6% of chuff cutters, 22.9% of wheel barrows, 26.6% of spray pumps and 25% of weighing scale. The same higher percentage is portrayed in Kirinyaga, with men owning 61% of boreholes, 60% of animal traction, 59.1% of chuff cutters, 43% of the wheelbarrows, 54.4% of spray pumps and 40.6% of weighing scales.

Joint ownership of manual equipment had lower percentages for both Counties e.g. 11.5% for borehole in Kirinyaga and 13.3% in Machakos, 31.7% for animal traction in Machakos and 28.5 % in Kirinyaga, 23.5% for chuff cutter in Kirinyaga and 36.2% in Machakos, 33.6% for wheel barrows in Machakos and 26.3% in Kirinyaga, 37.5% for spray pumps in Machakos and 22.6% in Kirinyaga, 28.6% for weighting scales in Machakos and 19.9% in Kirinyaga. There was no joint ownership of dams in Machakos while in Kirinyaga 40% of dams were jointly owned. Children and women have very limited ownership of manual equipment. Only sickles are owned by women in Machakos at 8.5%. Women's highest percentage ownership is in biogas at 33.3% in Machakos and 10% in Kirinyaga mainly due to their role in household food preparation

This implies that men are likely to have higher yields, more income, more savings and a good capital base. It also means that there is a gender skewed decision making on these equipment.

4.3.3 Gender participation in pasture/fodder production activities

In both Machakos and Kirinyaga all household members are involved in pasture production activities as shown in Figure 4.4. The level of participation in these activities differ by gender. However, men perform most of the pasture activities including: land preparation (34.9% in Machakos and 51.1% in Kirinyaga), sourcing of inputs (26.2% in Machakos and 21.4% in Kirinyaga), planting of pastures (32.7% in Machakos and 29.2% in Kirinyaga), weeding pastures (32.5% in Machakos and 37.5% in Kirinyaga), manure application (35% in Machakos and 36.2% in Kirinyaga), harvesting pastures (33.8% in Machakos and 36.1% in Kirinyaga), transporting pasture (34% in Machakos and 36.9% in Kirinyaga), feed conservation (34% in Machakos and 36.9% in Kirinyaga). These finding are in agreement with Bhanotra et al. (2015) as well as Eerdewijk and Danielsen (2015) who found dominance of men in pasture production activities such as fodder harvesting and land preparation. Other studies have shown that men perform most of the pasture/fodder production activities while women perform all the reproductive activities such as child rearing, cooking, milking, cleaning of the cowshed and feeding the cattle as part of division of labor (Njuki *et al.*, 2011; Eerdewijk and Danielsen, 2015). This differential gender participation in pasture and fodder production activities may be attributed to the fact that men own larger percentages of all types of cattle compared to women.

Women are mostly involved in land preparation (30% in Machakos and 27% in Kirinyaga). Cutting pasture and fodder (20% in Machakos and 17% in Kirinyaga), Transport of pasture and feed conservation at 31% in Machakos and 21% in Kirinyaga. Children are involved in these activities to lesser extent.

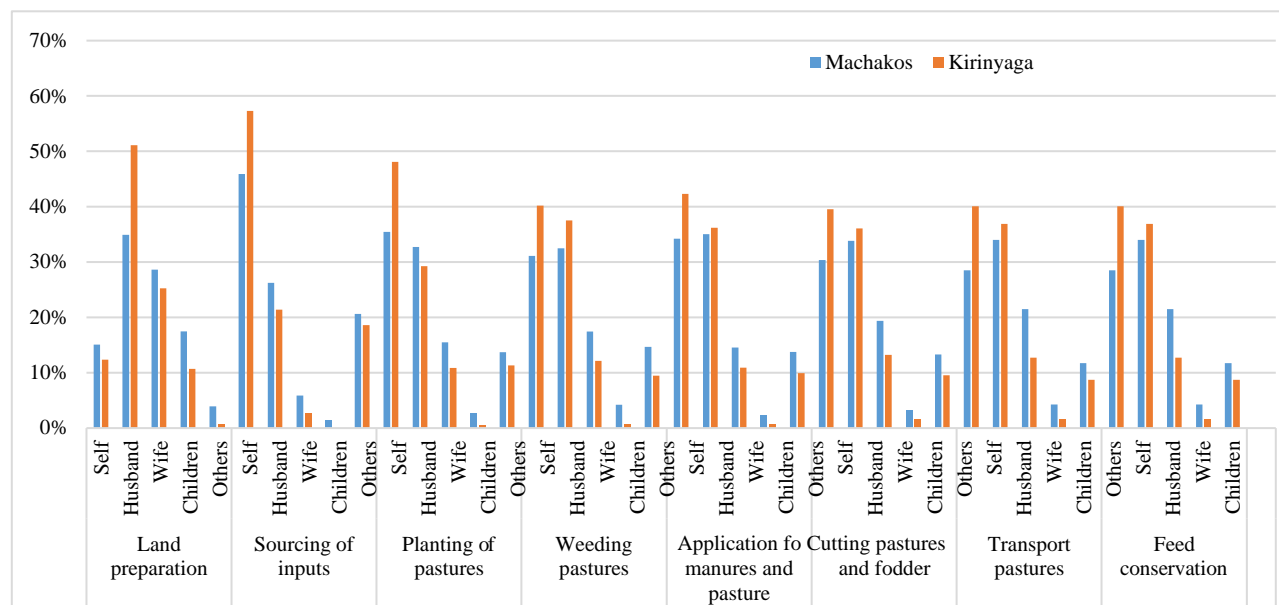


Figure 4.4: Gender participation in folder/pasture production activities (%)

4.4 Measures addressing hindering factors in Kenya

The study concludes that gender inequity in food and agriculture in Kenya is real. These inequities are evident at household, community, and institutional levels. The inequalities range from women's limited access to production assets such as land, farming tools and implements, to institutionalized norms and customary laws that restrict women from owning property as



well as placing them and their activities in low status in the community. Consequently, there is gender inequitable in access to and control of agricultural resources, opportunities and benefits at the household level. Women make decisions on agricultural ventures with low returns and those that are more focused on providing food for the household consumption.

In order to address the above issues, the study makes the following policy recommendations: (a) advocate for reform and implementation of laws in line with the country's Constitution 2010 that enhances women's property rights and equality in marriage, and specifically to have agricultural property registered in joint names of spouses, (b) implement interventions to transform gender power relations at the household level in order to: achieve gender equity in access to and control over factors of production, balance the participation of women and men in decision making, re-distribute and share workload, promote farming as a cooperative family activity blending the roles of females and males into a more equitable and productive model, (c) build women's asset base to enable them access meaningful credit from financial institutions, and (d) promote of the use of modern information and communication technology, targeting women specifically for training on the use and adoption of agricultural technology and strengthening the research-extension linkages to address the unique needs of female and male farmers.



5 Malawi: making innovations in agriculture work for women smallholder farmers

Mufunanjani Magalasi, Victoria Ndolo and Mangani Katundu

5.1 Introduction: Gender equality in food and agriculture

Malawi has a population of about 16 million people and 85% live in the rural areas. Out of the rural population 51.7% are women and 48% are men. Within the rural areas, 24% of households are female headed (FAO Malawi Country profile, 2011: viii). Almost all rural households in Malawi participate in on-farm activities, earning more than 60% of the income from on farm activities. These observations have remained constant in the decade up to 2011 (FAO, 2011). However, it is worth noting that the Malawian population survives on agriculture as a main source of income and food. Additionally, agriculture drives the Malawi economy accounting for 35-40% of the gross domestic product (GDP). Its contribution is as high as 90 % of the foreign exchange earnings, and it supports about 85 % of the population in terms of employment. In terms of land area, the nation covers 118484 km, with 55,720 km² as agricultural land, of which 38% is classified as agriculturally productive arable land. And yet a close observation on the position of women in agriculture indicates that there are major gaps in the relationship that women have had with agriculture, its products and income, whether it is in families or in single head female households (UN Women, 2015).

5.2 Factors beyond household level

The Malawi government has been urged over decades to lessen the gap of gender inequality to empower women, especially in agriculture which is a main lifeline source. From the colonial times, there have been attempts to reach women to empower them. In agricultural institutes, women were trained in homecraft including home economics, cookery and needlecraft. This was inherited by the Malawi Government after independence. In the early 1980s, a Women in Development movement started to influence policies on gender empowerment, and was adopted by the Ministry of Agriculture. Inputs and credit specially targetting women were planned. This was also the decade in which the Malawi Congress Party formed Chitukuko Cha Amai Mmalawi CCAM (Development of Women in Malawi). The organisation gave loans for small business to women. In 1985, the Nairobi UN Women Conference gave a watershed to the creation of the National Commission for Women, out of which came the Girls Attainment and Basic Education and Literacy (GABLE). By the time the Beijing Women conference was held, the Malawi movement for empowerment had gained 'sophistication'. Following this, national development strategies and plans such as the Vision 2020, and subsequent strategic plans such as Malawi Growth and Development Strategies I, II and recently III gave gender a big voice (Ngwira, N. personal communication June, 2018). In schools and development programs, women's empowerment was "mainstreamed". The Ministry of Agriculture specifically created a policy on Women and Agriculture in times of HIV and AIDS, bringing challenges women face in line with agricultural production and the benefits thereof. However, the question that still remains; is Malawi yielding anything as a nation in capacitating women in agriculture? If not, what hindrances, or enhancements, if any, are there on women smallholder farmers in Malawi, firstly at bigger society level beyond the household, and secondly within the household. We turn to look at bigger society level first as regards to policy environment, access to information, inputs, capital and markets.



