



Article

Feminization of African Agriculture and the Meaning of Decision-Making for Empowerment and Sustainability

Ruth Haug ^{1,*} , Dismas L. Mwaseba ², Donald Njarui ³, Mokhele Moeletsi ^{4,5} , Mufunanji Magalasi ⁶, Mupenzi Mutimura ⁷ , Feyisa Hundessa ⁸ and Julie T. Aamodt ¹

¹ Department of International Environment and Development Studies/Noragric, Faculty of Landscape and Society, Norwegian University of Life Sciences (NMBU), Universitetstunet 3, 1430 Ås, Norway; julie.there.se.aamodt@gmail.com

² Department of Agricultural Extension and Community Development, Sokoine University of Agriculture, P.O. Box 3005, Chuo Kikuu, Morogoro 30007, Tanzania; dismasmwaseba@gmail.com

³ Kenya Agricultural and Livestock Research Organization (KALRO), Katumani, P.O. Box 340, Machakos 90100, Kenya; donaldnjarui@yahoo.com

⁴ Agricultural Research Council—Soil, Climate and Water, Private Bag X79, Pretoria 0001, South Africa; MoeletsiM@arc.agric.za

⁵ Risk and Vulnerability Science Centre, University of Limpopo, Private Bag X1106, Sovenga, Polokwane 0727, South Africa

⁶ Department of Fine and Performing Arts, Faculty of Humanities, Chancellor College, University of Malawi, P.O. Box 280, Zomba 30500, Malawi; mufunanjimagalasi@gmail.com

⁷ Department of Animal Production, Rwanda Agricultural Board (RAB), P.O. Box 5016, Kigali RWA023, Rwanda; m.mutimura@rab.gov.rw

⁸ School of Animal and Range Sciences, Haramaya University, P.O. Box 138, Dire Dawa 3000, Ethiopia; feyohunde@gmail.com

* Correspondence: ruth.haug@nmbu.no



Citation: Haug, R.; Mwaseba, D.L.; Njarui, D.; Moeletsi, M.; Magalasi, M.; Mutimura, M.; Hundessa, F.; Aamodt, J.T. Feminization of African Agriculture and the Meaning of Decision-Making for Empowerment and Sustainability. *Sustainability* **2021**, *13*, 8993. <https://doi.org/10.3390/su13168993>

Academic Editor: Dalia Štreimikienė

Received: 6 July 2021

Accepted: 7 August 2021

Published: 11 August 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Abstract: The purpose of this study was to assess women's decision-making power in small-scale agriculture in six African countries in view of the feminization of agriculture and to discuss the meaning of decision-making in relation to women's empowerment and sustainability. The data are drawn from a multisite and mixed-method agricultural research and development project in six sub-Saharan countries including two sites in each country. The five domains of empowerment outlined in the Women's Empowerment in Agriculture Index are used to structure the analysis. The results indicate that in the selected sites in Malawi, Rwanda and South Africa, women farmers tend to dominate agricultural decision-making, while the result is more mixed in the Kenyan sites, and decision-making tends to be dominated by men in the sites in Tanzania and Ethiopia. Despite women participating in agricultural decision-making, the qualitative results show that women small-scale farmers were not perceived to be empowered in any of the country sites. It appears that the feminization of agriculture leads to women playing a more important role in decision-making but also to more responsibilities and heavier workloads without necessarily resulting in improvements in well-being outcomes that would enhance sustainability.

Keywords: agriculture; feminization; decision-making; empowerment; sustainability; Africa



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The Sustainable Development Goals (SDGs) confirm previous global commitments towards promoting gender equality in agriculture by underlining, in SDG2 on zero hunger and in SDG5 on gender equality, the importance of women small-scale food producers and the elimination of all discrimination against women and girls everywhere [1]. Gender equality is important for women's own value as well as for their documented role in achieving many of the SDGs [2]. The gender gap in agriculture is well documented worldwide and shows that women have less access to productive resources, financial capital, advisory services and economic resources and lack the capacity to invest in agricultural technologies

and the knowledge to implement new technologies [3–6]. These kinds of barriers hinder productivity, reduce women's contribution to the agricultural sector and have overall negative effects on food security [3,7,8]. The FAO [3] estimates that if women had equal access to productive resources, their farm yields would increase by 20–30% and agricultural output in developing countries would increase by 2.50–4.0%. While the exact figures can be disputed and it is important to keep in mind that women are not a homogeneous group as there are considerable variations between and within groups of women [4,6,9,10], the gender gap does however demonstrate a pattern across the agricultural sector. The gender gap imposes high costs for the agricultural sector, the broader economy and society, as well for the women themselves, and women's empowerment has therefore become a key goal in development work [11].

Here, we rely on a commonly cited definition of empowerment by Kariuki et al. [12], who define empowerment as “the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them”. This is similar to the definition used by Kabeer [13], who specifies three important factors of empowerment: resources, agency such as decision-making power and achievement such as improvements in well-being outcomes. Lack of decision-making power is considered an important contributor to women's disempowerment in agriculture [14]. Decision-making power is defined here as the ability to decide on a course of action from two or more choices, and the focus is on decision-making at the household level. Household decision-making and resource allocation are critical for economic and human development. Decisions made at the household level may influence livelihood security and overall well-being and thus sustainability [15]. It is important to consider who controls assets and resources such as income and how decisions are made in relation to food consumption and agricultural production to determine the possible effect of the feminization of agriculture on family welfare [14,16]. Being able to make educated decisions regarding crop production and farm management is important for households with limited production resources such as land, labor and capital in order to maximize efficiency and production and adopt new and relevant technologies [17].

Women farmers play an increasingly important role in agriculture in many countries, a trend known as the feminization of agriculture [18]. There is no clear and agreed-upon definition of feminization, and we rely here upon a broad definition by Lastarria-Cornhiel [19] (p. 2) who defines feminization of agriculture as “women's increasing participation in the agricultural labor force, whether as independent producers or as unremunerated family workers”. However, we do not include women as agricultural wage workers, which is usually part of the feminization of agriculture concept [19]. Feminization of agriculture can widen the wealth and labor burden in agriculture but can also lead to the empowerment of women [16]. Lack of decision-making power among women farmers regarding decisions related to the farm, use of land and use of farm and household assets is seen as a major constraint in relation to the empowerment of women [20].

In efforts to achieve gender equality, it is necessary to understand gender roles because women and men engage in the agricultural sector under different conditions, with unequal access to resources and with different rights, whether in primary production, access to information and markets, labor demands or food consumption [21]. The gender gap means that women and men are not starting off on a level playing field, and without understanding the particular disadvantages, needs and priorities of women and men, any policy and program that aims to transition the agricultural sector from conventional to sustainable agriculture will most likely fail [22]. According to the FAO [11], without women's empowerment, we will not reach the goal of sustainable agriculture or the overall SDGs.

