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The Influence of Education on Women and Food Security

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ABSTRACT

The study analysed the influence of education on women and food security in South Africa. The methodological approach was a qualitative analysis using focus group discussions and an in-depth desktop review of relevant literature on the education system. The focus group discussions were about rural women's farming initiatives, looking at the influence of education on productivity. According to the study, educational level and farm productivity are directly correlated. The women in the focus group discussions mentioned that education and training were critical for food production and household food security. In addition, education is essential for women to imagine and implement strategies and opportunities to gain employment and move up the commodity value chain. Furthermore, a specialised curriculum in technical subjects at primary and secondary levels targeting girls was essential for establishing a strong foundation for them. Adult education, especially in primary education courses targeting women, improves women's agriculture participation. Since women are the custodians of smallholder agriculture, gender transformative approaches such as tailor-made financial and leadership support are also critical for the socio-economic development of agriculture in South Africa.

Keywords: Food Security, Gender, Women in Agriculture, Education, Farming

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1. INTRODUCTION

Two UN Sustainable Development Goals underpin this study. Goal four is to ensure inclusive and quality education for all and promote lifelong learning (Materechera, 2021). Goal five: to achieve gender equality and empower all women and girls. According to Doss et al. (2018), a recognised relationship exists between women's empowerment and increased food security. Many pillars for improved food security are embedded in women's empowerment, and the central pillar is education. The WFP (2020) findings view gender equality as essential in improving food production. There is a need to close the gender gap, and ensuring equal access by women to resources and assets is critical for accelerating agricultural and rural development and poverty alleviation. Education has an important role to play (Trauger et al., 2008).

2. PROBLEM STATEMENT

According to the United Nations report (2020), improving education for women could dramatically reduce hunger in developing countries. Yet, women continue to be regarded as home producers or assistants on the farm rather than as farmers and economic agents on their merit. Still, it calls for erasing gender inequalities in land ownership and financing to help address future food security. According to Doss et al. (2018), women account for more than 30% of the food producers globally yet face significant challenges, including land and inheritance rights restrictions and unequal footing in finance and technology. In most developing countries, women produce between 60 and 80 percent of the food. Reimer et al. (2013) emphasise the importance of education in improving food production and general household food security. According to a study carried out in Uganda by Appleton et al. (2016), because women are the custodians of household food security, a household with educated women (high school and above) produced more food than their counterparts who are less educated (primary level and below).

2.1. The Objectives of the Study

The objectives of the study were to;

- Establish the influence of education on women farmers' household food security and general well-being.
- Establish the importance of integrating agriculture and other technical subjectsinto primary and secondary-level curricula.

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- Explore the challenges many women face in their education careers with a particular focus on research on women and food security in Higher Education Institutions.

3. METHODOLOGY

The data was collected through a semi-structured questionnaire, focus group discussions and key informant interviews. Several workshops were facilitated, during which training was given on completing the interview, recording life histories and analysing transcribed interview materials using thematic content analysis. In addition, an in-depth desktop review was conducted on education, agriculture and food security. Two field researchers who reported on the case studies were well entrenched in the respective communities and thus were well accepted by the interviewees. They also had excellent contacts within the National Movement of Rural Women.

4. ETHICAL CLEARANCE

Ethical clearance was obtained from the University of Witwatersrand Ethics Committee.

5. KEY RESULTS AND DISCUSSION

5.1. Education, Food Security and Women

One of the respondents who was interviewed from the Kodumela Egg Project shared the value of such education. She explained that education changed the role of women in her community as one of the women in the project started as a secretary of the School Governing Board at a local crèche and became a primary school key spokesperson and negotiator, thus demonstrating that education contributes to empowerment (Interviews, Kodumela Egg Project). Most of the interviewees had not completed their schooling, with some not having been to school at all. The main reasons were their parents who had no money for education and considered school a low priority as they would get married. Others had completed some schooling, with most ending at the primary school level. From the study, the interviewees with low levels of education reported that they frequently experience food insecurity. This sad phenomenon is found in most African countries; Rani et al. (2019) assert that a generation of vulnerable women have lost their education.

However, all is not lost, and adult education can enable women to take up leadership roles in their communities and many areas of their lives.

5.1.1. Girls in Primary and Secondary Education

Gillespie et al. (2017) argued that South Africa has a good track record for girls' school attendance, unlike other developing nations. In response to legislation concerning school attendance, rates for girls are slightly higher than for boys; South Africa has more women than men overall. According to STATS SA (2020), the gender parity index for gross enrolment ratio in education for primary school enrolment rate for boys is 89.7%, and 90.9% for girls. There is an increased enrolment for girls in South Africa, attributed to government and private institutions promoting girl child enrolment (Arnot et al., 2017).

