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Review Article

Appraisal of women's participation and contributions to wood plank marketing in Nigeria: A review

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Olusola Samuel AREO[1]*, Ayodeji Oludare OMOLE[2], Oladele Nathaniel AMOO-ONIDUNDU[1], Adewale Lukeman ADEJOBA[1] & Omolade Racheal OYEWUMI[1]

[1]*Forest Products Development and Utilisation Department, Forestry Research Institute of Nigeria, Ibadan, Nigeria*
[2]*Departtment of Forest Production and Products, Faculty of Renewable Natural Resource, University of Ibadan, Nigeria.*

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ABSTRACT

The participation of women in the economy is essential to the general advancement and empowerment of communities. The market for wood planks is one such industry with a lot of promise. Wood planks are an essential part of furniture manufacturing, building, and many other businesses. In Nigeria, the wood industry contributes a significant role in the country's economy by giving many people, especially women, opportunities for jobs and income prospects. Women play an important role in small businesses and the unorganized sector, but they are frequently ignored and undervalued in the marketing of wood planks. However, there is a growing awareness of the vital contributions women make to this sector and the unique perspectives they bring, leading to increased advocacy for gender inclusivity and support structures that can help women overcome these barriers. This review article adopts a qualitative approach to explore the extent of women's involvement in Nigerian wood plank marketing, analyze the obstacles faced, and identify potential avenues for increasing their participation. Data gathered through a combination of secondary sources, peer-reviewed articles, industry reports, policy documents, and case studies, given a comprehensive overview of the current landscape. Hence, this offers a nuanced understanding of the opportunities and barriers for women in wood plank marketing and strategies for fostering inclusive economic growth. Encouraging sustainable development and lowering poverty rates, especially in developing nations like Nigeria, requires the economic empowerment of women.

K E Y W O R D S : *Empowerment, Marketing, Participation, Women, Wood plank,*

INTRODUCTION

Forests have been crucial to human evolution because they provide an abundance of materials needed for daily life as well as a wide range of industries (Adedokun *et al.,* 2019). Wood stands out among all these resources as one of the most productive and important forest products, especially sawn wood. The value of wood, particularly sawn wood, cannot be overstated in Nigeria, where it makes up a substantial portion of the country's total land area. Many sectors of the Nigerian economy depend on sawn wood, which is made from cutting down trees (Makinde *et al.,* 2019). Its versatility is used in many different industries, including construction, furniture production, and paper manufacturing (Owoyemi *et al.,* 2016). According to Ezeano and Nnadozie (2018), sawn wood has a substantial economic impact beyond its direct applications since it promotes downstream industries like building and furniture production, which in turn creates jobs and promotes economic growth.

*Corresponding author: areosola73@gmail.com; +2348101820261

According to estimates, Nigeria's forest resources cover 269,000 hectares, and the sawmilling industry, which converts logs into sawn wood, is a significant economic sector that supports both rural and urban residents (Onyebueke and Amankrah, 2013). Operations like sawmilling, timber logging, and the production of panel items made of wood are all included in the wood sector. According to Falana *et al*. (2023), the necessity of sawn wood for various industries such as paper, pulp, and furniture highlights its economic significance. Nigeria needs a lot of sawn wood; the country consumes over 200,000 cubic meters of it each year, which illustrates the importance of wood to the nation's economy (Aghimien *et al*.,2021).

Within Nigeria's economy, the wood plank market is a significant industry encompassing the processing and selling of wood planks for various uses, including construction and furniture manufacturing (FAO, 2023; Akinyemi and Adedeji, 2021). In developing nations such as Nigeria, economically empowering women is vital for achieving sustainable development and reducing poverty (UN Women, 2022). Despite the wood industry's importance to the national economy, women's participation remains limited due to numerous socioeconomic and cultural barriers, such as restricted access to capital, traditional gender roles, and limited opportunities for skill development (FAO, 2023). Although the impact of these barriers on women's economic empowerment is widely documented, their specific effect within the Nigerian wood industry has received limited attention in the literature, leaving an important gap in understanding the gender dynamics in this sector.

Plank marketing, an essential link in the wood supply chain, influences market dynamics and serves as a conduit between producers and customers (Akinyemi and Adedeji, 2021). Despite its significance, little is known about the number and kind of women who participate in plank marketing (Akinyemi and Adedeji, 2021). Understanding the intricate nature of women's involvement in plank marketing requires careful consideration of several factors. It first makes sense of the complex socioeconomic dynamics that characterize the wood sector, particularly as they relate to gender roles (FAO, 2023). Additionally, it helps to clarify the unique challenges and opportunities faced by female workers and entrepreneurs in a traditionally male-dominated field (World Bank, 2022). Finally, it highlights the ways in which gender-inclusive initiatives and policies can support equitable economic development and growth (UN Women, 2022).

