

## Measuring Women's Empowerment in Agriculture in the Gauteng Province of South Africa

Thobejane, K.<sup>1</sup>, Swanepoel, J.<sup>2</sup>, Van Niekerk, J.<sup>3</sup>, and Van Der Merwe, H.<sup>4</sup>

**Corresponding Author:** K. Thobejane. Correspondence Email: thobejane@gmail.com

### **ABSTRACT**

*Commercial restrictions limit the extent of women's participation in the South African economy despite gender equality being valued. Since the implementation of The Women Empowerment Project in 1999, the agricultural sector's contribution has not yet been fully quantified. Women's opportunities, challenges, and roles in agriculture must be explored further by evaluating resource management strategies and policies. This study aimed to quantify women's empowerment in agriculture using descriptive research methodology. Data were collected and statistically analysed using the Women's Empowerment in Agriculture Index (WEAI) to identify the origin and extent of female farmers' difficulties. Satisfactory outcomes in production, leadership, assets, income, and time usage were more strongly associated with empowerment than demographic variables, and time available contributed the most to women feeling disempowered. Overall, women reported feeling more empowered compared to men. Disempowerment in male respondents as the control group was attributed to time, workload, and resources. In future studies, gender policies should be further developed to incorporate gender dimension, gender budgeting and sex-disaggregated data administration.*

**Keywords:** Women Empowerment, Agriculture, Gender Equality, Commercial, Economy.

---

<sup>1</sup> Dr. Kholofelo Thobejane, Lecturer: Department of Sustainable Food Systems and Development, Faculty of Natural and Agricultural Sciences, University of the Free State 205 Nelson Mandela Avenue, Email thobejane@gmail.com

<sup>2</sup> Prof. Jan Swanepoel, Associate Professor: Department of Sustainable Food Systems and Development, Faculty of Natural and Agricultural Sciences, University of the Free State 205 Nelson Mandela Avenue, [SwanepoelJW@ufs.ac.za](mailto:SwanepoelJW@ufs.ac.za)

<sup>3</sup> Prof. Johan Van Niekerk, Associate Professor: Department of Sustainable Food Systems and Development, Faculty of Natural and Agricultural Sciences, University of the Free State 205 Nelson Mandela Avenue, [vNiekerkJA@ufs.ac.za](mailto:vNiekerkJA@ufs.ac.za)

<sup>4</sup> Helene Van Der Merwe, Lecturer: Department of Sustainable Food Systems and Development, Faculty of Natural and Agricultural Sciences, University of the Free State 205 Nelson Mandela Avenue, [CronjeH@ufs.ac.za](mailto:CronjeH@ufs.ac.za)

## **1. INTRODUCTION**

It has been suggested by The World Economic Forum (2022) that it will take 132 years to close the gender gap and 151 years for equal gender opportunity and participation in the global economy. In the 2030 Agenda for Sustainable Development, women's empowerment has been emphasised as a prerequisite for ending poverty and inequality (Oxfam, 2019), urging for achieving gender equality and empowerment for all women and girls by 2030 (FAO, 2023). According to Sustainable Development Goal 5 (SDG 5), women comprise half of the world's population and represent half of its potential, and since 2014, 143 nations have included gender equality in their constitutions. Despite evidence illustrating enhanced resilience, sustainability, productivity, economic growth, and reducing poverty through women's participation in decision-making and the economy (World Bank, 2023), there are still significant disparities in achieving gender equality in agrifood systems (FAO, 2023).

Previous studies indicate that predetermined gender roles negatively impact productivity and economic participation (World Bank, 2012). Furthermore, gender relations consequently influence sector outcomes and economic efficiency. Therefore, gender equality is essential to develop and implement policies that merit specific analytical attention. A rising corpus of empirical data connects gender disparities to resource management, decreased agricultural productivity and income, and well-established relationships between gender and sustainable development. However, sectoral policies and programmes have not always been gender-sensitive (World Bank, 2012). The FAO (2023) emphasises the importance of policies prioritising empowerment, including improving women's access to resources and assets and increasing their decision-making abilities, which will aid in boosting incomes and resilience for women, their families, and communities. Improving gender-related practices and policies requires testing and adapting solutions informed by knowledge, learning, and advances in data. Therefore, gender equality could be enhanced by integrating gender analysis into policies (World Bank, 2023).

## **2. LITERATURE REVIEW**

### **2.1. Women's Empowerment**

According to previous studies, women's empowerment is a process involving the development of confidence, self-affirmation, economic independence, representation, ownership of productive assets, management of capital and assets, and community leadership (Santra &

Kundu, 2001), creating a sense of effective agency and power (Townsend et al., 1999; Sharp, Briggs, Yacoub & Hamed, 2003). Additionally, Ogato, Boon and Subramani (2009) define empowerment as “the process by which powerless individuals become conscious of their status and organise collectively to seek greater access to public services or the advantages of economic advancement”. Sharaunga, Mudhara, and Bogale (2019) used the Sustainable Livelihood Framework (SLA) to provide an enhanced basis for the understanding of the elements that constitute women’s empowerment, recognising the variations in terminology and meaning and the need for a concise method for conceptualisation. The authors redefined women’s empowerment as: “The multidimensional process of increasing the capacity/capabilities (i.e., resources and agency) of individuals or groups to make choices and to transform those choices into desired actions and outcomes”. According to these definitions, the empowerment process is as important as the outcome.

Wright and Annes (2017) cited the perspectives of development scholars on empowerment as a procedure and an exercise in an agency. Empowerment can also be described as the expansion and growth of self-choice and implementation of life changes where it was previously denied (Malhotra & Schuler, 2005).

Even though the role of women in various agricultural sectors has migrated towards a world trend of sustainable agricultural practices, challenges remain. In developing countries, less than 15 percent of women are landholders, yet they account for half of the labour force. The phenomenon is driven by unequal access to inputs, credit, labour, and information (World Bank, 2023). Achieving a system of production practices that satisfies human food needs while supporting the natural resource base can only be possible if all role players are included. Unempowered African female farmers are prohibiting this process, even though they are referred to as “the backbone of rural economic development and the quiet pillars of Africa’s food security and economic progress” (Peace, 2014). It has been shown that these women significantly contribute to global food security and economic development. However, the impact of their contribution should be explored further in terms of volume and specific characteristics according to intersectional disempowerment at the regional level (FAO, 2017). Limited integrated information is available regarding women’s participation in economic activities in this industry.

The South African government's lack of coordinated planning and implementation of policies is delaying sustainable agriculture, even though there is a consensus that it can lead to overall economic growth (DAFF, 2012). Many programs are ineffectively implemented due to physical dispersal and a biased gendered approach (DAFF, 2012). Furthermore, a lack of information-gathering systems focusing on gender also contributes to challenges facing South Africa's agricultural economic sustainability. This restricts data availability supporting government initiatives to increase gender responsiveness in specific contexts and stakeholder engagement (DAFF, 2012).

