

# Understanding the Concept, Challenges and Prospects of Peasant Agriculture in Ghana: The Case of Smallholder Rice Farmers in Kassena-Nankana District in Ghana

Emmanuel Kwesi Boon<sup>1\*</sup> and Samuel Weniga Anuga<sup>2</sup>

<sup>1</sup>Professor and Director of International Affairs, International Centre for Enterprise and Sustainable Development (ICED), P. O. Box KA 16461, Airport-Accra, Ghana.  
Email: ekboon54@gmail.com

<sup>2</sup> Climate Change and Sustainable Development Programme, University of Ghana, P.O. Box LG 25, Legon, Accra, Ghana. Email: samuelanuga@rocketmail.com

\*Corresponding Author

## Abstract

*Agriculture is the most important sector of the economy of Ghana and is dominated by peasant farming. Although, the concept of peasant farming is centuries old, it is still suffering from lots of misconceptions in the country and is often seen in pejorative terms. The concept has been variously described as family farming, smallholder farming and small-scale farming. Generally speaking, a peasant is a self-employed farmer whose production is supported mainly by family labour. Peasant farmers are holders of plots of land between less than 2 and 10 hectares. World-wide, about 85 % of all farms is operated by smallholder farmers. In SSA, they are about 33 million, which represents 80% of all farms in the region and contributing up to 90% of food production in some countries in the region. On the basis of a comprehensive literature search and field interviews held with agricultural extension officers and smallholder farmers in Ghana, this paper debunks peasant farming misconceptions in the country. To facilitate in-depth understanding of the concept, its history, role, organisation and importance, a case study on smallholder rice farming in Navrongo in the Kassena-Nankana District in Upper East Region is used to illustrate the reality of peasant farmers in the country. The economic, social, cultural and ecological roles of these farmers and the challenges they face are analysed and appropriate mitigation measures proposed for making the sector the engine for poverty reduction and food and nutrition security in Ghana.*

**Keywords:** Agriculture, Family Farming, Farming systems, Ghana, Organisation, Peasant, Rice, Smallholder, Small-scale, Stakeholders

## 1. Introduction

Agriculture remains the foundation of most Sub-Saharan African (SSA) economies and the livelihoods of its population. However, SSA is the only region where agricultural growth is lower than the overall population growth (FAO 2016; Barrett, Christian, & Shimeles, 2018). Globally, 85 % of all farms are operated by smallholder farmers (holders of <2 ha of farm plots) with the population of smallholder farmers representing about 50 and 75% of people living with hunger globally and in Africa respectively (Limatol *et al.*, 2016; SpringerPlus 2016). Economic growth in SSA countries like Ghana is largely dependent on the transformation of the region's farming systems, especially the peasant farming sector. According to Wiggins & Keats (2013), smallholder farmers in SSA are about 33 million, represent 80% of all farms in the region. They contribute up to 90% of food production in some countries in the region (Wiggins & Keats, 2013). Although, the concept of peasant farming is centuries old in SSA, it is still suffering from lots of misconceptions and is often

seen in pejorative terms. The increasing vulnerability of peasant farmers in the country continues to be a major concern of the Government of Ghana (GoG), development actors, researchers and the international community. Attempts by policy-makers and development partners over the years to improve the productivity and the capacity of smallholder farmers to reduce rural poverty and improve food and nutrition security have not yielded the desired outcomes (FAO, 2016). Two main schools of thought dominate the agricultural development discourse in Ghana and SSA in general. While the first school shuns peasant agriculture in favour of large-scale industrialised type of farming, which continues to inflict grave economic, social and environmental impacts on the population, the second school regards smallholder farming as the panacea for rural poverty and food and nutrition insecurity (Olomola, 2006). Considering the historical, economic, social and environmental context of SSA and Ghana in particular, this paper supports the views of the second school of thought. A central position of the paper is that efforts to transform agricultural performance in the country first of all requires a proper understanding of the importance of the sector, particularly smallholder farming and peasant organisations.

Peasant or smallholder farming is probably the oldest agricultural system in the world (Hayami, Yyjiro, 1996). The performance of peasant agriculture is influenced by many variables, including the role of government, public and private sector institutions, other agricultural value chain stakeholders and the international community. In recent times, analysts have focused attention on the need to support the transformation of SSA's smallholder agriculture and make it a key driver of poverty reduction and enhanced food and nutrition security. Evidence from literature abundantly indicates that the small family farm system in Ghana has the greatest potential for growth and should be supported to improve productivity, efficiency and enhance food and nutrition security (Appiah *et al.*, 2019).

This paper first aims to debunk the misconceptions about the concept of peasant agriculture. It reviews the concept in SSA's context and identifies the key challenges faced by peasant farmers in Ghana. The paper then recommends appropriate measures for transforming peasant agriculture in the country into a veritable instrument for poverty reduction and food and nutrition security. The economic, social, cultural and ecological roles of peasant farmers' organisations and the challenges they face are analysed and appropriate measures proposed for making the sector the engine for poverty reduction and food and nutrition security. The paper argues that the possibility to transform the performance and sustainability of agriculture in Ghana essentially requires an in-depth understanding of the importance of the peasant farming system and according it an enabling environment and massive support.

## **2. Literature Review**

### **2.1 Agricultural Policy and Performance in Ghana**

The agricultural sector accounts for one-fifth of Ghana's Gross Domestic Product (GDP), employs nearly half of the workforce and is the main source of livelihood for the majority of the country's poorest households (Chamberlin, 2007). The sector is characterised by low yields for both staple and cash crops. The principal agricultural crops are classified into

industrial or cash crops (cocoa, oil palm, coconut, coffee, cotton, kola, rubber, cashew, shea, and soya bean) and starchy staples comprising cereals and legumes (cassava, cocoyam, yam, plantain, maize, rice, millet, sorghum, cowpea and groundnut). Agriculture has historically been the dominant sector of Ghana's economy. However, the sector's contribution to GDP has been oscillating in recent years. Ghana's average annual agricultural growth rate between 2008 and 2015 was about 4.2 per cent, which is below the projected growth rate and the Maputo target of 6 per cent (Ministry of Food and Agriculture, 2015). This implied a drop from the 5 per cent average agriculture growth rate realised between 2001 and 2006. The contribution of the sector to GDP however started to drop in 2009 and was taken over by the service sector. From 8 per cent in 2008, the agricultural sector's contribution to GDP dropped to 4 per cent in 2009 and then peaked at 16 per cent in 2011, the highest contribution to GDP recorded in a decade. However, from 2012 to 2015, it again dropped. According to the Ghana Statistical Service (GSS, 2008), the sector's contribution to GDP in 2017 was estimated to be 18.7% compared to 18.3% recorded in 2016. From 2008 to 2018, agriculture was the most important economic sector in the country. Despite this positive trend in the performance of the sector, it is suffering from low productivity due to a number of internal and external factors. For example, public expenditure on agriculture has been declining and lags behind the 10 percent target specified in the Maputo Declaration. The low productivity of the sector has made Ghana a net importer of basic foods such as rice, poultry, sugar and vegetable oils. The country's annual food import bill now exceeds the estimated annual \$2 billion earned from cocoa exports (MoFA, 2015). The continuous fall in agricultural productivity has serious implications for employment, income, and food and nutrition security in the country, especially in most rural communities.

In order to fix these challenges, the Government of Ghana's (GoG) most recent agricultural policy - Food and Agriculture Sector Plan (FASDEP II) - seeks to transform and modernise the sector to combat poverty, create jobs and achieve food security (World Bank, 2017). This policy aims to ensure sustainable utilisation of all resources and commercialisation of agricultural activities based on market-driven growth. The policy specially targets resource poor farmers and fewer agricultural produce. The policy also focuses on increasing the efficiency of commodity value chains, deployment of improved technologies and ensuring environmental sustainability. To facilitate the implementation of the policy, an effective engagement of, and collaboration with the private sector is regarded to be vital. It is important to note that Ghana's agricultural policies have placed strong emphasis on establishing farmer organisations and strengthening their capacity, especially those of the smallholders. However, policy errors and distortions in the integration of peasant farming into agribusiness markets have constrained the productivity of peasant farmers in the country, especially in northern Ghana. In addition, contract farming and other mechanisms deployed to encourage uptake of agricultural inputs and the incorporation of peasant farmers into corporate controlled food processing are seriously hurting the performance of the sector (Amanor, 2019). For example, the increase in the number of medium-scale farms and acquisition of farmlands by foreign corporations is a challenge that requires effective policy and on the ground solutions. Despite these challenges, smallholder farmers continue to be dominant in both domestic and export crop production in Ghana.