Economic growth and development that is equitable can be enhanced by targeted interventions and policies. Thus, this article evaluates the current situation of women's involvement in plank marketing in Nigeria's wood industry across the nation's various regions (FAO, 2023). Furthermore, it examines the variables that influence women's engagement with plank marketing, analyzes the effects of such participation on financial outcomes, and offers recommendations aimed at increasing the number of women in the plank marketing business.

Women's Participation In The Nigerian Wood Plank Marketing Industry

Significant research has been conducted on the role of women in Nigeria's wood plank marketing business. Women play various roles in forestry, including work, processing, and community management, contributing significantly to the economy through logging, timber production, and community forestry initiatives. However, they frequently encounter obstacles such as limited decision-making power, restricted access to land ownership, and insufficient training and resources (FAO, 2018). Women add value to raw timber products during processing, and many operate small-scale timber businesses, overseeing the procurement, processing, and retailing of timber products. Additionally, women involved in forest management often participate in community-based projects like reforestation, conservation, and sustainable resource management, where their leadership can influence broader forest policy and management strategies. This entrepreneurial participation underscores the potential for women to expand their roles in the plank marketing industry (World Bank, 2019). Research indicates that women play diverse roles that make substantial economic contributions to the forest sector. However, region-specific variations exist in the gender dynamics of forestry. For instance, a study by Adedokun *et al*. (2017) highlighted significant differences in women's participation in the wood industry between the northern and southern regions of Nigeria, where cultural norms and access to resources vary considerably. Another study by Ogunleye *et al.* (2020) examined women's roles in plank marketing in southwestern Nigeria, revealing that women in this region are more actively engaged in processing and retailing due to better access to training programs and cooperative societies. These studies emphasize that effective policies and interventions can increase women's participation in forestry and improve sustainability outcomes. Expanding women's roles in logistics management, price negotiations, sales, and distribution for plank marketing activities can empower them and elevate their profile in the industry (FAO, 2023).

By enhancing market access through trade associations and cooperative societies, women can leverage their entrepreneurial spirit to develop innovative marketing strategies for wood planks. Moreover, the timber sector

significantly influences women's lives, as they engage in initiatives that promote women's empowerment and gender equality while facing challenges in entering the labor force (Adedokun *et al.,* 2017). However, the Nigerian wood plank marketing industry continues to grapple with challenges, including limited access to credit, land, and formal training in marketing and business management. To address these barriers, support systems such as training programs, financial services, and networking opportunities can be established, enabling women to thrive in the industry. By understanding the roles and participation of women in the forestry sector, we can make informed decisions to enhancing their involvement in the wood industry.

Theoretical Framework on Women's Participation in Forestry

Women's participation in the forestry industry is a complex topic influenced by various environmental, social, and economic factors. To understand this engagement comprehensively, several theoretical frameworks can be employed, including feminist theory, the sustainable livelihoods framework (SLF), and the gender and development (GAD) approach (Agarwal, 2009).

Feminist Theory: Feminist theory critiques standard and often patriarchal systems that marginalize women's contributions and participation in various sectors, including forestry. It examines the roles, experiences, and contributions of women, revealing how cultural norms and gender stereotypes shape the division of labor in forestry (Agarwal, 2009). By highlighting these disparities, feminist theory underscores the importance of including women's perspectives in decision-making processes, which is often lacking in the forestry sector. For example, women may be excluded from formal discussions about resource management, limiting their ability to advocate for sustainable practices that align with their needs and the needs of their communities (FAO, 2023).

Sustainable Livelihoods Framework (SLF): The sustainable livelihoods framework provides a comprehensive approach to understanding how women's participation in forestry can enhance their livelihoods and overall well-being. SLF identifies five categories of capital—financial, social, physical, human, and natural capital—that individuals can leverage to improve their livelihoods (Scoones, 1998).

Financial Capital: Women's involvement in forestry-related businesses can lead to increased income, allowing them to invest in their families and communities. For instance, women managing small-scale timber enterprises can enhance their financial stability and invest in education or health services (FAO, 2023).

Social Capital: Participation in forestry groups or cooperatives fosters social networks, enabling women to share knowledge and resources. These networks can provide support and facilitate access to markets, enhancing their bargaining power and influence in the industry (FAO, 2023; Chamberlain *et al.*, 2021).

Human Capital: By acquiring skills through training programs focused on sustainable forestry practices, women can improve their expertise and employability. For example, programs that train women in sustainable logging techniques can lead to better resource management and increased productivity (Chamberlain *et al.*, 2021, National Bureau of Statistics, 2011).

Physical Capital: Access to tools and technology, such as sawmills or transportation for timber, can empower women to participate more fully in the supply chain, thus improving their productivity and income potential (Chamberlain *et al.,* 2021).

Natural Capital: Women often play critical roles in managing natural resources, promoting conservation, and engaging in community-based forestry initiatives, which can lead to improved environmental outcomes and sustainability (Chamberlain *et al.,* 2021; National Bureau of Statistics 2011).