At a higher policy level, land ownership issues, which have a snowballing effect on other factors, remain unresolved. Land in rural community areas is customary owned, meaning it is overseen by traditional and clan leaders. Generally, in the two **InnovAfrica** sites, households in Mzimba had significantly ($p<0.05$) larger mean land sizes than those in Dedza. In both study sites, land owned by male households was larger with 0.94 hectares in Dedza and 1.10 hectares in Mzimba compared to female headed household at 0.78 hectares in Dedza and 0.88 hectares in Mzimba. A similar trend was observed in the total sample (**InnovAfrica**, 2018).

Additionally, in Malawian society where both partilineal and matrilineal marriage systems are practiced, men control either the land, or the physical capacity for cultivation operations on the land. In patrilineal societies, for example, married women join their husbands in their communities (Kaneka *et al.*, 2017). The land therefore, belongs to the men. Women control nothing because they are ‘mtengwa’ – married immigrant. While in matrilineal societies, men join their spouses in the spouses’ villages, and the land is controlled by women. The labor capacity needed to satisfactorily cultivate the land is more in men and married couples, therefore have an advantage on production over single-women headed households. Table 5.1 (**InnovAfrica**) indicates the proportion percentages of households involving family labor in various crop activities-analysed by gender.

Table 5.1: Proportion (%) of households involving family labor in various crop activities-analysed by gender

Crop production activities	Dedza		Mzimba		Total	
	Male	Female	Male	Female	Male	Female
Land preparation	97.0	99.0	97.6	92.6	97.5	96.5
Planting	97.0	99.0	98.0	94.1	97.5	97.1
Weeding	96.2	99.0	96.7	86.8	96.5	94.2
Application of manure/fertilizer	88.5	91.4	96.7	91.2	92.7	91.3
Spraying against pest and diseases	38.7	30.5	31.0	30.9	34.8	30.6
Harvesting	97.0	95.2	96.3	91.2	96.7	93.6
Transportation of produce to market	81.3	74.3	55.9	32.4	68.3	57.8
Selling of produce	81.7	79.0	72.2	47.1	76.9	66.5

As for agricultural education, only 5% of agricultural education services are directed to women and only 15% of extension personnel are women, creating an imbalance that should be dealt with to avert gender inequalities (Paulsen, 2016). And yet “...giving small farmers access to field education and new techniques helps lessen inequalities between small and large scale farmers” (Paulsen, 2016). Additionally, because of lack of education, women are always shunned on leadership positions, giving way to men, which has an effect of continuing the inequalities status quo (Paulsen 2016).

5.3 Factors at household level

Within the household, a number of issues have arisen on women smallholder farmers. Firstly, because of marriage, the woman’s decision-making is always secondary to the husband. Traditionally, women cannot make decisions in the household concerning land, type of crops

to be planted, what to sell and what to keep (Bezner-Kerr 2005), let alone the money realised from selling the produce. This applies to both matrilineal and patrilineal societies. Women are regarded mostly as care-givers and good for household chores, which goes without monetary value, and yet a costing of it reveals high monetary value (UN Women & World Bank Group 2015).

In terms of inputs and specifically regarding access to credit, the questionnaire survey indicated that there were higher percentages for female headed households accessing credit than male headed households. Dedza had 28.5% for female and 27.25% male headed households accessing credit. Equally, in Mzimba, female headed households indicated 30.8% as compared to 28.5% for male headed households. The total Malawi sample showed that 29.5% for female headed against 27.9 male headed (Figure 5.1) having accessed credit.

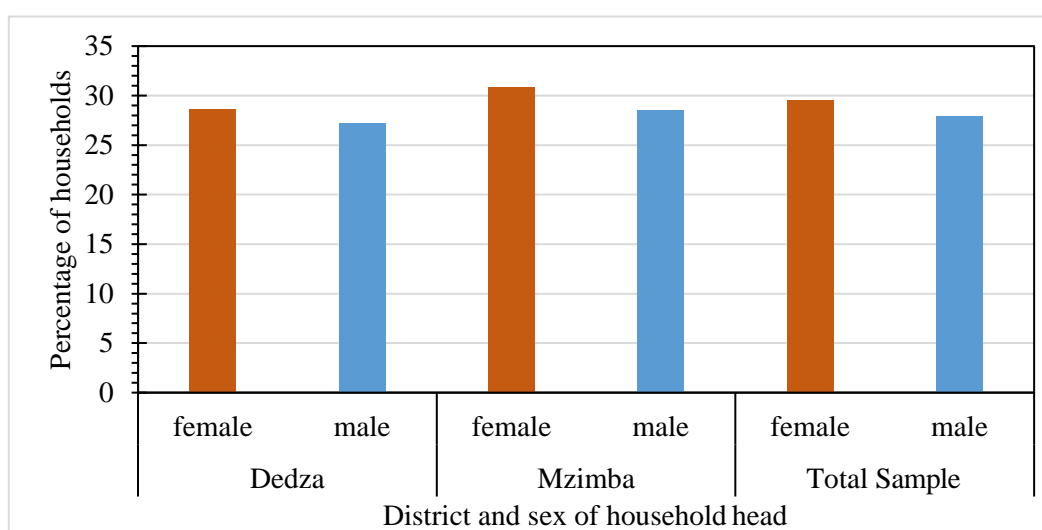


Figure 5.1: Proportion (%) of households accessing credit

The study also revealed main sources of credit as group village banking at 12.1% for females and 7.7% for males. This was followed by family and friends with 9.2% for men and 8.7% for females. Noteworthy, are low figures for commercial banks and micro-finance which demand collateral and have high interest rates.

5.3.1 Institutions, organizations and resources

The study indicated that taking part in agricultural groups or associations was low. In Mzimba 28.2% of the males and 16.2% of the females were members of agricultural groups/associations whereas in Dedza it was 26.4% of males and 31.4% of the females. In terms of positions, majority were ordinary members with a few taking leadership position. Thus, about 3.8% of the household had a chairperson of a committee while 16.8 % were ordinary members. As for ownership of resources at household level, the study showed that for critical implements, such as hoes and pangas, males led with 97.5% against 93.5% (hoes) and 71.2% versus 42.6% (pangas), just as in resources such as poultry houses and pig sty's as well at 66% versus 41.4% and 11.8 versus 5.9% respectively.



5.3.2 Income

The study showed that men earned more from both on-farm and off-farm activities than women. Interestingly, for education and health expenses, women spent more money on this than men.

One of the important issues revealed by the study was knowledge of sustainable farming practice. The results, with a breakdown of the sustainable agricultural practices including crop rotation, minimum tillage and planting in pits, amongst others, are indicated in the Table 5.2.

Table 5.2: Proportion (%) of households practicing the farming practices by gender

	Dedza		Mzimba	
	Female	Male	Female	Male
Crop rotation	33.2	38.7	32.4	75.5
Intercropping	82.9	80.9	52.9	60.8
Minimum Tillage	5.7	5.5	7.4	15.9
Mulching	6.7	7.2	16.2	17.6
Cover cropping	9.5	16.2	14.7	16.3
Planting in pits	9.5	14	10.3	11.4
Tied ridges	6.7	4.3	13.2	14.7

As is shown, males tend to dominate on knowledge of such practices as crop rotation (75.5% versus 32.4%), intercropping (60.8% versus 52.9%), and cover cropping (16.3% versus 14.7%). This is an indicator that the extension service practice needs to make deliberate attempts to target women to break the knowledge gap between men and women.

5.4 Measures addressing hindering factors in Malawi

InnovAfrica needs to take into consideration several strategies that others have suggested. The first is that women should strategically be placed in leadership positions. Deliberate policies and approaches should ensure that women take up positions. For example, in the farmer to farmer extension approach village farmer research teams insisted on having at least two women in the four member committee (Bezner-Kerr, 2005). The other is gender sensitive approaches to sustainable agriculture ensuring public procurement of products from smallholder farmers (Paulsen, 2016). The other is to create policy briefs, using the evidence gathered in the project, and other similar ones, to put pressure on government to work on land ownership reforms, in partilineal societies. Furthermore, conduct gender campaigns and programmes, which in MAFFA were referred to as *Recipe Days* in which awareness on gender equality in households was dealt with.



6 Rwanda: making innovations in agriculture work for women smallholder farmers

Mupenzi Mutimura, Jacqueline Tuyisenge and Leonidas Dusengemungu

6.1 Introduction: Gender equality in food and agriculture

In Rwanda, over 80% of population's livelihoods depend on agriculture. Despite the huge number of people involved in agricultural related activities, agriculture contributes up to 31% to gross domestic product (NISR, 2017). The majority of the population involved in agriculture are women. Existing literature shows that the agriculture sector is worked mainly by poor women (86%) with lowest levels of schooling and highest rates of illiteracy (23.3%). As a result, women remain in the subsistence agriculture. They receive low prices for their products due to lack of market information and lack of capacities to participate in agri-business. In addition, around 30% of the country's households are female-headed and most of them are very poor (NISR, 2016). The increasing number of female headed households in the rural areas makes agriculture vulnerable to any type of shock events because women neither have enough asset stocks nor financial savings. Despite this, women contribute immensely to the agriculture value chain by providing labor for planting, weeding, harvesting and processing in addition to reproductive activities and community work. They also produce and sell vegetables from home gardens or forest products and the income obtained is mainly used on meeting family food, health and education needs.