5.1.2. Challenges for Girls at School

One of the major challenges South African education faces is the performance of scholars in maths and science. Nhemachena et al. (2018) reported that South Africa was among the twenty-one worst-performing middle income countries. South African grade nine scholars were two years behind the average grade eight scholar in mathematics and 2.8 years behind the average in science. According to Abegunde et al. (2019), in South Africa, education for primary and secondary levels in agriculture is based on scientific concepts and principles from the sciences: biology, chemistry, physics, and environmental sciences. In these subjects, generally, girls do not perform as well as boys. Supporting and encouraging girls to perform well in these subjects is critical to their contribution to agricultural science.

5.1.3. Poverty, Pregnancy, School Attendance and Dropout Rates

According to STATS SA (2021), nearly 3% of 15-year-olds and almost 9% of 17-year-olds dropped out of school. The most prominent reasons for non-attendance of school in 2021 included illness and disability (22,7%), poor academic performance (21,2%) and lack of money for fees (19,6%). Reasons for dropping out of school differ by gender, especially for females who have to stop attending school due to family commitment (13,4%) and pregnancy (10%), while close to 5% of males stopped attending because they had no interest in education.

Given that the state makes provisions for girls to return to school after childbearing, Stoner et al. (2018) analyse why teenagers do not return to school. Even though education is seen as an

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investment to escape poverty, many teenage mothers live alone or in child-headed households, and it makes it almost impossible to go back to school.

During the interview process, one of the ladies said,

> "my children were starving before I got involved in the project, so since I worked here, I was able to take two kids to school. The last born has a diploma now. The money I got here was buying the groceries while the father was paying the fees. So, it helped a lot by closing the gap; even though it is little, it made a difference."
>
> (Interviews, Kodumela Egg Project, September 2015)

Food security projects thus offer opportunities for parents/adults to send their children for formal education. Furthermore, the projects assisted the women and their children in benefiting from the National School Nutrition Programme. The women have benefitted from new skills taught in the project, resulting in improved confidence. Their children's education is a priority, and the projects, especially the more established Kodumela Project, improved their capacity to ensure that children complete their education.

5.2. Tertiary Education

According to the Academy of Science of South Africa (2021), in tertiary education, women are enrolled for degrees predominantly at the lower level of the tertiary education chain. Thus, the enrolment for undergraduate degrees below the level of masters was 61% and 64% respectively. For degrees at the masters level and above, the percentage of women enrolling dropped to 48% for masters and 43% for doctoral degrees. In South Africa, at least six universities and several agricultural colleges offer agriculture as a degree or a diploma. However, several academics and students are researching the field of agriculture not for degree/diploma purposes but for short learning programmes. Food security is seen as an expanding field with funding; thus, several academics are motivated to get involved. As the food security crisis deepens in South Africa, more academics are becoming concerned about the issue and are motivated to assist (Darvas et al.,2017). From 2020 to 2021, COVID-10 lockdown restrictions brought significant disruptions to education across South Africa, Africa and globally. Emerging evidence from Wegerif (2022) and Tripathi et al. (2021) indicate that

the pandemic gave rise to learning losses and increased inequality between girls and boys. More girls and young women dropped out of school than boys and young men.

5.3. Food Security Research

According to Sarkar et al. (2019), food security is an important (adjunct to) climate change vulnerabilities, responses and adaptations. Food security should be studied as part of a systems analysis approach. Food security has emerged in postgraduate studies, covering a range of themes and has steadily increased over the past ten years. Climate change, mitigation and adaptation are central themes, as are poverty reduction and resilience. The research included topics from the urban and the rural context. In a review of 70[4] postgraduate reports on food security between 2005 and 2016 at Wits University, the relationship between gender and food security only appeared once. Most of this research is produced within the School of Social Sciences (mainly in the field of Development Studies) in the Faculty of Humanities (26%). The School of Health Sciences (Wits) emphasises nutrition and has contributed a share of 19% of postgraduate research. The School of Molecular and Cellular Biology research is focused on developing disease-resistant crops, contributing 16% of the postgraduate research on food security. Postgraduate research from the School of Geography, Archaeology and Environmental Studies contributes 11% of the output, and the Wits School of Governance and Animal, Plants and Environmental Sciences contribute 7 and 6%, respectively. The School of Architecture and Planning and the School of Human and Community Development each account for 4% of the output. The rest comprises the occasional output from one student within a school. Almost two-thirds of these researchers are women, and they dominate the field across all disciplines.