## **2.2. Women's Empowerment Progress in South Africa's Agriculture**

South African women are still on the periphery of economic decision-making and remain excluded from prospects of economic empowerment even though they are described as innovative individuals, devoting 90% of their income to improving the health and education of their families and investing in their community (Morna & Nyakujarah, 2011). A previous study by Levendale (2017) regarding the basics of sustainable development indicated that gender imbalance between men and women is an obstacle preventing economic empowerment. Other challenges include poverty, limited available after-family care, and gender-biased economic opportunities (Levendale, 2017). Santra and Kundu (2001) stated that an urgent requirement for women's agricultural empowerment is access to productive assets through land tenure that will increase independent decision-making.

Emphasising the importance of gender equality while attaining sustainable development is challenging (Joseph, 2017), especially while female farmers are side-lined from mainstream economic relationships and are part of the poorest demographic of the country (Budoo, 2016) with limited control of resources such as land, production inputs, credit, and technology (FAO, 2017). Economic growth and food security can be improved if the difficulties are addressed that female farmers face while striving to become proficient contributors to the agricultural sector.

The democratic transition in South Africa since 1994 is considered a significant victory for the country's people. However, significant economic growth and policies that raise all inhabitants' living standards are still lacking (Inman & Rubinfeld, 2013). After 28 years of democratic governance and reform initiatives, women farmers and agricultural entrepreneurs' lives have not improved much.

In 1995, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) was ratified. Since then, the Ministry for Women's Chapter 9 Institutions, for example, the Commission on Gender Equality, were implemented to uphold legal and civil rights. Furthermore, globally, The United Nations General Assembly Session on Gender Equality and Development and Peace for the Twenty-First Century adopted the Outcome Document titled "Further actions and initiatives to implement the Beijing Declaration and the Platform for Action", unambiguously supporting the Beijing Declaration, and the Platform for Action (1995).

Despite this progress, there is still a significant divide between the objectives outlined in the South African Constitution, laws, regulations, policies, programs and the real-world experience of women in agriculture. The Department of Agriculture, Land Reform, and Rural Development (DALRRD), previously known as the Department of Agriculture, Forestry and Fisheries (DAFF), in South Africa, has been implementing the women empowerment project since 1999. However, it has not been possible to quantify the impact of agriculture on empowering women farmers. It was reported that difficulties were experienced in determining how much of the previous years the DALRRD's budget was allotted to women and gender-sensitive programs compared to what was assigned to men (DoW, 2013). This report outlined that the department lacks a well-developed gender policy and gender-sensitive budgets.

Despite the unavailability of statistics on women's economic activities in agriculture at the commercial level in South Africa and other African countries, women's empowerment is necessary to achieve sustainable development, including food production and security, increased employment and an integrated gender mainstreaming dimension (Ukeje et al., 2020). Additionally, growth in the agricultural sector has been limited by outdated production methods (Ukeje *et al.*, 2020).

### **2.3. Commercial Agriculture in South Africa**

Commercial agriculture is defined in the Census for Commercial Agriculture report (Stats SA, 2017) as agricultural businesses that are registered for Value-Added Tax (VAT). According to the Stats SA (2017) report released in 2020, 46.4 million hectares of South Africa's total land area (38 %) is currently being utilised for commercial agriculture (36.5 million hectares for grazing, 7.6 million arable land, and 2.3 million hectares classified as other).

For a female farmer to be eligible to participate at a commercial level in the Department of Agriculture, Forestry and Fisheries Female Entrepreneur Awards, they should be an entity-registered organisation or person active for two years (DAFF, 2016). The organisation or person should clearly define its membership and roles inside a legally created and registered business. The business must be registered in the participant's name, and 80 % of the entity's ownership, management, and decision-making roles should be female. Additionally, the company must be registered for VAT and have a minimum yearly revenue of R1 million.

This study aimed to gather information in support of the empowerment of female commercial farmers in the Gauteng Province. This aim was achieved by quantifying the empowerment of commercial women farmers in Gauteng through developing policies and strategies. An outline of the background of female farmers in South Africa was given, followed by a literature survey regarding various factors affecting the empowerment of women farmers internationally and locally.

Empirical data were collected from commercial farmers in the Gauteng Province, focusing on demographic characteristics, resources, policies, and identification of institutions obligated to support women farmers. The data was statistically analysed to determine the characteristics of empowered farmers.

### **3. METHODOLOGY**

#### **3.1. Study Design**

The study used a quantitative research design to answer the question, "To what extent are women farmers empowered in the South African province of Gauteng?". The postpositivist research paradigm underpins the design, utilising survey research as the quantitative strategy of enquiry to measure and quantify women's empowerment numerically (Cresswell, 2009). The data was analysed using Statistical Package for Social Science (SPSS). Descriptive statistics and content analysis were used to identify challenges and measure women commercial farmer's empowerment level in the Gauteng Province (GP) for the Women's Empowerment in Agriculture Index (WEAI).

#### **3.2. Study Area**

This study was conducted in GP, focussing on commercial farmers registered under the commercialisation programme. The study area was chosen because women in GP have the

highest ownership rate at 40%, followed by Free State and Western Cape at 34% and 34%, respectively (DRDLR, 2017). All commercial farmers in the study qualified for the Gauteng Department of Agriculture and Rural Development (GDARD's) commercialisation programme, and the women farmers also benefited from the Department of Agriculture, Forestry and Fisheries Female Entrepreneur Awards (DAFF FEA).

The commercial agriculture industry inclusive of all races and genders in GP includes 2291 farms recorded in 2017, of which 36.1% were active cattle farms, 26.6 % mixed farms, and 21.1% crop farms. The city of Tshwane had 865 (37.8%) of all farms in the province in 2017, followed by Johannesburg with 404 (17.6%) farms and Sedibeng with 379 farms (16.5%). The regions with the most participants in the study were Sedibeng (23.1%), West Rand (17.9%) and Tshwane (12.8%) district/region.

### 3.3. Measurement of Women's Empowerment

Due to its complexity and multidimensional nature, measuring empowerment is a challenge. There is currently no standardised analysis available to quantify agricultural empowerment. The Women's Empowerment in Agriculture Index (WEAI), developed jointly by the United States Agency for International Development (USAID), IFPRI, and the Oxford Poverty and Human Development Initiative (OPHI) (Meizen-Dick, 2019), was the first comprehensive and homogenous measure to capture women's empowerment in agriculture. The WEAI is a weighted average of two sub-indices: Five Domains of Women Empowerment (5DE) and the Gender Parity Index (GPI). The 5DE sub-index (Table 1) is the primary focus of the first section of this article. The 5DE domains are categorised as follows: production, resources, income, leadership, and time. As a measure of empowerment, each domain has indicators and weights (Sraboni, Malapit, Quisumbing, & Ahmed, 2014); for example, production and income are indicators of decision-making power and control over income and expenditures (Akteret al., 2015).

