



## **Sustainable Development and Gender Inequality in Northern Ghana**

Fiasorgbor A. Doris

Department of Rural and Community Development, Presbyterian University College, Ghana.  
Akropong

Email address: [dfiasorgbor@presbyuniversity.edu.gh](mailto:dfiasorgbor@presbyuniversity.edu.gh)

### **ABSTRACT**

A gender gap is a gender-based inequality; it is any imbalance in treatment between women and men, which is consistently entrenched in social, culture and customs of the people. Gender disparity creates barriers to effective sustainable development by constraining women's access to resources and decision-making opportunities. Numerous sources of literature were used for the study. These sources comprised reports of international organisations such as AfDB, FAO, UNESCO, UNICEF, UNECE, journals and other published sources. Economic, environmental, and social props of sustainable development are chiefly related to the discourse of gender equality. The study found that though women form over half the conceivable capacity base in Africa, they are a side-lined group of the region, where their economic, social, and environmental efforts are unnoticed. The land tenure system in Northern Ghana is pluralistic, with Chiefs having 'allodial' rights. The ownership of land by the traditional rulers has contributed to men's exclusive control over land, as most chiefs are male. Also, the unequal position of women and girls as compared to men and boys in basic education regarding enrolment and school attendance is worrisome. Women in northern Ghana are agricultural producers, workers, and resource managers. The three dimensions of sustainable development; economic growth, social development and environmental sustainability cannot be completely addressed without recognising the significance of gender equality and women's empowerment. It is recommended that access to and secure tenure over land is closely linked to natural resource access and management, such as water and forest resources, with benefits for sustainable ecosystems, thus governments and other stakeholders should make and implement policies that will ensure access and secure tenure over land by all people in society.

Keywords: Sustainable development, gender inequality, women, Africa, agriculture, health, education.

### **1. INTRODUCTION**

Gender equality and women's empowerment are issues of fundamental human rights and basics for meeting sustainable development goals globally. Gender equality and women's empowerment is a vital development schedule that is universally engrained and intended for sustainable development. Women play important and varied roles from home, at workplace, in the society, as homemakers, as societal well-being and job seekers, and job providers. Encouraging gender equality is a critical constituent of development approach that enables people; both men, women and the marginalised to reduce their poverty and improve their standard of living. The role of women is of paramount interest to the economy of nations and the achievement of sustainable development. Consequently, the inclusion of women in all

aspects of economic endeavours is central to reducing gender inequality and promoting overall economic growth and sustainability (Sharma, 2016).

A gender gap is a gender-based inequality; it is any disproportion in treatment between women and men, which is habitually entrenched in social, culture and customs of the people. Gender inequality creates blockades to effective sustainable development by restricting women's access to resources and decision-making opportunities. In some cases, violence can be used against women as a means of control over resources and prospects, sustaining power imbalances and gender inequality. Further, sustainable ecosystem management can only be achieved by appreciating gender differences and dealing with the precise barriers. Without this, efforts at sustainable ecosystem management risk worsening gender inequality to the detriment of conservation of the environment and community wellbeing (Palacios-Lopez et al., 2017).

Zakaria et al. (2015), assert that changes in gender relations at the start of the 20th century is one of the most swift and reflective social changes in human history. At the beginning of the 20th century, men and women were generally seen as lodging tight different roles in society—a woman's place was in the home as wife and mother; the man's place was in the public sphere. Men on the other hand had powers over the lives of their wives and children. Women play a key role in the management, conservation, exploitation and utilisation of natural resources as consumers and educators, notwithstanding having serious hinderances to access and control of resources. Women also work more and earn less, 38% of rural women do not have income of their own. For instance, in Latin America, women own less than 20% of the land (Fleschenberg et al., 2011). Unpaid work for self-consumption such as the collection of firewood and the fetching of water is generally done by women. Natural catastrophes underpin and increase gender inequality, and the potential contributions of women for risk reduction and leadership to cope with disasters are often ignored.