Although, a patriarchal culture, and persistent disparities continue to characterize gender relations in Rwandan population, recent studies on decision making by gender on agriculture related activities showed that decision is made by joint husband and wife by at least 66% of the population (Mutimura *et al.*, 2018). This section aims to (i) assess factors at household level and beyond, that hinder or enhance **InnovAfrica** selected innovations, to have a positive impact on women smallholders in Rwanda; and (ii) discuss measures to address these factors including strategies to mainstream gender and how **InnovAfrica** will follow up on gender.

6.2 Factors beyond household level in Rwanda

In spite of observed gender imbalances, and an overall patriarchal society system, Rwanda has established National Gender Policy. In addition, National Employment Programme, Microfinance Policy and National financial literacy education strategy are government initiatives to access to finance, particularly for women and youth (MIGEPROF, 2016). Also, different documents regarding access to information, including use of ICT in agriculture are in place (MINAGRI, 2016). To increase food security and nutrition, different policies have been elaborated including crop intensification and one cow per poor family programmes. These policies are being implemented in Rwanda to drive agricultural growth and reduce poverty. Current status of land holding in Rwanda shows that access to land is equally between men and women (NISR, 2016). In addition, inputs for agriculture production are subsidized by the government of Rwanda, regardless gender, location and wealth status of farmers. It is suggested that all of these initiatives can enhance adoption of innovations by smallholder women.

Nevertheless, there are challenges that may hinder the adoption of innovations by smallholder women farmers. For example, land shortage, market issue, cost of labor and inputs. Also, it has been shown that women have less access to information (MIGEPROF, 2016). This is because among women household heads poverty level is at 44% (NISR 2016) which is likely to affect



adoption of agricultural innovations by these women. In Chapter 9, Table 9.2 illustrates that few households, regardless of the sex of the household head, are visited by extension and advisory services (21-22 %).

6.3 Factors at household level

Equal access to, and control over resources is a precursor for the achievement of gender equality and women empowerment for sustainable agricultural intensification leading to economic growth and development (UN, 2009). In Rwanda, there are many policies and initiatives that enable women to access socio-economy rights. Traditional practices show that livestock can be accessed by both women and men. However, cattle and goats in some areas are controlled by men. Women can control small stock, like chickens, pigs and rabbits as individuals or jointly with their husbands. Recently, NISR (2016) reported that the number of women raising cattle and pigs has decreased up to 59% compared to their counterpart men. The implications of these arrangements on gender are two-fold. Firstly, women have limited decision making powers regarding agricultural products and money. Secondly, women have no physical assets build-up but they can own small stocks which are easily disposed of to meet family daily food and income requirements. The inability of women to build-up physical assets means that they are compromised when it comes to accessing loans because of lack of collateral (MIGEPROF, 2016). The Tables in Chapter 9, indicate that women smallholders in Rwanda have a rather strong voice in decision-making in relation to credit, what to grow and what to sell, and how to spend income from sale of produce (Tables 9.5, 9.6, 9.8, 9.9, 9.10 and 9.11) although mostly, decisions are made jointly by husband and wife. However, the focus group discussions revealed that women faced more constraints than men in relation to income generating activities due to heavy domestic work load and limited mobility due to domestic responsibilities.

For women headed and poor households accessing credit is limited merely by low resource endowment. While the Agriculture Guarantee Fund can be accessed by farmers with no collateral, women's access to credit is further affected by the procedures required to access the funds and if there is no credit it is hard for them to become better-off (*Awotide et al.*, 2015). In addition, women in the agriculture sector are mostly illiterate and this limits their capacity to access such opportunities. Women complain of limited skills in developing project plans, as well as farmers in general. According to AfDB (2007), the socio-economic and cultural practices that hinder women smallholders from fully benefiting from the available financial services include:

- many women still see taking credit as a risk;
- women's lack of control (decision-making power) on intra-household resources in general and on the use of loans in particular, creates greater risk for them to take loans;
- lack of collateral;
- low capacity of micro-finance institutions (MFIs) in developing flexible product design to meet women's needs; and
- women's low status in society and the cultural burden that discourages their economic ambitions.

It is also important to note that whilst the majority of men (52.3%) have better access to credit compared to women (45.6%) through informal means (UN-Women, 2013), access to credit in the farming communities is limited. Although women can access some micro-credit through



formal and informal arrangements, progress on livelihoods improvement is hampered by high interest rates and the funds accessed are too little to induce any meaningful development.

Furthermore, labor intensive and time consuming challenges may hinder innovations adoptions by women smallholders. Long working hours for girls negatively impact their long-term development because they do not have time for studies, resulting in poor performance in schools (UN-Women, 2013). It requires some awareness for men to understand the burden of women. In addition, some interventions to reduce the time that women are involved in both productive and reproductive activities are required.

6.4 Measures addressing hindering factors

There are laws and policies that promote gender equality and women's empowerment strategies in Rwanda (UNDP, 2014; MIGEPROF, 2016). These laws and policies are being, and should continue to be, enforced. Although a farmer can access agricultural inputs provided through Rwandan government subsidies, cost of these inputs is still high for poor farmers, especially women head of households. There is a need to ensure that women smallholders have opportunities to access agricultural inputs and access to markets.

Decision making is still a challenge, but there is a progress achievement in terms of gender equality. This is because, a socio-economic study conducted in Nyamagabe and Kirehe districts (which are the sites of the **InnovAfrica** project), found that at least 60% of the respondents showed that a decision on different livelihood aspects are taken jointly by wife and husband. It is expected that education among smallholder farmers, especially women will increase the adoption of sustainable agricultural innovations (SAIs).

Lack of money is the main limiting factor on use of innovations. There is a need to empower women smallholder farmers by linking them to financial institutions. Also, lack of skills was the reason for not adopting new technologies by women smallholders and poor families. From all types of households, women smallholders have limited access to trainings. Enhancing their knowledge and skills in crop and livestock production will increase adoption of SAIs. In addition, protract agricultural activities may hinder adoption of SAIs by women smallholders. Therefore, best-bet technologies that reduce time of working and high production will help women to adopt innovations. Innovations have the potential to change the gender balance. For example, when beans were planted in rows, men did the majority of the weeding (86%), the activity which traditionally was reserved to women. This is because weeding crop planted in rows is much easier (Dusengemungu, 2017). Looking at the initiatives of Rwandan Government related to empower women, also taking into account of these measures to address the factors at household level and beyond will trigger women smallholders to adopt innovations promoted by **InnovAfrica**.



7 South Africa: making innovations in agriculture work for women smallholder farmers

M.Q. Randela, S. Modiselle, and M.E. Moeletsi

7.1 Introduction: Gender equality in food and agriculture in South Africa

Since 1994, the South African government has embarked on massive reforms aimed at addressing rural poverty and inequalities resulting from the past apartheid regime (Nthai, 2007). The past regime was marked by a combination of both racism and sexism. Gender discrimination in South Africa is mostly born from ethnic traditions that perceive women as inferior and the obedience of women in Africa (Shaina, 2007). However, this scenario has changed a lot since the re-incorporation of South Africa into the international communities. In 2014, the Department of Women was established to lead, coordinate and oversee the transformation agenda on women's socioeconomic empowerment, rights and equality (Treasury, 2018). Other government departments like the Department of Rural Development and Land Reform; Department of Agriculture and department of Justice are also constitutionally mandated to address gender inequities in land access and economic development.

Historically, agriculture was under the control of men, even in situations where women did most of the work (Goody and Buckley, 1973). It has been evidenced that women play a more significant role in agriculture than men (Williams, 1994; Mutangadura, 2004; Bastidas, 1999). FAO (1999) also emphasized that women are known to be generators of food for their families and as such, they play a significant role in national agricultural production; however, they are particularly vulnerable to poverty. The degree to which women participate in agricultural work is not the same throughout the continent. It is indicated that women in South Africa, play a predominant role in agricultural work, but there are a few societies where the contribution of men equals or exceeds that of women (Thagwana, 2009).

According to Mtshali (2002), in KwaZulu-Natal South Africa, women have had to take on more responsibilities for agriculture due to social changes such as male migration and children being less available because of attending school. Thus, women are compelled to expand their role into farming out of necessity (Mtshali, 2002). The other causes of women's engagement in agricultural production are poverty and lack of jobs (Maimela, 2002).

Community Survey in 2016 showed that the number of agricultural households headed by females in South Africa decreased from 1.4 million in 2011 to 1.1 million in 2016 (Stats SA, 2017). One of the reasons for the reduction in household's participation in agriculture is the perpetual drought conditions that were experienced. The 2017 quarterly labor force survey of quarter four (October to December) showed that the total number of employment in the agriculture sector was 849 000, with women at 267 000 and men at 582 000. Women in South Africa's rural areas are arguably the mainstay of small-scale agriculture (60%). Women engage in subsistence and small-scale production primarily for food security, to save money against household budgets and as insurance against cash income failure or unemployment.



7.2 Factors at household level and beyond in South Africa

Access to land, inputs, assets, markets, information and knowledge, time, decision-making authority and income presents a major challenge for women in the agricultural sector. Other factors are child bearing and raising, poverty in women and health issues affecting women. The tables in Chapter 9 indicate that women smallholders in South Africa have a rather strong voice in decision-making in relation to credit, what crop to grow, what produce to sell, and how to spend the income from sale of produce (Tables 9.5, 9.8, 9.9 and 9.10). This result is consistent with the trend of feminization of smallholder agriculture in South Africa.