**TABLE 1: WEAI Domains, Indicators, and Weights (Adapted from Alkire et al., 2013).**

Domain	Indicator	Definition of the indicator	Weight
Production	Input in productive decisions	Cash crop and livestock farming decisions can be made solely or jointly.	1/10

Domain	Indicator	Definition of the indicator	Weight
	Autonomy in production	Autonomy in agricultural production (e.g., which inputs to purchase, which crops to grow, what livestock to rear). Describes the extent to which the decision-making motivation of the participants reflects their values instead of a desire to please others or to avoid harm.	1/10
Resources	Ownership of assets	Ownership of major household assets solely or jointly.	1/15
	Purchase, sale, or transfer of assets	Whether the participant is involved in the decision to buy, sell, or transfer his or her owned assets.	1/15
	Access to and decisions about credit	Access to and participation in credit decision-making.	1/15
Income	Control over the use of income	Control over income and expenditures, either solely or jointly.	1/5
Leadership	Group member	Whether the participant is an active participant in at least one economic or social group, for example, agricultural marketing, credit, and water 'users' associations.	1/10
	Speaking in public	Whether the participant is at ease speaking in public about various issues, such as intervening in a family dispute, ensuring proper wage payments for public work programs, etc.	1/10
Time	Workload	Time allocation for productive and domestic tasks.	1/10
	Leisure	Satisfaction with the amount of time available for leisure activities.	1/10

The percentage of women who are empowered and the degree of disempowerment are reflected by the 5DE analysis. Each participant was given a binary score for each of the ten indications, representing whether the performance in that indicator was satisfactory. The empowerment

score is calculated by adding the indicators' weights (ranging from 0 to 100 %). Individuals are evaluated as empowered according to the 5DE rating system if they have sufficient accomplishments in four indicators or have an 80 % or above rating by combining indicators. An 80 % threshold was selected to ensure all data was included in the analysis. The Index of disempowerment (M0) was calculated as the sum of Disempowered headcount (H) and Average inadequacy score (A).

Index of Disempowerment: This is the sum of H and A (male's M0 = 0.07 and their 5DE = 0.93, whereas the female's M0 = 0.04 and her 5DE = 0.96).

### **3.4. Survey Design**

The survey was designed to include closed and open-ended questions to capture the study area's diagnostic and explanatory dimensions. Questions were aimed at general characteristics of commercial farmers and their families (age, education, marital status, children), empowerment characteristics, sustainability dimensions, and agri-economic elements. Data from questionnaires were analysed utilising SPSS to capture descriptive analysis and t-test parameters. Questions regarding empowerment were based on the Women's Empowerment in Agriculture Index (WEAI) analyses. The University of the Free State (UFS) ethical committee tested and approved the questionnaire, and informed consent forms were given to participants to read and sign before the interview.

### **3.5. Sample Size and Technique**

The study used baseline data obtained from the Gauteng Department of Agriculture and Rural Development's (GDARD's) commercialisation program with a population of 68 commercial farmers who were registered for the program, including black male farmers as the control group. Questionnaires were sent to 60 individuals who agreed to be interviewed from the population, of which 39 participated, including 23 female and 16 male farmers. The commercial farmers selected from the Gauteng Province implemented various agricultural production systems. Two groups were identified within the study population, including commercial female farmers who participated in the DAFF FEA project and the group registered under the GDARD's commercialisation program.

## **4. RESULTS AND DISCUSSION**

### **4.1. Background of Participants**

This study determined female farmers' degree of empowerment in the Gauteng province. The farmers included in this report fall under the National Policy on Comprehensive Producer Development Support's category of commercial farmers (DAFF 2018). Respondents in this study were farmers who shared a common category of being classified as commercial farmers. Only the farmers categorised as commercial farmers qualified for inclusion in the study. According to the definition, a commercial farmer must have a turnover of one million rands (R1m) to be eligible for VAT. The target group of the study was mainly commercial black female farmers, and the male black farmers were the control group. The commercial farmers were selected from all of GP's regions and engaged in various agricultural production systems for profit.

A portion of the other group consisted of commercial female farmers who participated in the DAFF FEA project. In contrast, the first cohorts of farmers are registered under the GDARD's commercialisation program. The DAFF FEA initiative is intended to develop effective methodologies to increase women's economic participation in agriculture, with the added benefit of providing knowledge on how to scale up these methodologies, which are likely to be most effective when institutions leverage their local environment's social, political, and economic structures.

#### *4.1.1. Participant's Marital Status*

Thirty-five percent of the test group was married female farmers, compared to 65% of the male participants. The majority of the participants (65% female and 87% male) indicated that they have been interested in farming from a young age and would like to stay in the agricultural sector (91% female and 100% male) and leave a legacy for their children (93% female and 71% male).

#### *4.1.2. Participant Age and Level of Education*

The median age of the female participants was 53 years (minimum = 30, maximum = 79). The average age for male participants was also in the same range of 55 years (minimum = 43, maximum = 67).

Less than half of the women participants had diplomas (43%) and degrees (30%), compared to a higher education level of men, with 50% having diplomas and 25% holding degrees. More participants had diplomas (46%) than degrees (28%). Although only 9% of the female farmers had no tertiary education, they still felt empowered in the agricultural sector.

#### *4.1.3. Level of Operation and Type of Farming*

Conventional farming practices were used by 74% of female participants and 94% of male participants. More male participants were reported to be livestock farmers (12%) than female participants (9%). The same proportion of male and female participants (56%) identified livestock production as their type of farming. More female participants reported being crop farmers (74%) compared to 62% of male participants. Additionally, approximately a quarter of female participants (26%) were involved in agricultural processing. Additionally, 78% of the female and 94% of the male participants operate at the commercial level. Less than half of the female participants (43%) were enrolled in the GP commercialisation program, while most male participants (87%) were enrolled.

#### *4.1.4. Duration in the Agricultural Sector*

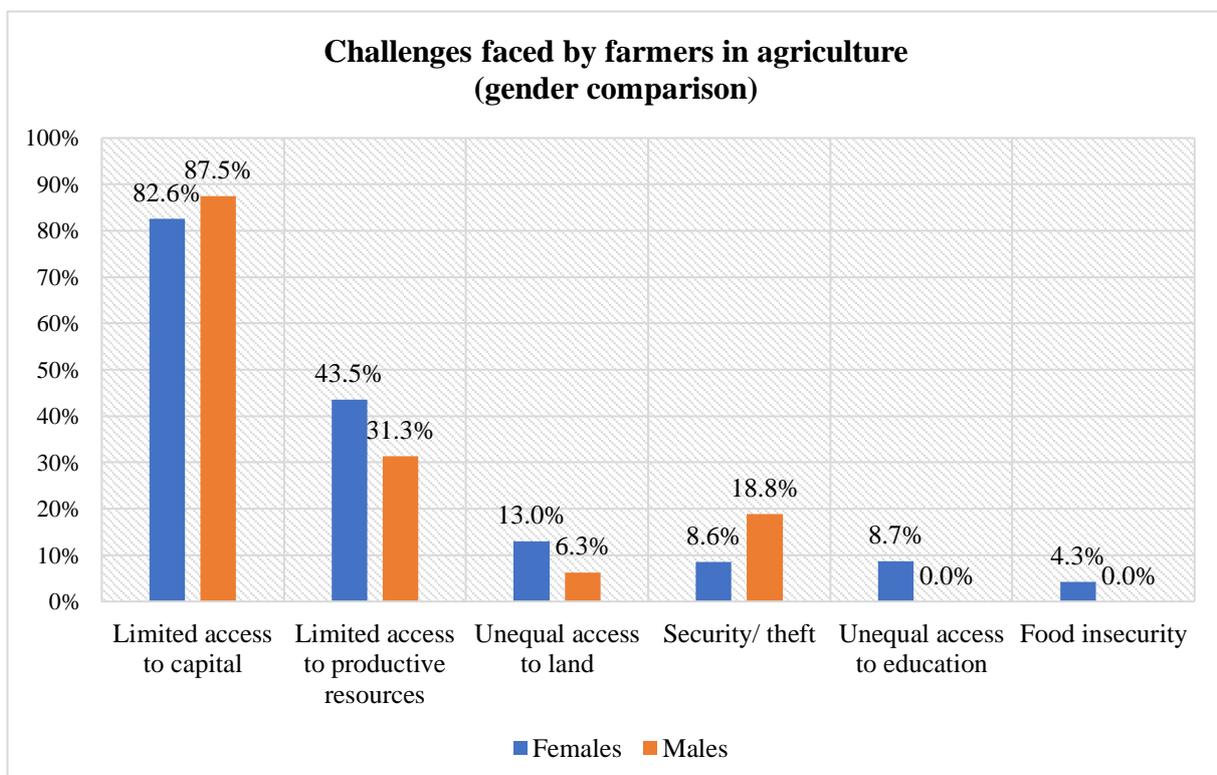
More than half of female participants (52%) pursued farming as a livelihood as their first choice, compared to 56% of male participants. Female participants reported less average time spent farming compared to males with 15.35 (6.49 years) (minimum = 4 years, maximum = 33 years), whereas male agricultural experience was 13.34 (7.03 years)(minimum = 3 years, maximum = 33 years).