Gender and Development (GAD)

The Gender and Development (GAD) approach emphasizes the need to address structural inequalities that inhibit women's participation in the forestry sector. GAD advocates for the integration of gender considerations into development policies and practices at all levels, ensuring that forestry initiatives are tailored to meet the specific needs and challenges faced by women (FAO, 2023). For example, the Forest and Farm Facility (FFF), a collaborative initiative involving the FAO and other partners, has successfully implemented projects in several countries that incorporate gender-sensitive approaches. These projects have focused on enhancing women's access to resources, training, and decision-making processes, demonstrating the positive impacts of gender inclusivity on forestry management and community development (FAO, 2020).

Enhancing women's agency to make choices and take charge of their own lives is as significant as providing them with access to tools and opportunities. Programs that emphasize awareness-raising, leadership development, and capacity building are essential for achieving this empowerment. For instance, initiatives like the Forest and Farm Facility (FFF) have successfully implemented training programs that build women's leadership skills and

promote their participation in decision-making processes related to forest management and sustainable resource use (FAO, 2020). To comprehend how women are involved in forestry, integrated approaches are essential. The concepts of sustainable livelihoods and gender-based violence underscore the need for comprehensive strategies that consider the interdependence of various elements influencing women's participation. Research shows that women in forestry not only face challenges related to resource access but are also vulnerable to gender-based violence, particularly in contexts where resource competition is high (Woods and Baird, 2022). Addressing these interconnected issues requires interventions that are both gender-sensitive and context-specific.

Moreover, employing intersectional analysis can lead to more targeted and effective interventions by elucidating how different forms of marginalization and discrimination impact diverse groups of women. For example, Chamberlain *et al,* (2021) emphasize the necessity of understanding the varied experiences of women in different socio-economic contexts within the forestry sector, highlighting that women from marginalized communities often face additional barriers that need to be addressed. By focusing on the specific needs and challenges of various groups, policymakers can design interventions that not only empower women but also promote sustainable development in the forestry sector. In summary, an exhaustive and comprehensive analysis of women's involvement in forestry is offered by using these theoretical frameworks, highlighting the significance of resolving structural injustices, empowering women, and utilizing intersectional and holistic approaches. Women and larger communities can gain from more inclusive and sustainable forestry practices, which can be promoted through the implementation of these theoretical insights into policy and practice (UN Women, 2017).

Gender roles in the Forestry Sector

The discussion of female participation in forestry involves three perspectives: masculine power and control, inclusive participation, and limited participation. Masculine power and control refers to the dominance of men in managing projects and controlling resources, which limits women's involvement in decision-making processes (Eneji *et al.*, 2015a). Inclusive participation advocates for gender participation in all aspects of resource management, recognizing their unique contributions and the benefits of gender-diverse teams (Asher and Varley, 2018). Limited Participation acknowledges that women may engage in specific aspects of resource management but are often confined to less visible tasks, such as gathering non-timber forest products or participating in community initiatives (Eneji *et al.*, 2015b). Cultural norms and stereotypes significantly hinder women's involvement in forestry by establishing rigid gender roles (UN Women, 2017; Cornwall, 2003). Traditional beliefs may dictate that women should focus on domestic responsibilities rather than participate in forestry-related activities, leading to an underrepresentation of women in leadership roles (Christi and Giri, 2011). Societal expectations may foster the perception that women lack the skills or authority necessary for decision-making in resource management, reinforcing their marginalization within the sector (FAO, 2022). Training programs are often designed with male participants in mind, overlooking the specific needs and challenges faced by women, contributing to a skills gap and further limiting women's potential to contribute to and lead forestry initiatives (Agarwal, 2009). Economic undervaluation of women's labor exacerbates these challenges, as their contributions are often overlooked in economic assessments (Chamberlain *et al.*, 2021). Restricting women's access to wood and other forest products affects their livelihoods, economic stability, community resilience and sustainability, addressing cultural norms and stereotypes is essential for enhancing women's participation in the forestry sector. By recognizing and valuing the contributions of women, fostering inclusive policies, and providing targeted training opportunities, the forestry industry can create a more equitable and sustainable future.

In developing countries, particularly in Africa, non-timber forest products (NTFPs) play a vital role in supporting livelihoods, especially for women who often engage in gathering, processing, and trading these products (UN Women, 2017). NTFPs include a wide variety of resources such as medicinal plants, fruits, nuts, honey, mushrooms, resins, and fibers. These resources are critical for household subsistence and income generation. The study investigated by Shackleton *et al.* (2011) on value chains of NTFPs in Burkina Faso, Ethiopia, and Zambia provides insights into the unique roles women play in these chains and highlights how they often prioritize family welfare over financial gain, contrasting with men who may engage in NTFP activities with a more commercial focus.

Key Non-Timber Forest Products Utilized by Women in Africa

Fruits and Nuts: Women frequently gather wild fruits and nuts, such as baobab (*Adansonia digitata)* and shea nuts (*Vitellaria paradoxa),* which are both nutritionally valuable and have market potential. Shea nuts, for instance, are processed into shea butter, which is widely used in food preparation and cosmetics. Women's involvement in shea butter processing and marketing provides critical income, with studies showing that

women's groups in Ghana and Nigeria have developed small enterprises around shea butter production, despite limited access to formal markets (Poudyal *et al.*, 2020).

