

## A REVIEW OF CASE STUDIES, STRATEGIES, INNOVATIONS AND DIGITAL APPLICATIONS FOR ADOPTION AIMED AT BOOSTING WOMENS PARTICIPATION IN AGRICULTURE IN NIGERIA

<sup>1</sup>Shirama , L , <sup>2</sup>Abashi, T.J, <sup>2</sup>Abubakar, N

<sup>1</sup>Department of Agricultural Economics and Extension, Federal University, Kashere, Nigeria

<sup>2</sup>Department of Agricultural Extension and Management, Bauchi State College of Agriculture, Bauchi, Nigeria

(Corresponding Author: Shirama, L lshirama2016 @gmail .com)

### ABSTRACT

*This review highlights the role of women in agricultural development as well as strategies, innovations and digital application that can help step up the participation of women in agriculture. The role of women in sustainable agricultural development cannot be overemphasized, women constitute about 60 to 80 percent of agricultural labour force in Nigeria. Apart from child bearing, feeding their household, domestic duties, women are involved in subsistence farming: women are involved in the production of about 70% of food consumed by families in developing countries, especially in sub-Saharan Africa. In Africa women comprise close to 50% of the agricultural labour force and this figure is set to rise as men seek more industrial employment in urban areas, leaving female farmers with a myriads of hurdles, in most instances these women lack operational capital, have limited access to operational capital, have limited access to credit and insurance, and land ownership remains low." Literature materials were sourced and assembled from Journals, Conference proceedings, books, magazines, they were there after reviewed and discussed, case studies from outside Nigeria were also reviewed and discussed. It was concluded that Nigerian women farmers remain inefficiently involved at the different levels of sustainable agricultural development despite enormous investments from governmental and non governmental organisations. There are still many hindrances preventing women from actively being involved in agricultural development. In order to achieve sustainable agricultural development, the contributions of agricultural woman resources to agricultural development should be maximized by implementing solutions to the specific problem women encounter both as economic and social stake holders. Government should implement policies that will encourage more women to participate in agriculture, traditional practices that tend to discourage women participation in agriculture should be stopped. There is need for greater advocacy aimed at encouraging greater participation of women in Agriculture*

**Keywords:** Adoption, Agriculture, Digital Applications, Innovations, Strategies, Women Participation

## 1.0 INTRODUCTION

The role of women in sustainable agricultural development cannot be overemphasized, women constitute about 60 to 80 percent of agricultural labour force in Nigeria (World Bank, 2003). Apart from child bearing, feeding their household, domestic duties, women are involved in subsistence farming: women are involved in the production of about 70% of food consumed by families in developing countries, especially in sub-Saharan Africa (Ahmed *et al* 2010). In the past, women were merely perceived as “farmers wife’s as propagated by the type of farming system established by the British during their colonial rule in Nigeria (Food and Agricultural Organization (FAO) 2003). Valuing women’s work could liberate them from extreme distress, thereby enabling them to contribute to the country’s economic growth. Inability to value women’s work is a notable factor hindering economic growth and poverty reduction in developing countries (Organisation for Economic Co-operation and Development [OECD], 2008). Sustainable agriculture is perceived as a unified system of agriculture that provides: food; enhances environmental quality; efficient use on non-renewable resources; sustenance of the economic viability of farm operations and improvement of the quality of life for farmers and society as a whole (United States Farm Bill, 1990). Presently, the concept of sustainable agriculture as a system of agriculture has gained prominence on supply of renewable food, income and livelihood for present and future generations (Tait and Morris 2000: United States Agency for International Development, 2004). In Africa women comprise close to 50% of the agricultural labour force and this figure is set to rise as men seek more industrial employment in urban areas, leaving female farmers with a myriads of hurdles to overcome. (Spore Magazine, 2019) “in most instances these women lack operational capital, have limited access to operational capital, have limited access to credit and insurance, and land ownership remains low,” explains Isabel Papadakis, head of IVE (Industries Value Engineering) at SAP Africa. “Most of these women have no benefit of formal schooling or agribusiness training. With no knowledge of how to improve yields or increase the quality of the end-product, they mainly depend on manual labour and intermediaries.”

Women are often the primary care-givers and sole income earners in their families, and struggle to build a thriving agriculture business. While a new generation of tech-savvy female farmers are finding innovative ways to break into the industry, many more are being left behind “providing women equal access to services and assets and enhancing their agency and opportunities in the agricultural production in developing countries by about 2.5-4% and potentially reduce the number of hungry people by 12-17%.” Elaborates Patricia Van De Velde, gender focal point for the Food and Agriculture Global Practice at the World Bank.