More than 80 % of the female participants had access to assets and resources, resulting in them feeling empowered. Results further indicated that women participants felt more empowered than male participants (women = 91%, men = 81%). The remaining percentage of participants did not feel empowered (9% of females, 19% of males) and had low scores in four domains. The variables that contributed the most to female disempowerment were time, workload, and leisure. Males felt disempowered by workload, resources, and credit decisions.

## **4.2. Challenges Faced by Farmers in Gauteng**

The WEAI analysis indicators outline farmers' challenges in GP (Figure 1). Figure 1 indicates that the major challenge faced by most farmers (85%) was access to capital (female farmers = 83%, male farmers = 87%). Additionally, more women had limited access to production resources (female = 43%, male = 31%), unequal access to land (female = 13%, male = 6%), unequal access to education (female = 8.7%, male = 0%) and food insecurity (female = 4%, male = 0%) due to the continued marginalisation of women from mainstream economic activities in most African communities. However, the slight improvement compared to previous studies in Kenya (Ndiritu, Kassie & Shiferaw, 2014) and Malawi (Mutenje, Kankwamba, Mangisoni & Kassie, 2016) suggests that women's empowerment initiatives in South Africa's commercial farming are improving.

There is a need to reduce further inequality between male and female contributions to food security and education. Despite progress in human rights, gender equality and eradicating discrimination, women continue to face systematic disadvantages, for example, exclusion from access to assets and the perception that women are inferior to men (Koehler, 2016). Women are also marginalised in terms of political, social, and economic leadership, inhibiting equal and sustainable contributions to agriculture (Njuki and Sanginga, 2013).



**FIGURE 1: Challenges Faced by Male and Female Farmers in Agriculture in Gauteng**

To determine whether there were any gender differences in the overall number of indicated issues, an independent sample t-test was conducted. According to Shapiro-Wilk’s test, the data was not normally distributed with  $p < 0.05$ . The variances were homogeneous according to Levene’s test for equality of variances ( $p = 0.24$ ).

**TABLE 2: Independent Sample T-Test Based on Gender-Indicated Challenges**

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Total number of indicated challenges	Equal variances assumed	1.45	0.24	0.95	37	0.35	0.27	0.29	-0.31	0.85
	Equal variances not assumed			1.01	37.00	0.33	0.27	0.27	-0.27	0.8

Female participants had a higher mean total number of indicated challenges (Mean = 1.52; standard deviation (SD) = 0.99) than males (Mean = 1.25; SD = 0.68), but this difference was not statistically significant,  $t(37) = 0.947, p > 0.05, d = 0.31$  (Table 2).

Although gender was not identified as a significant challenge in GP, the data shows that all farmers face challenges that must be managed. Considering gender strategies is still applicable depending on the circumstances of each project. In Uganda, a successful composite index was developed for the market challenges faced by male and female farmers (Shiferaw, Kebede, Kassie & Fisher, 2015).

### **4.3. Empowerment of Women Farmers in Gauteng**

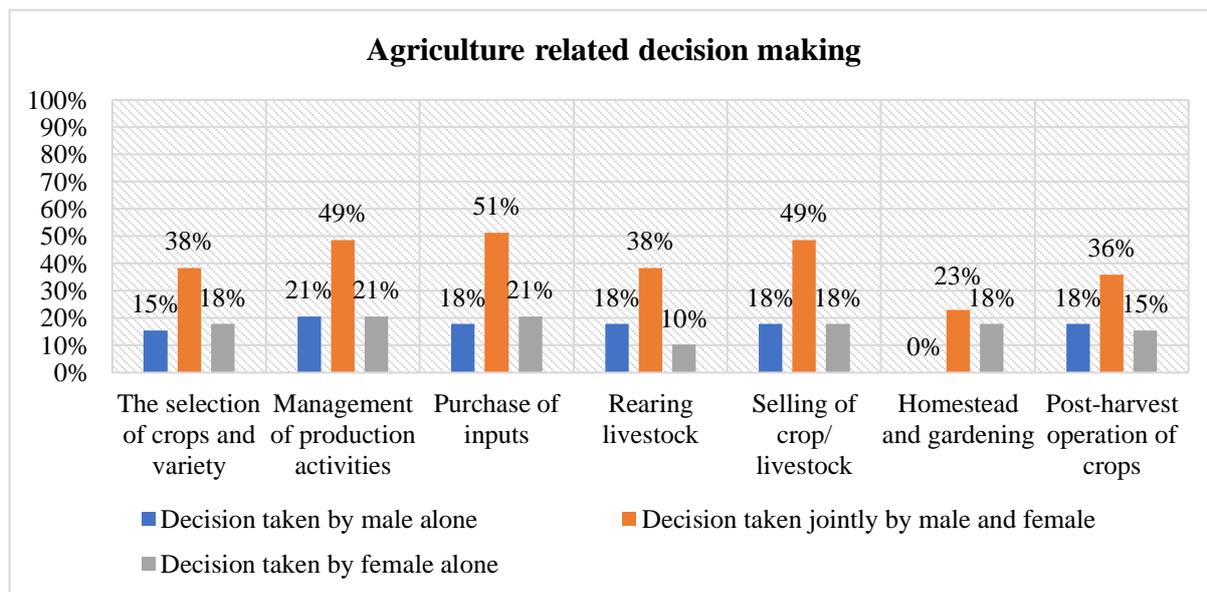
The majority of participants (67%) indicated that empowerment meant having access and rights to activities, while 30.1% stated empowerment as having control, 15% as being able to express themselves, and 10% as being able to share knowledge and skills with others. The interpretation of empowerment needs to be integrated into women's empowerment programmes.