The purpose of this study is to assess women's decision-making power in small-scale agriculture in six countries in Africa in view of the feminization of agriculture and what this means for sustainability. We examine the degree to which men, women or men and women jointly make agriculture-related decisions, and we discuss the meaning of gendered

decision-making in relation to women's empowerment and the extent to which women's decision-making power relates to the feminization of agriculture. We assess these questions by drawing on data from a multisite agricultural research and development project in six sub-Saharan countries including two sites in each country. We use the five domains of empowerment outlined in the Women's Empowerment in Agriculture Index (WEAI) to structure our analysis of decision-making power [14]. We do not adopt the full WEAI methodology which includes quantitative analysis leading up to an index. We also lean on Kabeer's [13] conceptualization of empowerment and theory in relation to the feminization of agriculture to discuss our findings, including Cornwall and Rivas' [23] notion of liberal empowerment approaches focusing on benefitting individual women rather than initiating structural change. The findings are also discussed in relation to sustainability.

2. Methods

This study is part of an EU-funded research and development project titled Innovations in Technology, Extension and Institutional Approaches towards Sustainable Agriculture and Enhanced Food and Nutrition Security in Africa (InnovAfrica) [24] with special attention to small-scale women farmers and young farmers. To address the research questions formulated in the introduction, we used InnovAfrica data based on mixed methods combining quantitative and qualitative approaches. First, six African countries were purposively selected in accordance with the feasibility of assessing the potential of selected predetermined institutional and technological innovations. Second, in each of the six countries, two different agro-ecological and farming system relevant sites were purposively selected: Ethiopia KM (Kombolcha and Meta), Kenya CM (central highlands and midaltitude eastern region), Malawi MD (Mzimba and Dedza districts), Rwanda NK (Nyamagabe and Kirehe), South Africa F12 (Freestate: Qwaqwa and Harrismith) and Tanzania SC (southern highlands and coastal lowlands). Third, representative samples of households were generated in all sites based on Cochran's [25] formula of sample size calculation, which was in some cases modified for small populations. Different procedures were used to get from the 12 sites to household levels such as stratified sampling procedures, purposively criteria-based selection of villages and random sampling based on lists of farmer households in the villages, random selection of farmer households in areas near the innovation testing places and, in one case, snowball sampling to be able to include a specific farming system. To illustrate how households were selected, we take the example of Tanzania. In the two different agro-ecological zones (southern highlands and coastal lowlands), the two districts Rungwe and Lindi were selected based on distinct different climatic conditions (semiarid lowland and high-rainfall highland). In Rungwe districts, three wards were selected based on high population of dairy cattle keepers, due to fodder grass being one of the technologies tested by the InnovAfrica project in Tanzania. In Lindi district, two wards were selected based on high population of sorghum producers, due to sorghum intercropped with legumes being one of the technologies tested by the InnovAfrica project in Tanzania. From each of the three wards in Rungwe district, two villages were randomly selected. In Lindi district, three villages were randomly selected from the two wards. Altogether, six villages from three wards in Rungwe district and three villages from two wards in Lindi district were selected. In each of the nine villages, households were randomly selected to make a total of 697 households interviewed including 116 women respondents and 581 men respondents. The sampling frame was a list of farmer households in each of the nine villages. In the other five countries, somewhat similar procedures as for Tanzania were followed regarding selection of farmer households, however, due to contextual differences, with some variations. For example, in the case of South Africa, the agricultural sector differs from the other five countries regarding the dominant role that commercial farming plays in the country. Hence, in Free State in South Africa, the Maluti-a-Phofung municipality was selected based on the historical background of being one of the homelands known for a high level of poverty as well as small-scale agriculture. In the selected villages, all eligible households were interviewed based on

relevant farming system and land size that qualified as a small-scale farm; altogether, there were 301 women and 303 men farmer respondents.

Primary data were collected through a quantitative sample survey of 3814 small-scale farmer respondents in the six countries, made up of 904 women and 2910 men. The selection of women respondents was random without specific predetermined criteria. A small-scale farmer was defined according to country definition in relation to land size. Face-to-face interviews were conducted in 2018 with the 3814 respondents using a structured, pretested questionnaire. The questionnaire was developed with inputs from project partners with varied disciplinary backgrounds. The survey was carried out in accordance with guidelines for research ethics of the project coordinators. In addition, qualitative methods were used to collect complementary data by interviewing purposively selected informants in focus group discussions (FGDs). The FGDs consisted of 10–15 participants including different actors from extension and advisory services, value chains and government ministries; policymakers; and a few small-scale men and women farmers. Interview guides were used to collect information from the FGDs. All interviews were conducted based on prior informed consent and the participants were ensured anonymity. The quantitative survey data were analyzed using descriptive statistics while the qualitative data were analyzed by highlighting patterns and in-depth follow-up on issues that emerged from the survey. Since there were only minor differences in the quantitative gender-related data in the two sites in each of the six countries, the findings are presented as a combination of data from the two sites and not disaggregated by sites. A limitation is that no generalization can be made from the data to the country level since the sites, villages and sometimes the households were purposively selected. Another limitation is that a majority of the respondents in the survey were men, and men might respond differently to questions about gender equality, power and decision-making than women [26,27]. However, in spite of these limitations, we still think that findings from the study can increase our understanding of the dynamics of decision-making, feminization of agriculture, empowerment and sustainability.

3. Gendered Decision-Making and Feminization of Agriculture

The five domains of empowerment (agricultural production, resources, income, leadership and time), as defined by the WEAI, reflect important aspects of empowerment that have been found in the literature. The first relates directly to Kabeer's definition of empowerment as the ability to make choices [13]. The resource domain reflects control over assets that enable one to act on those decisions [14]. The leadership domain captures key aspects of inclusion and participation, accountability and local organizational capacity, which Narayan [28] cites as key elements of empowerment. Control over income reflects whether a person is able to benefit from her efforts, and the time domain reflects the allocation of time for farm work, household chores and leisure time [14]. The domains used in WEAI relate to instrumental agency.

Men and women farmers face different situations regarding access to key resources such as land, credit, extension and training, membership in farmer groups and market access [16,29]. Land ownership is related to gender as women tend to own smaller plots of land than men; their rights to land are often more insecure, and a greater portion of women are landless [3,16]. Women farmers are often met with the perception that men are household heads and women are being cared for, which has implications for women's ability to access services such as extension, training and information [30]. Agricultural training is often orientated towards men, and nutrition training is often orientated towards women [8]. Access to training is important to gain knowledge of innovations that can help the transition towards environmentally sustainable agriculture. Access to credit and income is important to manage variability in income throughout the year and to invest in new technologies and long-term farm improvements that will allow farmers to adopt more sustainable farming practices [22]. In addition, women are often limited both by cultural and social norms and the lack of recognition of their role in agriculture from actors along the value chain [31]. Social and cultural norms shape and reinforce the

way in which women and men participate in, access and benefit from opportunities and resources [32]. Evidence links positive nutrition, livelihood and well-being outcomes to women's increased involvement in decision-making [32].