5.3.1. Women in Food Security Research

One of the critical interview informants at Wits University believed that natural scientists encountered social justice issues in their research and were interested in land reform, migration, and development. Gender was not foregrounded in most of their research. One of the researchers argued that while social justice was an essential aspect of research and one should apply a "meta understanding" of social justice, women should not necessarily be prioritised.

[4] This represents the research output of the University of Witwatersrand housed in the Institutional Repository.

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> What is the theoretical issue? To just say gender matters, you do a disservice to women…Gender and food is a sexy topic, "shame poor women", they must be involved in food and dietary issues.
>
> (Interviews, October 2016)

This position was reflected in a discussion with another natural scientist. In her and her postgraduate students' research, the land ownership and reform issue had become central to their findings. Gender, however, was not mentioned as an important dimension of the research. Later in the interview, we discussed whether 'women and food' should be included in the curriculum. She felt that women could be mentioned in her teaching but that this engagement would necessarily be superficial. The issue of women and food should be taught within a discipline different from hers, in which the issue has already formed part of the existing knowledge base. At Wits, she felt, this was the task of the discipline of Geography.

The academics with a social science background presented a very different understanding of gender.

> The food crisis is deepening, and women are the shock absorbers of the crisis due to the gendered division of labour.
>
> (Interviews, November 2016)

5.4. Lack of Funds and Food Insecurity at Tertiary Institutions

In 2015, several universities experienced prolonged student protest action in response to high fees. One of the main reasons for poor student performance and dropouts was a lack of funding. As the state continued to reduce subsidies to universities, students frequently became heavily indebted by the end of their studies (Mutekwe, 2017). COVI9-19 exacerbated this in 2020, and the residual effects of the pandemic persist to this day (Goldrick-Rab et al., 2022). Few were able to complete internships and further training, enabling them to find suitable employment. Furthermore, even with sufficient funding available for studies, bursaries did not cover the food or toiletries for students. Combined with the high cost of food on campus and the high cost of transportation, the effect of partial funding has resulted in students being either food insecure or their student days being characterised by poor performance by attempting to close the gap with part-time work; alternatively, students dropping out of the system altogether (Mutekwe, 2017).

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According to Rudolph et al. (2018), food insecurity at higher education institutions (HEI) in South Africa has been reported as being very high. There is a causal relationship between food insecurity and student academic performance, with a dropout rate of 50% to 60%. There are several stressors for students: difficulties with accommodation, high transportation costs, long journeys to campus, and food insecurity. These stressors make for vulnerable students and lead to poor performance or dropout.

5.5. Systemic Issues

Most respondents expressed a profound sense of alienation as a core academic experience at specific career points. One of the respondents felt that the university was still "a man's world" and that women had to be "tough" to make it. She hastened to add that university environments could also be challenging for men, mainly in their early careers.

According to Mabokela et al. (2017), many women in South Africa and other African countries complain about their exclusion from male informal networks in the university where the social capital is made to succeed in university environments.

> In hindsight, [the social network of men] wanted to gossip with me and have me as a friend. Here was a sexy black woman researching the [African] continent. I didn't reflect on their patriarchy. I just thought, "jerks"…My parents were supportive. Always. I found it quite redemptive when my father said, "just leave your job". They let me be job insecure and career insecure instead of having my career mapped out for me…
>
> (Interviews, November 2016)

These stories of sexism in the academy are not unique. Potgieter (2002), in her study of the experiences of black academics in university environments, reflects that black female academics in institutions predominantly made up of black academics complained of profound sexism. In contrast, black women in traditionally white institutions complained of both racism and sexism - with racism being a direct experience. Furthermore, many commented that it was more uncomfortable to be in liberal institutions, as racism and sexism were covert and difficult to confront. There are pockets of solidarity between women in the university, but it is sometimes difficult to find these solidarity networks in the context of fierce competition within the university.

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5.6. Food Security and Access to the Labour Market

According to STATS SA (2019), 52% of women were less economically active than men (65%). The agriculture, forest and fishing sectors account for only 4% of employment for women compared with 31% of women working in the community, social and personal sectors. It also appears that the agricultural sector is not growing in terms of women's employment, with most job gains being in non-agricultural sectors. There are high levels of unemployment in South Africa, and women often carry the burden of unemployment. In 2020, 28.74% of the labour force was unemployed. The unemployment rate for women for quarter four was 34.3% compared to 31% for men.