The WEAI assesses decision-making power, access to resources (including credit), income control, time burdens, and group membership (Meizen-Dick, 2019). Domains are explained further:

#### *4.3.1. Production*

The production domain indicators are effective decision-making and production autonomy. The proportion of females with adequate input in productive decisions is 91.3% and 87.5% of males. In this study, production autonomy for female participants is at 78.3% of females are adequate, as are 93.8% of males.

In Figure 2, decision-making concerning production autonomy is outlined. 38.5% of participants indicated that the production decision is made jointly by males and females during crop and variety selection. However, 51.3% indicated that the decision to purchase inputs is made jointly by males and females. Almost half of the participants (48.7%) indicated that males and females decide to sell crops/livestock together. Female and male participants in homestead and gardening activities indicated that 23% of participants make joint decisions, and 35.95% in crop post-harvest operations make joint decisions. The results show that joint decision-making considers male and female input and is believed to enhance overall farm performance. New opportunities to reinforce gender-equal participation in this sector will further encourage women's empowerment, for example, platforms where male and female farmers can discuss and debate pertinent issues.

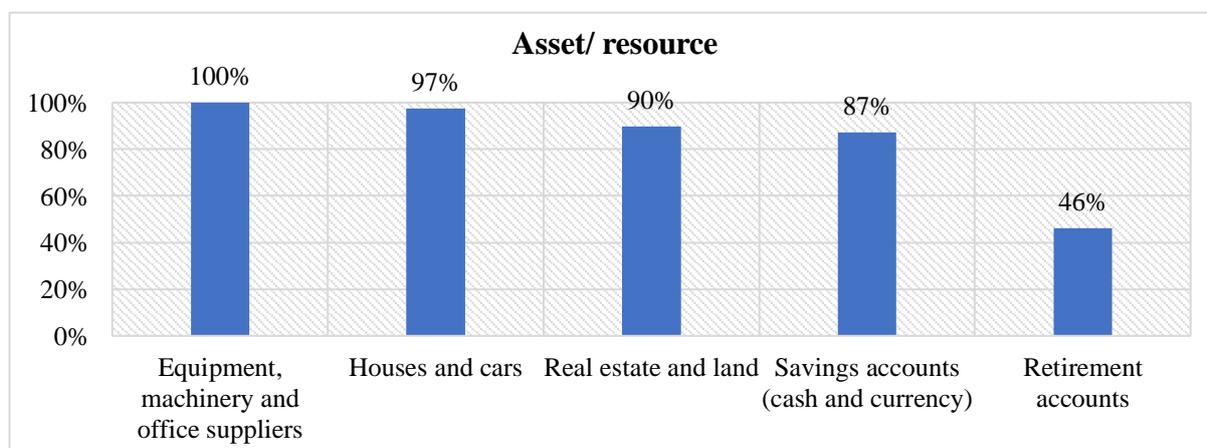


**FIGURE 2: Decision-Making Concerning Production Autonomy**

#### 4.3.2. Resources

The following indicators are part of this domain: credit access and decisions, asset ownership, asset acquisition, sale and transfer. Criteria for this domain are not restricted to ownership (male or female) of major assets (96% of participants); however, the individual must have partaken in one credit-related decision. According to this measure of credit availability and decision-making, 74% of females had sufficient access to credit compared to 87% of males.

The resources domain indicated that 90% of participants owned real estate and/or land, 46% had retirement accounts, and 100% had equipment, machinery, and office supplies. Most participants had savings accounts (87%), and 97% owned homes and cars (Figure 3).



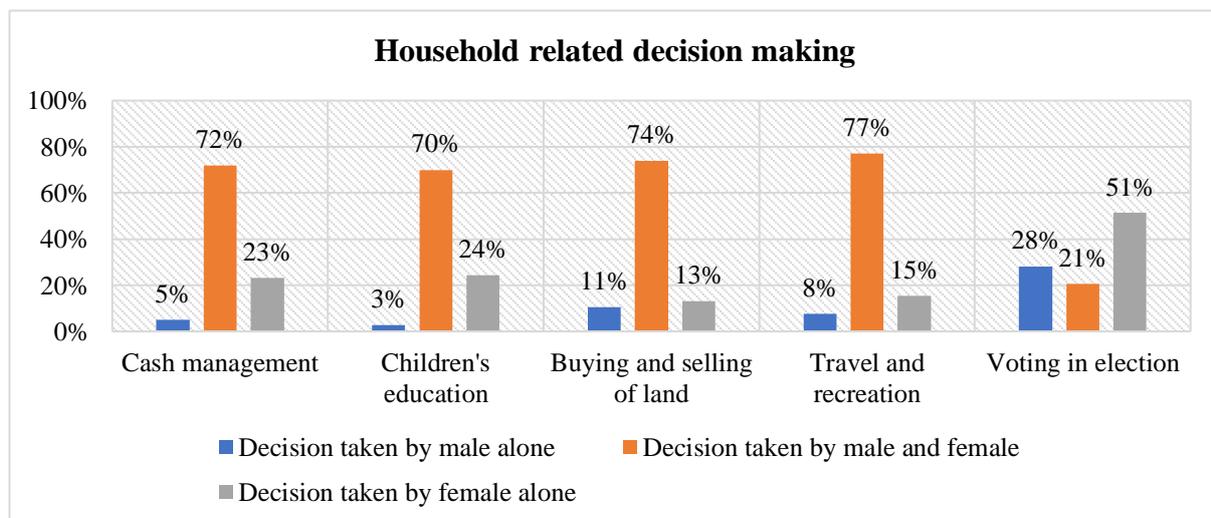
**FIGURE 3: Assets and Resources Domains**

#### 4.3.3. Income

This domain also includes control over the use of time as an indicator. All participants (100%) reported having control over how their income was spent.

In Figure 4, decision-making regarding income indicated that 74% of participants agreed that decisions were made jointly by males and females, followed by 77% of participants indicating that travel and recreation decisions were made jointly. Finally, the only indicator in the income domain where a decision was made individually was voting in elections, with 51% of participants indicating that voting in election decisions was made solely by females.

Most respondents (74%) indicated they make significant decisions concerning their wage/salary, and 51% made small decisions on minor household expenses. Cash management decisions (71.8%) and children’s education decisions (69.2%) were made by males and females.