The many disadvantages of women in the agricultural sector are a threat to sustainable agriculture and sustainability [32]. For agriculture to be sustainable it must meet the needs of present and future generations for its products and services, while ensuring profitability and environmental, social and economic equality [33]. The High Level Panel of Experts on Food Security and Nutrition (HLPE) define sustainability in the context of food security and food systems as "the long-term ability of food systems to provide food security and nutrition today in such a way that does not compromise the environmental, economic, and social bases that generate food security and nutrition for future generations" [34] (p. 9). Sustainability is an important concept for agriculture and food security because of trends such as climate change and environmental degradation which alongside growing socio-economic inequalities undermine the ability of ecological systems to interact with social and economic systems to support food production and agricultural livelihoods into the future [34]. It is of particular concern in relation to the feminization of agriculture and the increasingly important role of women as food producers. The Food and Agricultural Organization of the United Nations (FAO) [3] estimate that women provide around 50% of the labor in agricultural production in Africa. In many countries in sub-Saharan Africa, the share of women working in agriculture has not necessarily increased during the last decades since women already made up a significant percentage of the workforce [35]. However, the feminization has taken new forms as the role of women has moved from that of a contributing family member to that of a primary farmer, because it is becoming increasingly common for male household members to migrate to urban areas to look for work [35]. Considering that women are primarily responsible for caregiving, feeding and food provision across the world, these responsibilities, combined with women's increasing workload in the agricultural sector, can have negative consequences for food security and for overall sustainability in the agricultural sector [36].

Feminization of agriculture can lead to the empowerment of women, but it could also undermine their well-being by increasing their workload [35,37,38]. Pattnaik et al. [37] found that feminization of agriculture is not necessarily an indication of social or economic empowerment, but rather an indication of poverty and feminization of agrarian distress. According to the WB [35], the degree to which feminization of agriculture leads to women's empowerment will depend upon the context. When using decision-making power as an indication of women's empowerment, it is important to be aware that improved decision-making alone might not necessarily lead to empowerment as Kabeer [13] defines empowerment also to include achievement. Kabeer's [13] notion of empowerment including achievements will depend on factors beyond decision-making power at the household level. Empowerment of women farmers and feminization of agriculture imply changes that have policy implications beyond the household level including structural inequalities such as extra barriers faced by women in society [35].

4. Results: Decision-Making, Empowerment and Feminization of Agriculture

4.1. Decisions Regarding Agricultural Production

The production domain in WEAI comprises the role of women in decision-making regarding agricultural production and refers to sole or joint decision-making in food and cash crops, livestock and fisheries [39]. Findings presented in Table 1 indicate that the decision-making patterns differ somewhat from country to country (each country includes data from two sites as described in Section 2), with South Africa showing the highest proportion of women's involvement in sole decision-making and Rwanda showing the highest proportion of women's involvement in sole and joint decision-making. On the other hand, the pattern in Ethiopia and Tanzania shows that men are more involved in sole decision-making than women, although there is a high proportion of joint decision-making in these two countries. In Kenya, the results are somewhat mixed with a higher

proportion of women making sole decisions about crops and men making sole decisions about fodder and animal husbandry. Regarding decisions in relation to technological change in crop production, more men than women make lone decisions in Ethiopia and in Tanzania; in Kenya, the proportion is roughly equal, while in Malawi, Rwanda and South Africa, more women than men make sole decisions. In Tanzania, Rwanda, Malawi and Ethiopia, joint decision-making is most common across all four indicators (crops, fodder, animals and technological change). Even though joint decision-making appears to be the general trend across the six countries, we also combined joint decision-making with women as sole decision-makers. The trend then is that women play a more important role in production-related decision-making in Malawi, Rwanda and South Africa, while men play a superior role in Ethiopia and Tanzania and to a certain degree in Kenya (where the finding is somewhat mixed). According to the WEAI, a woman has adequacy in this indicator if she participates and has input either solely or jointly in decision-making [14,39]. Therefore, based on our results for the agricultural production indicators, women appear to be reasonably empowered in four out of six countries. In Ethiopia and Tanzania, men are still more dominating in the agriculture production decision-making process. However, WEAI is an index that includes several indicators that have to be assessed together. The result must also be seen in relation to the limitations listed in Section 2.

Table 1. Decision-making at the household level related to decisions regarding agricultural production and technological change in six African study sites (%).

	Ethiopia KM	Kenya CM	Malawi MD	Rwanda NK	South Africa F12	Tanzania SC	All
(a) Who makes decisions over what crop variety to grow (%)							
Husband	31	32	16	6	26	33	24
Wife	6	35	25	16	43	14	23
Joint	53	29	54	68	15	47	45
Other or N/A	10	4	5	10	16	6	8
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)
(b) Who makes decisions over what pasture/fodder to grow (%)							
Husband	12	41	N/A	12	9	16	15
Wife	1	29	N/A	13	10	6	10
Joint	19	20	N/A	52	6	24	20
Other or N/A	68	10	N/A	23	75	54	55
Total HH	100 (615)	100 (629)	N/A	100 (616)	100 (604)	100 (697)	100 (3814)
(c) Who makes decisions regarding type/breed of livestock to raise (%)							
Husband	13	44	13	9	10	31	20
Wife	5	22	20	13	12	10	14
Joint	49	28	49	63	7	40	40
Other or N/A	33	6	18	15	71	19	26
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)
(d) Who makes decisions regarding technological changes in crop production (%)							
Husband	25	34	14	6	14	34	22
Wife	3	32	25	12	22	14	18
Joint	48	25	51	62	10	45	40
Other or N/A	24	9	10	20	54	7	20
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)

HH = household. Includes both male-headed and female-headed households. Other = other decision-makers, e.g., in-laws, children, elders. N/A = not applicable. Source: InnovAfrica household survey 2017–2018 [24].

4.2. Decisions over Use of Resources

In the resource domain, both access to credit and decision-making power over the use of credit are indicators of empowerment [14]. Limited access to credit is a barrier for both women and men in all the studied countries, but often more so for women compared to men

(InnovAfrica household survey 2017–2018). In this study, we only look at decision-making power in relation to the use of borrowed money (credit). Borrowed money includes credit from external sources such as banks, saving groups and money lenders, as well as loans from family members, neighbors and friends. Table 2 shows decision-making regarding the use of borrowed money. While the question was not applicable to many households without access to credit, our findings show that joint decision-making is most common, except in the South African sites where women have the most input into such decisions. Since women are considered empowered, if they have inputs either solely or jointly in decision-making, we combine joint decision-making with women as sole decision-makers and find that women are more influential in decision-making than men in the sites in Malawi, Rwanda and South Africa. However, it is worth highlighting that in these three countries, apart from joint decision-making, sole decision-making by women is higher than sole decision-making by men. In the two Kenyan sites, the proportions are more or less the same. Decision-making regarding the use of borrowed money indicates that women appear to be reasonably empowered in four out of the six countries (the sites in Malawi, Rwanda, South Africa and Kenya) for this WEAI indicator.

Table 2. Decision-making at the household level related to decisions regarding the use of credit in six African study sites (%).