7.2.1 Access to land and women's capacity to adopt innovations

According to South African National Gender policy framework (undated) historical factors and unequal gender relations continue to hinder women's access to land and control over resources in a number of ways:

- Women's land rights are still limited and insecure. Lack of information about land rights further hinder women's ability to access land.
- What rights women hold are threatened by the negative attitudes of some service providers; by chiefs and the rules and practices of customary law; and by patriarchal households and community relations.
- The ability of women to claim land entitlements is variable and depends, to a large extent, on social status and the goodwill of male partners and relatives.
- The laws of inheritance, in which sons have tended to inherit land from their deceased fathers, sometimes leaves widows [and daughters] without rights of tenure.
- Inheritance rights are still limited by customary practices. Even when women can inherit land, they may have to forfeit control of it, usually to male relatives.
- The power and dominance of traditional systems often deny women their rights to represent themselves in land claims.
- Pilot projects under reform programmes have not always included women. Thus, women usually have less information than men on the procedures for accessing land.
- Women do not have sufficient access to agricultural resources such as land, credit technology, marketing and other information which would promote their contribution to agricultural production.
- The role of women in the agricultural sector is likely to being laborers and subsistence farmers rather than commercial farmers.
- There is not enough capacity building targeted at women to help them increase the participation in land reform programmes and projects.

7.2.2 Child raising responsibilities and household chores

Evidence shows that rural women spend a significant amount of their time on reproductive and household activities, increasing their daily hours of work (productive and reproductive, paid and unpaid) in comparison to men. Time-use surveys across a wide range of countries estimate that women provide 85–90 % of the total household time spent on childcare, water and food collection, cooking and other care activities (FAO, 2011; FAO, 2015). Additionally, child bearing and breastfeeding responsibilities take up women's time (Tanwir and Safdar, 2013). As a result, the labor burden of rural women exceeds that of men, a significant proportion of which is unpaid household responsibilities related to preparing food and collecting fuel wood and



water (FAO, 2011; FAO, 2015). This multiplicity of roles reduces women's time that would be available for participation in farming. As a result, female farmers may forfeit important agricultural activities due to time limitations (Tanwir and Safdar, 2013) and the opportunity costs of participating in such initiatives may be too high (IFAD, 2011).

7.2.3 Poverty in women

Poverty is a major problem for women in South Africa. The gendered division of labor in the household, the low value accorded to women's work with the concomitant clustering of women in low-paid jobs contributes to female poverty.

7.2.4 Women's vulnerability aspects

HIV/AIDS is a very serious problem in South Africa. It affects women disproportionately to men. The power imbalances between women and men in interpersonal relations contribute to this growing pandemic.

Violence against women remains a serious problem in South African society. The high incidence of rape cases, as well as other forms of physical and psychological abuse of women and girls, are evidence of this. It will continue to be a major challenge especially as it is compounded by its interrelation with poverty and HIV/AIDS.

Age, social status and previous experience in organizations are the other factors that can affect women's participation in agriculture (Warner *et al.*, 1997; Oxfam, 2013; Agarwal, 2001).

Women and men have different interests that can influence their willingness to participate in producer organizations (Pandolfelli *et al.*, 2007). Depending on women's preferences, they might prefer to join producer organizations that place more emphasis on food self-sufficiency, and may not be as interested in joining producer organizations focused on cash crops (IFAD, 2010).

7.2.5 Education level

Lack of education opportunities and training can negatively influence women's self-confidence, and therefore, their participation in producer organizations. This is because they may fear that their views will not be fairly considered (Ouattara *et al.*, 2010; Coleman and Mwangi, 2012).

Women in South Africa are mostly forced into small-scale and subsistence agriculture primarily because they lack the resources (financial and land) necessary to farm large pieces of land, to enter cash crop production, or to compete with established commercial farmers. Social norms and cultural discrimination also contribute to women's inferior economic status.

7.3 Measures addressing hindering factors in South Africa

According to the HSRC (2012) and Tsegay *et al.* (2014) outlines measures may be taken to address factors that hinder innovation of women in agricultural productivity:



- Take action to improve local level coordination and policy implementation to address hunger and malnutrition, including better targeting of initiatives towards people who are facing hunger.
- Prioritize decent employment and income generation for people facing hunger with targeted government work schemes that provide reliable income as well as training, alongside reviewing living wages and social grants.
- Improve rights to land and the means of production, such as water, seeds, fishing equipment, finance and skills training, for small-scale producers facing hunger.

Given that women comprise the majority of rural farmers, and equal their male counterparts in commercially oriented small-scale agriculture, the government must ensure that its agricultural support interventions acknowledge this and reach women farmers with the relevant technologies required to optimize their diverse reasons for farming.

There is a need to reconceptualize ‘technology transfer and development’ so that appropriate technologies and support are developed that are responsive to the differing scales of farming, to the gendered access to resources by women and men, and to the differing abilities of women to use technology. At present technology transfer and development is rather generic and does not consider social, cultural, economic and environmental diversity of farmers, and the impact of this on abilities to use technology.

Women experience differences in their ability to use technologies. This requires a move away from the ‘spill over large-scale industrial agricultural’ support that favours men, to a more responsive and context-specific, gender-oriented form of support that reaches more women and is tailored to their different circumstances and needs. Such support should enable those women who wish to scale up their agricultural activities to do so at a pace determined by them. Therefore, support should begin with enhancing existing practices, which may not be commercial in their orientation.

Participation of men and women in agriculture differs from place to place and for different reasons. The disaggregated statistics regarding the participation of men and women indicated that women are still disadvantaged by the system. There are however good intentions as South African government has put in place pieces of legislation (policies, mandates and government programmes) that are meant to level the playing field in terms of gender equality.

As part of mainstreaming women’s socioeconomic empowerment the Department of Women will ensure that disadvantaged women, particularly, but not limited to, those in low income segments of society, are empowered through inclusive economic development that responds to their specific needs. The Department of Planning, Monitoring and Evaluation will also monitor and evaluate Government Departments’ progress in relation to the advancement of women’s socioeconomic empowerment and gender equality.



8 Tanzania: making innovations in agriculture work for women smallholder farmers

Dismas Mwaseba, Ahmad Kyaruzi and Camilius Sanga

8.1 Introduction: Gender equality in food and agriculture in Tanzania

Gender inequality has had an influence on the development of agriculture in Tanzania. Despite its importance in contributing to the livelihood of majority of the population, the productivity and extent of intensification of agricultural production is low in small scale farming. The current productivity of major cereals in Tanzania such as maize and rice is 1.3 t/ha and 2.7 t/ha for 2016, respectively (Mtaki, 2017). Besides, there is a gender dimension to low agricultural productivity. According to UN Women (2015), the gender gap in productivity in Tanzania¹ amounts to \$105 million based on prices in 2010. This suggests the need to address gender inequality by promoting gender equality. This chapter, which draws on experience from **InnovAfrica** project sites in Tanzania, focuses on external and internal factors of the household that either facilitate or hinder women participation in agriculture.

8.2 Factors beyond household level in Tanzania

Inputs such as fertilizers and improved seeds are critical to agricultural production. In Lindi for example, use of inputs such as seeds including pasture seeds and fertilizer was limited. A study by Sheahan and Barr (2017) reported that men tend to use more agro-chemicals in Tanzania. Often times they are not widely used for various reasons; including not being available and accessible to the producers. Availability is a major problem facing farming households in remote rural areas and where transport is a major problem. But sometimes inputs are made available late during the farming season and thus if used may not be profitable. A study by Haug *et al.* (2016) found that few farmers use improved varieties due to reasons such as affordability in relation to the low profitability of farming; high risk, including fake seed in the market; and unpredictable policies and marketing opportunities.

8.2.1 Availability and access to credit opportunities for women smallholders

Credit is important for meeting production costs including purchase of agro inputs. However, access to credit is a big challenge as there are no formal financial institutions/services in the villages as has also been reported elsewhere (URT, 2005). Shayo and Martin (2009) reported that lack of access to credit was seen as an important constraint preventing further investment in agriculture, particularly among women.

This affects the use of inputs. For example, a study found that in Tanzania, seed credit usage was reported less than 1% participation (Sheahan and Barr, 2017). In Lindi the most common source of credits for farmers including the youths are the money lenders who demand payment in produce according to the local price. Bank credit is difficult to obtain. Lack of knowledge about loans and the fear of not being able to pay make most farmers avoid seeking loans. Moreover, women's lack of control over economic resources and the nature of their economic

¹ This compares with \$100 million and \$67 million per year in Malawi and Uganda, respectively implying the gender productivity gap in Tanzania is much more acute than in the two countries.



activities restrict their access to formal credit more than men's. Other factors pointed out as constraints for women in accessing credit are related to institutional requirements, cultural and social norms and to the type of reproductive activities that women are engaged. McKee (1989) observes that gender-based credit constraints, such as limited education, inferior legal status and unpaid reproductive responsibilities aggravate the problems for women when operating small businesses.

8.2.2 Availability and access to markets by women smallholders (re. InnovAfrica innovations)

Except for cashew nut, for which formal market arrangements exist, markets for other crops such as sorghum, legumes and even fish are not reliable. For example, most recently pigeon pea farmers in Lindi have suffered heavily because prices have fallen sharply to the extent that some of them have decided to leave the crop in the field as it was expensive to harvest it. In Rungwe, generally, men had more responsibilities in marketing cash crops such as coffee and tea than women. On the other hand, women are mostly involved in marketing non-cash crop such crops as banana and milk. Overall, the markets for agricultural crops are not reliable and the case in hand is milk where about only 30% of the daily produce in Rungwe get sold. This seems to be an exception as smallholder farmers typically have limited amounts of produce to sell, and what they have may be only occasional or of low value or quality. In addition, they face high transport costs, are often dependent on buyers coming to them, lack information on market prices beyond their nearest small town and typically need cash from sales immediately. This creates high levels of risk and uncertainty for smallholder producers and high transaction costs for buyers, in a situation that is typically characterized by low trust between the two sides (IFAD, 2010).