Sustainable development is defined by World Commission on Environment and Development (WCED), as *'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'* (UNECE, 2012). If development needs of African women are not instantly addressed by various governments, it will compromise the ability for women to meet their own needs in the future and if current stages of gender inequality remain uncontrolled, it will endanger the African woman's ability in future generations to meet their own needs. Thus, the issue of gender inequality remains recurring across generations if the current level is not immediately given the needed attention. Should this happen, social dynamics in power relations will continue to play down on women across generations and to the detriment of sustainable development.

The Sustainable Development Goals (SDGs) purposed to ensure that there is an end to discrimination against women and girls everywhere. However, there are still great inequalities in access to paid employment in some parts of the world and substantial differences between men and women in the labour market. Sexual violence and exploitation, unequal division of domestic work, and discrimination in participating in decision making are all huge barriers to women. Affording women equal rights to economic resources such as land and property are important targets to achieving sustainable development. There are now a lot more women participating in the labour market than ever before, nonetheless encouraging more and more female leaders across all regions of the globe can strengthen policies and legislations for a greater gender equality (Zhou and Moinuddin, 2017). Sustainable development thus calls for the integration of economic growth, social development, and environmental management as interdependent pillars for long-term growth and development. The concept of sustainable development gained currency globally when the UN Development Committee the famous Brundtland Report was launched in 1987. It called

for promotion of societal goals that would respect environmental integrity, social justice and gender equality, the economic and social welfare of present and future generations, and community participation (UNECE, 2012).

Gender inequality limits Africa's progress in tackling poverty where the continent forfeits potential growth that could have come from women, who are excluded from the process by restricting women's access to human capital enhancing services such as education and healthcare that limit the extent to which growth can influence their poverty status. Gender gaps in education, healthcare and other wellbeing indicators have seen momentous enhancements over the years. Notwithstanding these achievements, women still form the majority of the continent's poor, and they are more likely to drop out of school than boys, less likely to be employed in the formal sector. Gender inequalities in agriculture are characterised by unequal access to agricultural inputs such as land, fertilizers, and finance. Women who depend on agriculture and do not own land for this purpose are more vulnerable to domestic violence. Women dominate in vulnerable employment, with most of them working in seasonal and petty trading of agricultural products (AfDB, 2015).

Considering inequality in Ghana regarding gender, investigation reveals that women are poorer as compared to men, particularly in the northern regions of the country, as well as in rural areas. With regard to asset distribution, new evidence shows that the gender distribution of wealth in Ghana is partial in favour of men and this is true even when the distribution patterns in urban and rural communities are analysed separately. There are noteworthy gender differences in landholdings, where men hold 3.2 times more of the farms than women and 8.1 times more of the medium-large farms (of 5 acres and more) (FAO, 2012). Most female landholders normally manage smaller farms of less than 5 acres. Also, in non-agricultural sectors, female workers are more likely to be engaged in vulnerable employment than their male counterparts and are usually engaged in part-time, seasonal or low-paid jobs in the informal sector. Apusigah (2009), estimates the average hourly wage of women in Ghana as 57% that of men.

The goal of this study therefore was to examine the extent to which gender inequality manifests in different aspects of the lives of the northern woman. This paper examines gender inequality in northern Ghana by looking at themes such as land, agriculture, education, health, participation in decision making and the environment.

## **2. METHODS**

Various sources of literature were used for the study. These sources included reports of international organisations such as AfDB, FAO, UNESCO, UNICEF, UNECE, journals and other published sources. All these sources are also observed to be credible sources of information. Various literature that addresses gender issues were collected. Topics that speak to the need for gender issues in all sectors (education, health, agriculture and many more considered by this paper. Another basic element that was considered was that all the gender inequality issues covered were pertinent to the northern part of Ghana. The Statistical Package for Social Scientists (SPSS) software was used to analyse the data.