Medicinal Plants: Medicinal plants are another crucial category of NTFPs collected and managed by women. Examples include Moringa (*Moringa oleifera)* and bitter leaf (*Vernonia amygdalina*), which are used both domestically and commercially. In Zambia, women's knowledge of medicinal plant harvesting has been documented as essential for community health, particularly where formal healthcare is scarce. Women's expertise in traditional medicine not only supports family health but can also generate income through local sales (Wright *et al.*, 2022; Shackleton *et al.*, 2011).

Firewood and Fibers: Firewood collection is typically the responsibility of women, particularly in rural areas, where they gather and manage wood for cooking and heating. Additionally, women use fibers from trees like raffia and bamboo to create woven products, which they sell locally, contributing to family incomes. This aspect of NTFP utilization often places women at the forefront of resource management in many African communities, despite the lack of formal recognition for their contributions (Wright *et al.*, 2022).

Gender Dynamics and the Underestimation of Women's Contributions

Despite the critical roles women play in the NTFP sector, their contributions are frequently undervalued. Shackleton *et al,.* (2011) found that women's informal work is often overlooked due to its domestic orientation and lower market visibility. Women's participation in forest management and NTFP use is also often limited by their lack of representation in formal forestry organizations. Data shows that women make up only about 18% of formal forest user organizations across Africa, and their involvement in decision-making remains inadequate (Agarwal, 2009). The disparity in roles and decision-making power can restrict women's access to resources and training, reducing their ability to fully capitalize on NTFP-related income opportunities. Studies underscore that by improving women's representation in forest management, local economies benefit, as women contribute valuable knowledge and sustainable practices that support forest restoration and product management (FAO, 2020). Although gender roles are essential to the management and governance of sustainable forests, they frequently confront obstacles such as unequal power dynamics, inadequate integration models, and unjust benefit-sharing agreements. Women's engagement is crucial for climate change initiatives like REDD+ and community forests, and giving them priority in forest decision-making fosters equitable outcomes and more effective resource management. Women have a major role in the implementation of projects and resource management in Nigerian wood plank marketing (Wright *et al.,* 2022). Examples of their contributions include obtaining raw materials, processing wood, and taking part in advertising efforts. But the economic undervaluation of their work in the forestry sector points to a relationship with the wood plank sales industry (Wright *et al.,* 2022). This could lead to inequalities in compensation and recognition for women working in the industry. Gender dynamics also highlight the importance of considering cultural expectations and norms that may affect women's participation and opportunities in the wood plank marketing industry (Akanbi, 2015). Stereotypes and prejudices based on gender can impact women's participation levels, access to resources, and power to make decisions. To address these issues, inclusive and participative strategies must be promoted to ensure the sustainability and efficacy of efforts to manage forest resources and the well-being of women (Wright *et al.*, 2022).

Related Research on Women's Participation in Forestry

Coulibaly-Lingani *et al.*. (2011), investigated the factors influencing local people's participation in forest management projects in the provinces of southern Burkina Faso. Variables influencing engagement include household size, financial source, land tenure status, and access to professional help. According to the research, women should participate more in the forest management groups' decision-making processes in order to empower them and ensure fair benefit-sharing agreements. Eneji *et al.,* (2015b) investigated the factors that influence women's participation in the management of forest resources in Cross River National Park. They demonstrated that a woman's marital status, employment status, academic achievement, and sexual orientation influence how actively involved she is in the community. Married women may find it difficult to attend meetings or participate in discussions about forest management due to marital responsibilities, while women who work hard or live outside of their communities may find it difficult to become actively involved in forest management (Falana *et al.,* 2023). Women's access to information and ability to understand conversations on forest management might also be influenced by their degree of education. The study conducted by Babatunde and Babatunde (2020) investigated the timber market's structure, behavior, and performance in Ife East Local Government, Osun State, Nigeria.

They discovered that men outnumber women in the forestry industry. Falana *et al.* (2023) identified a large gender imbalance in the sawn wood marketing sector in Isokan Local Government Area, Osun State, Nigeria, with

67.5% of respondent's male and 28.3% female. This gender gap is ascribed to community-wide gender roles and practices that underrepresent women in industries such as sawn-wood marketing. In contrast, Babatunde *et al.* (2022) discovered that women constituted 54.0% of respondents in the Kajola Local Government Area of Oyo State, Nigeria's timber market. This suggests that women actively engage in wood market-related entrepreneurship, hence increasing household income and local economic growth (Falana *et al.*, 2023).