## 2.2 History and Legal Framework of Peasant Organisations in Ghana

Collective activities by farmers in Ghana dates back to the pre-colonial era. Informal labour grouping and customary arrangements provided reciprocal labour exchange for farm work, especially for weeding, sowing and harvesting activities (Hussi *et al.*, 1993; Onumah *et al.*, 2007). This form of arrangement is called “nnoboa” among the Akan speaking communities in Southern Ghana. It is a traditional form of cooperation involving group action and mutual aid based on social, ethnic and family factors. This system is not only voluntary and informal, it is also temporary with the group dissolving on completion of the task. The nnoboa system was used widely in traditional farming as well as social projects, such as the construction of feeder roads, health centres, and wells (Dadson 1988). In the late 1920s, the British colonial administration in Ghana introduced formal farmer organisations in the form of cooperatives to improve the quality and marketing of cocoa and to provide loan facilities to farmers (Ostrom, 1990; Wanyama *et al.*, 2008; Salifu *et al.*, 2012). Early success in cooperative development stimulated a rapid expansion of cooperatives first in the cocoa sector and subsequently expanded to other crops. The Department of Cooperatives (DoC) was established in 1944 specifically to oversee cooperative development in the country (Dadson, 1988; Salifu *et al.*, 2012). Agricultural cooperatives became very prominent in Ghana immediately after independence in 1957. They were viewed as key instruments for agricultural and rural development and were responsible for the marketing of about 40 percent of the total cocoa produced in the country.

However, after the 1966 military coup, the new government feared the cooperative movement was becoming an economic and political force in rural areas and therefore ordered it to be disbanded and the Department of Cooperatives was dissolved (Asibey-Bonsu, 2012). Furthermore, due to growing global pressure during the late 1980’s for structural reforms and market liberalisation, state controlled cooperatives in the country were dissolved. However, subsequent governments adopted a liberal approach to the development of cooperatives and allowed other types of rural and farmers’ self-help organisations, commonly referred to as Farmer-Based Organisations (FBOs) or Peasant Associations (PAs) to be formed for promoting income-generating activities. These days, cooperatives and farmer-based organisations (FBOs) are the two main forms of smallholder farmer associations in Ghana. In the 1970s, GoG adopted the traditional practice of mutual assistance in farming, the “nnoboa” system, as a model for rural development and this accelerated the formation of POs in the country.

Generally speaking, POs in Ghana try to empower themselves and share local resources such as land, labour, water and access to markets for the produce of their members. To mitigate the existing internal and external challenges confronting, peasant farmers, POs actively construct “spaces of resistance” to ensure the autonomy of their members (Schneider & Niederle, 2010). According to van der Ploeg (2008), the autonomy of family farming is a means of dealing with “the patterns of dependency, deprivation, and marginalisation” in the increasingly globalised world. Trust, reputation, and reciprocal exchange to help define their

distinctiveness (van der Ploeg, 2013). Key strategies deployed by peasant farmers to achieve their objectives include (a) (re)producing a self-controlled resource base; (b) internalising assets to the production unit (by, for example, diversifying income through integrated farming activities and/or diversifying crops for use in commodity and non-commodity circuits); (c) capturing added-value through conversion of produce into more refined products; and (d) constructing alternative marketing networks (Hebinck, Schneider & van der Ploeg, 2015; van der Ploeg, 2008)

In addition to national efforts to promote farmer groups in Ghana, many international development organisations support FBOs in order to facilitate the access of their members to credit, farm inputs, extension services and markets for their produce (Bernard *et al.*, 2008; Bernard & Spielman 2009; Barham & Chitemi 2009). In fact, FBOs are normally set up by government agencies, NGOs, private organisations and individuals such as chiefs and opinion leaders (Salifu & Funck, 2011). Agricultural Extension Agents (AEAs) play a very important role in the establishment of FBOs, especially when FBOs are set up through government projects. FBOs in Ghana have attracted lots of attention because they are regarded as vehicles for providing an array of collective services to their members, including common property management, technology design, development and testing, financing, planning and management of rural infrastructure as well as marketing of key production inputs and or farm outputs (Tinsley 2004). Global development policy supports the formation of farmer associations in order to put them in advantageous positions when negotiating terms or trade or setting-up contractual relations. According to Bernard *et al.* (2008), the desirability of establishing FBOs is finding its way into national development policy documents of most West African countries in recent times. The rationale for supporting the development of FBOs in Africa is to facilitate access to credit, farm inputs, extension services and markets for their produce (Bernard *et al.*, 2008; Bernard & Spielman 2009; Barham & Chitemi 2009).

In Ghana, an FBO is described as a smallholder farmers' organisation which provides services to members on a non-profit or cost basis. FBOs in Ghana are made up of farmers with similar problems and similar needs to seek for solutions. Their activities can be in the form of agitating for decrease in fertilizer prices, marketing of crops, negotiating for low access credit and available transport for produce (Salifu *et al.*, 2012). FBOs constitute one of the key support service actors in agricultural value chains in the country. The country's current agricultural development policy has two priorities: a) emphasis is on broad-based, pro-poor agricultural growth with priority being accorded the expansion of high-value and export oriented cash crops and improved production of food crops; and b) the transformation of smallholder agriculture (Chamberlin, 2007). Peasant associations are civic organisations, registered or non-registered that are involved in collective action for the purpose of addressing member's needs (Dadson, 1988). Both men and women are members of POs in Ghana. However, there is a disparity between the participation of the two sexes at the leadership level. Women may comprise 30-50% membership of POs while they contribute up to 80% of farm work. In addition, there are few women leaders at the national level as most women groups are confined to the local level.

POs emerge as networks of local NGOs usually of common commodities within a given value chain and are organised and controlled by the farmers themselves. The fact that they are

apex bodies implies the existence of a network of bodies from a base to the top. Since farmer groups are owned by farmers, apex bodies must by default be owned by farmers. However, ownership may not necessarily imply direct management since like any other corporate institution the owners/shareholders may hire specialists to take care of the administration of its affairs under the auspices of a controlling authority. Many grass-roots farmers' organisations in Africa set up local unions and federations that are linked to national and sub-regional umbrella organisations. The Ghana national umbrella PO is known as Peasant Farmers Association of Ghana (PFAG). It was formed in 2005 by a group of small-scale farmers who aim to empower themselves to advocate for change of policies and programmes that perpetuate the poverty of rural farmers (<https://www.onlinevolunteering.org/en/node/390062>).

PFAG currently has evolved to become the apex farmer-based non-governmental organisation with the aim to advocate for change of policies that perpetuate the poverty of rural farmers and other issues that affect their livelihoods. PFAG is the apex farmer-based non-governmental organization in Ghana. It currently has a membership of 1,527 registered member FBOs and 39,156 individual registered small-scale farmers in over 70 Districts of the country in all the regions of the country. Its vision is a Life of Dignity for the Peasant Farmer. It advocates for pro-poor trade and agricultural policies at national and international levels, serves as a platform for farmers to build and strengthen their capacity in policy advocacy, and provides technical business and entrepreneurial training for the peasant farmers. PFAG has evolved to become the apex farmer-based non-governmental organisation with the aim to advocate for change of policies that perpetuate the poverty of rural farmers and other issues that affect their livelihoods. PFAG is the apex farmer-based non-governmental organisation. It currently has a membership of 1,527 registered member FBOs and 39,156 individual registered small-scale farmers in over 70 Districts of the country in all the regions of the country. Its vision is a Life of Dignity for the Peasant Farmer. It is a member of the West African sub-regional federation known as "Réseau des Organisations Paysannes et de Producteurs de l'Afrique de l'Ouest (ROPPA)" (FAO & UNICEF, 2018). ROPPA is a member of the transnational agrarian movement La Via Campesina, which has strongly opposed the multilateral post-crisis agenda that has sought to incorporate individual smallholders into high-value production serving global supply chains (Margulis & Claeys, 2015).

### **2.3.1 Drivers of Peasant Organisations in Ghana**

Many governmental and non-governmental projects in Ghana seek to promote the development of POs /FBOs (Salifu *et al.*, 2010). Between 2000 and 2007, the World Bank alone invested more than US\$9 million for the development of FBOs as part of AgSSIP (AgSSIP, 2007). In 2007, the Millennium Challenge Corporation (MCC) also approved a five-year US\$547 million anti-poverty compact with GoG and a significant proportion of this amount was used for the development FBOs. Salifu *et al.*, (2010) estimated the number of FBOs in Ghana to be around 10,000 and noted that the rapid rise in their number is because they are an important means for achieving agri-business development objectives and rural development in the country. In fact, FBOs are instrumental in improving rural service delivery, economic growth, poverty reduction and food and nutrition security (Stockbridge *et al.*, 2003;

World Bank 2007). To successfully achieve these objectives requires institutional, organisational and technological innovation. Donors and NGOs often prefer to deal with farmers through FBOs, particularly if they feel there is institutional failure in the public or private sectors (Rondot & Collion, 2001). For many donor and NGO projects, joining an FBO is the only way to participate in and receive support from the project, with no consideration given to farmers who do not belong to such groups (Tinsley, 2004). However, it is important to note that NGOs and donors' support for the establishment of FBOs is sometimes promoted by government agencies (Tinsley, 2004). For example, Ghana's Ministry of Food and Agriculture (MoFA) has taken steps over the years to develop FBOs at the grassroots level and register them at the local, district, and regional groupings to a national apex. This is expected to give FBOs power to bargain (FASDEP II, 2007). FBOs in Ghana now increasingly voice the needs of their members in various fora on policy-making and in orienting service delivery. They are also solicited by private sector enterprises to enhance value chain development of their farming activities. Providing user-oriented research, extension and training services is therefore a prerequisite for strengthening FBOs and the performance of peasant farmers in Ghana. Similarly, several NGOs encourage the establishment of FBOs to improve rural service delivery, economic growth, and poverty reduction among farmers (Stockbridge, Dorward & Kydd, 2003).