From these perceptions, emphasis is laid on the livelihood and quality of farm households. Around the world, about half of the world human capital who are female are undervalued and underutilized and sustainable agricultural development can only be possible through long-term investment in economic, human and environmental capital (OECD, 2008), therefore, in order to achieve sustainable agriculture, it is pertinent to improve and maintain women’s long-term involvement in agriculture.

This review highlights case studies and strategies aimed at encouraging greater participation in Agriculture

## **2.0 METHODOLOGY**

Literature materials on women participation in Agriculture, adoption, innovations and digital applications , were sourced and assembled from Journals , Conference proceedings, books, magazines , they were there after reviewed and discussed , case studies from out side Nigeria were also reviewed and discussed

## **3.0 REVIEW AND DISCUSSION**

### **3.1 Case Studies**

#### **3.1.1 Back to Butter**

Technology has the transformative power to change lives. Through digitalization, women have shown that when they have access to technology they become not only users, but advocates and promoters of other women There are many success stories where technology has been introduced in agribusiness, which show that women's lives are improved and their roles in agribusiness, which show that women sustainable through the use of technology. No one can tell you this more than the shea nut farmers in Northern Ghana. (Spore Magazine , 2018)

Shea butter is a highly sought-after product in Ghana, many women are dependent on the picking and processing of shea nuts to make a living. It is a manual, labour-intensively process. The nuts are gathered on a weekly basis before they begin to ferment, then parboiled, dried and cracked. Shells are meticulously removed by hand, the kernels are mixed with water and boiled again, does the final product – the butter – come to life.

But the shea nut value chain is broken: the Ghanaian women who are engaged in formal shea processing often receive the lowest return in the value chain thanks to multiple intermediaries who significantly increase final costs. But, by using technology, their lives have been transformed. This was evidenced in a proof – of concept initiative between SAP and a Ghanaian based NGO, with the aim to review the shea nut value chain. “Digital technology has helped to break down barriers in agriculture by providing access to market price, which reduced dependency on the middle-men. The womens profit increased by 82% due to access to market, and they are now able to secure buyers in advance.” Explains Papadakis.

Women shea nut farmers are now connected to the formal economy through the shea Network Ghana (SNG), which provides access to instant market prices and allow women to sell their product using their mobile devices. The network also provides consumers concerns such as the origin of the food and the production process involved.” Says Papadakis.

### **3.1.2 Closing the Gender Gap in Mobile Usage**

Apart from cost, poor digital literacy is one of the key barriers to women use of mobile phone

- Women are 10% less likely than men to own a mobile phone in low- and middle- income countries.
- 184 Million fewer women own a mobile than men in low- and middle-income countries
- Women are 26% less likely than men to use mobile internet in low and middle income countries
- €13 million could be earned from closing the gender gap in mobile ownership and mobile internet use. (Spore Magazine , 2019)

### **3.1.3 Lawyers go Digital to Reach Women Farmers**

For less than €1, women farmers in Uganda are accessing legal advice via their mobile phones. The SMS service, driven by an all-female team under the leadership of Hellen Mukasa, helps women to understand and defend their rights, particularly with regard to land ownership.

Legal advice has reached 3, 000 farmers in their local language in central and northern Uganda via an SMS service, launched in 2017. Lawyers 4 farmers (L4F) provides farmers with better access to legal information, by offering guidance in response to any legal problem they encounter, via SMS. The digital problem eliminate the need for farmers knowledge of their right for less than €1 ( the cost of sending an SMS). If necessary the automated response system enable lawyers to arrange follow up phone calls or meeting with farmers to ensure their issues are resolved.

### **3.1.4 Protecting Women's land rights**

Land is hotly contested resource in Uganda. Despite the constitutional rights of women to own and inherit land, customary practices of keeping land under ownership of men often take precedence, particularly since many people are unaware of the constitutional law. It is unsurprising then, that the majority of L4F enquiries relate too land ownership and inheritance, and over 70% of the platforms beneficiaries are women like Nakazibwe Resty, who farms 0.4 ha of land in Kasana town, in Uganda's Luwero district. Resty settled on this kibanja ( piece of land) with the landowner's consent in 2007. For 10 years she paid annual ground rent, called busuulu, for the land on which she farms and lives with three children.

However, in 2017, Resty's landlord decided that he no longer wanted the rental payments and forced her to vacate the land immediately, leaving her crop in the field. With nowhere to go, Resty contracted L4f who explained her rights as a kibanja holder. Which meant she could offer to buy land from her landlord, and when he noticed that I knew my rights, he allowed me to pay him for my interest in the *kibanja*," Resty explains. "I now own it and have the sale agreement to prove my ownership."