Economic Implications on Women's Participation in Wood Plank Marketing

Wealth distribution and disparities in Nigeria's wood plank marketing industry reveal significant inequalities, especially for women from marginalized backgrounds (World Bank, 2020). The industry, though economically significant, has traditionally limited women's participation, leading to disparities in income and access to resources (FAO, 2021). Gender-based wealth distribution gaps in forestry and related industries are influenced by factors such as unequal access to capital, restricted land rights, limited decision-making power, and socio-cultural norms that traditionally favor men in economic transactions.

Wealth Disparities and Gender in the Wood Plank Marketing Sector

Economic Participation and Access to Capital: Women's limited access to financing is one of the primary causes of wealth disparities in the wood plank business. According to studies, just 5-10% of Nigerian women have access to formal financing in the agriculture and forestry industries, compared to 20% of men (World Bank, 2020). This barrier severely limits women's ability to invest in larger, more profitable business operations, perpetuating cycles of low income and wealth inequities. For example, women who run smaller-scale plank marketing firms frequently lack the capacity to purchase bulk supplies, which would allow them to negotiate cheaper rates and increase profit margins.

Income Inequality: Earnings gaps between men and women are glaring. Men in the forestry and wood production industries earn 30-40% more than women in similar professions (FAO, 2021). In the plank marketing industry, for example, women typically work in lower-paying jobs like handling planks, selling in unofficial marketplaces, and doing lower-paying processing jobs, while men typically hold higher-paying managerial or supervisory positions. Such wage differences limit women's ability to generate wealth or reinvest in their enterprises, perpetuating economic inequality.

Land and Resource Rights: In Nigeria, access to land remains strongly gendered, with only 13% of women holding legal land rights compared to 60% of men (Oxfam, 2019). This inequality has a significant impact on women in the wood plank sector, as land ownership can influence bargaining leverage and the opportunity to invest in larger-scale or more profitable operations. Without strong land rights, women are frequently relegated to lower-paying, transitory employment in the business. This lack of ownership limits their access to resources and services that could help them improve their financial situation, adding to systemic wealth disparity (Wright *et al.*, 2022).

Quantitative Examples of Wealth Gaps in Forestry: In Nigeria, women, compared to 70% by men and 15% by joint ownership arrangements (UN Women, 2022), own only about 15% of forestry-based businesses. This limited ownership has an impact on wealth accumulation because enterprise owners benefit more directly from profits and long-term value growth than employees (Wright *et al.*, 2022).

Financial Literacy and Market Access: Financial literacy and access to competitive markets significantly impact wealth creation. In Nigeria, fewer than 30% of women in rural forestry roles have access to financial literacy programs and support compared to over 60% of men (IFAD, 2021). This gap restricts women's ability to make informed decisions, secure fair prices, or access larger, more profitable markets.

Government Support and Grants: Although government programs aim to support rural economic development, gender disparities remain. For example, only 10% of government grants and subsidies for rural enterprise development in Nigeria's forestry sector have been allocated to women, compared to 80% for men and 10% for joint efforts (Nigeria Federal Ministry of Agriculture, 2023). This uneven distribution of government resources directly impacts women's capacity to expand their businesses and build wealth.

Addressing Wealth Disparities: Policies and Interventions

Addressing these wealth disparities in Nigeria's forestry and wood plank marketing industry requires targeted interventions. Programs that improve women's access to credit, provide formal training, and ensure equitable distribution of resources can help bridge the economic gap (Falana *et al.*, 2023). For example, initiatives such as providing low-interest loans specifically to women entrepreneurs, coupled with policies that promote land ownership rights, would facilitate women's capacity to invest and grow within the industry. Additionally, creating quotas for government grants or training

programs targeting women could accelerate gender equity in wealth distribution, contributing to a more inclusive and equitable forestry sector. Expanding wealth opportunities for women in the wood plank industry through such interventions would not only reduce income disparities but also contribute to overall economic development and social equality within Nigeria (Falana *et al.*, 2023; Kabeer, 2021). Promoting gender equality and enabling women to fully engage in the industry can result in significant economic advantages, supporting inclusive growth and sustainable development in communities reliant on timber (Adomako-Kwabia, 2021). Realizing the sector's full potential and gender-responsive economic change depend on identifying and removing obstacles to women's involvement (Kabeer, 2021).

CONCLUSION AND RECOMMENDATIONS

Wood, particularly sawn wood, is crucial to Nigeria's economy, but women's role in the plank selling sector has not been widely acknowledged. Gender dynamics and socioeconomic issues impact women's engagement in plank marketing differently in different locations. Despite low representation and female predominance, women's participation in wood plank selling can lead to positive outcomes such as increased household income, poverty reduction, and local economic growth. However, their absence may worsen gender inequality and restrict economic opportunities. Women perform essential roles in the wood sector, but women's participation in plank marketing remains unequal. Factors influencing this disparity include decision-making authority, societal norms, and resource accessibility. Despite institutional and cultural barriers, there are instances of women actively engaging in plank marketing, suggesting potential pathways for economic advancement and empowerment. This paper also provides a significant insight into the dynamics of gender roles, participation, and contribution to economic values in the wood sector. This study stresses women's significant contributions to Nigeria's wood plank marketing sector, which can increase household income, reduce poverty, and help local economic development. Gender discrepancies in representation and influence persist, owing to cultural norms, limited decision-making power, and limited access to resources. The Sustainable Livelihoods Framework (SLF) shows that women's participation in plank marketing benefits their livelihoods while also contributing to financial, social, human, and natural capital. The Gender and Development (GAD) approach can help to address these inequities and empower women in the workplace.