**FIGURE 4: Household Decision-Making**

#### 4.3.4. Leadership

Men are more likely than women to be disempowered by a lack of community leadership and influence (Sraboni *et al.*, 2014). The following indicators are part of this domain: group participation and public speaking skills. Males had a 100% adequate group membership rate, compared to 87% for females. The participants were required to answer if they would speak in front of a group if at least one of three scenarios were present (92% of individuals felt at ease speaking in front of others to discuss infrastructure, 8% to ensure processes were completed

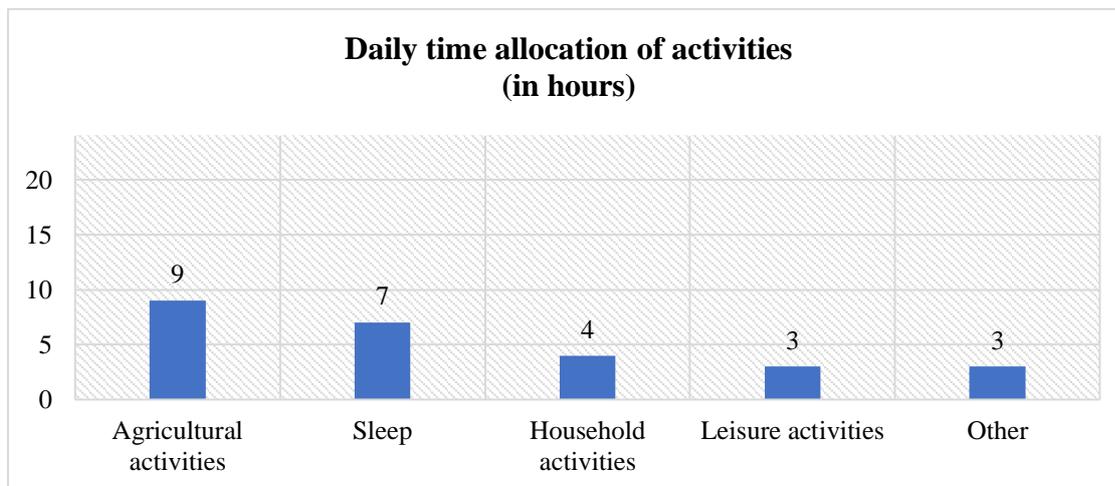
when payment was necessary, 51% that they would protest against the improper conduct of authorities or elected officials and 97% in cases of family disputes).

About 92% of the entire group indicated they belong to or participate in a social, political, or religious organisation (8% belonged to/participated in a women's self-help group, 17% belonged to/participated in a religious group, and 11% belonged to/participated in a non-governmental organisation (NGO). Only one participant indicated political party involvement. Furthermore, 11% of participants belonged to/participated in a cooperative organisation, while 89% belonged to/participated in a business or farmer association. All participants who did not belong to or participate in an organisation indicated a lack of time.

#### 4.3.5. *Time*

Workload and leisure indicators are part of the time domain (Figure 5). Participants were asked to estimate how many hours they spent on each indicator on a typical day. With an SD = 1.98 hours and a range of 4 to 12 hours per day, the average time spent on agricultural activities was 9.03 hours. With a minimum of 2 hours and a maximum of 10 hours, the average time spent on household tasks was 4.01 hours, SD = 1.54 hours. An average of 2.58 hours of leisure time was spent on activities (SD = 1.21 hours, minimum = 0 and maximum = 4 hours). The average time spent sleeping was 7.21 hours per day (SD = 1.17 hours, a minimum of 3 hours, and a high of 8 hours). Four respondents selected other options, with an average time spent on them of 2.50 hours (SD = 0.58 hours, minimum = 2 and maximum = 3 hours).

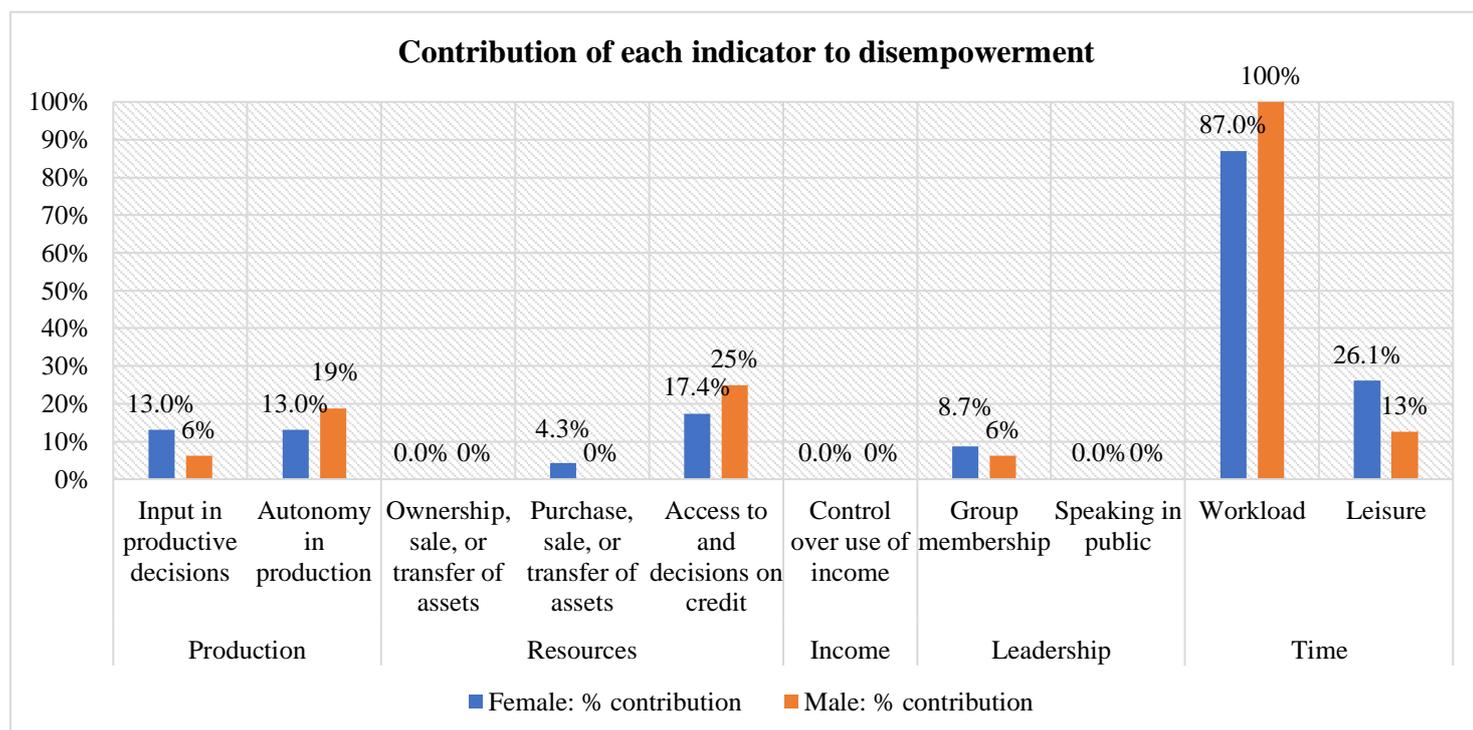
A participant was regarded to have a sufficient workload if they worked fewer hours per day on home and agricultural tasks than the 10.5-hour time poverty threshold. Under these circumstances, the manageable workload for women is 9%, and for men is 6%. A relatively high percentage of respondents reported feeling extremely satisfied/satisfied/neutral about having enough leisure time (94% of men and 70% of women).



**FIGURE 5: Time Use and Activities in Average Hours Per Day**

#### 4.3.6. Overall Empowerment

The domain in the sample that contributes most to female disempowerment is time (workload and leisure). The areas that have the most significant effects on male disempowerment are time (workload) and resources (access to and credit decisions) (Figure 6). In this study's 5DE, 91% of women and 81% of men reported feeling empowered. In 4% of the domains, the participants (males and females) who lacked sufficient empowerment had low scores.