### **3.1.5 Tackling Gender Inequalities.**

Resty heard about L4F through her farmer group, and is now one of the lucky few women farmers to own land in Uganda. Hellem Mukasa, co-founder and executive director of L4F's all female team. Explain that gender was a major driver for the start up "in the legal context, agriculture is more of a minefield for female farmers than male farmers. The agriculture value chain is long and starts at production, and this means access to land. This is where the challenge begins for women in Africa," states Mukasa.

A 2018 study on the regional outlook on Gender and agri-food systems. By FAO and the African Union commissions identifies a huge gender gap in terms of women access to and control over productive resources, such as Land. To address this gender disparity in Agriculture, the content that L4F develops and outreach activities that it carries out are focused on protecting and supporting women farmers, particularly with regards to land right. L4F work with formal farmer groups in Uganda – which are predominantly made up of women – to offer legal Services, such as needs- based legal advice and training on how to formalize a farm business, for example, "Besides legal advice and outreach, we offer subsidized legal service to the farmer groups (e.g micro legal insurance), where each member pay for legal cover," Muskasa explains.

In Uganda, it is illegal for Lawyers to advertise their service, to overcome this challenge L4F use physical meetings to reach communities and draw attention to their work. L4F's outreach activities include highlighting issues related to land ownership, gender equality and human rights. The company works with farmer groups to disseminate legal information to raise awareness about land rights and types of agreement in farm transaction. In addition, posters and infographics are used to improve understanding about L4F's work. The start u-up has found that women are more receptive to getting information about their rights through face to face outreach programmes than men. In most of the communities in which L4F work, families send the woman to the training on the pretext that the men are too busy to attend. (Spore Magazine, 2019)

### **3.1.6 Enhancing Women's Access to Legal Advice**

Namata Teo, another farmer from Kasana, grows and supplies maize grains to different buyers in her town. As a result of repeat business, she developed good relations with her buyers and began to give them produce on credit, without keeping records of the goods supplied. Over time, the buyer owed her so much money that some refused to pay. Teo discovered that L4F could offer her legal guidance to address this problem, following an outreach programme in her community. "I sought help from L4F who helped me to collect some of the money but, due to the lack of records I was not able to get it all back. L4F gave me templates of simple sale agreements, which I now use with my buyer to guard against such loss." Says Teo. "60% of our farmers are based in rural area, yet 90% of legal service providers live in urban areas"

In addition to using SMS to respond to farmer queries simplified information is also shared by the organizations diverse team of lawyers via social media platform, such as Whatapp and Facebook. “In terms of legal services in our context, 60% of our farmers are based in rural areas because they need extra money to go into town and get legal advice or information explain Mukasa. “with digitalization this is changing L4F’s mobile platform enables farmers to access legal services without leaving the comfort of their homes.”(Spore Magazine, 2018)

### **3.1.7 Expanding the reach of legal services**

Originally a commercial lawyer. Mukasa founded L4F following a family land dispute. “A compulsory government land acquisition took 2 square miles [517 ha] of our 5 square mile [1,294 ha] ranch, but my family never received compensation for the land that was taken. My father did not know how to navigate the complexities of the law in chasing this compensation so I got involved in the case.” Mukasa won her family land dispute case, after the attorney General of Uganda agreed to an out of court settlement with several other landholders. “learning about the challenge on the family ranch and working for my family to solve them gave me the “Light bulb” moment as to how many other farmers faced such situation “says Mukasa.

Mukasa has received support from CTA and the Hague institution for innovation of law to hone her social entrepreneurship skills, including training in building a sustainable business model. As a finalist in CTA’s 2018 Pitch AgriHack competition, which last year focused on supporting innovative women entrepreneurs. Mukasa participated in a 2-day training session to help her manage L4F’s Finance and improve the company readlines to raise capital from investor. During the competition finals, at the African Green Revolution Forum in Kigali, Rwanda, Mukasa had the opportunity to pitch L4F to potential investors and industry experts. “Pitch AgriHack gives us a lot of visibility, especially in the agricultural sector... this helped us a lot with some partnerships, like Coffee fraternity in Uganda,” Mukasa said.

Since start up was launched, over 9,000 SMS messages have been exchanged with 1,965 active users. In 2018 alone, L4F successfully resolved 264 legal cases. With support from partners such as the Africa Agribusiness Academy, which has a presence in Burundi, Kenya and Rwanda, L4F plans to scale out its service within East Africa and reach 15,000 farmers by 2020.

## **3.2 STRATEGIES FOR IMPROVING WOMEN’S INVOLVEMENT IN SUSTAINABLE AGRICULTURAL DEVELOPMENT**

With the application of these necessary strategies. Women can become a major tool for enhancing sustainable agricultural development in Nigeria. The following initiatives could improve women participation in sustainable agricultural development.