### **2.2.2 Contribution of Peasant Organisations to Sustainable Development in Ghana**

Peasant organisation (POs) in Ghana exist at the local, national, sub-regional and international levels. The members of most POs include both male and female farmers. POs are vital agents for empowerment, poverty alleviation and advancement of farmers and the rural poor. Politically, they strengthen the power of peasant farmers by advocating their interests and needs to policy-makers and the general public. As has already been mentioned, the economic contribution of POs relate to the assistance they provide farmers to acquire skills, access inputs, establish enterprises, process and market their products more efficiently to generate higher incomes. Organised POs have better bargaining powers than individual smallholder farmers and are therefore better able to negotiate with more powerful market players to ultimately increase their profits than intermediaries and other buyers. They collect and share useful information needed for organising their businesses and connect with financial institutions and markets. Their members are able to purchase inputs, equipment, meet quality standards and manage the drying, storage, grading, cleaning, processing, packaging, branding, collection and transportation of their produce. According to Salifu & Funk (2011), the specific activities POs engage in to deliver socio-economic benefits to their members, communities and Ghana in general include the following:

- Collectively engaged in animal and/or crop production, including bee keeping, nursery farming, food crops and horticultural production as well as animal production.
- Agro-processing or transforming raw agricultural products into other forms for the market.
- Marketing which means transforming raw agricultural products into other forms for the market.
- Providing access to internal credit scheme. This involves a) where members of an FBO borrow money available in the group's bank account often with no interest; or b)

where members contribute equal amount of money at regular intervals (e.g. monthly) and the total amount is passed on to one member at every contribution until each and every member receives his/her share of the contribution.

- Procurement of inputs such fertilizers, insecticides, herbicides, implements and equipment as well as raw materials for agro-processing.

POs in Ghana also play important social and cultural roles. Members of POs and their families are part important constituents of their communities and are therefore expected to serve as standards of behaviour and work ethic for the population, especially the youth. POs are important breeders of leaders for local communities (FAO, 2019). They form and strengthen leadership for kinship groups; various local enterprises; cultural, sporting and religious groups; development organisations; village development committees; political parties; and local administrations. In a nutshell, most peasant organisations serve as beacons of social coherence and co-habitation, stability, peace and development. Salifu and Funck (2011) provided examples of the activities of POs in Ghana engage in to generate social benefits to include the following:

- Assist in “community development” which means provision of social services to communities to mitigate specific social problems. For example, the most common services that FBOs provide to their communities include weeding and sweeping around their environment; planting trees in and around the community; and lobbying and contributing money or labour for the construction of schools, hospitals, boreholes, wells, and electricity.
- Provide “welfare services”, which refer to cash or in-kind contributions made by members of an FBO to their colleagues who are confronted with particular social issues or problems. While “community development” is to the benefit of the entire community, “welfare services” are done for the benefits of FBO members. Welfare services embrace a wide range of activities including giving support (usually money) to group members who are, for instance, admitted to a health centre; they may also assist a member who is in need of money to pay his/her ward school fee; give money or gifts to members who have funerals, weddings, naming ceremonies for new born babies, and so forth. To provide welfare services for members of the FBO, money is either taken from the group’s bank account or each member is asked to contribute from their own pockets.
- Labour pooling also called “mutual labour support” (MLS). This is widely practised among members of Ghanaian FBOs, especially when seasonal labour requirements are at a peak. MLS refers to a situation where members of an FBO pool labour to work on each member’s farm in rotation. Labour support in this sense embraces a wide range of farm activities such as clearing the land, tilling the land, sowing, transplanting, raising seedlings, weeding, pruning, harvesting, transportation, storage and agro-processing. Among these activities, weeding seems to be the most common activity that members of FBOs members participate in. Often, members of FBOs design time-tables that specify the date each member will benefit from the labour support facility.



POs in Ghana have undeniable strengths and bright prospects to contribute more significantly to the sustainable development of the country. The virtues of peasant agriculture include trust, autonomy, diversity, and cooperation (Bernstein, 2014). Understanding the opportunities and constraints of peasant organisations in Ghana is necessary to initiate a feasible transformation of the sector for maximum productivity. The significance of peasant farmers in Ghana is reflected by the fact that about 80 per cent of the country's total agricultural production is attributed to them. As was mentioned earlier on, most farm holdings are less than 2 hectares in size. The majority of smallholder farmers are women and they mostly use simple tools such as hoes and cutlasses and practise very little mechanised agriculture (Emmanuel & Victor, 2014; Dinye, 2013). POs in Ghana have a long history and have played and continue to play extensive and leading roles in the struggle for political independence in the country. They often mobilise their members to fight against detrimental government economic policies and development programmes.

POs also play vital ecological roles in Ghana and West Africa. For example, those that attended the CORAF/AATF meeting with representatives of the seed industry main West Africa actors in Dakar, Senegal, from 11 to 12 June 2019 stressed that biodiversity is the basis of agriculture, the root of all crops, and immense diversity within each crop. The varieties of peasants are the basis of agricultural biodiversity which is a form of drought control in the fields and on farms. In addition, peasant seeds constitute the pillar of food security and food sovereignty. They continue to render immense services to all the inhabitants of the planet via their fight against attempts to make them discard their own seed varieties and to accept only the homogeneous commercial varieties being promoted by big western corporations. The homogenous seed system is a threat to biodiversity as it is causing the genetic erosion of cultivated indigenous plants. Biological diversity impoverishment is a threat ecosystems ecological resilience. According to the FAO, it is a disaster that endangers the future of humanity, its food security and food sovereignty. Peasant seeds are the basis of agroecology, which is gaining more and more interest from public policies in African countries.

### **2.2.3 Peasant Organisations' Challenges and Mitigation Measures**

The performance of POs in Ghana and West Africa in general is hampered by a number of problems. According to Zaney (2019), smallholder farmers' contribution to the national economy is not adequately recognised. Olomola, (2006) found that peasant agriculture in SSA countries is influenced by a multiplicity of internal and external challenges. The internal challengers include (a) low level of agricultural investment; (b) poorly developed agricultural systems; (c) under-developed property rights systems; (d) inadequate infrastructure; and (e) limited irrigation. On the other hand, the external factors influencing peasant agriculture include (a) agricultural subsidies in developed countries; (b) unfavourable international agricultural commodity prices; (c) imposition of high tariffs by developed countries; (d) focus of research by multinationals on big commercial farms; (e) export dumping; (f) declining donor support for small farm sector. Peasant farmers in Ghana operate in very hostile environments. Asafo-Adjei and Buabeng (2016) also observed that smallholder farmers in Ghana are confronted by several managerial, technical, marketing, extension services and health problems. In addition, Yin et al. (2016) revealed that peasant farmers are often exposed to a number of natural, social, and physical risks or perils. They depend on rain, natural fertility of the soil, and the natural environs for their farming activities and improved productivity.

According to USAID (2019), poor soils, low productivity as well as changing and increasing climate change impacts are fundamental challenges affecting smallholder farmers in Ghana. In addition, land grabbing by foreign private companies has become a significant concern of peasant farmers in Ghana and across Africa. Increasing campaigns are being organised against land grabbing and other harmful policies that promote industrial agriculture (Monjane, 2017). For example, according to (Monjane, B., (2017), smallholder farmers that participated in a global conference of peasant movements organised by La Via Campesina in the Basque Country of Spain in July 2017 argued thus:

*“Almost everywhere in Africa the elite and corporations are undertaking efforts to capture and control people’s basic means of production, such as land, mineral resources, seeds and water. These resources are increasingly being privatized due to the myriad of investment agreements and policies driven by new institutional approaches, imposed on the continent by western powers and Bretton Woods institutions.”*

In Ghana, land grabbing by foreign investors continues to escalate, especially in Brong Ahafo Region and the Upper West Region (Stenberg & Rafiee, 20180). This phenomenon is causing local communities many problems such as the displacement of inhabitants, non-payment of compensation, lack of access to water resources, land degradation and infringement of poor farmers’ access to land, especially female smallholder farmers. Female farmers are hardest hit due to traditional norms and customs which limit their access to and ownership of land; they mainly rely on family to access land (Donkor & Owusu, 2014). Caritas, the charitable organization of the Catholic wing of the Ghana Catholic Bishop’s Conference, recently called on the government of Ghana to immediately take measures to stop the spate of land grabbing in the country (Chimpton, 2018). In addition, natural hazards, such as climate change impacts and outbreak of diseases and pests, are mostly uninsurable. Since peasant farmers are not able to avoid losses, they must find alternative ways of reducing the impact of the losses. For example, they employ safety strategies and practise a combination of cultivating methods like mono cropping, mixed cropping and mixed farming to mitigate the impact of the unavoidable risks. Peasant farmers also solicit the support of their ancestors in the spiritual world. However, physical, economic and social risks are much easier to handle through insurance cover.