## **3. RESULT AND DISCUSSION**

### **3.1 Women And Sustainable Development in Africa**

Economic, environmental, and social props of sustainable development are chiefly pertinent to the discourse of gender equality. Though women form over half the possible capacity base in Africa, they are a marginalised group of the region, where their economic, social, and environmental efforts are ignored. Various findings reveal that gender inequalities in

Africa have high economic cost, they lead to other social inequalities, and can promote environmental degradation in Africa. This is as due to the fact that enormously poor communities depend excessively on natural resources for survival; for instance, the huge energy and animal protein requirements of the society can lead to environmental mutilation in the form of unsustainable agricultural and husbandry practices in addition to deforestation. Sustainable development therefore focuses not only on the economy; it also brings to light the human dimensions of development. In refusing to include half of the population (women), many African countries are turning their backs on dealing with a significant part of the human dimension of development and are thus underinvesting in the needed human capital for achieving sustainability (AU ECHO, 2015).

### **3.1.1 Women and Economic Sustainability**

The role of the Africa woman in development is substantial, but mostly in the informal sector. Research shows that women constitute about 70% of the informal economy in Africa. Specifically, African women contribute to 70% of crop production, 50% of animal husbandry, 60% of marketing, and nearly 100% of local food processing activities (FAO, 2012). This is contrary to the findings of Nchanji (2017), who also found that among the Dagbon in the Northern region of Ghana, more men than women are engaged in most productive agricultural activities; women principally are engaged in harvesting and marketing roles inured and reconstructed by the culture of the people. However, women invest a majority of their income in their families and communities, compared to men who typically reinvest only 30% to 40% of their income. Empowering women, therefore, can play a significant role in reducing poverty levels in Africa. According to Rogers et al. (2007), people largely know what is right and what is wrong, when they know what demands to make for sustainable development, that is where sustainable development commences. Empowering women can equip them to know what demands to make thereby kick-starting sustainable development. Consequently, creating opportunities for female economic participation will improve earning potentials and help families rise out of poverty. To enhance the contribution of African women in order to achieve economic sustainability, policy makers must integrate gender equality and women's perspectives into the discussion of strategies for poverty reduction, economic growth, and financial infrastructure. Also, steps should be taken to guarantee that men and women have equal access to productive assets and resources, employment opportunities, and essential services (Sharma, 2016).

### **3.1.2 LAND, AGRICULTURE AND SUSTAINABLE DEVELOPMENT**

The land tenure system in Northern Ghana is pluralistic, with Chiefs having 'allodial' rights (ownership of real property that is independent of any superior landlord and related to the concept of land ownership by occupancy and defence) to three quarters of land and are expected to manage the land and through it develop the community. The ownership of land by the traditional rulers has contributed to men's exclusive control over land, as most chiefs are male.

According to Duncan (2006), traditionally in the northern part of Ghana, land ownership is in the hands of men and not women, as mentioned above. The reason is that when a woman marries, she becomes a member of a new family, and thus loses all her rights to her natal family because any property she owns will inevitably become her husband's. However, a man can own land because when he marries, his property would not become the wife's family's property. Land is well-thought-out as a spiritual being and thus usually held in trust by household heads, chiefs and earth priests, who can communicate with the ancestors through rituals.

Furthermore, northern Ghana is still an agricultural society with land as key asset from where livestock graze, crops are grown and wild animals hunted, wild fruits are gathered and other natural resources are collected. Northern Ghana refers to the area comprising of three broad geographical and administrative regions of the Northern Region, Upper East Region and Upper West Region. In Northern Ghana, agriculture is male-dominated whereas marketing of the agricultural produce is female-dominated. This division of labour and activities is a result of local customs which are continually being restructured and rationalised by male-dominated institutions such as the chieftaincy and community bodies. A husband is expected to farm and provide for his family, while a wife is expected to sell the agricultural produce to help the husband take care of the family. The woman has the responsibility of fulfilling her reproductive and traditional role of providing vegetables for the household's nutrition. Men, on the other hand, own and control lands which women have access to (Britwum et al., 2014).