According to Chakona et al. (2019), many retired women depend entirely on monthly government pensions of R1 500. These retired women form the backbone of food production projects such as the Kodumela Egg Project. At the Matilu Organic Farming Project, there is more of a mix of ages. Several women are retired, and others are work seekers who feel discouraged by the lack of employment:

> This project is going to grow. It is better to come and work rather than just sitting at home. Hopefully, this would pay off.
>
> (Interviews, Matilu Organic Farming Project, September 2015)

In the context of a growing pool of discouraged work seekers, the projects themselves are seen as having potential employment opportunities:

> I would like to see this project grow; we want to use the third chicken run as a broiler and operate broilers and layers; that is how this will grow. I want my grandchildren to work here and make it grow much bigger.
>
> (Interviews, Kodumela Egg Project, September 2015)

> My dreams for the project is for it to must grow and create jobs for the youth.
>
> (Interviews, Kodumela Egg Project, September 2015)

There is clearly dedication and belief in the projects, and they have offered the women a sense of purpose and agency:

> My dream about this garden is that it grows bigger this coming season, we want to plant tomatoes. I started with this project; we open at 5h00 am and finish at 16h00 pm.

(Interviews, Matilu Organic Farming Project, September, 2015)

The projects function as a safety net against food insecurity and the worst effects of poverty. There is an impetus to sustain these projects as women see few other opportunities for themselves and their families in the economic recession besetting South Africa. The projects also offer protection against exploitation and job insecurity often associated with farm work.

One of the core challenges to the two case studies was their position within the commodity value chain. Both projects serve local communities. In the case of the Kodumelo Egg Project, the local community was served via a small shop on the premises. The eggs are also sold at the pension pay-out collection point, where there is often a small market on the day that state pensions are available for collection. At Matilu, the vegetables grown are sold in the community, and the objective is to supply the community with vegetables at a lower cost. Few opportunities exist for women to sell at a larger scale or to more formal markets. This is a hindrance to the long-term growth of the projects.

5.7. Challenges: Access to Land and Resources

One of the challenges to accessing more formal markets is the lack of transport infrastructure, particularly in the case of Matilu Organic Farms. Furthermore, while there is access to water on the land, the beneficiaries do not have adequate infrastructure to pump the water to the areas where it is needed. There is also a lack of proper equipment, which the women feel is impeding their progress:

> My greatest wish is that this project must grow; we are hardworking, we just need implementation and other equipment, which will grow.
>
> (Interviews, Matilu Organic Farming Project, September, 2015)

One of the respondents from the Kodumelo Egg Project holds the title deeds for the project's land. The Matilu Organic Farming Project is situated on communal land allocated to them. The issue of land ownership is central to improved food security for women, and the produce of both projects not only provides a source of income for the women but also provides a sustained food source for the women who do not have access to land for food gardening at home:

> I don't have a garden at home; my yard is very small.
>
> (Interviews, Kodumela Egg Project, September 2015)

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> We started the garden in the project for feeding our children because we did not have a garden at home due to the small yard.
>
> (Interviews, Kodumela Egg Project, September 2015)

According to Hull et al. (2019), land reform in South Africa has been slow, particularly for women. Between 2005 and 2010, 50 877 people benefited from the land redistribution and tenure programme – of these, 35.9% were women (Commission for Gender Equality, quoted in Department of Women, 2015). Only 9% of the 726 952 people who benefitted from the land restitution programme were women. The Kodumela Egg Project and the Matilu Organic Farming Project present two ways in which poorer women can gain access to land; however, the work of restitution and redistribution remains a priority for women.

6. CONCLUSION AND RECOMMENDATIONS

Women's everyday lives are deeply intertwined with food security issues, as they take the lion's share of unpaid care work. In this capacity, they have become the shock absorbers of the food security crisis. It is a daily, time-consuming struggle for already time-stressed women to ensure that their families are fed. The key to the improved status of women is education, both in terms of its affective value and the potential to generate income for women. Education is essential for women to imagine and implement strategies and opportunities to gain employment and move up the commodity value chain. The relationship between education, food security and agriculture, in general, is important for the socio-economic development of South Africa. A specialised curriculum in technical subjects, including agriculture, is needed to strengthen their foundation in agriculture and other technical subjects. In addition to adult education, primary agriculture courses targeting women farmers can improve women's participation in agriculture and contribute to food security. Since women are the custodians of smallholder agriculture, gender transformative approaches such as tailor-made financial and leadership support are also critical.

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