Peasant farmers are also confronted with limited access to productive resources such as improved seeds, planting materials, agro-chemicals, credit, labour, information technology, sustainable farming methods, strong FBOs, water to irrigate farms during the dry season, poor infrastructure, transportation network, inadequate agricultural information, finance and markets. Agricultural growth is the major driver of poverty reduction, especially in northern Ghana, an area that has historically been left out of the rest of the country’s growth and development plans and is therefore characterised by high poverty and malnutrition (USAID, 2019). Smallholder farmers depend largely on subsistence agriculture and on-farm and off-farm activities which are usually small scale and yield little income. Peasant farmers in Ghana mostly finance their agricultural activities through equity funds from on-farm and off-farm activities and credit from governmental and non-governmental financial institutions (Seini, 2002). The financial challenge of peasant farmers is exacerbated by the fact they live in widely dispersed communities resulting in high transaction costs in terms of credit administration. Consequently, they are unable to invest in improved production technologies due to limited access to credit from financial institutions.

The main sources of finance for smallholder firms in the country include own resources, the government, local private sector financial institutions, bilateral and multilateral institutions, international private sector companies, foundations and NGOs (Nkegbe & Abdul Mumin, 2014). In general, commercial banks, which account for 87% of all lending in the country, allocate just 5% of their portfolio to agribusiness (Norman, 2016). In addition, rural banks in the country are not respecting the Bank of Ghana's (BoG) directive that agricultural loans should represent at least 50 % of their loan portfolio at any particular point in time (Norman, 2016). Smallholder farmers do not have physical properties and individuals to serve as guarantors.

In order to improve farmers' access to finance, the Government of Ghana (GoG) has established a number of financing institutions and schemes focusing smallholder farmers. For example, in 2005 it created the Micro and Small Loans Centre (MASLOC) to offer loan finance to micro and small enterprises. The government also created funding schemes to support the development of agribusiness through the Outgrower and Value Chain Fund (OVCF), with support from the German Development Bank (Kwf). A few private sector organisations are also financing smallholder farmers in the country. For example, Guinness Ghana has been investing in local raw material sourcing for over a decade. It has also been working to improve the productivity of farmers and develop sustainable local raw material supplies. This assistance is beneficial to Guinness Ghana itself, as it facilitates a supply chain for their cassava beer, which now uses cassava for about 70% of its inputs.

Smallholder farmers in Ghana are also financed by international public bilateral Official Development Assistance (ODA) grants and through concessional loans from multilateral development banks aimed at improving crop yields and smallholder farmers' access to finance (Norman, 2016). For example, the German International Development Corporation (GIZ) and the Bill and Melinda Gates Foundation and other partners provide technical training and business advice to farmers and food processors in Ghana. The African Development Bank (AfDB) has also used concessional loans to increase cashew production in the country in cooperation with GoG and the Agricultural Development Bank (ADB). ODA grants from the Netherlands, USA and UNDP are making credit and advice available to smallholder farmer cashew farmers' unions. The shea nut quality campaign project is financed by The Netherland's SNV, with additional support from USAID/West Africa Trade Hub and the Inter-church Organisation for Development Cooperation (ICCO). International public sector donors, including Korea, the US and the Netherlands, have used ODA grants to fund garden vegetable development, particularly through developing smallholder organic crop production. Other international financiers of smallholder farmers in Ghana include concessional loans from multilateral development banks such as African Development Bank (AfDB) and bilateral development cooperation organisations such as GIZ, SNV, USAID and international NGOs like the Bill and Melinda Gates Foundations.

Despite the existence of the various financing possibilities, bureaucracy and corruption make it difficult for smallholders to access finance for their farming activities. Moreover, the selection of recipients is not transparent, with funds often going to those with the right connections. The banks receiving the low-cost funds often do not use the money in accordance with the regulations of the donors. Poor implementation, along with a lack of

adequate monitoring and evaluation of the use of the funds also limit the reach of the provided concessional finance. This further exacerbates the problem of peasant farmers' access to finance. Most financial institutions have little or inadequate information on farmers' credit history, true personal identity and location and therefore fear that farmers may default payment of any loans granted them.

Inadequate access to markets is another fundamental problem of peasant farmers in Ghana (Stock, Forney, Emery, & Wittman, 2014; Fold, 2008; Whitfield, S., & Marshall, A. (2017).

Smallholder farmers are typically fragmented and exist in remote rural areas in a disconnected manner. They are therefore individually too weak to negotiate good business transactions in the market place and this makes it difficult to sell their produce to improve their livelihood conditions. Moreover, the increasingly globalised and industrialised food system is causing significant price volatility of domestic agricultural produce and the importation of cheap produce from the industrialised countries. These trends are significantly hurting the income of farmers, livelihoods and food and nutrition security in the country. The case study on peasant rice farming in Navrongo in Upper East Region (UER) clearly illustrates the situation of peasant farmers in Ghana. The case focuses on the organisation and objectives of peasant rice farmers in the study location, land acquisition, farming methods, technical assistance, finance and marketing.

### **3. The Case of Rice Smallholder Rice Farming in Navrongo in Upper East Region**

Rice is an important food and cash crop in Ghana. It feeds more than a third of the population and contributes significantly to the Gross Domestic Product (GDP) of the country (Suleman & Sarpong, 2012). Rice is consumed all over the country including the rural areas that depend heavily on cereals for their food needs. Cereals contribute 61 percent of the energy supply to the rural population and rice alone provides 54 percent of the country's energy needs (Ministry of Food Agriculture, MoFA, 2016). According to Abubakari and Abubakari (2015), rice plays a central role in providing food security and alleviating poverty in most areas in Ghana. It serves as a major source of employment, income generation and nutrition in many poor food-insecure areas. Rice provides employment to millions of people who work either directly in rice production or in related support services.

The increase in per capital consumption of rice in recent times in Ghana outstrips supply. The Peasant rice farmers face numerous challenges which have resulted in a drastic decline in the total quantity of rice produced (Denkyirah *et al.*, 2016; Abubakari & Abubakari, 2015). The challenges include scarcity of land for rice production, high illiteracy rates, low yield, poor storage facilities, pest and diseases and low market price (Owusu Coffie *et al.*, 2016). The unbridled trade liberalisation has made the country a net importer of rice rather than a net producer (Seidu, 2008). For example, rice imports increased from US\$100 million in 1999 to US\$200 million in 2005 when national rice demand rose to 700 tonnes (Seidu, 2008).

With a population of about 118, 441, the Kessena-Nakana District (KND) is highly dependent on rice which constitutes the highest share (54.8%) of cereal production in the district followed by sorghum, groundnut and maize (Tanko, Iddrisu & Alidu, 2016; Anang *et al.*, 2016). KND also accounts for 4.5% of the regional rice production in the country. Rice

production started declining in 2001 with a marginal decrease from 40,000Mt in 2012 to 10,000Mt in 2013 (Irrigation Company of the Upper Region, ICOUR, 2015). Even though majority of rice production in the district is rain-fed, the Tono Irrigation Scheme (TIS), which constituted the largest irrigation scheme in the country in 1985, serves as important source for rice production in the district. TIS comprises a 5 km long dam, which has created an artificial lake with surface area of 1,860 ha and a water storage capacity of capacity of 93 million m<sup>3</sup>, 37 million m<sup>3</sup> of which could be used for irrigation (Tanko *et al.*, 2016; ICOUR, 2015). The investment in TIS significantly contributed to poverty alleviation in KND. It boosted rice production in the district and reduced the risks associated with the unreliability of rainfall (ICOUR, 2007). Nonetheless, the district still records a prevailing poverty incidence of 88 percent, low food security (1.3 percent) with 15 percent of the population with limited access to sufficient and nutritious food as compared to the national average of 5 percent (UNICEF, 2017).

### **3.1 Organisation and Objectives of Rice Peasant Organisations**

The establishment of peasant organisations (POs) in Ghana dates back to pre-colonial times. Farmers in rice production have been organising themselves to participate in meetings, communal labour and social events like funerals, naming ceremonies and festivals (Bulletin, 2015; FAO, 2015; Godfray *et al.*, 2010). Communal labour has been an effective instrument in community mobilisation since ancient times. Recognising that rice production is a difficult venture, farmers have organised themselves for the purpose of “rotational weeding”; thus, they move from one farm to the other to work based on an agreed schedule. Consequently, farmers develop strong bonds that help to break complex tasks into easier and manageable pieces (Harper, 2015; Titus & Adefisayo, 2012). Informal organisation of POs may be hindered where there are no guiding principles and rules. NGOs in KND have therefore taken steps to assist informal POs in the district to formalize themselves. The German Development Cooperation (GIZ), SARI, United Nations Children Fund (UNICEF), Northern Region Growth Programme (NRGP), Associations of Churches Development Programme (ACDEP) and ICOUR have worked with POs to develop their capacity and assisted them to become formal.