That women's unequal access to land is sometimes challenged Britwum et al. (2014), argue that many authors like Tsikata (2008), Runger (2006), Sarpong (2006), Kotey and Owusu-Yeboah (2003), writing on the subject note that women's access is profoundly inhibited. Tsikata (2008) perceives how a small body of literature clashes with the claim that gender relations hinder women's access to land. Millar et al. (2007) however, reject outrightly the claims that depict men as owners of farmlands and women as cultivators. They maintain that mostly, even men do not have outright ownership of land. They said that land commoditisation is changing women's inferior land rights because anyone with the means can own land through the market and register the title in their own names. Rejecting these conclusions, Tsikata (2009) asserts that such observations are mistaken, deriving from the failure of scholars to differentiate between ownership (legal title), access (ability to use), and control (the right to use and determine what to use it for). Differentiating between access and control, Tsikata reveals that women can use land for farming and keep the earnings, nevertheless, they only have use right, under the decision of their husbands or male family heads, and landowners (in the case of tenants).

Addressing gender inequality is essential to achieving sustainability in agriculture. High levels of inequality make it harder to increase productivity and reduce poverty and hunger. Countries where incomes are highly unequal averagely have lower levels of land productivity and are more prone to food insecurity (Tsikata, 2009). Sustainable development in Ghana, an agrarian country, can take place only in an environment of a land tenure administration which is stable, equitable and allows for the best productive use of land; implying the ability to invest in land on long-term basis which in turn implies adequate security of tenure for the users. However, the traditional land tenure arrangements, as discussed in this paper, do not seem to guarantee adequate degree of security of tenure (Sarpong, 2006).

### **3.1.3 Extension services and women farmers**

Extension provisioning in Ghana is a challenge for all farmers. Though there are regional as well as ecological variances in the concentration of extension deficits. Farmers in the forest areas seem to have better access as compared to those in the coastal and savannah zones. These disparities, can largely be traced to colonial rule, which have not seen much improvement (Duncan, 2004). In addition to regional differences, the FAO (2013) notes that gender differences in extension services become more distinct than other resources. This is supported by the World Bank and the International Food Policy Research Institute's study, conducted in 2010, which reveals that contact between extension officers and farmers is usually low and even lower for women. The study found that the number of male farmers visited by extension officers vacillated between 10% and 13% as against less than 2% for female farmers (FAO, 2013). Studies suggest that the lack of equality in accessing extension

services for women is due to various reasons, which become more concentrated in northern Ghana (Bortey-Doku Aryeetey, 2013). The first reason is the utter absence of women extension officers. Communities with engrained patriarchal values, like the northern regions; cultural limitations on the degree to which female farmers can interact with male extension officers additionally narrows women's access to extension services. More so, extension services focus on cash crops to the neglect of staple foods or subsistence crops; an area basically dominated by men where women venture at the risk of offending well established cultural norms (Apusigah 2009 & Agarwal, 2011). The absence of adequate extension services for the female farmers can lead to the use of environmentally unfriendly practices that can hurt the environment and even impact the health of the farmers adversely. This is in line with the findings of Zakaria et al. (2015), that females make nearly half of the agricultural workforce in developing countries. For instance, more than 60% of women in Sub-Sahara Africa work in agriculture. Women in agriculture face various difficulties and restraints as compared to their male counterparts, including inadequate access to training, machinery, and new farming technology. In very unequal societies, women lack the economic resources and capacity to invest in suitable agricultural technologies, and the knowledge to employ improved and sustainable agricultural practices. This is in line with the suggestion of Rogers et al. (2007), that attention (related to agricultural extension services and inputs; not necessarily subsidies) should be given to small-holder farmers and landless labourers to increase their agricultural production.

### **3.2 EDUCATION AND SUSTAINABLE DEVELOPMENT**

Education is a fundamental human right and is essential for achieving sustainable development. Advancing education goal can only be achieved by empowering girls, combating climate change, fighting inequality and ending absolute poverty if all stakeholders would be committed (UNESCO, 2011). Gender equality, quality and the effects of socio economic and socio-cultural variances in the provisioning of education opportunities are key concerns in education development in many poor countries. The unequal position of women and girls as compared to men and boys in basic education regarding enrolment and school attendance is worrisome (Darkwah, 2010).