	Ethiopia KM	Kenya CM	Malawi MD	Rwanda NK	South Africa F12	Tanzania SC	All
Husband	6	9	13	4	14	26	12
Wife	4	8	23	11	34	12	15
Joint	40	21	50	48	19	42	37
Other or N/A	50	62	14	37	33	20	36
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)

HH = household. Includes both male-headed and female-headed households. Other = other decision-makers, e.g., in-laws, children, elders. N/A = not applicable. Source: InnovAfrica household survey 2017–2018 [24].

4.3. Decisions over Use of Income

Decision-making in relation to the use of income from agriculture is an important indicator of empowerment in WEAI and constitutes the third domain of the index [14]. The findings show that women appear to play a significant role in decision-making regarding the quantity of output to sell and consume, as well as in decisions on the use of cash from crops, milk and milk products (Table 3). In terms of quantity of output to sell and consume, the general trend is joint decision-making. In the South African sites, the questions do not apply to most households surveyed as they only produce food for household consumption. Decisions on the use of cash from crops show a trend of joint decision-making across the case country sites, apart from the South African sites where the women are dominant in decision-making. Regarding decisions on the use of cash from milk and other milk products—a question that is hardly relevant in the study sites in Malawi and South Africa—women are more dominant in decision-making in the sites in Ethiopia and Kenya, and joint decisions are most common in Tanzanian and Rwandan sites. If joint and sole decision-making are combined for all three indicators, the trend is that men are more instrumental in decision-making in Tanzania and Ethiopia. Overall, the same trend is evident in decisions about the use of income, where women appear to be more empowered in the sites in Kenya, Malawi, Rwanda and South Africa, but less so in the Ethiopian and Tanzanian sites.

Table 3. Decision-making at the household level related to the use of income from agricultural production in six African study sites (%).

	Ethiopia KM	Kenya CM	Malawi MD	Rwanda NK	South Africa F12	Tanzania SC	All
(e) Who makes decisions on quantity of output to sell and consume (%)							
Husband	16	14	13	4	17	32	16
Wife	7	30	25	13	29	14	20
Joint	63	50	55	65	12	48	49
Other or N/A	14	6	7	18	42	6	15
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)
(f) Who makes decisions on use of cash crops (%)							
Husband	12	17	13	4	16	30	16
Wife	5	24	24	12	25	13	17
Joint	67	51	56	65	11	49	50
Other or N/A	16	8	7	19	48	8	17
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)
(g) Who makes decisions on use of cash from milk and other milk products (%)							
Husband	2	9	1	3	4	11	5
Wife	26	34	2	6	4	8	13
Joint	15	27	3	32	2	35	19
Other or N/A	57	30	94	59	90	46	63
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)

HH = household. Includes both male-headed and female-headed households. Other = other decision-makers, e.g., in-laws, children, elders.
N/A = not applicable. Source: InnovAfrica household survey 2017–2018 [24].

4.4. Leadership Domain

To assess decision-making in relation to WEAI's leadership domain, we use decisions on household members joining farmers' organizations and groups and decisions on household members participating in extension and training activities. Table 4 shows that in general, the husband and wife made such decisions jointly. In the sites in Malawi, Rwanda and South Africa, more women than men made such decisions. The findings follow the same trend of women being empowered in relation to decision-making regarding leadership in the sites in Malawi, Rwanda and South Africa, but less so in Ethiopia, Kenya and Tanzania.

Table 4. Decision-making at the household level related to who makes decisions on joining farmers' organizations/groups and participating in extension and training in six African study sites.

	Ethiopia KM	Kenya CM	Malawi MD	Rwanda NK	South Africa F12	Tanzania SC	All
(a) Decisions on joining farmers' organizations and groups (%)							
Husband	16	28	12	6	12	28	17
Wife	3	12	25	8	18	12	13
Joint	23	16	48	38	11	40	30
Other or N/A	58	44	15	48	59	20	40
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	100 (3814)
(b) Decisions on participating in extension and training activities (%)							
Husband	26	17	12	6	12	28	17
Wife	3	16	25	7	19	11	14
Joint	26	12	47	35	12	40	29
Other or N/A	45	55	16	52	57	21	40
Total HH	100 (615)	100 (629)	100 (653)	100 (616)	100 (604)	100 (697)	3814

HH = household. Includes both male-headed and female-headed households. Other = other decision-makers, e.g., in-laws, children, elders.
N/A = not applicable. Source: InnovAfrica household survey 2017–2018 [24].

4.5. Women's Empowerment and Workload

The fifth domain in WEAI is time, which includes allocation of time to productive and domestic tasks as well as for leisure activities [14]. Figure 1 shows men and women's involvement in agricultural activities such as land preparation, planting, harvesting and marketing for the sites in four of the six countries in the study. In Ethiopia, women were much less involved in the different agricultural tasks than in the other three countries. In South Africa, but also in Malawi, women did considerably more of the agricultural work than men. The findings indicate that the agricultural workload on women in small-scale farming appears to be high in the sites in South Africa, followed by Malawi and Tanzania, and rather low in Ethiopia [40]. It seems to be a trend that the higher the level of feminization in agriculture is, the more decisions are made by women, a tendency towards empowerment. In Ethiopia where women are less involved in agricultural production than in the other countries, they are also less instrumental in decision-making. In South Africa where small-scale agriculture is mainly undertaken by women, they have a more profound role in decision-making. Without being able to draw any conclusions about causality, we find in the county sites studied where women have a higher agricultural workload, they appear to play a more important role in agricultural decision-making and are thereby more empowered according to this WEAI indicator.