The degree of social dynamism within communities influences the character and membership of POs. Membership is open to all farmers and membership characteristics include indigenes, migrants, females, males, different regions, youth and older farmers (Anuga, Mill & Mbanya, 2019). The migrant community is substantial as most of the farmers migrate from different communities and even regions because of the availability of irrigation water. The average membership in a group ranges from 10 to 20 with 30% being female. Participation in meetings is diverse across different gender segregations. Female farmers’ participation is low due to their extra household responsibilities (Salifu *et al.*, 2010; Salifu *et al.*, 2012). Apart from the motive of prioritising farming activities, POs serve as a source of motivation for farmers to diversify into other livelihood strategies including petty trading, carpentry, teaching, sanitation, grass cutter rearing and mushroom cultivation (Reed & Hickey, 2016; Landini, 2011).

Achieving POs’ objectives has been marred with contestations as different people with

different opinions make-up these groups. During POs members' meetings, farmers barely accept each other's opinions with respect to allocation of resources; land, finance, farm inputs like fertilizers and use of farm machinery. Membership is open to all farmers, including local ethnic groups, migrants, females, males, and young and older farmers. Within the rice POs, members sometimes form factions depending on individual interest, ethnic affiliation or community, which often led to grudges, confrontations and rebellion against the leadership. A major problem is disagreements by members regarding fixing meeting schedules. In rural settings, majority voting hardly works as everyone would like her/his preference to be upheld. Meeting venues could also be an issue of disagreement, especially that most meetings are held under trees. During rainy season, meetings constantly get disorganised (Salifu *et al.*, 2010; Salifu *et al.*, 2012). Members of POs sometimes develop factions which results in grudges and rebellion against leadership. Farmers who feel closer to each other based on tribe, community or interest tend to form sub-groups causing confrontations among each other (Anuga *et al.*, 2019). In spite of these challenges, the chairman of the Rice Farmers Organisation of Kassena-Nankana District was upbeat about the ability of peasant farmers in Ghana to produce enough rice to feed the nation. He made the following appeal for support:

*“The competition from imported rice is killing us. We are therefore appealing to the government to discourage the importation of rice and provide smallholder farmers in the country with efficient extension services, improved seeds, fertilizers, storage facilities and access to finance and markets. This will enable us to produce enough rice to feed the country and export to earn more money.”*

### **3.2 Land acquisition**

Land by far is the foremost requirement for agricultural activities. Land acquisition and land utilisation have become complex phenomena in the Ghanaian society (Ablo & Asamoah, 2018; Schoneveld, German, & Nutakor, 2010). Land has become a scarce resource because of poaching, conversion of agriculture land and family-land conflicts (Lanz, Gerber, & Haller, 2018). Peasant rice organisations exist in a number of communities to help their members to acquire lands (Denkyirah *et al.*, 2016). POs liaise between land owners and community chiefs to get access to lands which are made available to their members according to agreed requirements. Acquiring arable land in Kassena-Nankana District (KND) is a tedious process and this hinders agriculture productivity. A greater part of the rice farming is done around the Tono Irrigation Scheme (TIS) which is associated with high demand for land, thereby exacerbating land access conflicts (Donkoh, Ayambila, & Abdulai, 2013).

However, rice POs in the district have to a large extent succeeded in negotiating with land owners and community chiefs to get access to lands which are then allocated to their members according to agreed criteria and conditions. For instance, Donkor and Owusu (2014) and Dinye (2013) indicated that about 18.4 percent of the 2,334 hectares of irrigable land managed by the Irrigation Company of the Upper Region (ICOUR) is leased to farmers while the remaining 81.6 percent of the land is put under the management of Village Committees which are made up of selected beneficiary farmers (Donkor & Owusu, 2014; Dinye, 2013). Schoneveld *et al.* (2010) observed that farmers belonging to POs have no difficulties acquiring land for cultivation; they own about 72.2 percent of farmlands. This has

also created an opportunity for female farmers to own lands.

### **3.3 Farming methods**

Increasing demand for rice production in the country through smart farming methods has been a major concern for the Government of Ghana (GoG) and other stakeholders (Asante *et al.*, 2014; Donkoh *et al.*, 2013). This has triggered the African Rice Development (CARD) to implement strategies to boost rice production in the country (Wailes, Durand-Morat, & Diagne, 2015; Demont, 2013). Rice POs are encouraging the implementation of strategies; rice farmers who belong to a PO are able to use of tractors to cultivate their plots and intermittently engage the services of hired labour. Non-PO farmers only use hired labour and mostly rely on their muscle and rudimentary farming techniques (Emmanuel & Victor, 2014; Dinye, 2013). The reliance of non-PO members on their muscle could be attributed to the high cost of renting agricultural machinery poor access to credit facilities. POs serve as a safety net for members through group support and individual solidarity. Contributions of membership dues help POs to raise funds for renting farm machinery. PO members experienced lower production costs because the effective negotiating power of their associations enable farm inputs to be purchased at lower prices. PO members use better crop and soil management methods and consequently get higher crop yields from their farms.

### **3.4 Technical assistance**

Technical assistance enables farmers to understand the basic fundamentals of agri-business. Technical assistance comes in the form of use of farm inputs and technology, choice of farming system and market variability (Denkyirah *et al.*, 2016; Emmanuel *et al.*, 2016). FBOs offer ample opportunities for technical assistance and participation in capacity building programmes. Collaboration with Agriculture Extension Agents (AEAs) enables farmers work in groups to support each other through farmer-to-farmer knowledge sharing. For example, POs in the KND receive more technical assistance in the form of extension know-how, supply of subsidised fertilisers, jumping machines, farm implements and supply of rice seedlings by Ministry of Food and Agriculture (MoFA). Technical assistance also came in the form of capacity building for fund raising and communal support. Through the activities of several POs in the district, farmer groups have been educated on opening bank accounts, saving money and acquiring leadership skills (Donkoh *et al.*, 2013; Dinye, 2013). Women groups especially have been empowered to collect dues every month to support their activities. Saving money helps farmers solicit for funds from the group's account to support children education, health care, farming activities and even funerals.

### **3.5 Access to finance**

In rural areas, access to finance and credit facilities is one of the biggest challenges of smallholder farmers who mostly depend on family and friends to finance their agricultural activities (Amanor & Chichava, 2016; Kyere, 2014). Rice cultivation is capital intensive and

requires farmers to invest heavily to reach their production targets. Unfortunately, rice farmers in the northern part of Ghana and KND in particular have limited access to credit due to the lack of collateral security (Mumuni & Oladele, 2016). Financial institutions are reluctant to grant farmers credit facilities because farmers are unable to meet payment schedules or completely default (Amanor & Chichava, 2016). The limited access to credit compels many farmers to purchase inputs on credit. They are therefore compelled to sell their farm produce immediately after harvest, even when market prices are very low, to pay back their debts. Again, inadequate access to credit forces most farmers to produce without applying the needed inputs to ensure higher crop yields and to recoup their investments.

Farmers' groups offer better collateral security which allows financial institutions to provide them credit facilities. In addition, POs are able to obtain fertilisers and herbicides on credit and pay back in installments (Donkor & Owusu, 2014). According to Asante *et al.* (2014), rice POs are among the strongest agricultural associations in Ghana that negotiate best for the needs of their members. In KND, rice POs strongly collaborate with ICOUR which liaises with various financial institutions in the district to provide soft loans and other financial institutions to farmers. In addition, rice POs are recognised by the district Farmer-Based-Organisations (FBOs) board which normally recommends POs to investors. The list of POs at KND assembly serves as a source of information regarding the number, type and scale of POs in the various communities in the district which helps to facilitate the design and delivery of tailor made services to farmers.

### **3.6 Marketing of farm produce**

The aftermath of farm level activities presents farmers with additional anxieties and worries regarding marketing their produce. Limited market availability for agricultural produce in Africa is replete in literature (Kopper & Jayne, 2019; Dillon & Barrett, 2014). Smallholder farmers' ability to make profit largely depends on the availability and access to ready markets. In Ghana, many farmers barely recoup their initial investments because of huge food losses and waste. It is estimated that more than 70% of rice farmers in the country do not have ready markets for their farm produce (Bellon *et al.*, 2020). Falling international market prices are hurting the incomes of smallholder farmers in KND and thereby limiting their ability to expand their production frontiers, thereby reducing their incomes and livelihoods. A female member of the rice farmer's association in Tono community expressed her frustration thus:

*"I am able to produce enough rice but I don't know where to sell it. Imported brands of rice from other countries such as USA, China and Vietnam have pushed the local rice producers out of the market. We are often forced to sell our produce at a big loss."*

In Navrongo, most farmers sell their produce by the road side to passers-by. They have to endure the hot sun standing in the open to get their produce sold. Consequently, they sell their produce at lower prices due to inadequate storage facilities (Kopper & Jayne, 2019). POs in Ghana play a central role in identifying markets for the produce of smallholder farmers. Their leaders endeavour make contacts with potential buyers in and outside the country to purchase their members produce (Denkyirah *et al.*, 2016; Emmanuel *et al.*, 2016). Even though, poor buyers' contracts and low prices are still notable concerns, the livelihoods of POs members are improving (Kopper & Jayne, 2019; Dillon & Barrett, 2014). However, competition for market from other rice producing countries like China, Malaysia, USA and Vietnam is



significantly attracting the loyalty of Ghanaian consumers. POs have recognised the complexity of market dynamics therefore try to constantly build the confidence of buyers to extend their market frontier.