In Northern Ghana, religious and customary practices lead to early betrothal and marriage of girls before they turn 18 years. Consequently, early marriage ends a girl's education as she might not be able to combine studies with matrimonial responsibilities. All these factors actually broaden the inequality in school enrolment and attendance between girls and their male counterparts. This evidence has been supported by Odaga and Haneveld (1995) when they noted that early marriage contends with school for girls in most societies in Africa and that the age at which girls marry implies marriage is an important institution in the African society. Nonetheless, the earlier findings are contradicted by the findings of El-Sanabary (2001) who explained that the expensive bride-price paid for educated girls is one of the reasons why parents in Zaire send their daughters to school. Unfortunately, in northern Ghana, girls in the school going ages are married off at tender ages; where some of them were even betrothed at the age of 2 years which results in the non-enrolment of girls in schools. Yet another socio-cultural influence of gender inequality in enrolment and attendance is the practice of polygyny in the Northern parts of Ghana.

Polygyny is commonly practiced in the northern society which undesirably affects children's education, particularly school enrolment and attendance as some of the children from polygamous homes are pulled out of school or not enrolled at all because their labour is required on the family's farm to help the fathers provide for the families (Alhassan and Odame, 2015). This buttresses the stance of Daly (1996), who indicated that a family planning programme aimed at birth control was required, even though he agreed this was not sufficient, he said it is a condition for economic development, to bring about improvement in

the lives of the bottom 80% of the Northeast Brazil population. This will equally apply to the case of northern Ghana. All things being equal, if the number of children given birth to in a family is small then fathers would not need the efforts of their children to stay at home to help work on the farms to help them fend for the large family sizes.

### **3.3 HEALTH AND SUSTAINABLE DEVELOPMENT**

Health is a fundamental human right and a key indicator of sustainable development. Poor health impedes children's rights to education, limits economic opportunities for men and women and upsurges poverty. Additional to being a cause of poverty, health is influenced by poverty and sturdily linked to other facets of sustainable development, that include water and sanitation, gender equality, climate change and peace and stability (McCartney 2013). According to Braveman and Tarimo (2002), health inequities are the preventable, partial and unfair inequalities in access to and utilisation of healthcare services amongst regions and subgroups within a society. Inequalities in accessing healthcare are crucial because they have grave consequences for human development and sustainable development; they are socially constructed; they disrupt the basic principles of social justice for all to have equal opportunity to be healthy. Studies show that there is no much gender disparity in access to healthcare services in northern Ghana. However, Ngom et al. (2003) found that amongst the Kassena-Nankana of the Upper East region, compound heads and husbands impede women's prompt access to modern health care as they make the final decision.

### **3.4 PARTICIPATION IN DECISION MAKING**

Globally, women are vastly underrepresented in decision making from national governments levels to local community groups. Women make up less than 25% of all national legislators around the globe. This underrepresentation also extends to national environmental decision making, where women hold only 12% of top political positions in environment-related sectors worldwide, and also in district and community level committees, where women are usually underrepresented (Nchanji 2017). The cultural norms and time-intensive household care duties regularly hamper northern Ghanaian women's capabilities to participate in community meetings and decision-making procedures about sustainable management initiatives. Meaning, in relation to natural resources and ecosystem management, the needs of women, their priorities and knowledge are disregarded which impacts their empowerment and agency by undermining the effectiveness of sustainable management resolutions. Research and experiences increasingly show the transformative power of inclusive decision making by both women's and men's uniquely differentiated knowledge in successful environmental programming and sustainable development. For instance, at the national and international level, countries with more female legislators are more likely to sanction environmental agreements. At the community level, in India and Nepal, forest management groups that included women disclosed improved resource management and maintenance results (IUCN, 2020).

### **3.5 ENVIRONMENT AND SUSTAINABLE DEVELOPMENT**

Environmental degradation aggravates poverty predominantly in the rural areas as the poor rely on the ecosystem for their livelihoods. Women in most cases bear the brunt of food, water and energy provisioning for their households, water shortages and deforestation mean that women and girls would need to walk longer distances to fetch water and collect firewood. Studies reveal that women in Sub-Saharan Africa spend about 40 billion hours a year collecting water (UNICEF 2016). According to Nchanji (2017), achieving universal and equitable access to safe and affordable drinking water for all by the year 2030 is fundamental in reaching the Sustainable Development Goal 6. Unfortunately, nearly 4 billion people, face