8.2.3 Availability and access to transport of InnovAfrica innovation produce by women smallholders

Access to transport has improved considerably in recent years. The study villages are all relatively accessible especially during the dry season. However, availability and access to transport is a constraint during the rainy season when roads become impassable and thus transporting for both the people and goods becomes difficult. During this period the cost of transport goes up and as such becomes inaccessible by the poor farmers. This is the reason that the farmers in Lindi felt it was important to improve the infrastructure for improved agriculture.

8.2.4 Extension and advisory service (EAS)

Discussion with men and women farmers in Lindi indicated that they were not aware of any special EAS for women. Provision of extension services is largely the responsibility of the government extension staff. However, there are other extension providers including NGOs, private companies and agro-dealers. In Lindi, for example, Aga Khan Development Network, an NGO was active. However, they indicated that advisory services are inadequate and suggested the need for training on plant disease protection, agronomic practices such as spacing, how to use pesticides, and seeding rate both in groups and at individual levels for all the common crops. They also expressed the need for training on processing. In Rungwe, the NGO involved in extension include African Dairy Genetic Gains (ADGG), East Africa Dairy Development (EADD) Heifer, ASAS Dairy and Africa Bridge but their coverage is limited.



Effectiveness of extension is limited by the fact that there are few extension staff on the ground. A study by Isaya *et al.* (2016) in Njombe found that that radio and agricultural extension workers were the primary sources of agricultural information for women farmers. Another study found that few women farmers participated in agricultural extension and training, largely because they had less access to services, memberships in associations and that they did not own land (Gwivaha, 2015). The InnovAfrica data in Chapter 9 reveal that very few woman-headed households are being visited by extension and advisory services (Tables 9.2 and 9.3).

Ownership and access to mobile phones has been increasing steadily over the years. This is the case for men and women. However, these are not used for agricultural information. As found out by Isaya *et al.* (2016) in Njombe virtually all women farmers in the study had access to a cell phone. However, they used them primarily for personal purposes, not for accessing agricultural information. This is largely because extension services whether public or private have not promoted the use of mobile phones for communicating agricultural information. Also, Sanga *et al.* (2013a) report that although communication technology is becoming increasingly accessible even in remote areas, the use of ICT in the extension service in Tanzania is very low. High cost of services, low literacy level and income among farmers and few ICT service providers in rural areas are the limiting factors (Lwoga, 2010). As such, in Tanzania despite the existing ICT potential extension services whether public or private have not promoted the use of mobile phones for communicating agricultural information.

8.2.5 Institutions and organizations

Besides the government, various organizations are involved in providing services for the farmers in Rungwe and Lindi districts. These institutions provide inputs and extension services while others provide markets for the produce from smallholder farmers including women and the youth. ASAS in Rungwe for example, provide both extension services to the dairy farmers as well as a market for their milk. In Lindi various organizations are involved in promoting agriculture development/value chains in the District. These include the Aga Khan Development Network, CARE, Department of Agriculture, Savings and Credit Cooperative Society (SACCOS), Agricultural Marketing and Cooperative Societies (AMCOS), Agro-dealers/Input suppliers, and money lenders. The Aga Khan Foundation support extension, CARE International supports small-scale processing of cashew nut at group level through provision of machinery, while the Department of Agriculture mainly provides advisory services. There are few programs targeting women and youth, for example, in Lindi the District Council supports credit arrangements for both the youth and women from the revenue that it generates. People have to organize in groups to get access to loans from this fund. However, it was reported that only few women groups/youths can be supported due to limited funds.

Also, despite the existence of various stakeholders in Lindi, it was pointed that they are not coordinated. The Department of Agriculture would like to be more involved in activities undertaken by the various stakeholders unlike now when they consider their role to be quite limited and passive at best. In general, there was a consensus that there was need for establishment of the stakeholders' forum which would, among others, deal with matters related to timely availability of agricultural inputs and delivery of extension services.



8.3 Factors at household level in Tanzania

Intra-household gender relations help explain the power relations that ultimately affect decision-making at household level. Discussions with men and women indicated joint decision-making in matters related to production. However, further discussions indicated that the matter was not as simple as it seemed. It was evident among the matrilineal Mwera in Lindi, drawing on discussions with men and women that men's authority depended on the couple establishing residence in a neutral ground away from the wife's relatives after marriage. Such arrangement reduces the influence of the relatives of the wife. However, even when the couple establish residence in a neutral location it appeared that still women had powerful influence on decision-making on household matters.

8.3.1 Resources including labor

Gender-based division of labor defines the use of labor at household level. In addition to productive roles women perform reproductive roles including cooking, cleaning, firewood collection, fetching, taking care of all family members. As found in Rungwe, traditions and societal norms defined the various roles that men and women play in society. This is alluded to in literature where it has been observed that the gender-based division of labor tends to follow along the lines of gender relations emanating from traditional practices and religious norms (CARE Tanzania, 2010).

8.3.2 Ownership of assets (land and production tools)

In Lindi women and youth can own land through inheritance or purchasing from those who own more land. Asset ownership by the youth and female members of household is increasing. Though at first it was reported that this did not create intra-household conflict, further interaction on the matter revealed increase in intra-household conflicts. In Rungwe, both women and men have access to important economic resources such as land, dairy cattle, and agricultural equipment. However, women's access is negotiated and those that are married have to get their husband's approval, whereas single women's approval is sought from their brother. As such, men have control over the household assets. But women were reported to have full control over resources with less economic values such as chicken kept under free-range system, hand hoes and households basic equipment (cooking utensils). However, few economically powerful women were reported to have control over resources. Similar findings have been reported elsewhere (see for example Leavens and Anderson, 2011). In matrilineal societies such as the Mwera in Lindi women can own land, but decision making authority rests with a male uncle (Shayo and Martin, 2009). However, despite playing an essential role in agriculture and food production, for example in Lindi it was reported that women generally hold fewer and smaller plots than men. In Rungwe both women and men have access to household assets, however, women's access is negotiated and has to be approved by men. Generally, lack of land access and customary laws that constrain women's land rights constrain empowerment of women as farmers; despite the statutory framework prohibiting discrimination, customary laws are deeply ingrained, and women often do not know their rights to land nor their ability to protect these rights through village councils and the judicial process (Leavens and Anderson, 2011).



8.3.3 Income: control and use of income

In Rungwe, men were reported as custodian of household income as they control a greater part of the income. This is despite women plying a big role in generating the income. For example, despite the fact that women take a big role in dairy cattle management including feeding, they did not benefit much from the investment as men do. This is because they are the ones who decide how to spend the income. However, women seemed to benefit more from chicken production business than men do. Although the household as a whole participates in deciding on expenditure on children education, clothing, and food items and health care, the husband takes a leading role in arriving at pertinent decisions. Men also decide on investments and on inputs for land. Similar findings have been reported by Lyimo-Macha and Mdoe (2002). They found that most women had access to the income but not control over it. Instead, they had access and control over the income earned from non-farm activities. Men's control over income impacts negatively on household welfare as they prioritize personal consumption while women puts emphasis on meeting household needs including food (Leavens and Anderson, 2011). Ultimately, men's control over income negatively affects child nutrition (Mwaseba and Kaarhus, 2015). In Chapter 9, the role of Tanzanian women smallholders in decision-making (Tables 9.5, 9.6, 9.8, 9.9, 9.10 and 9.11) are further elaborated on. The trend appears to be similar to what is reported in the literature referred to in this chapter on Tanzania.

8.3.4 Leadership and group membership

Women, like men have membership to groups that exist in their communities. They either belong to women-base groups to mixed groups of men and women. This is largely because government authorities at various levels are promoting and do promise to assist them (local people) in development initiatives through groups. This informs the motivation of the community members including women to join these groups. In large measure, the formation of these groups is externally rather than internally motivated. Some of them occupy leadership positions in these groups. Most of these groups last as long as there is financial support. Consequently, there is a tendency among group members to drop out when their expectations are not fulfilled. As such, sustainability of these groups remains a serious challenge.

8.3.5 Time: leisure and workload

Much of women's work consists of laborious and repetitive domestic tasks that are less visible, unpaid, and severely restrictive of their time and mobility to undertake productive tasks and enjoy spare time (IFAD, 2010). This is because the tasks occupy them heavily and thus their workload is much heavier than men's is. Because of heavy workload, they do not have time for leisure as men (CARE Tanzania, 2010; Leavens and Anderson, 2011). In addition, women activity profile indicated they had no time to relax as men. Women's laborious workloads are a persistent challenge to agricultural productivity, nutrition and women's empowerment throughout developing economies (IFAD, 2010).



8.4 Measures addressing hindering factors

Policy change, institutions and organizational change

Policy changes that target women need to be formulated and promoted to ensure that women have access to land and inputs through credit arrangements friendly to them. This must go hand in hand with measures that deal with entrenched cultural institutions. Education and awareness creation especially among women and men need to be pursued to overcome the influence of cultural norms.

Household level change (empowerment of women)

Intra-household gender relations define power relationship at household level. Empowerment of women need not only focus on enhancing their agency through capacity building initiatives but also ensure that institutions or structures that discriminate against women and thus enhance the status quo are overcome.