## **4. Conclusion and Recommendations**

### **4.1 Conclusion**

The performance of Ghana's agriculture over the past decade has not been robust and therefore urgently needs to be radically transformed in a sustainable way. The impacts of both internal and external factors on peasant agriculture, rural poverty and food and nutrition insecurity in Ghana require great attention from GoG and all development stakeholders. As Wiggins and Keats (2013) pointed out, developing smallholder agriculture can be effective in reducing poverty and hunger through sustainable access to markets. This will enable peasant farmers to increase their incomes and lift themselves and their families out of poverty. This is feasible because Ghana has significant agricultural potential, particularly in the semi-arid Northern Savannah (agro-) Ecological Zone (NSEZ), including the Afram Plains. The NSEZ covers over 40 percent of the country's total land surface area, and has about six million hectares of arable land with great potential for commercial production of cereals, sugarcane, cassava, cotton, cashew, shea and livestock. However, the agricultural potential in the NSEZ remains largely untapped.

The economic, social, cultural and environmental contribution of peasant farmers in the country should be given great recognition. In other words, transforming peasant agriculture to make it responsive to changing production and market realities is vital. Transformative policies and programmes should specifically focus on peasant farmers and their organisations, provision of incentives to make them efficient and productive, and turning them into vehicles for generating ample employment and income opportunities, enhancing food and nutrition security, conserving natural resources, and promoting environmental sustainability, peace and stability (Alliance for a Green Revolution in Africa (2017). Smallholder farmers in Ghana have the potential to transform agriculture into a commercially-viable and sustainable enterprise. Olomola, (2006) stressed that the sustainability of peasant agriculture requires policy support, dismantling of the numerous constraints which have locked up its potentials over the years, massive investment, and strengthening the capacity of smallholder farmers and the value chain actors. The World Bank (2019) also rightly observed, the increasing recognition of the importance of smallholder farmers by GoG in recent years is commendable and should be supported by all stakeholders. For example, the government policies on "One-District, One-Factory", "One-Village One-Dam" and "Planting for Food and Jobs" seek to leverage irrigation agriculture to speed up rural development, alleviate poverty and enhance food and nutrition security (NDPC, 2019).

### **4.2 Recommendations**

Appropriate strategies deployed by peasant farmers to mitigate the challenges they face include: (a) (re)producing a self-controlled resource base; (b) internalising assets to the

production unit; (c) capturing added-value through conversion of produce into more refined products; and (d) constructing alternative marketing networks (Hebinck, Schneider, & van der Ploeg, 2015; van der Ploeg, 2008, 2010). Recognition of the rights and contribution of peasant farmers, especially women, to food security is a powerful strategy for transforming agricultural productivity and food and nutrition security in Ghana. It is important to encourage peasant farmers to practice agroecologically-based farming and a sustainable food and nutrition security system. This in turn requires adequate investment. The agreed Maputo 10% national budget allocation to agriculture should be directed to agroecological peasant farming (Graham, Aubry, Künnemann, & Suárez, 2011). As Yin *et al.* (2016) advise, it is also important that peasant farmers get insurance cover for their businesses. Peasant farmers should diversify their activities and expand their operations and output to minimise the impacts of the risks they are exposed to. The international community should support African POs by reforming inimical international development cooperation policies, particularly in the areas of trade and investments as well as environment and climate change management. Chamberlin (2007) and Penunia (2011) recommended the following strategies to ensure the transformation of POs into viable sustainable development players:

- GoG, private sector development agents, business enterprises civil society organisations and the general public should contribute more meaningfully to ensure sustainable agricultural practices and sustainable rural development policies and programmes, identify and benefit small and poor farmers more effectively, by working with, supporting and involving POs in the planning, design and implementation of agricultural and rural development policies and programmes.
- Institutionalise mechanisms to effectively involve POs in agricultural and rural policy making, implementation, assessment and agricultural research and development.
- Enact appropriate legislation and regulatory frameworks to ensure POs enjoy the right and freedom to operate independently and manage themselves.
- Support the development and improvement of POs through capacity building assistance and financial services so they can undertake programmes and activities that can help them promote rural women's leadership.
- Knowledge, information and technologies can reach farmers at the grassroots level more effectively if agricultural research and extension institutions proactively involve POs.
- Effectively develop strengthen food markets. This requires the development of more profitable technologies, efficient and competitive input markets, more efficient marketing chains, market information and risk mitigation measures.
- Continuously explore appropriate alternatives such as organic production and high value non-perishable produce.

## 5. References

- Ablo, A. D., & Asamoah, V. K. (2018). Local participation, institutions and land acquisition for energy infrastructure: The case of the Atuabo gas project in Ghana. *Energy research & social science*, 41, 191-198.
- Abubakari, F., & Abubakari, F. (2015). Temporal Production Trend for Selected Non-tradable Staples in Kassena-Nankana East District of Upper East Region of Ghana: The Case of Major Cereal Food Crops. *Academic Research Journal of Agricultural Science and Research*, Forthcoming.
- Aggarwal, P., Zougmore, R., & Kinyangi, J. (2013). Climate-Smart Villages: A community approach to sustainable agricultural development. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Retrieved from [www.ccafs.cgiar.org](http://www.ccafs.cgiar.org) on Monday January 4, 2016 at 09: 35pm.
- AgSSIP – Agricultural Services Sub-sector Investment Project - (2007). Implementation completion and results report. A World Bank document presented to the Republic of Ghana, World Bank, Washington, D.C., USA.
- Amanor, K. S. (2019). Global Value Chains and Agribusiness in Africa: Upgrading or Capturing Smallholder Production?. *Agrarian South: Journal of Political Economy*, 8(1-2), 30-63.
- Amanor, K. S., & Chichava, S. (2016). South–south cooperation, agribusiness, and African agricultural development: Brazil and China in Ghana and Mozambique. *World Development*, 81, 13-23.
- Amanor, Kojo (2019). The contemporary agrarian question in West Africa. Retrieved from: [www.future-agricultures.org/blog/the-contemporary-agrarian-question-in-west-africa/](http://www.future-agricultures.org/blog/the-contemporary-agrarian-question-in-west-africa/), 12 October 2019.
- Anang, B. T., Bäckman, S., & Rezitis, A. (2016). Does farm size matter? Investigating scale efficiency of peasant rice farmers in northern Ghana. *Economics Bulletin*, 36(4), 2275-2290.
- Antwi-Agyei, P., Dougill, A. J., & Stringer, L. C. (2015). Impacts of land tenure arrangements on the adaptive capacity of marginalized groups: The case of Ghana's Ejura Sekyedumase and Bongo districts. *Land Use Policy*, 49, 203-212.
- Anuga, S. W., Mill, E., & Mbanya, W. (2019). Peasant Associations and Implementation of Climate Change Adaptation Practices in the Northern and Brong-Ahafo Regions of Ghana. *Asian Journal of Agricultural Extension, Economics & Sociology*, 1-13.
- Appiah, S. C. Y., Osei, F. A., Mensah, N. K., Adonoo, P. L., Tanko, A. G., & Sarpong, P. O. (2019). Males as Partners in Family Planning Service Uptake in Ghana: A Descriptive Cross-Sectional Survey. *Health*, 11(08), 1043.
- Asafo-Adjei and Buabeng (2016). An Evaluation of Challenges Facing Smallholders in Ghana: A Case Study for the Aowin Suaman District. *Journal of Biology, Agriculture and Healthcare*, Vol.6, No.3, 2016.
- Asafo-Adjei, E., & Buabeng, E. (2016). An Evaluation of Challenges Facing Smallholders in Ghana: A Case Study for the Aowin Suaman District. *Journal of Biology, Agriculture and Healthcare*, 6(3).