**FIGURE 6: 5DE's (Domains of Empowerment) Analysed According to Alkire *et al.* (2013).**

The disempowerment headcount was finally calculated, and if a person's inadequacy score is higher than 20%, they are considered disempowered. Two women (9%) and three males (19%) lacked sufficient power. Fewer women compared to males lacked good empowerment, according to the 5DE Index (Table 3).

**TABLE 3: Disempowerment Table**

	Females	Males
Disempowered headcount ( <b>H</b> )	9%	19%
Average inadequacy score ( <b>A</b> ) <sup>5</sup>	4%	4%
Disempowerment index ( <b>M0</b> ) <sup>6</sup>	0.04	0.07
5DE Index ( <b>1 - M0</b> )	0.96	0.93

<sup>5</sup> Average inadequacy (A) score: Females:  $(0.4 + 0.4 = 0) / 2 = 0.4$ ; Males:  $(0.3 + 0.5 + 0.3) / 3 = 0.37$ .

<sup>6</sup> Index of Disempowerment (M0): Is the sum of H and A

## 5. CONCLUSION

The number of issues faced by commercial farmers in GP was unaffected by gender; both male and female farmers encountered similar challenges. Furthermore, demographic status was not significantly related to empowerment levels; for example, the education level of female farmers did not affect empowerment levels. These results oppose the belief that discrimination against women can hamper economic growth by lowering family food security and obstructing women's access to better education. In a previous study, Mayra and Furst-Nichols (2014) indicate that a small number of female farmers experience food security in peripheral African communities.

The Women Empowerment Agriculture Index was successfully used to understand the domains and indicators of empowerment that impact female farmers' empowerment and ability to contribute to sustainable agriculture in GP, South Africa. The five areas of empowerment were used to determine that more than 80% of the farmers in this study felt empowered (5DE). Most indicators in the 5DE contributed to empowerment to varying degrees (workload and leisure). Time (workload) and resources (access to and credit decisions) are the areas of male empowerment that contribute the most to their disempowerment.

However, based on the deconstruction of the disempowerment measure, time was the domain that negatively affected women's empowerment. This is supported by a previous study that concluded that women suffer from a lack of time due to household work and childcare responsibilities (Haug et al., 2021; OECD, 2021). Due to these challenges, women have little time available to attend training programs or engage in learning opportunities outside the household.

Most of the participants (85%) felt empowered, indicating they had been given support and encouragement. The main reasons for not feeling empowered among the 15% of participants were a lack of access to resources and insufficient assistance from the DALRRD. This was also noticed by Santra and Kundu (2001), indicating that access to assets is an essential aspect of women's empowerment in various economic sectors.

This study found that commercial women farmers appear more empowered in agriculture than expected from the existing literature. Furthermore, the current study demonstrated that sufficiency in the production, leadership, assets, income, and time usage categories was more

closely associated with empowerment than demographic variables. In conclusion, male and female farmers need empowerment in GP depending on their unique challenges, such as access to credit, which remains a frequently discussed topic regarding sustainable agriculture.

The Department of Agriculture, Land Reform, and Rural Development in South Africa is advised to create a gender policy to incorporate the gender dimension into pertinent policies and activities rather than address gender through a separate process. The implementation of gender budgeting, mainstreaming, and sex-disaggregated data administration must be referenced in this policy, initiatives, and action plans. Training and establishing partnerships are also encouraged to strengthen institutional structures to partner, cooperate, work together, and expand support for women farmers. From a policy perspective, this calls to action the stakeholders involved in women's empowerment and sustainable agriculture innovations to realign their efforts in support.

Additionally, by implementing a gender audit for the industry to close gaps in all producer support programs offered by the public and private sectors, the goal is to establish an environment that will encourage sustainability. This will ensure that promises made to empower women on paper are followed through with deeds and contribute to creating a mechanism for monitoring and evaluating the sector's impact on women's empowerment. Finally, continued awareness should be given to support gender roles to encourage women's participation in the sector's intervention programs. The methodology should also be developed to determine the department's support for gender empowerment and establish relevant outcome indicators for women. Therefore, the creation of a gender auditing tool is necessary to collect and analyse data that is gender-disaggregated to provide information that can be used to gauge the amount of support given to farmers and measure the impact of the sector's contribution to women's empowerment and sustainability.

## REFERENCES

- AKTER, S., RUTSAERT, P., LUIS, J., HTWE, N.W., SAN, S., RAHARJO, B. & PUSTIKA, A., 2015. Women's empowerment and gender equity in agriculture: A different perspective from Southeast Asia. *Food Policy*, 69: 270-279.
- ALKIRE, S., MEINZEN-DICK, R., PETERMAN, A., QUISUMBING, A.R., SEYMOUR, G. & VAZ, A., 2013. *The Women's Empowerment in Agriculture Index*, OPHI working

paper No. 58. University of Oxford. Available from <https://www.ophi.org.uk/wp-content/uploads/ophi-wp-58.pdf>

BUDOO, A., 2016. Gender budgeting as a means to implement the Maputo protocol's obligations to provide budgetary resources to realise women's human rights in Africa. *Afr. J. Leg. Stud.*, 9: 199-219.

CRESSWELL, J.W., 2009. *Research design: Qualitative, quantitative, and mixed methods approaches*. 3<sup>rd</sup> ed. Thousand Oaks, California: Sage Publications.

DEPARTMENT OF AGRICULTURE, FORESTRY, AND FISHERIES (DAFF)., 2012. Integrated Growth and Development Plan (IGDP). Pretoria, South Africa: Department of Agriculture, Forestry, and Fisheries. Available from [https://www.gov.za/sites/default/files/gcis\\_document/201409/daffigdp2012.pdf](https://www.gov.za/sites/default/files/gcis_document/201409/daffigdp2012.pdf). (27 August 2017).

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES (DAFF)., 2016. *Guide: DAFF Female Entrepreneur Awards 2019/20 - 2020/2021*. Pretoria, South Africa: DAFF. Available from [https://www.gov.za/sites/default/files/gcis\\_document/201610/daff-annual-report-2015-2016a.pdf](https://www.gov.za/sites/default/files/gcis_document/201610/daff-annual-report-2015-2016a.pdf)

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES (DAFF)., 2018. National Policy on Comprehensive Producer Development Support, Government Gazette Notice 429. Pretoria, South Africa: DAFF. Available from [https://www.dalrrd.gov.za/docs/media/Notice%20to%20gazette%20the%20policy%20\(2\).pdf](https://www.dalrrd.gov.za/docs/media/Notice%20to%20gazette%20the%20policy%20(2).pdf)

DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM (DRDLR)., 2017. *Land Audit Report. Phase II: Private land ownership by race, gender, and nationality*. Pretoria, South Africa: Department of Rural Development and Land Reform. Available from <https://www.gov.za/documents/land-audit-report-2017-5-feb-2018-0000>

DEPARTMENT OF WOMEN (DOW)., 2013. *Doing more with less: A South African gender budget analysis for health*. Pretoria, South Africa: Department of Women. Available from

[http://www.women.gov.za/attachments/article/14/GRB%202013%20Report%20\(Final\).pdf](http://www.women.gov.za/attachments/article/14/GRB%202013%20Report%20(Final).pdf)

FOOD AND AGRICULTURE ORGANISATION (FAO)., 2017. *Leaving no one behind: Achieving gender equality for food security, nutrition and sustainable agriculture*. Rome: FAO. Available from <https://www.fao.org/indigenous-peoples/detail/en/c/902834/>

FOOD AND AGRICULTURAL ORGANISATION (FAO)., 2023. *The Status of Women in Agrifood Systems*. Rome: FAO. Available from <https://doi.org/10.4060/cc5343en>

HAUG, R., MWASEBA, D.L., NJARUI, D., MOELETSI, M., MAGALASI, M., MUTIMURA, M., HUNDESSA, F. & AAMODT, J.T., 2021. Feminisation of African agriculture and the meaning of decision-making for empowerment and sustainability. *Sustainability*, 13(16): 8993.