Strategies to mainstream gender and how InnovAfrica will follow up on gender

Ensure involvement of men and women in all project activities and this need to be monitored throughout the project period. Generate and disseminate knowledge on gender inequality in order to raise awareness and influence local and national levels to act to ensure just conditions for women farmers.



9 Findings and discussion

Ruth Haug

Technological and institutional innovations in agriculture offer important opportunities for improving the food and livelihood security situation for men and women small-holder farmers in Africa. However, due to many different factors, making agricultural innovations work for the benefit of women in Africa is challenging. With the increasing trend of feminization in African agriculture, it is of crucial importance to reduce the gender gap and ensure equal access to resources and opportunities by both women and men farmers.

The State of Food and Agriculture 2010-11

The State of Food and Agriculture 2010-11 highlighted the following key messages as regards women in agriculture

- Women make essential contributions to agriculture in Africa
- Women have less access than men to productive resources and opportunities
- Closing the gender gap in agriculture would generate significant gains for the agricultural sector and for society
- Policy interventions can help closing the gender gap with priority to:
 - Eliminate discrimination against women in access to agricultural resources and services such as extension and credit
 - Invest in labor saving technology
 - Improve women's access to markets

Source: FAO (2011) and Quisumbing et al. (2014)

In this section, we assess factors both at household level and beyond household level that enhance or hinder **InnovAfrica** selected innovations to have a positive impact on women smallholder farmers in Africa. Since policy and institutions are important factors, we would like to elaborate on the concept *institution*. In institutional theory, the difference between formal and informal institutions is emphasized. *Formal institutions* include the constitutional, legal and organizational frameworks for action and are perceived to be under the influence of the state (Welter and Smallbone, 2010). Governmental policy, public institutions such as ministries, and private organizations such as farmer groups, can play important roles in closing gender gaps and promoting gender equality. However, *informal institutions* could be equally important regarding succeeding in achieving gender equality. Informal institutions refer to values and norms that exist in a society (Welter and Smallbone, 2010). In this report, when we refer to institutions, we include both formal and informal institutions. Informal institutions often refer to well-established behavioral practices in society that in some situations could hinder women smallholders from benefitting from agricultural innovations, as the example from Ethiopia illustrates regarding women not being supposed to plough the land.

When assessing factors both at household level and beyond that hinder or enhance agricultural innovations to have a positive impact on women smallholder farmers in Africa, it is important to recognize that the *numbers* that are in circulation as regards women position in agriculture in relation to production and land ownership might not be all that accurate. Doss *et al.* (2018) challenge the lack of evidence behind four so-called myths that states that 70 percent of the world's poor are women, that women produce 60-80 percent of the food in the world that



women own 1-2 percent of the land, and that women are intrinsically better stewards of the environment. Doss *et al.* (2018) underline the need for better evidence to support quantitative data in order to understand the role of women as regards food security, women's land tenure, and women's control over assets. **InnovAfrica** aims at capturing changes in gender aspects without reproducing myths, but rather present new evidence based on empirical data from the six country cases.

It is also important to capture possible differences between the six countries as regards gender equality. In that regards, it is interesting to note that the six countries included in **InnovAfrica** score very differently in the *Global Gender Gap Report (2017)* regarding gender equality as the Table 9.1. on score and index show (WEF 2018). Rwanda is the fourth best in the world after Iceland, Norway and Finland, while Ethiopia has the lowest score among the six countries.

Table 9.1: Global gender gap score (WEF, 2018)

Country	Score	Index
Rwanda	4	0.822
South Africa	19	0.756
Tanzania	68	0.700
Kenya	76	0.694
Malawi	101	0.672
Ethiopia	115	0.656

9.1 Factors beyond household level that enhance or hinder InnovAfrica innovations to have a positive impact on women smallholder farmers in Africa

There are many factors beyond household level that hinder or enhance innovations to have a positive impact on smallholder farmers for example agricultural policy and access to information, inputs, capital and markets.

9.1.1 Agricultural policy – enabling environment for women smallholder farmers

Basically, the policies in the six countries promote gender equality, but the problem identified at country level is that these policies are not being implemented in an effective way. In particular, in the Ethiopian case, it is mentioned that implementation of state policy at lower administrative levels is a challenge. There is equal rights on paper, but in practice the gender gap continues to exist. In Kenya, it appears that gender equality is widening and the country has dropped thirteen places on the gender equality index developed by the World Economic Forum (WEF, 2018). Rwanda is an exceptional case as regards ability to go from policy goals to implementation e.g., as regards equal land rights. On paper, there is also equal right to land in Ethiopia, but it is difficult for women to stand up and demand their rights as the local society will react negatively towards such behavior. In South Africa in particular, women play an important role in small-scale agriculture due to male migration. But agriculture is basically of a food security activity to insure against cash income failure due to unemployment and lack of jobs and not so much an income generating activity. In Tanzania, the agriculture export policy is unpredictable as exports bans are being implemented in a rather ad hoc matter having considerable negative impact on the farm gate prices. Overall, more predictability in relation to prices and markets would enable both men and women farmers to invest time and money in innovations without having to turn down opportunities because of high risks in relation to price fluctuations and market uncertainties.



An important part of the agricultural policy is to establish frameworks for, and to ensure, availability of, and access to inputs necessary in agriculture. Timely availability of affordable inputs is a general problem in the six countries which adversely affect both men and women smallholders. However, a general trend from the data is that men have better access to inputs than women because of better access to information, credit and decision-making power in relation to how capital is being used. For the **InnovAfrica** technologies to become successful, appropriate and affordable inputs such as seed or vegetative planting material is very important e.g. in relation to maize, legumes, millet, sorghum and *Brachiaria*. In Rwanda and Malawi, inputs are broadly subsidized and both men and women smallholders benefit from the subsidies. Credit facilities are limited and women more than men are restricted by lack of collateral as regards taking up loans. In Ethiopia, family and friends as well as local money lenders are the most frequent sources of credit. In Kenya, cooperatives and village groups/banking are the two most important credit sources. Agricultural finance corporations, commercial banks, government banks or credit schemes play minor roles in the country cases. Market access is a problem for both men and women smallholders including the problem of low farm gate prices. In Kenya and Rwanda there were complaints about low milk prices that might impact on the interest in investing in *Brachiaria*. However, *Brachiaria* might increase milk production and also contribute towards more stability in milk production over seasons, which could have a positive impact on income. In general, low profitability in farming is a constraint in the search for successful innovations that will improve food and livelihood security among smallholders in Africa. How to ensure that smallholder farming is economic viable is perceived as a challenge at country level. In countries such as Malawi and Rwanda, shortage of land is adding to the problem of ensuring economic viable farm units.

9.1.2 Extension and advisory service (EAS)

Availability and access by women smallholders to different EAS providers such as public, private extension, NGOs, farmer organizations, farmer groups/cooperatives and agro-dealers, are of crucial importance as regards learning about innovations and being trained on how to put the innovation into practice. Mobile phones provide opportunities for more efficient sharing of information and knowledge on possible innovations, and access to phones appears to be quite high also among women smallholders in Africa. Public extension officers increasingly use mobile phones in their jobs. However, if they have to pay the costs themselves as in Tanzania, the motivation to utilize the potential of mobile phones is less than, for example, in Rwanda where both public workers and village leaders get mobile phones including ringing time for free as part of their jobs. In the literature, there are numerous records of women smallholders having poorer access to EAS providers than men. Table 9.2 shows percent of households visited by different providers of extension and advisory services the last 12 months by gender of household head. The table indicates that there is not a big differences in each country between male headed and female headed households as regards total visits by extension and advisory service providers during the last 12 months. However, the table indicates large differences among the countries when it comes to visits from service providers. Tanzania is scoring poorest on visits by service providers while Kenya has the highest number of visits.

Table 9.2: Percent of female headed and male headed households visited by extension and advisory service providers during the last 12 months

Service provider	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania
Female household	32%	64%	28%	21%	27%	7%
Male household	45%	79%	32%	22%	28%	14%

It is also interesting to note who the EAS providers are and how the diversity of providers are spread out between female headed and male headed households. Tables 9.3 and 9.4 show that the public extension system is the most important provider of extension for both male and female headed households in Ethiopia, Kenya, Malawi and Tanzania. The table also indicate that male headed households in some of the countries are visited by a more diverse number of service providers than female headed households. It is also interesting to note that in general the public extension service is the most important service provider except in Rwanda where the research institution is the most important and in South Africa where farmer-to-farmer extension is the most important provider of advice. Kenya is the only country where insurance companies play a substantial role as service provider. NGOs and private companies do not play important roles in any of the countries.