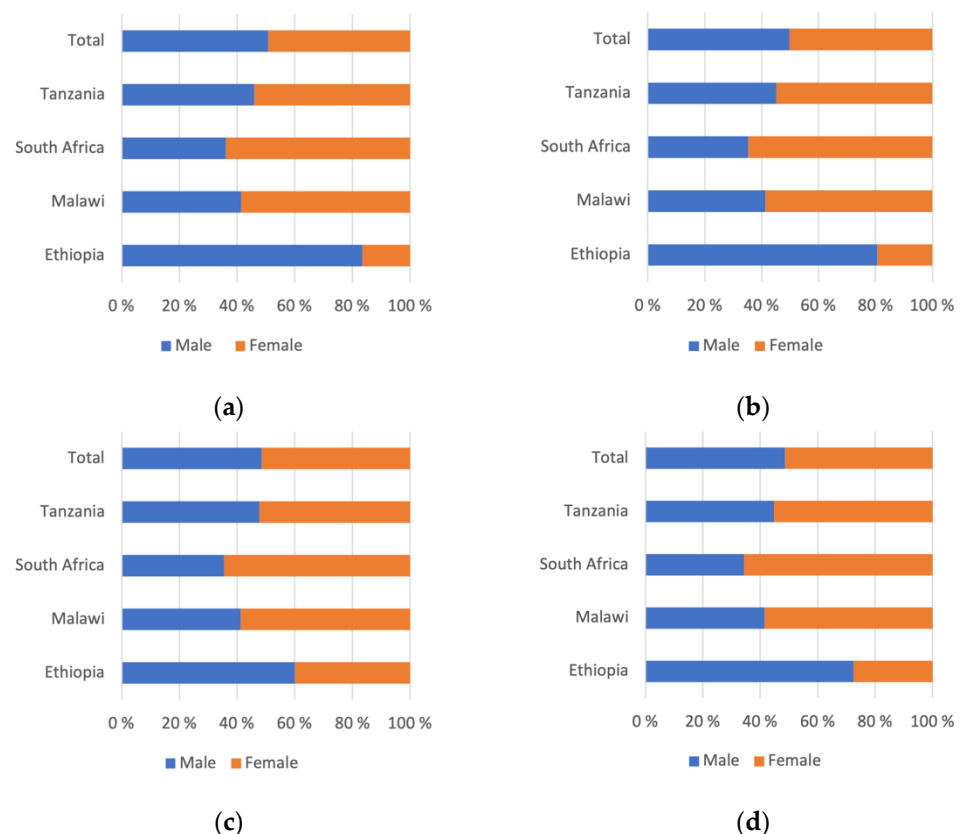


Figure 1. Men and women's involvement in selected agricultural tasks in Ethiopia, Malawi, South Africa and Tanzania: (a) land preparation; (b) planting; (c) selling; (d) harvesting. Source: InnovAfrica household survey 2017–2018 [24].

In addition to agricultural work, women have the main responsibility for domestic chores including cooking, taking care of children and fetching firewood and water. The view expressed in the focus group discussions was that the total workload for women, including both agricultural and domestic tasks, is considerably higher than for men. In addition, men had different mobility situations and the freedom to be away from home for a longer period, with the possibility of using income opportunities outside of the

household locality [40]. In Table 5, the differences in workload between men and women are illustrated based on focus group discussions in Rungwe district in Tanzania. The table illustrates that men have some leisure time, while women have no time at all for leisure activities.

Table 5. Activity profile over 24 h for men and women in Rungwe district in Tanzania demonstrating time spent on leisure time, household chores and agricultural work.

Time	Men	Women
05:00	Wake up and milking	Wake up, cleaning the house, plates and preparing school children for school
06:00	Field (farming)	Preparing 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 animal feed	Field (farming)
11:00	Collecting animal feed	Field (farming)
12:00	Collecting animals feed	Fetching water and going 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
20:00	Outing for socializing	Cooking and bathing children
21:00	Dinner with the family	Dinner with the family
22:00	Bed	Cleaning plates

Source: InnovAfrica household survey 2017–2018 [24].

5. Discussion: Feminization of African Agriculture and the Meaning of Decision-Making for Empowerment and Sustainability

In the following, we discuss the relative importance of decision-making for women's empowerment and what this means in the context of sustainability. In spite of differences among the six countries, and women not being a homogeneous group [9,10], we find that women appear to be more instrumental in agricultural decision-making than what was expected from the existing literature on women in agriculture [3,14,16,39]. It is worth noting that other studies have found similar results regarding the active role of women in agricultural decision-making [41,42]. Table 6 illustrates the trends we have found in decision-making and gendered division of labor in the sites in the six study countries. To gain a deeper understanding of what it means that women are instrumental in agriculture decision-making, we include in Table 6 how the six countries are ranked by the World Economic Forum (WEF) [43] regarding political empowerment and economic participation, as well as the overall Gender Development Index score by the United Nations Development Programme (UNDP) [44]. Regarding the UNDP Gender Development Index, Ethiopia receives the lowest score of the six countries, which aligns with our finding of men dominating agricultural decision-making in Ethiopia. In contrast, women dominate agricultural decision-making in Malawi, but the country still scores low on political empowerment of women, as well as economic participation. The degree to which women dominate small-scale agricultural decision-making in a country might not be sufficiently reflected in general gender indexes such as those produced by WEF and UNDP.

Table 6. Summary of results regarding the role of women in small-scale agricultural decision-making at the household level, alongside a ranking on women’s political empowerment and economic participation by the World Economic Forum and the Gender Development Index by the United National Development Programme in six African study sites.

	Ethiopia KM	Kenya CM	Malawi MD	Rwanda NK	South Africa F12	Tanzania SC
Production decision-making	Men dominated	About the same	Women dominated	Women dominated	Women dominate	Men dominated
Technological change decision-making	Men dominated	About the same	Women dominated	Women dominated	Women dominated	Men dominated
Use of credit/capital decision-making	Men dominated	Women slightly dominated	Women dominated	Women dominated	Women dominated	Men dominated
Leadership decision-making	Men dominated	Men dominated	Women dominated	Women dominated	Women dominated	Men dominated
Income decision-making	Mixed results	Women dominated	Women dominated	Women dominated	Women dominated	Men dominated
Labor input in agriculture	Men dominated	No data	Women dominated	No data	Women dominated	Women slightly dominated
Political empowerment rank ¹	16	85	90	4	10	50
Economic participation rank ¹	125	114	113	79	92	63
Gender Development Index ²	0.84 (6)	0.93 (4)	0.93 (5)	0.94 (2)	0.98 (1)	0.94 (3)

Source: InnovAfrica household survey 2017–2018 [24]. ¹ Global Gender Gap Report 2020 [43]. ² Gender Development Index (GDI) [44]; GDI ranking of the six countries in parentheses.

5.1. Feminization of Agriculture, Decision-Making and Workload

Feminization of agriculture has the potential to contribute to changing gender roles in areas such as decision-making and workload [18,35]. As our findings illustrate, women appear to be instrumental in agricultural decision-making in the sites in Malawi, Rwanda and South Africa and to a certain degree in Kenya and are thereby empowered according to the decision-making indicators included in WEAI [14]. However, regarding the time domain, the results indicate a situation of disempowerment due to heavy workload, as do the results from the qualitative interviews and discussions where the unequal division of labor between men and women was underlined. Feminization of agriculture could, as Pattnaik et al. [37] state, be an indication of poverty and a way of undermining the well-being of women by adding to an already existing heavy work burden. Our findings indicate that in the studied countries where women are more instrumental in decision-making, they also have a heavier agricultural workload. Consequently, women appear to be empowered in decision-making, but less so regarding workload. High workload is an indication of feminization of agriculture [19]. Accordingly, feminization of agriculture might involve not only empowerment through increased decision-making power, but also disempowerment through an increase in workload and responsibilities. Moreover, increasing numbers of women in certain occupations are often associated with unpaid or underpaid employment, which is arguably disempowering and does not contribute to social equality in line with the SDGs [45]. The challenge is to ensure that feminization of agriculture leads to real women’s empowerment, as well as sustainability, and not to what Pattnaik et al. [37] refer to as “feminization of agricultural distress”.

5.2. Decision-Making and Increased Agency Do Not Equal Achievement

The fact that women are active in agricultural decision-making in many of the countries studied but the countries still score low on several gender indexes, such as the ones produced by WEF and UNDP, suggests that decision-making might not be a good enough indicator of overall empowerment and focus must be placed on other aspects of empowerment than decision-making if the goal of sustainability is to be achieved. O’Hara and Clement [46] argue that measuring empowerment using tools like the WEAI limits the measurement to “visible forms of agency” and fails to include important aspects of em-

powerment, such as critical consciousness. The WEAI asks the respondents to assess their own power to make decisions, which requires a certain level of critical consciousness, and without critical reflection, an increase in women's agency may reinforce the existing hegemonic patriarchal systems [46].