Based on the review of the assessment of women's participation in the wood plank marketing in Nigeria, the following are the recommendations:

- ***Conduct Comprehensive Research:*** Thorough data on women's participation in the wood plank marketing sector across Nigeria's regions must be collected to create targeted interventions and strategies.
- ***Promote Gender Equality:*** Outdated gender norms and stereotypes must be actively challenged, and gender equality must be prioritized to improve women's participation in the wood plank marketing industry.
- ***Focus on Training and Capacity Building:*** Training and capacity-building programs for women must focus on enhancing business management, financial literacy, and marketing skills specific to the wood plank industry.
- ***Ensure Fair Access to Resources:*** Women must have fair access to capital, land, and technology, supported by systems such as loans and business accelerators, to strengthen their engagement in plank marketing.

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Ethical Statement

Not applicable.

REFERENCES

Adedokun, M. O., T Olawumi, A., Soaga, J. A., Oluwalana, S. A., & Mologmhe, I. M. (2017). Economic analysis of different wood species in major sawmills in Abeokuta Ogun State Nigeria. *Journal of Agricultural Science and Environment*, 17(1):73-82. https://doi.org/10.51406/jagse.v17i1.1791

Adedokun, A. A., Odebiyi, J. A & Adeniyi, O. (2017). Gender Dynamics in Nigeria's Forest Sector: A Study of Women's Participation in Wood Production and Marketing. African Journal of Agricultural Research, 12(4), 226-234.

Adomako-Kwabia, F. (2021). Assessment of Gender Perspectives of the Ghana Forest investment Programmes in the Western Region (Doctoral dissertation, University of Cape Coast).URI: http://hdl.handle.net/123456789/6884

Agarwal, B. (2009). Gender and forest conservation: The impact of women's participation in community forest governance. Ecological economics, 68(11),

2785-2799. https://doi.org/10.1016/j.ecolecon.2009.04.025

Aghimien, E. V., Akinkuoroye, O. H., & Fakolade, A. N. (2021). Assessment of Waste Associated with Timber Flitching in Bodija Plank Market, Ibadan, Nigeria. *Climate Smart Agriculture and Agribusiness Development in Nigeria,* pg113.

Ajala, A. S. (2009). Gender dimensions of agricultural and rural employment: Differentiated pathways out of poverty. *Food and Agriculture Organization (FAO).*

Ajayi, A. R. (2016). Enhancing rural women's access to information and communication technologies (ICTs) for socio-economic empowerment in Nigeria. *Journal of Rural Studies,* 42, 1-12.

Akinyemi, A., & Adedeji, M. (2021). Gender Roles in Nigeria's Wood Processing and Marketing Sectors. African Journal of Forest Research, 15(3), 203-220. https://link.springer.com/content/pdf/10.1186/s12982-024-00264-0.pdf

Ameha, A., Nielsen, O. J., & Larsen, H. O. (2014). Impacts of access and benefit sharing on livelihoods and forest: Case of participatory forest management in Ethiopia. *Ecological Economics,* 97:162-171.

Asher, K., & Varley, G. (2018). Gender in the jungle: a critical assessment of women and gender in current (2014–2016) forestry research. *International Forestry Review,* 20(2): 149-159. https://doi.org/10.1505/146554818823767537

Babatunde, O. O., Babatunde, T. O., Olokeogun, Y. S., Babatunde, K. O., Ademigbuji, A. T., & Adepoju, G. A. (2022). Economic analysis of wood market in Kajola local government area of Oyo state, Nigeria, 6 (126):36-42

Babatunde, T. O., & Babatunde, O. O. (2020). Structure, conduct and performance of timber market in Ife East Local Government of Osun State, Nigeria. *Journal of Applied Sciences and Environmental Management*, 24(6):1093-1098.

Babatunde, T. O., Babatunde, O. O., Adejumo, A. A., & Okeleke, S. O. (2017). Cost and return structure in sawmill industry in Ijebu Ode, Ogun state, Nigeria. *Journal of Research in Forestry, Wildlife and Environment,* 9 (3):12-18.

Chamberlain, J., Chikaire, J & Akpan, A. (2021). The Role of Women in Community Forestry and Sustainable Development: Evidence from Nigeria. *Forestry Research and Engineering: International Journal,* 5 (2), 1-11

Christie, M. E., & Giri, K. (2011). Challenges and experiences of women in the forestry sector in Nepal. *Journal of Development Economics* 138:170-178.

Cohen, J. (1992). Okin on justice, gender, and family. *Canadian Journal of Philosophy*, 22(2): 263-286.