Table 9.3: Households visited in the last 12 months by gender of household head: Female headed households

Service provider	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	Total
Government extension	15	27	23	5	7	6	83
Cooperative society	-	14	4	1	-	-	19
Private company	-	5	4	-	1	1	11
Private practitioner	-	1	-	1	-	-	2
NGO	-	3	3	1	-	-	7
Bank	-	8	-	-	-	-	8
Research institute	-	6	2	10	4	-	22
Farmer to farmer	-	7	11	6	68	1	93
Agro-vet dealer	-	2	1	4	-	-	7
Community based organizations	-	-	1	1	-	-	2
Insurance company	-	11	-	-	-	-	11
Faith based organizations	-	-	-	-	-	-	0

Table 9.4: Households visited in the last 12 months by gender of household head: Male headed households

Service provider	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	Total
Government extension	220	127	78	26	5	63	519
Cooperative society	10	62	8	4	-	1	85
Private company	1	17	10	2	-	2	32
Private practitioner	-	12	2	-	-	1	15
NGO	15	14	23	9	1	3	65
Bank	-	36	1	1	-	1	39
Research institute	4	50	7	33	4	8	106
Farmer to farmer	2	25	29	19	75	2	152
Agro-vet dealer	1	3	2	10	-	3	19
Community based organizations	-	4	2	-	-	-	6
Insurance company	-	41	2	-	-	-	43
Faith based organizations	-	1	1	-	-	-	2

9.1.3 Membership in organizations

Availability of different organizations of relevance for **InnovAfrica** innovations and women access to and membership in organizations such as production groups, farmer field schools, credit and saving groups, women groups, farmer organizations, and cooperatives are important for learning about and sharing experience in relation to making innovations work for women smallholders farmer as well as in relation to access to credits and markets. Table 9.5 shows households with at least one household member in an agricultural association. What can be noted from the table is that number of households with at least one household member participating in a group is relatively low except for Kenya where more than half of the households have at least on household member being member of a group. In South Africa, basically none of the households had any household member as member of a group.

Table 9.5: Number of households with at least one household member in agricultural association

	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania
Female	14	112	95	85	-	49
Male	61	248	79	152	3	113
Other	3	13	2	7	1	5
Total	75	355	173	218	4	153
Total house hold surveyed	615	629	653	616	604	697



9.2 Factors at household level that enhance or hinder InnovAfrica innovations to have a positive impact on women smallholders in Africa.

In order to assess factors at household level that hinder or enhance innovations to have a positive impact on women smallholders, we use indicators in relation to production, ownership of assets, control and use of income, leadership and time/workload.

9.2.1 Production

Decisions in relation to purchase and use of inputs, what crops and variety to grow and what livestock and fodder to invest in and keep, are important for women smallholders' influence and autonomy in production. Such decisions might as well have an important impact on the food and nutrition security of the household. In addition to possible weaker voice regarding production related decision-making, women might also face constraints in relation to traditional norms for example, in Ethiopia, women are not supposed to plough and are therefore dependent upon men for ploughing. In Rwanda, in some areas, cattle and goats are controlled by men. In South Africa women are more often met by negative attitudes from local chiefs and discriminated against in customary law.

Table 9.6 provides some interesting results as regards the role of wives in decision-making. The table indicates that wives play a more important role in decision-making regarding what crop variety to grow than husbands in Kenya, Malawi, Rwanda and South Africa. Although it should be underlined that joint decision-making is reported as most common overall with the exception of Kenya and South Africa.

Table 9.6: Decision on what crop variety to grow in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	31	32	16	6	26	33	24
Wife	6	35	25	15	43	14	23
Joint H&W	53	29	54	68	15	47	45
Family	9	4	5	10	16	5	8
Not appl.	1	0	0	0	0	0	0
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

Since one of the innovations included in **InnovAfrica** is the fodder grass *Brachiaria*, it is also of interest to look at who makes decisions on what pasture fodder to grow. Since many of the households do not keep cattle or grow fodder, this question is not applicable for about half of the respondents. With those households where this question is relevant, we can see the same pattern of joint decision-making. However, in Ethiopia, Kenya, and Tanzania, husbands play a more important role than wives in decision-making (Table 9.7).

Table 9.7: Decision on what pasture fodder to grow in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	12	41	0	12	9	15	15
Wife	1	29	0	13	10	6	10
Joint H&W	19	19	1	52	5	24	20
Family	4	3	0	8	4	2	4
Not appl.	64	7	98	16	71	52	51
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

For **InnovAfrica**, it is important to work with both men and women since joint decision making is often what is practiced. It is also important to recognize that wives in particular in Malawi, Rwanda and South Africa appear to have more decision-making power regarding production than what we might have expected based on existing theory.

9.2.2 Resources

Access to and control over resource and assets are important regarding women smallholders ability to benefit from innovations. The findings of this study indicate that men own more of the household resources and assets than women and that women tend to control resources and assets of less value. Land is an important resource in agriculture. As table 9.8 indicates, land is often defined as joint ownership husband and wife. When land is defined as belonging to both husband and wife, it is a question who decides on the income that is generated from that land – to what degree decisions on use of income are also decided jointly. It is interesting to note in the table that in Malawi, Rwanda and South Africa, wives are recorded at a higher number than husbands regarding number of households with at least one land parcel owned by husband, wife, joint and other household members. As for decisions related to production, women might be better off as regards access to land than what we might have expected based on the literature.

Table 9.8: Number of households with at least one land parcel owned by husband, wife, joint and others in actual numbers

	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	Total
Husband	146	396	179	88	167	326	1302
Joint husband and wife	317	34	114	253	95	221	1034
Wife	23	93	317	101	258	118	910
Others	160	155	137	238	86	104	880

The findings in this study as regards land, was that in Ethiopia, men and women have equal access to land according to national law, but not in practice as women are prevented from claiming this right. In Kenya, women own only 1.6 percent of titled land (Chapter 4). In Malawi, land is mostly customary and perceived as belonging to the men (in particular in patrilineal communities) although women might still have access to the land. From South Africa, it is reported that access to land by women is dependent upon the good will of men and that it is the sons that inherit land. For **InnovAfrica** to reach women smallholders with innovations, it is



important to be aware of the situation regarding women's access to land. If there is shortage of land, it is important that available land is used in an effective way and that **InnovAfrica** innovations do not compete with other important women crops such as e.g. vegetable production of importance for the household food and nutrition security. However, at least in three of the countries, women smallholders appear to have somewhat better access to land than expected.

Access to credit and decision-making power on how to spend borrowed money are important for women smallholders as regards successful innovations e.g. in relation to purchase of inputs such as seed. Lack of access to credit is a general problem in all six countries. For women, collateral is more of a problem than for men due to lack of title deeds. Table 9.9 shows who makes decisions regarding borrowing of money. Since credit is often not available, the question is not that applicable for many of the smallholder farmers. Often, the decision to borrow money is made jointly by husband and wife. In three of the countries (Malawi, Rwanda and South Africa) more wives than husbands make decisions about borrowing money.

Table 9.9: Decision regarding borrowing of money in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	7	9	14	4	14	26	13
Wife	5	8	23	11	34	12	15
Joint H&W	40	21	49	48	19	42	37
Family	6	2	4	7	14	4	6
Not appl.	44	61	10	30	19	16	29
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

For **InnovAfrica** innovations to become successful, it is important to recognize that smallholders have limited access to credit and thereby limited ability to require inputs when inputs are needed such as seed (re maize, sorghum, millet, legumes, *Brachiaria*).

9.2.3 Income

How income from agricultural production is being used is important for the household's food and nutrition security e.g., as regards sale or consumption of food. One finding in this study is that men control more of the income from agriculture than women. In Tanzania, men also control income that women generate and tend to prioritize personal consumption over the family welfare. According to table 9.10, the general trend is that decisions regarding quantity of output to sell and consume are made jointly by husband and wife. However, in Kenya, Malawi, Rwanda and South Africa, more wives than husbands make such decisions. This finding shows the same pattern as in the previous sections as regards the differences among the six countries.

Table 9.10: Decision on quantity of output to sell and consume in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	16	14	13	4	17	32	16
Wife	7	29	25	13	29	14	19
Joint H&W	63	50	55	67	12	48	49
Family	8	4	5	10	10	5	7
Not appl.	6	2	2	8	33	1	8
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

Regarding decisions on use of income from crops, most decisions are made jointly, however, more wives than husbands make such decisions in Kenya, Malawi, Rwanda and South Africa (Table 9.11). This finding follow the same pattern as above and is somewhat unexpected as compared to the literature.

Table 9.11: Decision on use of income from crops in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	12	17	13	4	16	30	16
Wife	5	24	24	12	25	13	17
Joint H&W	68	51	56	65	11	49	50
Family	8	3	4	9	9	5	6
Not appl.	8	5	4	10	39	3	11
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

Regarding decisions on use of cash from milk and other milk products, this question is hardly relevant in Malawi and South Africa. Regarding Ethiopia and Kenya, Table 9.12 indicates that wives have quite some saying on use of cash from milk sale. However, the main pattern is joint decision.

Table 9.12: Decision on use of income from milk and other milk products

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	2	9	1	3	3	11	5
Wife	26	34	2	6	4	8	13
Joint H&W	14	27	3	32	2	35	19
Family	3	3	1	5	2	3	3
Not appl.	54	27	93	54	89	43	60
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

9.2.4 Leadership

Membership in groups and participation in extension and training activities are used as indicators of leadership and voice in society. Tables 9.13 and 9.14 show who makes decisions on commitment and engagement in farmer organizations and participation in extension and training activities. In general and when applicable, such decisions are made jointly by husband and wife. In Malawi, Rwanda and South Africa, more wives than husbands make such decisions. Again, it is interesting to find different patterns among the six countries, where Malawi, Rwanda and South Africa appear to be more gender equal than Ethiopia, Kenya and Tanzania.