serious water shortage and over 2 billion people live in countries facing very high water stress. Water supply is not equitably distributed around the globe and another dimension of water inequality is gender. A study by UNESCO World Water Assessment Programme in 2019 in Africa estimated that women spend not less than 16 million hours daily to collect drinking water, whereas their male counterparts spend 6 million hours. These inequalities are obvious in Ghana where almost 38% of the people lack access to potable water and there are regional disparities and urban-rural variations in water supply. Nchanji and Bellwood-Howard (2016) also revealed that women and girls in the rural areas of northern Ghana spend more than three (3) hours daily on fetching of water and firewood.

Women in northern Ghana are agricultural producers, workers, and resource managers. They safeguard the natural environment, maintain traditions, and distribute resources within the household and community. Looking at their heavy reliance on natural resources, women are among those affected by environmental degradation and climate change. Mostly, climate change unfavourably affects crop yields and thus the livelihood and food security of women who are largely responsible for food production and family nutrition. Supplying water and fuel for families, which is typically the responsibility of women, also becomes more difficult as environmental change negatively affects clean water supplies and water and, fuel infrastructure. Coping with the damage of extreme weather events such as drought, storms, and floods therefore also disproportionately affects women in northern Ghana (Nchanji et al. 2017).

#### **4 CONCLUSION**

The three dimensions of sustainable development; economic growth, social development and environmental sustainability cannot be fully addressed without acknowledging the significance of gender equality and women's empowerment. Thus, creating openings that inspire women's participation in social, environmental, and economic activities and other related decision-making procedures is critical to achieving truly inclusive development. Also, focusing on women allows societies and economies to grow in ways that will reduce poverty, reduce inequality, and ensure the sustainable use of the African environment.

Sustainable development accentuates equality and solutions to undesirable social trends like growing income disparity, increasing unemployment, and entrenched gender gaps. Giving African women the opportunities and resources; as well as involving them in environmental decision-taking will empower them to improve their livelihoods and well-being in ways allied with sustainable development goals.

Socio-cultural norms and economic reliabilities that hinder equal access to resources and social services hamper the ability of the northern woman in participating in all aspects of the economic life of her community. Hence, investing in female education, health, and a female-centred productive economic activities, will contribute to reducing poverty in northern Ghana and have a trickle-down effect. Also, social policies focussed on principles of inclusion, equality, and environmental sustainability contribute to creating the appropriate environment for development that is valuable to both women and men.

#### **5 THE WAY FORWARD**

- Access to and secure tenure over land is closely linked to natural resource access and management, such as water and forest resources, with benefits for sustainable ecosystems, thus governments and other stakeholders should make and implement policies that will ensure access and secure tenure over land by all people in society.
- Insecure land rights are a huge barrier for women in participating in or leading sustainable management efforts, as they may not have decision-making power over how land is used and managed if they do not own it. The authorities should put in place structures so



women can own land and have their name on the land title which will enable them to access loans to invest in technology and inputs.

- Strengthening women's access to and control over land will improve sustainable management efforts, by increasing investments and willingness to engage in conservation activities, including tree planting and sustainable soil management.
- Developing innovative strategies to improve access to credit and agricultural services for marginalised farm populations require strategic investment in public goods and programs that benefit marginalised populations. These include rural infrastructure, education and health services and programs such as credit, subsidised inputs, information and extension.
- Additionally, government bodies and private sector organisations need to look internally and evaluate the barriers to and opportunities for inclusive decision making.