Coleman, E. A., & Mwangi, E. (2013). Women's participation in forest management: A cross-country analysis. *Global Environmental Change,* 23(1):193-205.

Cornwall, A. (2003). Whose voices? Whose choices? Reflections on gender and participatory development. *World development,* 31(8), 1325-1342.

Coulibaly-Lingani, P., Savadogo, P., Tigabu, M., & Oden, P. C. (2011). Factors influencing people's participation in the forest management program in Burkina Faso, West Africa. *Forest Policy and Economics,* 13(4): 292-302.

Duguma, L. A., Nzyoka, J., Obwocha, E., Minang, P., Wainaina, P., & Muthee, K. (2022). The forgotten half? Women in the forest management and development discourse in Africa: A review. *Frontiers in Forests and Global Change*, 5, 948618.

Eneji, C. V. O., Ajake, O., Mubi, M., & Husain, M. (2015a). Gender participation in forest resources exploitation and rural development of the forest communities in Cross River State, Nigeria. *Journal of Natural Sciences Research*, 5(18): 61-71.

Eneji, C. V. O., Mubi, M. A., Husain, M. A., & Ogar, D. A. (2015b). Factors influencing gender participation in forest resources management in the Cross River National Park Enclave Communities, Nigeria. *Journal of Environment Protection and Sustainable Development*, 1(5): 234-244.

Ezeano, C. I., & Nnadozie, U. S. (2018). Economic empowerment of rural women through agricultural cooperatives in Aguata agricultural zone of Anambra State, *Nigeria. African Journal of Agricultural Research,* 13(10), 521-528.

Falana, A. R., Ojo-Fakuade, F. F., Joseph, A. F., Adelusi, F. T., Oke, O. O., Majolagbe, M. A., & Adesokan, F. B. (2023). Economic Analysis of Sawnwood Marketing in Isokan Local Government Area Osun State, Nigeria. *Journal of Applied Sciences and Environmental Management*, 27(4):767-773.

Federal Ministry of Agriculture and Rural Development (2015). 'National Agricultural

Resilience Framework' available from https://fmard.gov.ng/wpcontent/uploads/2018/04/NARF-Main-document.pdf

Food and Agriculture Organisation by the United Nations (2015). Mainstreaming gender into forest policies in Asia and the Pacific. https://www.taylorfrancis.com/chapters/edit/10.4324/9781003141938-3/gender-equality-inclusive-growth-labour-markets-naila-kabeer

Food and Agriculture Organisation by the United Nations (2018) 'Country Gender

Assessment Series; National Gender Profile of Agriculture and Rural Livelihoods in Nigeria' available from http://www.fao.org/3/CA0818EN/ca0818en.pdf.

Food and Agriculture Organisation (2020). Women in Agriculture: Closing the Gender Gap for Development.

Food and Agriculture Organisation by the United Nations, (2023). Global Forest Resources Assessment: Nigeria's Forests and the Role of Women. https://www.fao.org/4/ac918e/AC918E03.html

Food and Agriculture Organization (FAO). (2021). Gender and forestry: Forests and sustainable development. FAO. https://faolex.fao.org/docs/pdf/nig214137.pdf

IFAD (2021). Gender equality and rural women's empowerment. (International Fund for Agricultural Development). IFAD.

Ingram, V., Haverhals, M., Petersen, S., Elias, M., Basnett, B. S., & Phosiso, S. (2016). Gender and forest, tree and agroforestry value chains: Evidence from literature. Routledge. *In Gender and forests*, 221-242

Kabeer, N. (2021). Gender equality, inclusive growth, and labour markets. In Women's Economic Empowerment, Routledge, 13-48.

Kamaluddeen, H. K. (2019). Effect of Microfinance Banks on Women Empowerment: Evidence from Kwara State, Nigeria (Doctoral dissertation, Kwara State University (Nigeria).https://www.proquest.com/openview/48fc27a84898adc7ebc014555f060687/1

Leone, M. (2019). Women as decision makers in community forest management: Evidence from Nepal. *Journal of Development Economics*, 138:180-191.

Makinde, T. (2019). Constraints on the implementation of women-friendly state policies in Nigeria. *Journal of Social Sciences*, 20(1), 43-50.

Marin, A. B., & Kuriakose, A. T. (2017). Gender and sustainable forest management: entry points for design and implementation. Washington, DC: Climate Investment Funds.

Muthee, K., Duguma, L., Nzyoka, J., & Minang, P. (2021). Ecosystem-based adaptation practices as a nature-based solution to promote water-energy-food nexus balance. *Sustainability*, 13 (6): 1142.

National Bureau of Statistics (2011). National Poverty Rates for Nigeria: 2003-04 and 2009-2010.