INMAN, R.P. & RUBINFELD, D.L., 2013. Understanding the democratic transition in South Africa. *Am. Law Econ. Rev.*, 15(1): 1-38.

JOSEPH, C., 2017. *Sustainable Development and the Index of Women's Empowerment in Agriculture*. Women's Empowerment WEAI SDG's MDG's. Friedman School of Nutrition Science and Policy, Tufts University.

KOEHLER, G., 2016. Tapping the SDGs for Progressive Gender Equity and Equality Policy? *Gender and Development*, 24(1): 53-68.

LEVENDALE, C., 2017. *Towards women's economic empowerment: An overview of challenges, achievements, legislative mechanisms and programmes*. Cape Town, South Africa: Parliament of Republic of South Africa. Available from <https://www.parliament.gov.za/storage/app/media/uploaded-files/International%20Womens%20Conference%202017%20-%20Womens%20Economic%20Empowerment%20-%20August%202017.pdf>.

MALHOTRA, A. & SCHULER, S.R., 2005. Measuring women's empowerment as a variable in international development. In *Background Paper Prepared for the World Bank*

*Workshop on Poverty and Gender: New Perspectives*. Washington, DC: The World Bank.

MAYRA, B. & FURST-NICHOLS, R., 2014. *Promoting women's economic empowerment: What works? Policy Research Working Paper No. 7087*. Washington, DC: World Bank Group.

MEINZEN-DICK, R., 2019. *Empowering Africa's Women Farmers*. Project Syndicate. Available from <https://www.project-syndicate.org/commentary/women-farmers-africa-gender-equality-agriculture-by-ruth-meinzen-dick-2019-10>

MORNA, C.L. & NYAKUJARAH, L.J., 2011. *SADC Gender Protocol Barometer: Introducing the SADC gender and development index*. Johannesburg, South Africa: Southern Africa Gender Protocol Alliance. Available from <https://genderlinks.org.za/programme-web-menu/publications/sadc-gender-protocol-2011-barometer-2011-08-05/>

MUTENJE, M., KANKWAMBA, H., MANGISONI, J. & KASSIE, M., 2016. Agricultural innovations and food security in Malawi: Gender dynamics, institutions and market implications. *Technol. Forecast. Soc. Change.*, 103: 240–248.

NDIRITU, S.W., KASSIE, M. & SHIFERAW, B., 2014. Are there systematic gender differences in the adoption of sustainable agricultural intensification practices? Evidence from Kenya. *Food Policy.*, 49(1): 117–127.

NJUKI, J. & SANGINGA, P.C., 2013. *Women, livestock ownership and markets: Bridging the gender gap in Eastern and Southern Africa*. New York: Routledge.

OGATO, G.S., BOON, E. & SUBRAMANI, J., 2009. Gender roles in crop production and management practices: A case study of three rural communities in Ambo District, Ethiopia. *Econ J Hum Ecol.*, 27(1): 1-20.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD), 2021. *Gender and the environment: Building evidence and policies to achieve the SDGs*. Paris: OECD Publishing.

- OXFAM., 2019. *Feminist Aid: A call for G7 leaders to beat inequality*. Oxfam, Oxford. Available from <https://www.oxfam.org/en/research/feminist-aid-call-g7-leaders-beat-inequality>.
- PEACE, T.R., 2014. *Unleashing Women's Potential: Investing in Women in Agriculture at the Center of Africa Transforming and Rising* [Keynote address]. Fourth Africa Green Revolution Forum (AGRAF), African Union Conference Center, Nelson Mandela Hall, Addis Ababa, Ethiopia.
- SANTRA, S.K. & KUNDU, R., 2001. Women's empowerment for sustainable agriculture. *Manage. Ext. Res. Rev.*, 11: 131- 190.
- SHARAUNGA, S., MUDHARA, M. & BOGALE, A., 2019. Conceptualisation and measurement of women's empowerment revisited. *J. Hum. Dev. Capab.*, 20(1): 1-25.
- SHARP, J., BRIGGS, J., YACOUB, H. & HAMED, N., 2003. Doing gender and development: Understanding empowerment and local gender relations. *Trans. Inst. Br. Geo.*, 28(3): 281-295.
- SHIFERAW, B., KEBEDE, T., KASSIE, M. & FISHER, M., 2015. Market imperfections, access to information and technology adoption in Uganda: Challenges of overcoming multiple constraints. *Agric. Econ.*, 46(4): 475–488.
- SRABONI, E., MALAPIT, H.J., QUISUMBING, A.R. & AHMED, A.U., 2014. Women's empowerment in agriculture: What role for food security in Bangladesh? *World Develop.*, 61: 11-52.
- STATISTICS SOUTH AFRICA (STATS SA)., 2017. *Census of commercial agriculture, 2017: Financial and production statistics*. Pretoria, South Africa: Stats SA. Available from <https://www.statssa.gov.za/publications/Report-11-02-01/Report-11-02-012017.pdf>
- TOWNSEND, J., ZAPATA, E., ROWLANDS, J., ALBERTI, P. & MERCADO, M., 1999. *Women and power: fighting patriarchies and poverty*. London: Zed Books.

- UKEJE, I.O., OGBULU, U., IDIKE, A.N., NDUKWE, C., IWUALA, H. & CLEMENTINA, K., 2020. Policy-making for sustainable empowerment and poverty reduction scheme in Nigeria. In A. Farazmand (ed.), *Global encyclopaedia of public administration, public policy, and governance*. Cham: Springer.
- WORLD BANK., 2012. *World development report: Gender equality and development*. Washington: World Bank. Available from <https://openknowledge.worldbank.org/handle/10986/4391>
- WORLD BANK., 2023. *Gender Strategy 2024-2030: Accelerate Gender Equality for a Sustainable, Resilient, and inclusive Future – Consultation Draft*. Washington: World Bank. Available from <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099013107142345483/secbos04cf7b650208a5e08b784c0db6a4>
- WORLD ECONOMIC FORUM (WEF), 2022. *The Global Gender Gap Report 2023*. World Economic Forum. Available from <https://www.weforum.org/reports/global-gender-gap-report-2023/>
- WRIGHT, W. & ANNES, A., 2017. Farm women and the empowerment potential in value-added agriculture. *Rur. Soc.*, 81(4): 545-571.