## REFERENCES

- AfDB (2015). Empowering African Women: An Agenda for Action. [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African\\_Gender\\_Equality\\_Index\\_2015-EN.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African_Gender_Equality_Index_2015-EN.pdf) Accessed September 19, 2020.
- Agarwal Bina (2011). *Food Crises and Gender Inequality: Working Paper No. 107*. New York: UN/DESA. [https://www.un.org/esa/desa/papers/2011/wp107\\_2011.pdf](https://www.un.org/esa/desa/papers/2011/wp107_2011.pdf). Accessed 23 September, 2020.
- Alhassan Eliasu and Odame S. Felicia. "Gender Inequality in Basic Education in the Northern Region of Ghana: Household and Contextual Factors in Perspectives" *Ghana Journal of Development Studies* 12, no. 1-2, (2015): 125-141.
- Apusigah Atia A (2016). "The gendered politics of farm household production and the shaping of women's livelihoods in Northern Ghana", *Feminist Africa* 12, 51–68.
- AU ECHO (2015). Year of Women's Empowerment and Development towards Africa's Agenda 2063. African Union Commission. News Letter Issue 1, 2015, Addis Ababa. [https://au.int/sites/default/files/documents/31358-doc-au\\_echo\\_january\\_2015.pdf](https://au.int/sites/default/files/documents/31358-doc-au_echo_january_2015.pdf). Accessed 23 September, 2020.
- Bortei-Doku Aryeetey Ellen (2020). "Behind the norms: women's access to land in Ghana" in *The dynamics of resource tenure in West Africa*, edited by C. Toulmin, P. Deville Lavigne, and S. Traore, 29-44. London: IIED, 2020.
- Braveman Paula and Tarimo Eleuther (2002). "Social inequalities in health within countries: not only an issue for affluent nations," *Social Science & Medicine* 54 (2002):1621-35, doi: 10.1016/s0277-9536(01)00331-8.
- Britwum O. Akua, Tsikata Dodzi, Akorsu D. Angela, and Aberese A. Matilda (2014). "Gender and land tenure in Ghana: a synthesis of existing literature", *ISSER Technical Publications No 92*, 11. Legon, Ghana.

- Daly, Herman E (1996). *Beyond Growth: The Economics of Sustainable Development*. Boston: Beacon Press.
- Darkwah Akosua (2010). "Education: pathway to empowerment for Ghanaian women," *Institute of Development Studies* 41, no. 2, 28-35.
- El-Sanabary Nagat (2001). "A Comparative study of the disparities of educational for girls in Arab countries." PhD diss., University of California, Berkeley, 2001. University of California Press.
- FAO (2012), Gender Inequalities in Rural Employment in Ghana: An Overview. <http://www.fao.org/3/ap090e/ap090e00.pdf>. Accessed September 21, 2020.
- FAO (2015). Country fact sheet on food and agriculture policy trends - Food and Agriculture Policy Decision Analysis Socio-economic context and role of agriculture. March 2015 FAPDA. <http://www.fao.org/3/a-i4490e.pdf>. Accessed September 24, 2020
- Fleschenberg Andrea, Claudia Derichs, Cecilia Ng, Tara C. Satyavathi, Chellapilla Bharadwaj and Srinivasa P. Brahmanand (2011). "Role of farm women in agriculture," *Gender, Technology and Development* 14, no. 3: 441-449.
- George A. Sarpong (2006). *Improving tenure security for the rural poor: Ghana case study*. Accra: FAO/LEP, 2006. LEP.
- Higgins Tracy and Fenrich Jeanmarie (2011). "Legal Pluralism, Gender, and Access to Land in Ghana" *Fordham Environmental Law Review* 23, no. 2 (2011): 9. <https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1673&context=elr>. Accessed September 19, 2020.
- International Union for Conservation of Nature (IUCN) (2020), Gender and the environment: What are the barriers to gender equality in sustainable ecosystem management? <https://www.iucn.org/news/gender/202001/gender-and-environment-what-are-barriers-gender-equality-sustainable-ecosystem-management> Accessed September 21, 2020.
- McCartney Gerry, Collins Chik and Mackenzie, Mhairi (2013) "What (or who) causes health inequalities: theories, evidence and implications?" *Health Policy* 113, 221-7, doi: 10.1016/j.healthpol.2013.05.021.
- Millar David, Abazaami Joseph and Bonye Samuel (2007). *Women, land and agricultural productivity: a study into community level constraints to land availability for women in Kalbeo and Gowrie Kunkwa*. Bolgatanga: Centre for Cosmvision and Indigenous Knowledge. CECIK.
- Nchanji Eileen B (2017). "The piper calls the tune: changing roles of Northern Ghanaian Women in agriculture," *Agriculture for Development* 32, no. 2, 1-7.
- Nchanji B. Eileen and Bellwood-Howard Imogen (2016). "Traditional provisioning responsibilities of women in Northern Ghana" in Segal, MT, Demos VP *Gender and food- from production to consumption and after*. London: Emerald Group Publishing Limited. <https://doi.org/10.1108/S1529-212620160000022013>
- Nchanji B. Eillen, Bellwood-Howard Imogen, Schareika Nikolaus, Chagomoka Takemore,