- Asante, B. O., Wiredu, A. N., Martey, E., Sarpong, D. B., & Mensah-Bonsu, A. (2014). NE-RICA adoption and impacts on technical efficiency of rice producing households in Ghana: implications for research and development. *American Journal of Experimental Agriculture*, 4(3), 244.
- Asibey-Bonsu, P. (2012). Farmer's organisations in West and Central Africa: high expectations, hard realities. FARM Ghana Country Report. Retrieved from:
- Asibey-Bonsu, P. (2012). Farmer's organizations in West and Central Africa: high expectations, hard realities. *Foundation for Agriculture in Rural Communities (FARM), Ghana country report*.
- Barrett, C. B., Christian, P., & Shimeles, A. (2018). The processes of structural transformation of African agriculture and rural spaces.
- Belletti, M. (2015). The emerging role of the peasant economy at the end of the industrial age: insights from Albania. *Procedia Economics and Finance*, 33, 78-89.
- Bellon, M. R., Kotu, B. H., Azzarri, C., & Caracciolo, F. (2020). To diversify or not to diversify, that is the question. Pursuing agricultural development for smallholder farmers in marginal areas of Ghana. *World Development*, 125, 104682.
- CARITAS (2018). Annual Learning and Review Meeting on Land Grabbing at National Catholic Secretariat, Accra, Ghana. Retrived from: <https://cruxnow.com/global-church/2018/01/church-ghana-asks-action-land-grabbing/>, 30/11/2019.
- Chamberlin, J. (2007). Defining smallholder agriculture in Ghana: Who are smallholders, what t do they do and how are they linked to markets? Prepared as part of the Ghana Strategy Support Program and submitted for consideration as an IFPRI Discussion Paper. Retrieved from:
- Chamberlin, J. (2007). Defining Smallholders Agriculture in Ghana: Who are smallholders, what do they do and how are they linked with markets? Ghana Strategy Support Program (GSSP) Background Paper No. GSSP 0006, IFPRI's GSSP Office in Accra, Ghana.
- Dadson, J. A. (1988). The need for cooperative reorientation: The Ghanaian, in Hans, G.B. Hedlund, Seminar Proceedings No. 21, Scandinavian Institute of African Studies, 1988, Nordiska Afrikainstitutet.
- Demont, M. (2013). Reversing urban bias in African rice markets: A review of 19 National Rice Development Strategies. *Global Food Security*, 2(3), 172-181.
- Denkyirah, E. K., Adu, D. T., Aziz, A. A., Denkyirah, E. K., & Okoffo, E. D. (2016). Analysis of the factors influencing smallholder rice farmers' access to credit in the upper east region of Ghana. *Asian Journal of Agricultural Extension, Economics & Sociology*, 10(4), 1-11.
- Denkyirah, E. K., Aziz, A. A., Denkyirah, E. K., Nketiah, O. O., & Okoffo, E. D. (2016). Access to credit and constraint analysis: the case of smallholder rice farmers in Ghana. *Journal of Agricultural Studies*, 4(2), 53-72.
- Dillon, B., & Barrett, C. B. (2014). Agricultural factor markets in Sub-Saharan Africa: an updated view with formal tests for market failure. The World Bank.
- Dinye, R. D. (2013). Irrigated agriculture and poverty reduction in Kassena-Nankana district in the upper-east region, Ghana. *Journal of Science and Technology (Ghana)*, 33(2), 59-72.
- Donkoh, S. A., Ayambila, S., & Abdulai, S. (2013). Technical efficiency of rice production at the Tono irrigation scheme in northern Ghana.

- Donkor, E., & Owusu, V. (2014). Effects of land tenure systems on resource-use productivity and efficiency in Ghana's rice industry. *African Journal of Agricultural and Resource Economics*, 9(311-2016-5617), 286-299.
- Emmanuel, D., & Victor, O. (2014). Examining the socioeconomic determinants of rice farmer's choice of land tenure systems in the upper east region of Ghana. *Journal of Agricultural Technology*, 10(3), 505-515.
- Emmanuel, D., Owusu-Sekyere, E., Owusu, V., & Jordaan, H. (2016). Impact of agricultural extension service on adoption of chemical fertilizer: implications for rice productivity and development in Ghana. *NJAS-Wageningen Journal of Life Sciences*, 79, 41-49.
- FAO, I., & UNICEF, W. (2018). WFP and WHO. The state of food security and nutrition in the world 2017. Building resilience for peace and food security. Rome: FAO, 2017.
- FAO, O. (2016). Price Volatility in Food and Agricultural Markets: Policy Responses. Policy Report including contributions by FAO, IFAD, IMF.
- Fold, N. (2008). Transnational sourcing practices in Ghana's perennial crop sectors. *Journal of Agrarian change*, 8(1), 94-122.
- Food and Agriculture Organisation. (2015). *The state of food and agriculture (SOFA) 2014*. Retrieved from [www.fao.org/3/a-i4040e.pdf](http://www.fao.org/3/a-i4040e.pdf) on Thursday 10th March, 2016 at 02:34pm.
- Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., & Toulmin, C. (2010). Food security: the challenge of feeding 9 billion people. *science*, 327(5967), 812-818.
- Graham, A., Aubry, S., Künnemann, R., & Suárez, S. M. (2011). The Role of the EU in Land-grabbing in Africa-CSO Monitoring 2009-2010. *Advancing African Agriculture (AAA): The Impact of Europe's Policies and Practices on African Agriculture and Food Security*. FIAN.
- Harper, C. (2015). *Environment and society*. Routledge.
- Hayami, Yyjiro, (1996). The Peasant in Economic Modernization. *American Journal of Agricultural Economics*, Vol. 78, Nr. 5, Proceedings Issue (Dec, 1996), pp1157-1167.
- Hebinck, P., Schneider, S., & van der Ploeg, J. D. (2015). Rural development and the construction of new markets. Routledge. London.
- Hebinck, P., Schneider, S., & van der Ploeg, J. D. (Eds.). (2014). *Rural development and the construction of new markets*. Routledge.
- Hussi, P., Murphy J., Lindberg, O., Brenneman, L. (1993). The development of cooperatives and other rural organisations: The role of the World Bank. World Bank, Washington, D.C., USA.
- Hussi, P., Murphy, J., Lindberg, O., & Brenneman, L. (1993). *The development of cooperatives and other rural organizations: the role of the World Bank*. The World Bank.
- ICOUR (2010). ICOUR Corporate Plan: 2009-2014, Navrongo, ICOUR, Navrongo, Ghana.
- International Fund for Agricultural Development – IFAD (2018). Farmers' Organizations in Africa: Support to Farmers' Organizations in Africa Programme (SFOAP) – Main phase 2013-2018, IFAD, Rome. Retrieved from: [Re-search20/Farmers%20Organizations%20in%20Africa.pdf](https://search20/Farmers%20Organizations%20in%20Africa.pdf), 24 October 2019.
- Kopper, S. A., & Jayne, T. S. (2019). Market access, agro-ecological conditions, and Boserupian agricultural intensification patterns in Kenya: Implications for agricultural programs and research. *World Development*, 124, 104649.

- Kunnemann, R. (2009). Peasant policies to overcome the marginalisation of African peasant farmers: Policy implications of project work on African smallholders in focus – a voice in EU trade policy. Fian International, Heidelberg, Germany.
- Kyere, I. S. A. A. C. (2014). *Financial Institutions and Agricultural Financing in Ghana: The Case of The Ghana Commercial Bank-1953–1994* (Doctoral dissertation).
- Landini, F. (2011). Income and use of money in the peasant economy. Contributions to rural development psychology from a case study. *Journal of Alternative Perspectives in the Social Sciences*, 3(3), 674-703.
- Lanz, K., Gerber, J. D., & Haller, T. (2018). Land grabbing, the state and chiefs: The politics of extending commercial agriculture in Ghana. *Development and Change*, 49(6), 1526-1552.
- Manley R., Van Leynseele Y. (2019). Peasant Agency in Ghana's oil palm sector: The impact of multiple markets on food sovereignty. *Journal of Agricultural Change*. 2019; 19:654-670. <https://doi.org/10.1111/joac.12323>.
- Margulis, M. and Claeys, P. (2016). Peasants, Smallholders and Post-Global Food Crisis Agriculture Investment Programmes, Margulis, M. and Claeys, P. (2016). Peasants, Smallholders and Post-Global Food Crisis Agriculture Investment Programmes, halshs-01316870, N°110 | April 2016.
- Margulis, M., & Claeys, P. (2015). Peasants, smallholders and post-global food crisis agriculture investment programs.
- Monjane, B. (2017). African peasants highlight struggles at global meeting. *Green Left Weekly*, (1150), 15.
- Monjane, B. (2017). African peasants highlight their struggles at Via Campesina global conference. Retrieved from <http://www.cadm.org/African-peasants-highlight-their-17-October-2019>.
- Mumuni, E., & Oladele, O. I. (2016). Access to livelihood capitals and propensity for entrepreneurship amongst rice farmers in Ghana. *Agriculture & Food Security*, 5(1), 1.
- Nkegbe, P. K., & Abdul Mumin, Y. (2014). Inflation and interest rate movements in Ghana: trends and possible causal links. *International Journal of Economics and Business Research*, 8(3), 272-295.
- Nkegbe, P.K. (2018). Credit access and technical efficiency of smallholder farmers in Northern Ghana Double bootstrap DEA approach, *Agricultural Finance Review*, Vol. 78 No. 5, 2018 pp. 626-639.
- Norman, M., Darko, E., Whitley, S., Bawakyillenuo, S., and Nyamedor, F. (2016). Mapping current incentives and investment in Ghana's agriculture sector Lessons for private climate finance. Overseas Development Institute, London, UK
- Nutsugah, S. K., & Twumasi, J. K. (2001). Fungal Diseases of rice in Ghana: Knowledge and research needs. In *Major Fungal Diseases of Rice* (pp. 321-329). Springer, Dordrecht.
- OECD-FAO (2016). Agriculture in Sub-Saharan Africa: Prospects and challenges for the next decade, in OECD-FAO Agricultural Outlook 2016-2025, Retrieved from [https://doi.org/10.1787/agr\\_outlook-2016-en](https://doi.org/10.1787/agr_outlook-2016-en), 3 November 2019.
- Olomola, A. (2006). Can Peasant Agriculture Survive as a Business in Africa? Invited Paper Presented at the AfDB Economic Conference on Accelerating Africa's Development – Five Years into the Twenty-First Century Held at Le Renaissance Hotel, Tunis, Tunisia November 22-24, 2006.