1. **Access to Land and other production resources:** production resources such as land, capital amongst other should be made available to women at all time. This strategy can be achieved through the arrangement of special campaign programs for sensitizing

communities to the negative effect of prohibiting women farmers from ownership of land and access to other production resources. Also, the use of legal bodies, administrative or even gender quotas can be applied to achieve this strategy. (Adenugba & Raji-Mustapha, 2013). According to Gomez and Hien (2012), property rights commonly comprises of both right to own, use, access, control, transfer, exclude, inherit and make decisions about land and other properties. Therefore, the law and the courts of law are devoted to exterminating every form of prejudice against women. Also, Government and NGO's should set up women programs where women can access farm input and credit (kotze, 2003).

2. **Access to gender specific extension services and improved technology:** Notwithstanding the fact that the world bank is assisting Nigeria Agricultural services, women farmers are still obtaining insignificant help and information from agent ( World bank 2003). It is pertinent that the women be identified as an integral part of the agricultural extension policy and gender specific operational guidelines be developed to direct extensional activities of women farmers. (Igbokwe *et al*,2023)

Consistent review of favourable agricultural policies: According to federal ministry of agriculture and rural development (FMARD) 2016, the main purpose of gender policy for the sector is to promote and ensure the adoption of gender sensitive and gender responsive approaches to the agriculture in such a way that men and women have access to and control productive resources and facilities for bridge gender gaps. The international food policy research institute (RFPIR), (2005), set some goals to reaffirm the empowerment of women as a key to sustainable agriculture. These goals and policy's should subsequently be reviewed from time to time in order to ensure it successful implementation (Igbokwe *et al*.,2023)

## **4.0 CONCLUSION AND RECOMMENDATIONS**

### **4.1 Conclusion**

Nigerian women farmers remain inefficiently involved at the different levels of sustainable agricultural development despite enormous investments from governmental and non governmental organisations. There are still many hindrances preventing women from actively being involved in agricultural development.

### **4.2 Recommendations**

In order to achieve sustainable agricultural development, the contributions of agricultural woman resources to agricultural development should be maximized by implementing solutions to the specific problem women encounter both as economic and social stake holders.

Government should implement policies that will encourage more women to participate in agriculture, traditional practices that tend to discourage women participation in agriculture should be stopped.

There is need for greater advocacy aimed at encouraging greater participation of women in Agriculture

## REFERENCE

- Adenugba, A.O & Raji-Mustapha, N.O. (2013).** The role of women in promoting agricultural productively and developing skills for improved quality of life in rural areas. *Journal of engineering*, 3(8): 51-58
- Ahmed, N., Diamond, N., Clarke, M., & Adams, N. (2010).** Gender and environment. The World Bank environment strategy analytical background papers. Washington, D.C Retrieved from <http://www.worldbank.org/wbi/publications.html>
- Federal Ministry of Agriculture and Rural Development. (2016).** Gender policy in agriculture. Retrieved from [https://fsccluster.org/sites/default/files/documents/nigeria\\_gender\\_policy\\_in\\_agriculture\\_august\\_2016- full text.pdf](https://fsccluster.org/sites/default/files/documents/nigeria_gender_policy_in_agriculture_august_2016- full_text.pdf)
- Food and Agricultural organization. (2003).** Gender, key to sustainability and food security. Plan of Action. Gender and development. Retrieved from <https://www.fao.org/3/a-y3969e.pdf>
- Igbokwe, O.I Enordi, A.I, Olatuyi, S.O (2019)** A review of strategies for improving womens involvement in sustainable Agricultural Development in Nigeria. *Int. journal of agric. And rural Dev.* 22(2) 4589 – 4595.
- Kotze, D.A. (2003)** role of women in the household economy: food production and food security policy guidelines, outlook on agriculture,32:111-121.
- Organization for Economic Co-operation and development. (2008)** Gender and sustainable development: maximizing the economic , social and environment role of women. A report to the united Nations commission on sustainable Development (UNCSD)
- Spore Magazine .March to May , 2019
- Spore Magazine. December, 2018 to February, 2019
- Tait, J., & Morris, D., (2000).** Sustainable development of agricultural system: competing objectives and critical limits. *Futures*, 32(3-4), 247-260.
- United State Farm Bill. (1990).** Food, agriculture, conversation, and trade act of 1990. Public Law 101-624.
- United state agency for international Development USAID (2004).** USAID strategy: linking producers to markets. pp 23
- World Bank. (2003).** Nigerian women in Agriculture in sharing experience. Example of participating approaches. The World Bank Participating Sources Book Washington, D.C.