- Schlesinger Johannes, Axel Drescher and Rüdiger Glaser (2017). "Assessing the sustainability of vegetable production practices in Northern Ghana", *International Journal of Agricultural Sustainability*, 15 no. 3: 321-337, <https://doi.org/10.1080/14735903.2017.1312796>.
- Ngom Pierre Cornelius Debpuur, Patricia Akweongo, Philip Adongo and Fred N. Binka (2003) "Gate-Keeping and Women's Health Seeking Behaviour in Navrongo, Northern Ghana," *African Journal of Reproductive Health* 7, no. 1 (2003): 17-26.
- Odaga Adhiambo and Heneveld Ward (1995). *Girls and Schools in Sub-Saharan Africa: From Analysis to Action-Technical Paper No. 298*. Washington D.C.: World Bank.
- Palacios-Lopez A, Christiaensen L, Kilic T (2017). "How much of the labor in African agriculture is provided by women?" *Food Policy* 67: 52-63, doi:[10.1016/j.foodpol.2016.09.017](https://doi.org/10.1016/j.foodpol.2016.09.017).
- Rogers, Peter, Kazi F. Jalal, and John A. Boyd (2007). *An Introduction to Sustainable Development*. 1 ed. London: Routledge.
- Rünger Mechthild. *Governance, land rights and access to land in Ghana: a development perspective on gender equity* (2006). Accra: Fifth FIG Regional Conference, 8, FIG.
- Sharma Manisha. "Women Education: Need for Sustainable Development", *Global Journal of Human-Social Science* 16, no. 1 (2016): 22-25.
- Tsikata Dzodzi (2009). "Gender, land and labour relations and livelihoods in sub-Saharan Africa in the era of economic liberalisation: towards a research agenda". *Feminist Africa* 12, no. 2: 11-30, <https://doi.org/10.1177%2F2277976016658738>.
- UNECE (2012), Empowering Women for Sustainable Development: Discussion Paper Series, 2012.1Switzerland.[https://www.unece.org/fileadmin/DAM/Gender/publications\\_and\\_papers/UNECE\\_Discussion\\_Paper\\_2012.1.pdf](https://www.unece.org/fileadmin/DAM/Gender/publications_and_papers/UNECE_Discussion_Paper_2012.1.pdf). Accessed September 19, 2020.
- UNESCO (2011), Development of education in Africa: a statistical review, seventh conference of ministers of education of African member states between 20-24th April 1998. Durban: South Africa.
- UNICEF (2016). Collecting water is often a colossal waste of time for women and girls. Press releases. <https://www.unicef.org/press-releases/unicef-collecting-water-often-colossal-waste-time-women-and-girls>. Accessed September 24, 2020
- Zakaria Hudu, Abujaja Afishata, Adam Hamza, and Salifu Y. Walata (2015). "Does gender make any difference in livelihoods diversification? Evidence from Northern Ghana". *International Journal of Agricultural Extension and Rural Development Studies* 1, no. 1:36-51.
- Zhou, Xin and Moinuddin Mustafa (2017). *Sustainable Development Goals Interlinkages and*

*Network Analysis: A Practical Tool for SDG Integration and Policy Coherence.*  
Tokyo: Institute for Global Environmental Strategies,  
[https://sdginterlinkages.iges.jp/files/IGES\\_Research%20Report\\_SDG%20Interlinkages\\_Printing%20Version.pdf](https://sdginterlinkages.iges.jp/files/IGES_Research%20Report_SDG%20Interlinkages_Printing%20Version.pdf). Accessed September 15, 2020.

© GSJ