It is also important to consider the context; O'Hara and Clement [46] found that what development programs often consider empowering, such as control over income and decision-making regarding production, is not necessarily perceived by local men and women as a form of empowerment. An example of this is being able to sell produce at the market, which ticks the box for several indicators of agency considered in the WEAI such as decision-making, mobility and control over income. However, women who are engaged in this activity must also carry their produce to and from the market, often walking the entire day—a job which no man would do according to the respondents of both genders in the research [46]. Furthermore, the income that the women received from selling produce at the market was considered insignificant to change their bargaining power. Therefore, although a woman had access to the market and her own income, it still did not change her situation and contribute to her overall well-being and ability to secure her livelihood [46]. Similarly, Leder et al. [47] found that local women did not perceive individual agency as a contributor to well-being. Leder et al. [47] argue that empowerment is differently connotated by the women whom development seeks to support than by outsiders. O'Hara and Clement [46] (p. 112) underline that “what is measured—and not measured—influences discourse and confers legitimacy to certain categories of intervention or institutional change by stressing certain forms of power while rendering others invisible”. Without consideration for all the different aspects of the empowerment concept, efforts towards gender equality, women's empowerment and sustainability cannot be achieved.

5.3. Empowerment, Structural Injustice and Social Sustainability

Empowerment is a broad term, and there is debate regarding whether empowerment is achieved through focusing on the individual or on underlying structural inequalities. Cornwall and Rivas [23] contest what they coin as liberal empowerment that focuses on investing in women to enhance individual successes instead of transforming economic, social and political structures. However, we argue here that changes at both levels, individual and structural, are necessary to reach the social dimension of sustainable agriculture. This means that in contexts such as Ethiopia and Tanzania, where women only to a limited degree are involved in making agricultural decisions, it is important to increase their decision-making power and thereby contribute to women's empowerment [14]. However, it is also important to focus on the wider structural injustices. Kabeer [13,48] emphasizes agency, such as agency that increases the economic participation of women, as an important empowering factor. Increased agency and not least collective agency have the potential to challenge and transform underlying structural constraints [39,48]. The ability to use opportunities relates to agency beyond the household level, such as women being able to participate as economic actors in the food systems with capacity to innovate in order to improve food security and family income. Being able to make decisions in the household regarding what to produce and how to use resources, credit and income does not necessarily affect the extra barriers faced by women in terms of access to extension and advisory services, group membership and input and output markets [3,4]. These kinds of barriers, either singly or in combination, still have the potential to limit women more than men in terms of uptake of new technologies and innovations, thus limiting overall agricultural development. According to Badstue et al. [49], structural inequalities make men better positioned not only to access resources, but also to leverage support. Often, women will depend on the support of men at different levels when enacting agency that challenges the status quo [49]. Amongst others, higher-level policy decisions and institutional changes are needed to provide favorable conditions and enabling environments that ensure secure and equal property rights, equal access to extension and advisory services and market opportunities [35]. More attention is needed to grasp the complete meaning of empow-

erment, including factors embedded in resources, agency and achievement as outlined by Kabeer [13] and structural injustice including transforming power relations [23,50,51]. Without considering these factors, it is unlikely that the current gender agenda will deliver the kind of transformations towards sustainability that policies such as the SDGs strive for [23].

6. Conclusions

This study has assessed women's decision-making power in small-scale agriculture in six countries in Africa in view of the feminization of agriculture and discussed the meaning of gendered decision-making in relation to empowerment and sustainability. Since women play an increasingly important role in agriculture in many African countries, it is important to improve our understanding of the meaning of decision-making for empowerment to inform policy and to develop relevant initiatives that could contribute towards achieving gender equality and sustainability, as highlighted in the SDGs.

The findings indicate quite some variation among the six countries regarding gendered decision-making. In the selected sites in Malawi, Rwanda and South Africa, women farmers tend to dominate agricultural decision-making, while the result is more mixed in the Kenyan sites, and decision-making tends to be dominated by men in the sites in Tanzania and Ethiopia. However, regardless of the degree to which women dominate agricultural decision-making, women farmers were not perceived to be empowered or enjoying gender equality in any of the country sites in relation to workload, family responsibilities, mobility, opportunities and freedom. Feminization of agriculture appears to lead to women playing a more important role in decision-making but also to more responsibilities and heavier workloads without necessarily resulting in improvements in well-being that would enhance sustainability. In conclusion, it appears that the meaning of decision-making as an indicator of women's empowerment in agriculture in these six African countries might not capture the full meaning of empowerment, e.g., regarding better well-being outcomes for women.

Author Contributions: Conceptualization, R.H., J.T.A.; methodology, R.H., D.L.M., D.N., M.M. (Mokhele Moeletsi), M.M. (Mufunanji Magalasi), M.M. (Mupenzi Mutimura), F.H.; formal analysis, R.H., D.L.M., D.N., M.M. (Mokhele Moeletsi), M.M. (Mufunanji Magalasi), M.M. (Mupenzi Mutimura), F.H.; writing—original draft preparation, R.H., J.T.A.; writing—review and editing, R.H., D.L.M., D.N., M.M. (Mokhele Moeletsi), M.M. (Mufunanji Magalasi), M.M. (Mupenzi Mutimura), F.H., J.T.A.; project administration, R.H.; funding acquisition, all authors. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the EU with H2020 grant support to the InnovAfrica project: Grant agreement No. 727201 and call SFS-42-2016.

Institutional Review Board Statement: This research was conducted in accordance with guidelines for research ethics of the project coordinators, the Norwegian Institute of Bioeconomy Research (NIBIO) and the Biosciences Eastern and Central Africa International Livestock Research Institute (BeCA-ILRI Hub) [52], and in accordance with guidelines of the partner institutions carrying out the survey and the focus group discussions in Ethiopia, Kenya, Malawi, Rwanda, South Africa and Tanzania. The applicable national and institutional guidelines did not require an explicit ethics approval beyond the granted research project approval and the national country-based partner institutions' research standards.

Informed Consent Statement: The regional, district and village authorities in the six African countries were informed and gave permission to carry out the surveys and the focus group discussions in each of the country sites. All the questionnaire respondents and focus group participants were informed about the purpose of the survey and the purpose of the focus group discussions. All interviews and group discussions were carried out on the basis of prior informed consent in accordance with national approved research standards. All participants could withdraw their participation whenever they wanted and were ensured full anonymity.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not yet publicly available due to protection of privacy linked to personal data. A data repository is under construction by the Biosciences Eastern and Central Africa International Livestock Research Institute (BecA-ILRI Hub) [52].