National Bureau for Statistics (2018) 'Statistical Report on Women and Men in Nigeria'

available from file:///Users/ebimboereseiyefa/Downloads/Women_Men_Publication%20_SG%20FN.pdf [

Nigeria Federal Ministry of Agriculture and Rural Development. (2023). Annual report on rural enterprise development programs. Government of Nigeria. https://faolex.fao.org/docs/pdf/nig214137.pdf

Nwosu, C. & Nwachukwu, I. (2017). Impact of women farmers' cooperative activities on poverty alleviation in Imo State, Nigeria. International *Journal of Agricultural Extension and Rural Development Studies*, 4 (1), 1-14.

Nzinzi, M. V. (2016). Assessment of diversity and role of non-timber forest products in the livelihoods of rural communities in Kibauni Hills Forest, Machakos County (Doctoral dissertation, University Of Nairobi).

Ogunleye, J. A., Olufunmilola, O. O & Akinyemi, A. (2020). Women in the Timber Trade: A Study of the Wood Plank Marketing in Southwestern Nigeria. *Journal of Gender Studies*, 29(5), 545-557. https://iopscience.iop.org/issue/1742-6596/1299/1

Ogunleye, A. (2020). Gender equality and economic growth in Nigeria: Policy perspectives. *Journal of Policy Modeling*, 42 (6), 1203-1219.

Olumide, E. & Adeola, A. (2014). Women and sustainable development in Nigeria: Breaking the tradition of male domination. *Journal of Developing Societies*, 30 (3), 351-371.

Onyebueke, V. U., & Amankrah, J. Y. (2013). Urban informality and the environmental challenges: Perspectives and policy implications from the Nigerian experience. *Theoretical and Empirical Researches in Urban Management*, 8 (3), 5-21.

Owoyemi, J. M., Zakariya, H. O., & Elegbede, I. O. (2016). Sustainable wood waste management in Nigeria. *Environmental and Socio-economic studies*, 4 (3): 1-9.

Oxfam. (2019). Women's land rights and gender equality. Oxfam Policy Brief. https://www.oxfam.org/en/tags/davos-2019

Shackleton, S., Paumgarten, F., Kassa, H., Husselman, M., & Zida, M. (2011). Opportunities for enhancing poor women's socioeconomic empowerment in the value chains of three African non-timber forest products (NTFPs). *International Forestry Review*, 13 (2):136-151.

Scoones, I. (1998). Sustainable rural livelihoods: a framework for analysis (Vol. 72, pp. 1-22). Brighton: Institute of Development Studies. https://energypedia.info/images/a/a5/Scoones_1998_Sustainable_Rural_Livelihoods.pdf

Stiem, L., & Krause, T. (2016). Exploring the impact of social norms and perceptions on women's participation in customary forest and land governance in the Democratic Republic of Congo—implications for REDD+. *International Forestry Review*, 18(1):110-122.

Sunderland, T., Achdiawan, R., Angelsen, A., Babigumira, R., Ickowitz, A., Paumgarten, F., & Shively, G. (2014). Challenging perceptions about men, women, and forest product use: a global comparative study. *World Development*, 64:S56-S66.

United Nations Development Programme (2016) 'Gender Equality in National Climate

Action: Planning for Gender-Responsive Nationally Determined Contributions' available from https://www.undp.org/content/dam/undp/library/gender/Gender%20and%20Environment/Gender_Equality_in_National_Climate_Action.pdf. [Accessed 4th November 2023]

United Nations Development Program (2007) 'Gender Mainstreaming, A Key Driver of

Development in Environment and Energy' available from https://www.undp.org/content/dam/undp/library/Environment%20and/-20Energy/Sustainable%20Energy/Gender/Mainstreaming/Training-Manual2007.pdf

UN Women, (2017). UN Women and the World Bank Unveil New Data Analysis on Women and Poverty. Retrieved from https://www.unwomen.org/en/news/stories/2017/11/news-unwomen-and-the-world-bank-unveil-new-data-analysis-on-women-and-poverty

UN Women,(2022). Women's Economic Empowerment and Sustainable Development: Pathways and Policies for Impact. https://www.unwomen.org/en/un-women-strategic-plan-2022-2025

Vodouhê, F. G., Coulibaly, O., Adégbidi, A., & Sinsin, B. (2010). Community perception of biodiversity conservation within protected areas in Benin. *Forest Policy and Economics*, 12 (7): 505-512.

World Bank, (2022). Gender and Economic Opportunities in Nigeria: Addressing Barriers and Promoting Equity. https://www.worldbank.org/content/dam/meetings/external/annualmeeting-1/AM22-WBG-Publications-Catalog.pdf

World Bank. (2020). Nigeria: Gender assessment for economic transformation. World Bank Publications.

Woods, J., & Baird, A. (2022). Gender-Based Violence and Environmental Governance: Analyzing the Intersections. Journal of Gender Studies, 31(2), 168-181.

Wright, H., Williams, L., & Chambers, J. (2023). "Women's Contributions to Non-Timber Forest Product Management and Sustainability in Africa." *Sustainability*, 6 (2): e2254069. https://doi.org/10.1001/jamanetworkopen.2022.54069