- Olomola, A. (2006, November). Can Peasant Agriculture survive as a Business in Africa?. In *AfDB Economic Conference on Accelerating Africa's Development—Five Years into the Twenty-First Century, Tunis, Tunisia*.
- Onumah, G., Davis, J., Kleih, U., & Proctor, F. (2007). Empowering smallholder farmers in markets: Changing agricultural marketing systems and innovative responses by producer organizations.
- Osei-Boateng and Ampratwum (2011). *The Informal Sector in Ghana*. Friedrich Ebert Foundation. Ghana Office, Accra, Ghana.
- Ostrom, E. (1990) 2008. *Governing the commons: The evolution of institutions for collective actions*. Cambridge University Press, New York, USA.
- Owusu Coffie, R., Burton, M. P., Gibson, F. L., & Hailu, A. (2016). Choice of rice production practices in Ghana: a comparison of willingness to pay and preference space estimates. *Journal of Agricultural Economics*, 67(3), 799-819.
- Penunia, E.A. (2011). "Enabling rural women's economic empowerment: institutions, opportunities and participation?", A paper presented at Asian Farmers' Association for Sustainable Rural Development (AFA), organised by UN Women in cooperation with FAO, IFAD and WFP, September 20-23, 2011 in Accra, Ghana, Retrieved from: <https://asianfarmers.org/the-role-of-farmers%E2%80%99-organizations-in-empowering-and-promoting-the-leadership-of-rural-women/>, 23 October 2019.
- Reed, G., & Hickey, G. M. (2016). Contrasting innovation networks in smallholder agricultural producer cooperatives: Insights from the Niayes Region of Senegal. *Journal of Cooperative Organization and Management*.
- Rondot, P., and Collion, M.H. (2001). *Agricultural producer organisations: Their contribution to rural capacity building and poverty reduction*. Workshop report. World Bank, Washington D.C., USA.
- Salifu, A., Francesconi, G. N., and Kolavalli, S. (2010). "A review of collective action in rural Ghana". IFPRI Discussion Paper 998 International Food Policy Research Institute (IFPRI).
- Salifu, A., Funk, R. L., Keefe, M., & Kolavalli, S. (2012). Farmer based organizations in Ghana. *International Food Policy Research Institute (IFPRI): Washington, DC, USA*.
- Salifu, A., Funk, R. L., Keefe, M., & Kolavalli, S. (2012). Farmer based organizations in Ghana.
- Sarpong, D. (2019). *Policy Options for Smallholders and Trade Liberalization in Ghana, in Smallholders, globalization and policy analysis (FAO)*. Retrieved from:
- Schmidt, S., Magigi, W., & Godfrey, B. (2015). The organization of urban agriculture: Farmer associations and urbanization in Tanzania. *Cities*, 42, 153-159.
- Schneider, S., & Niederle, P. A. (2010). Resistance strategies and diversification of rural livelihoods: The construction of autonomy among Brazilian family farmers. *Journal of Peasant Studies*, 37(2), 379–405. <https://doi.org/10.1080/03066151003595168>
- Schneider, S., & Niederle, P. A. (2010). Resistance strategies and diversification of rural livelihoods: the construction of autonomy among Brazilian family farmers. *The journal of peasant studies*, 37(2), 379-405.
- Schoneveld, G., German, L., & Nutakor, E. (2010). *Towards sustainable biofuel development: Assessing the local impacts of large-scale foreign land acquisitions in Ghana*.
- Shimeles, A. Verdier-Chouchane, A. and Boly, A. (2018). *Building a Resilient and Sustainable Agriculture in Sub-Saharan Africa*, Palgrave Macmillan, Cham, Switzerland.

- Stock, P. V., Forney, J., Emery, S. B., & Wittman, H. (2014). Neoliberal natures on the farm: Farmer autonomy and cooperation in comparative perspective. *Journal of Rural Studies*, 36, 411–422. <https://doi.org/10.1016/j.jrurstud.2014.06.001>
- Stock, P. V., Forney, J., Emery, S. B., & Wittman, H. (2014). Neoliberal natures on the farm: farmer autonomy and cooperation in comparative perspective. *Journal of Rural Studies*, 36, 411-422.
- Suleman, N., & Sarpong, S. (2012). Forecasting milled rice production in Ghana using box-jenkins approach. *International Journal of Agricultural Management and Development (IJAMAD)*, 2(1047-2016-85412), 79-84.
- Tanko, M., Iddrisu, A., & Alidu, A. F. (2016). Determinants of Rice Yield in Northern Region of Ghana, the Role of Policy. *Asian Journal of Agricultural Extension, Economics & Sociology*, 9(2), 1-11.
- Tinsley R. L. (2004). *Developing African cooperative movement*, ed. Develtere, P., Pollet, I. and Wanyama. International Labour Organisation, Geneva, Switzerland.
- Titus, O. B., & Adefisayo, B. A. (2012). Institutional and technical factors influencing sustainable agricultural practices in Nigeria. *International Journal of Science and Technology*, 1(11), 609-621.
- van der Ploeg, J. D. (2008). *The new peasantries: Struggles for autonomy and sustainability in an era of empire and globalization*. London: Earthscan.
- van der Ploeg, J. D. (2008). Transition: contradictory but interacting processes of change in Dutch agriculture. *Sustainable agriculture and food chains in peri-urban areas*, 293.
- van der Ploeg, J. D. (2010). The peasantries of the twenty-first century: The commoditisation debate revisited. *Journal of Peasant Studies*, 37(1), 1–30. <https://doi.org/10.1080/03066150903498721>
- Van der Ploeg, J. D. (2013). *Peasants and the art of farming: A Chayanovian manifesto* (No. 2). Fernwood.
- van der Ploeg, J. D. (2014). Peasant-driven agricultural growth and food sovereignty. *Journal of Peasant Studies*, 41(6), 999–1030. <https://doi.org/10.1080/03066150.2013.876997>
- van der Ploeg, J. D. (2015). Newly emerging, nested markets: A theoretical elaboration. In P. Hebinck, J. D. van der Ploeg, & S. Schneider (Eds.). *Rural development and the construction of new markets* (pp. 16–40). London and New York: Routledge.
- Wailles, E. J., Durand-Morat, A., & Diagne, M. (2015). Regional and national rice development strategies for food security in West Africa. In *Food Security in an uncertain world: An international perspective* (pp. 255-268). Emerald Group Publishing Limited.
- Whitfield, L. (2017). New paths to capitalist agricultural production in Africa: Experiences of Ghanaian pineapple producer-exporters. *Journal of Agrarian Change*, 17(3), 535-556 <https://doi.org/10.1111/joac.12152>.
- Whitfield, S., & Marshall, A. (2017). Defining and delivering ‘sustainable’ agriculture in the UK after Brexit: interdisciplinary lessons from experiences of agricultural reform. *International journal of agricultural sustainability*, 15(5), 501-513.
- Wiggins, S. and Keats, S., (2013). *Leaping and Learning: linking smallholders to markets*. Retrieved from: <https://www.odi.org/publications/7453-leaping-and-learning-linking-smallholders-markets>, Agriculture for Impact, Imperial College London, UK.
- Wiggins, S., & Keats, S. (2013). *Leaping and Learning: Linking smallholders to markets in Africa*.
- World Bank (2017). Retrieved from:



- Yin, He, Alexander V. Prishchepov, Tobias Kuemmerle, Benjamin Bleyhl, Johanna Buchner, and Volker C. Radeloff. "Mapping agricultural land abandonment from spatial and temporal segmentation of Landsat time series." *Remote sensing of environment* 210 (2018): 12-24.
- Yin, L., Boatemaa, A.V., and Mathias, A. (2016). Exploring the Risk Exposures of Peasant Farmers in Northern Ghana. *International Journal of Innovative Research and Development*, Vol 5, Issue 13, November, 2016.