Acknowledgments: We would like to acknowledge the EU for H2020 grant support to the InnovAfrica project (grant agreement No. 727201). We would also like to thank everybody who, in different ways, has been involved in the InnovAfrica project.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

References

1. UN (United Nations). *Sustainable Development Goals*; United Nations: New York, NY, USA, 2015. THE 17 GOALS | Sustainable Development (un.org). Available online: <https://sdgs.un.org/goals> (accessed on 20 May 2021).
2. Meinzen-Dick, R.; Myers, E.C.; Quisumbing, A. How Empowered Are Women in African Agriculture? In *Gender Equality. In Rural Africa: From Commitments to Outcomes. ReSAKSS 2019 Annual Trends and Outlook*; Agnes Quisumbing, R.M.-D., Jemimah, N., Eds.; International Food Policy Research Institute: Washington, DC, USA, 2019; pp. 166–175.
3. FAO (The Food and Agricultural Organization on the United Nations). *Women in Agriculture. Closing the Gender Gap for Development*; Food and Agricultural Organization of the United Nations: Rome, Italy, 2011. Available online: <http://www.fao.org/3/i2050e.pdf> (accessed on 20 May 2021).
4. Doss, C.; Meinzen-Dick, R.; Quisumbing, A.R.; Theis, S. Women in agriculture: Four myths. *Glob. Food Secur.* **2018**, *16*, 69–74. [CrossRef] [PubMed]
5. Kumar, N.; Quisumbing, A.R. Policy Reform toward Gender Equality in Ethiopia: Little by Little the Egg Begins to Walk. *World Dev.* **2015**, *67*, 406–423. [CrossRef]
6. Leach, M.; Nisbett, N.; Cabral, L.; Harris, J.; Hossain, N.; Thompson, J. Food politics and development. *World Dev.* **2020**, *134*, 105024. [CrossRef]
7. Diirro, G.M.; Seymour, G.; Kassie, M.; Muricho, G.; Muriithi, B.W. Women’s empowerment in agriculture and agricultural productivity: Evidence from rural maize farmer households in western Kenya. *PLoS ONE* **2018**, *13*, e0197995. [CrossRef]
8. Doss, C.R.; Quisumbing, A. Why gender matters for agricultural productivity in Africa. In *Gender Equality in Rural Africa: From Commitments to Outcomes. ReSAKSS 2019 Annual Trends and Outlook Report*; Quisumbing, A., Njuki, J., Eds.; International Food Policy Research Institute: Washington, DC, USA, 2019; pp. 72–79.
9. Fortman, L. Economic Status and Women’s Participation in Agriculture: A Botswana Case Study. *Rural. Sociol.* **1984**, *49*, 452–464. Available online: <https://psycnet.apa.org/record/1985-19935-001> (accessed on 25 June 2021).
10. Sachs, C.E. *Gendered Fields: Rural Women, Agriculture and Environment*; Routledge: New York, NY, USA, 2018.
11. FAO (The Food and Agricultural Organization on the United Nations). *Empowering Rural Women, Powering Agriculture*; Food and Agricultural Organization of the United Nations: Rome, Italy, 2018. Available online: <http://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1266815/#:~:text=FAO%20recognizes%20the%20potential%20of,performance%20of%20the%20agriculture%20sector> (accessed on 25 June 2021).
12. Kariuki, J.; Samuel Mburu, J.N.; Waithanji, E. Women, Livestock Ownership and Food Security. In *Women, Livestock Ownership and Markets*; Njuki, J., Ed.; Routledge: New York, NY, USA, 2013.
13. Kabeer, N. Resources, Agency, Achievements: Reflections on the Measurement of Women’s Empowerment. *Dev. Chang.* **1999**, *30*, 435–464. [CrossRef]
14. Alkire, S.; Meinzen-Dick, R.; Peterman, A.; Quisumbing, A.; Seymour, G.; Vaz, A. The Women’s Empowerment in Agriculture Index. *World Dev.* **2013**, *52*, 71–91. [CrossRef]
15. Diego Angel-Urdinola, Q.W. Income Generation and Intra-household Decision Making: A Gender Analysis for Nigeria. In *Gender Disparities in Africa’s Labor Market*; Arbache, J.S., Kolev, A., Filipiak, E., Eds.; Agence Francaise de Developpment and the World Bank: Washington, DC, USA, 2010; pp. 381–406.
16. Quisumbing, A.; Meinzen-Dick, R.; Malapit, H. *Gender Equality: Women’s Empowerments for Rural Revitalization*; International Food Policy Research Institute: Washington, DC, USA, 2019; pp. 44–51. [CrossRef]
17. Justus, O.; Ouma, E.; Birachi, E. Gender Participation and Decision Making in Crop Management in Great Lakes Region of Central Africa. *Gen. Technol. Dev.* **2014**, *18*, 341–362. [CrossRef]
18. FAO (The Food and Agricultural Organization on the United Nations). *The Future of Food and Agriculture—Trends and Challenges*; Food and Agricultural Organization of the United Nations: Rome, Italy, 2017. Available online: <http://www.fao.org/3/i6583e/i6583e.pdf> (accessed on 20 May 2021).
19. Susana, L.C. *Background Paper for the World Development Report 2008—Feminization of Agriculture: Trends and Driving Forces*, Rimisp-Latin American Center for Rural Development; World Bank: Washington, DC, USA, 2006. Available online: https://openknowledge.worldbank.org/bitstream/handle/10986/9104/WDR2008_0020.pdf?sequence=1&isAllowed=y (accessed on 19 May 2021).