Table 9.13: Decision on commitment and engagement in farmers' organization the household joins in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	16	28	12	6	12	28	17
Wife	3	12	25	8	18	12	13
Joint H&W	23	16	48	38	11	40	30
Family	3	2	4	4	10	4	5
Not appl.	55	42	12	44	48	15	35
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

Table 9.14: Decision on participation in extension services and training the household joins in percentage

Percentage	Ethiopia	Kenya	Malawi	Rwanda	South Africa	Tanzania	All
Husband	26	17	12	6	12	28	17
Wife	3	16	25	7	19	11	14
Joint H&W	26	12	47	35	12	40	29
Family	4	2	4	4	8	4	4
Not appl.	41	53	11	48	49	16	36
<i>Total</i>	100	100	100	100	100	100	100
<i>Total household surveyed</i>	615	629	653	616	604	697	3814

9.2.5 Time - workload

The general situation regarding workload is that women work more than men as illustrated in Table 9.15 from Tanzania. Women are heavily involved in farm work in addition to being responsible for child care and domestic chores. Women has less leisure time and less time to be involved in organizations, extension and training activities and society in general than men. Traditional gender roles put heavy domestic workloads on women and also restrict women's mobility as women have to stay close to the home to take care of the domestic duties. Hence, for **InnovAfrica** innovations to benefit women, it is important that the technological interventions do not increase the workload of women. For the institutional and extension



innovations to benefit women, it is important to recognize that women to a very limited degree, have free time to spend on these innovations. Activities that demand more of women's time, might contribute towards less food and nutrition security except if others can step in and take over some of their many duties.

Table 9.15: A 24-hours activity profile for men and women in Rungwe district in Tanzania

Time	Men	Women
05:00	Wake up and milking	Wake up, clean the house, plates and prepare school children for school
06:00	Field (farming)	Prepare breakfast , feeding children not going to school
07:00	Field (farming)	Field (farming)
08:00	Field (farming)	Field (farming)
09:00	Field (farming)	Field (farming)
10:00	Collecting animals feeds	Field (farming)
11:00	Collecting animals feeds	Field (farming)
12:00	Collecting animals feeds	Fetching water and go home to prepare lunch
13:00	Lunch and resting	Serving lunch and eating
14:00	Lunch and resting	Feeding animals
15:00	Milking	Feeding animals, clean plates
16:00	Field (farming)	Garden/fetching firewood and water
17:00	Field (farming)	Garden/ Income generating activities
18:00	Field (farming)	Garden/ Income generating activities
19:00	Outing for socializing	Preparing for dinner& and
20:00	Outing for socializing	Cooking and bathing children
21:00	Dinner with the family	Dinner with the family
22:00	Bed	Cleaning plates
23:00	Bed	Bed
24:00	Bed	Bed

9.3 Factors that hinder InnovAfrica positive impacts on women smallholder farmers

In this section we discuss measures that could change factors that hinder **InnovAfrica** selected innovations to have a positive impact on women smallholders including strategies to mainstream gender. As a research and innovation project, **InnovAfrica** has limited influence on changing the overall enabling environment for women smallholders in Africa when it comes to improving their food and livelihood security situation. However, **InnovAfrica** can, through production of gender relevant knowledge, influence regional and national policy and institutions. **InnovAfrica** can also implement and adjust its own gender approaches in relation to staffing, targeting of women smallholders, and inclusion of women actors from service providers in agriculture as well as in relation to other collaborative partner.

As there are major differences in the countries regarding gender challenges, it is important to underline the need for context specific measures. Rwanda scores highest of the six countries as the fourth best country in the world in the Global Gender Gap Report (WEF, 2018). While Ethiopia scores lowest of the six at a country score of 115.

Based on the quantitative analysis of household data, the gender equality situation in agriculture is better than expected in Rwanda, South Africa and Malawi regarding the indicators used in relation to production, resources, income and leadership. Kenya is somewhat in between the



three countries with the best score and the two countries with the lowest score are Tanzania and Ethiopia. In Rwanda, South Africa and Malawi, wives tend to have a stronger saying in many decisions related to agricultural production and income than their husbands.

In the country case studies, the key recommendations for action regarding creating a more enabling environment for women smallholders are:

Ethiopia

- Improve women smallholders access to and utilization of resources including land
- Establish a just division of labor between men and women at family level
- Change cultural values that work against women
- Facilitate increase in women membership in organizations
- Change the negative attitude that some service providers have towards women smallholders
- Invest in research and action on labor saving technology
- Target women in extension and training activities including farmer-to-farmer extension and field days

Kenya

- Improve women smallholders access to and utilization of resources
- Make sure extension and advisory services target women and address the specific need of women in relation to workload, technology, crops and animals that are of particular importance for women
- Change norms and customary law that prevent women from owning property
- Improve national legislation to ensure and reinforce gender equality
- Joint ownership on land
- Women should be certain to get collateral (e.g., land) in order to access credit
- Household level equality in assets and control, decisions and workload,

Malawi

- More women should get leadership position
- The public sector should promote procurement from women farmers
- Reform land ownership in patrilineal societies
- Awareness should be raised in society regarding how to reduce gender inequality in general

Rwanda

- Gender equality is established in policies and laws, but there is still need to improve implementation of policies and reinforcement of the laws
- Inputs are too expensive compared to low profitability in farming and limited market access in particular for women
- Improve women's access to credit
- Better targeting of women in extension and training
- More research on technology that might reduce women's workload (e.g. men enter into the women task *weeding* when they can use machinery)



South Africa

- Gender equality is established in policy documents, but implementation needs to be improved
- Empowerment of women is needed (main responsibility of Department of Women)
- Activities should better target women smallholders as a measure to reduce hunger
- Women need better access to jobs with a decent income
- Improve women's rights to land
- Targeted women's needs in technology development

Tanzania

- Improve policy formulation as regards inclusion of gender equality and make sure that the policy is being implemented
- Improve women's access to resources such as land, inputs and credits
- Promote awareness to overcome cultural constraints and norms that work against women
- Target extension and training towards women
- Empowerment of women is needed
- Fight all kind of discrimination against women

The above list of measures suggested by the country teams indicate that changes are needed at household level, community level, as regards formal and informal institutions as well as at policy level and not least when it comes to implementation of policy. Hence, when discussing gender mainstreaming, it is important to realize who the actors are and what kind of action the different actors should perform. The below framework highlights important measures to be taken at different levels and by different actors. The actors identified are individual women, household members, community members, representatives of formal institutions and organizations, representatives of policy and legislation and lastly the InnovAfrica programme participants as a whole. The framework indicates that there is no silver bullet to who and how to ensure that the InnovAfrica identified innovations will have a positive impact on women smallholders in Africa as regards sustainable production, food and nutrition security. The different actors and measures are all connected and need to be addressed in a holistic way. However, if we should pinpoint one general factor that needs to be addressed over the others, we would put the emphasis on reducing the workload of women.



General framework for measures to be implemented by different actors at national level

Individual women level	Household level	Community level – informal institutions	Formal institutions and organizations	Policy and legislation	Research and innovation: InnovAfrica
Empowerment of women	Target men in awareness as regards gender equality and workload on women	Change culture, customary law that discriminate women	Implement gender equality policy	Gender equality in policy and legislation – focus on implementation of policy	Gender equality in objectives of research and innovation activities
Women stand up for their rights	Raise awareness at household levels regarding just access to household resources and assets (recognize differences among countries)	Implement changes to ensure equal access to land and other resources by both men and women	Implement enabling environment for women smallholders (access to affordable inputs, credit, extension and training, and markets)	Create enabling environment for women smallholders (access to affordable inputs, credit, extension and training, organizations, and markets)	Implement objectives regarding women smallholders (not only paper tigers).
Intra household negotiation to improve women's influence in agriculture related decision-making (e.g. what crops and how to use income)	Just involvement of husband and wife in production and income decision-making (Rwanda, South Africa and Malawi doing OK)	Recognize that women farmers can hold leadership position in agriculture	Employ women in public extension and advisory services	Employ women in leadership positions in agriculture	Gender equality in staffing at all levels. Gender equality in targeting of smallholder farmers
Be willing to take part in village groups, organizations, extension and training activities	Encourage women HH members to take part in village groups, organizations, extension and training activities	Involve women farmers in community groups and be willing to be represented by women farmers in agricultural fora	Target women smallholders in extension and training activities, field days, farmer-to-farmer extension	Make strategies that promotes gender equality in organizations, extension and training	Gender equality in collaboration with partners such as researchers, extension officers and other service providers
Possible collective action to organize child care to free women's time for agriculture	Just workload among household members. Domestic chores should not hinder mobility of women	Change traditional gender roles to reduce the work burden on women. Run child care facilities	Implement technologies and activities that can reduce the work burden on women. Run child care facilities	Allocate resources towards labor saving technologies. Establish child care facilities	Gender equality in M & E of progress in relation to impact – pay special attention to workload of women
		Mainstream gender in customary laws (e.g. land) and do away with cultural norms that discriminate against women in agriculture	Implement gender equality in all activities not only in special programs oriented towards women in agriculture	Integrate gender equality in agricultural sector policy and not only in special women ministries	Mainstreaming gender in all work packages and not only in task 1.3 e.g. in the work on value chains (WP4)



10 Conclusions

The main finding is that in spite of decades of efforts towards promoting gender equality, still, there are several factors that hinder innovations in agriculture to work for women smallholders. However, there are great variations among the six countries included in the study. In Rwanda, South Africa and Malawi, women smallholders appear to have an unexpected slightly stronger say than their husbands in many household level decisions related to agricultural production, income and participation in certain organizational activities. While this is not the situation in Tanzania and Ethiopia, where husbands dominate agriculture related resources and decisions. Regarding heavy workload on women smallholder farmers, the situation appears to be similarly challenging in all six countries. Reducing the gender gap would have an important impact on increased production, productivity and income as well as improved food and nutrition security. The report recommends both specific gender equality measures to be realized at country level in Ethiopia, Malawi, Kenya, Rwanda, South Africa and Tanzania as well as a framework for measures to be taken by different actors at national level in the agriculture sector.



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