20. WB (World Bank). *World Development Report 2008: Agriculture for Development*; World Bank: Washington, DC, USA, 2008. Available online: <https://openknowledge.worldbank.org/handle/10986/5990> (accessed on 25 June 2021).
21. Ashby, J.A.; Polar, V. The implications of gender relations for modern approaches to crop improvement and plant breeding. In *Gender, Agriculture and Agrarian Transformations. Changing Relations in Africa, Latin America and Asia*; Sachs, C., Ed.; Routledge: London, UK, 2019; pp. 11–34.
22. Sibyl Nelsen, S.H. *A Gender Responsive Approach to Climate-Smart Agriculture—Evidence and guidance for practitioners. Practice Brief: Climate-Smart Agriculture*; CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS): Copenhagen, Denmark, 2016. Available online: <http://www.fao.org/3/be879e/be879e.pdf> (accessed on 25 June 2021).
23. Cornwall, A.; Rivas, A.-M. From ‘gender equality and ‘women’s empowerment’ to global justice: Reclaiming a transformative agenda for gender and development. *Third World Q.* **2015**, *36*, 396–415. [CrossRef]
24. InnovAfrica. *Innovations in Technology, Institutional and Extension Approaches towards Sustainable Agriculture and Enhanced Food and Nutrition Security in Africa 2017–2018. EU H2020 Grant Support to InnovAfrica Project, Grant Agreement no 727201*; European Commission: Brussels, Belgium, 2016.
25. Cochran, W.G. *Sampling Techniques*; John Wiley and Sons, Inc.: New York, NY, USA, 1963; Volume 2.
26. Kamo, Y. “He Said, She Said”: Assessing Discrepancies in Husbands’ and Wives’ Reports on the Division of Household Labor. *Soc. Sci. Res.* **2000**, *29*, 459–476. [CrossRef]
27. Tavenner, K.; Fraval, S.; Omondi, I.; Crane, T.A. Gendered reporting of household dynamics in the Kenyan dairy sector: Trends and implications for low emissions dairy development. *Gen. Technol. Dev.* **2018**, *22*, 1–19. [CrossRef]
28. Narayan, D. *Empowerment and Poverty Reduction: A Sourcebook*; World Bank: Washington, DC, USA, 2002. Available online: <https://openknowledge.worldbank.org/handle/10986/15239> (accessed on 25 June 2021).
29. Kaliba, A.R.; Mazvimavi, K.; Gregory, T.L.; Mgonja, F.M.; Mgonja, M. Factors affecting adoption of improved sorghum varieties in Tanzania under information and capital constraints. *Agric. Food Econ.* **2018**, *6*, 18. [CrossRef]
30. Mudege, N.N.; Mdege, N.; Abidin, P.E.; Bhatasara, S. The role of gender norms in access to agricultural training in Chikwawa and Phalombe, Malawi. *Gen. Place Cult.* **2017**, *24*, 1689–1710. [CrossRef]
31. Njuki, J.; Doss, C.R.; Boote, S. Women’s control over income: Implications for women’s empowerment and the agricultural sector. In *Gender Equality in Rural Africa: From Commitments to Outcomes. ReSAKSS 2019 Annual Trends and Outlook Report*; Quisumbing, A.R., Meinzen-Dick, R.S., Njuki, J., Eds.; International Food Policy Research Institute: Washington, DC, USA, 2019; pp. 146–176.
32. Njuki, J.; Eisslei, S.; Malapit, H.; Meinzen-Dick, R.; Bryan, E.; Quisumbing, A.R. A Review of Evidence on Gender Equality, Women’s Empowerment, and Food Systems. Available online: <https://dx.doi.org/10.48565/scfss2021-1q69> (accessed on 25 June 2021).
33. FAO (The Food and Agricultural Organization of the United Nations). *Building a Common Vision for Sustainable Food and Agriculture. Principles and Approaches*; Food and Agricultural Organization of the United Nations: Rome, Italy, 2014. Available online: <http://www.fao.org/3/i3940e/i3940e.pdf> (accessed on 25 June 2021).
34. HLPE (High-Level Panel of Expert). *Food Security and Nutrition: Building a Global Narrative Towards 2030*; High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security: Rome, Italy, 2020. Available online: <http://www.fao.org/3/ca9731en/ca9731en.pdf> (accessed on 25 June 2021).
35. WB (World Bank). *Feminization of Agriculture in the Context of Rural Transformations: What Is the Evidence?* World Bank Group: Washington, DC, USA, 2016. Available online: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/790991487093210959/feminization-of-agriculture-in-the-context-of-rural-transformations-what-is-the-evidence> (accessed on 25 June 2021).
36. Johnston, D.; Stevano, S.; Malapit, H.J.; Hull, E.; Kadiyala, S. Review: Time Use as an Explanation for the Agri-Nutrition Disconnect: Evidence from Rural Areas in Low and Middle-Income Countries. *Food Policy* **2018**, *76*, 8–18. [CrossRef]
37. Pattnaik, I.; Lahiri-Dutt, K.; Lockie, S.; Pritchard, B. The feminization of agriculture or the feminization of agrarian distress? Tracking the trajectory of women in agriculture in India. *J. Asia Pac. Econ.* **2018**, *23*, 138–155. [CrossRef]
38. Quisumbing, A.; Meinzen-Dick, R.; Njuki, J. *Gender Equality in Rural Africa: From Commitments to Outcomes. ReSAKSS 2019 Annual Trends and Outlook Report*; International Food Policy Research Institute: Washington, DC, USA, 2019.
39. Malapit, H.; Quisumbing, A.; Meinzen-Dick, R.; Seymour, G.; Martinez, E.M.; Heckert, J.; Rubin, D.; Vaz, A.; Yount, K.M. Development of the project-level Women’s Empowerment in Agriculture Index (pro-WEAI). *World Dev.* **2019**, *122*, 675–692. [CrossRef] [PubMed]
40. Haug, R.; Nchimbi-Msolla, S.; Murage, A.; Moeletsi, M.; Magalasi, M.; Mutimura, M.; Hundessa, F.; Cacchiarelli, L.; Westengen, O.T. From Policy Promises to Result through Innovation in African Agriculture? *World* **2021**, *2*, 253–266. [CrossRef]
41. Hart, T.; Aliber, M. The need for an engendered approach to agricultural technology. *Agenda* **2010**, *24*, 75–90. [CrossRef]
42. Holmelin, N.B. Competing gender norms and social practice in Himalayan farm management. *World Dev.* **2019**, *122*, 85–95. [CrossRef]
43. WEF (World Economic Forum). *Global Gender Gap Report 2020*; World Economic Forum: Geneva, Switzerland, 2019. Available online: <https://www.weforum.org/reports/gender-gap-2020-report-100-years-pay-equality> (accessed on 25 June 2021).
44. UNDP (United Nations Development Program). *Gender Inequality Index*; United Nations Development Programme: New York, NY, USA, 2019. Available online: <http://hdr.undp.org/en/composite/GII> (accessed on 25 June 2021).
45. Kelkar, G.; Yunxian, W. The gender question and decent work: An analysis of apparel industry workers in China and India. *Indian J. Labour Econ.* **2007**, *50*, 555–572.

46. O'Hara, C.; Clement, F. Power as agency: A critical reflection on the measurement of women's empowerment in the development sector. *World Dev.* **2018**, *106*, 111–123. [[CrossRef](#)]
47. Leder, S.; Clement, F.; Karki, E. Reframing women's empowerment in water security programmes in Western Nepal. *Gend. Dev.* **2017**, *25*, 235–251. [[CrossRef](#)]
48. Kabeer, N. Women's Empowerment, Development Interventions and the Management of Information Flows. *IDS Bull.* **2010**, *41*, 105–113. [[CrossRef](#)]
49. Badstue, L.; Lopez, D.E.; Umansteva, A.; Williams, G.; Elias, M.; Farnworth, C.R.; Rietveld, A.; Njuguna-Mungai, E.; Luis, J.; Najjar, D.; et al. What drives capacity to innovate? Insights from women and men small-scale farmers in Africa, Asia, and Latin America. *J. Gend. Agric. Food Secur. (Agri-Gend.) Afr. Cent. Gend. Soc. Res. Impact Assess.* **2018**, *3*, 54–81. [[CrossRef](#)]
50. Cornwall, A. Women's Empowerment: What Works? *J. Int. Dev.* **2016**, *28*, 342–359. [[CrossRef](#)]
51. Kingiri, A.N. A Review of Innovation Systems Framework as a Tool for Gendering Agricultural Innovations: Exploring Gender Learning and System Empowerment. *J. Agric. Educ. Ext.* **2013**, *19*, 521–541. [[CrossRef](#)]
52. NIBIO and BeCA-ILRI Hub. National Ethics Council (NEC)—Requirement No. 1. Report to the EC. In *Innovations in Technology, Institutional and Extension Approaches towards Sustainable Agriculture and Enhanced Food and Nutrition Security in Africa*; European Commission: Brussels, Belgium, 2018.