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# SIMILAR DIFFERENCES OR DIFFERENT SIMILARITIES? ASSESSING FOOD SECURITY POLICIES IN GHANA AND BURKINA FASO THROUGH THE LENS OF SMALLHOLDER FARMERS

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## Abstract

*Policies designed to serve the needs of the poor often fail to elicit the right responses because policy makers and beneficiaries have different expectations. How this might manifest in different settings is not clear, particularly so among people with the same cultural ancestry but living in two different countries with different political systems. In this paper, we compared food security policies in Ghana and Burkina Faso from the perspective of Kasena/Gourunshi smallholder farmers. Data were gathered from three Case Studies, 13 focus groups and 28 key informants in two Districts in Ghana and two Communes in Burkina Faso using scientific and indigenous methodologies. The results showed that, in both Ghana and Burkina Faso smallholder farmers perceive food security policy as an externally funded programme dominated by maize to the detriment of their more nutritious traditional millets and sorghum. Food security policy has also altered smallholder farming systems and food security is now seen as business and politics, with little to do with food itself. We conclude that, under current food security policy, zero hunger by 2030 cannot be achieved without a paradigm shift from food security to food sovereignty which enables smallholder farmers maintain control over the farm enterprise and produce quality food. One pathway is to give the Ministries of Food and Agriculture in both countries a new focus by renaming them "Ministry of Agriculture and Food Sovereignty" (MAFoSo) or "le Ministère de l'Agriculture et de la Souveraineté Alimentaire (MASA)".*

**Keywords: Food Security, Food Sovereignty, Maize, Millets, Smallholder Farmers**

## Introduction

Policies can be guidelines, rules, regulations, laws, principles, or directions that say what is to be done, who is to do it and, how it is to be done. Public policy guides how national, district or local governments operate and address specific issues. Food security is a public policy that addresses hunger, one of the most intractable challenges of our time (World Food Program [WFP], 2017) given that one out of every nine people in the world is undernourished and the number is increasing (FAO et al., 2018). The absolute number of undernourished people in the world rose from 804 million in 2016 to 821 million in 2017. In West Africa, the number of people experiencing severe food insecurity increased from 86.3 million in 2016 to 109.8 million in 2017, "an important warning that we are not on track to eradicate hunger by 2030" (FAO et al., 2018: p. xiii).

Policies such as subsidies, interest rates on loans and guaranteed price of farm produce, that shape food security interventions and farm productivity, are determined by the government. Yet how food


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security policy gets translated into actions at the local, community, household and individual level remains relatively unexplored. Since smallholder farmers dominate the agricultural landscape (National Development Planning Commission [NDPC], 2010), and West Africa being one of the sub regions still suffering the pangs of food insecurity, understanding current food security policy and its effects could inform policy and practice for effectively fighting hunger in the West African Savannah. Specifically, (1) what is the perception of food security policy among smallholder farmers in Ghana and Burkina Faso? (2) How does food security policy influence smallholder farmer beliefs and agronomic practices? (3) What pathways exist for pursuing the "zero hunger" project and promoting sustainable food systems in the West African Savannah? This paper explores these questions from the lens of smallholder farmers.

## Methods

### *Study Location*

The study area consisted of contiguous Kasem-speaking communities in the Kassena-Nankana West District and Navrongo Municipality in the Upper East region of Ghana; and Gourounshi-speaking communities in the Commune Urbaine de Pô and Commune de Tiébélé in the Nahouri Province in the Centre-sud region of Burkina Faso. The Kasena in Ghana and Gourounshi in Burkina Faso are considered one people with a common ancestry and language (Cassiman, 2006). Though the colonial history of West African people is the same in terms of the colonial objectives, the approaches were different. Whereas the British used Indirect Rule in Ghana to achieve their imperialist objectives, the French used the policy of Assimilation (Staniland, 2008). The geographical coordinates of the four study districts are as follows: Kassena Nankana West District (10.9589° N, 1.1133° W) and Navrongo Municipality (10.8955° N, 1.0921° W) in Ghana; Commune urbaine de Pô (11.1697° N, 1.1450° W), and Commune de Tiébélé (11.0967° N, 0.9650° W) in Burkina Faso. A more recent legend has it that the entire Kasena homeland would have been in Ghana but a typographical error with regard to the spelling of "Yoo" in Burkina Faso and "Yua" in Ghana split it into two between the two countries. Farming is a vocation among the Kasena and ancestral veneration is a common practice. Kasena cropping calendars respond to the needs of the living, the living-dead, and the yet-to-live (Millar, 2018)

### *Study Design*

This is a cross-country comparative study using both scientific and indigenous methodologies with a Case Study approach. In all, 28 Key Informants, 13 Focus Group Discussants, and three Case Studies were purposively sampled and interviewed. Respondents included smallholder farmers, indigenous institutional functionaries, extension agents, agricultural inputs dealers, and non-state actors. Data was collected using unstructured interviewing, allowing for adjustments in the kind, and arrangement of questions during face-to-face interactions.

Scientific methodologies including a desk review of policy documents, Key Informant Interviews, and Focus Group Discussions were used to gather data. Indigenous methodologies included gathering artistic expressions (e.g., proverbs and wise sayings) whose literal, figurative and philosophical meanings reflect Kasena worldviews, aspirations, values, beliefs and farming practices. Use of indigenous methodologies was necessary because some ideas, especially among indigenous societies, are better expressed in a story, a metaphor, a picture or poem or in some such symbolic form, rather than in a rational argument or discourse. Millar et al. (2012) have observed, "cultural identity, spiritual connections and values are often expressed in this indirect way" (p. 83). Direct observation complemented all the other data collection techniques, enabling the researchers to observe participants and their environment for additional information which study participants were normally unwilling or unable to provide through interviewing. As leading researchers have noted "the direct observer strives to be as unobtrusive as possible in order not to bias the observations" (Millar et al., 2012: p. 44).

### *Data Analysis*

All interviews were conducted in English, French or Kasem. They were audio recorded and the French and Kasem interviews were transcribed and

translated into English. The transcripts were then manually logged and coded according to themes and sub-themes emerging from the data. Data collection and analysis proceeded simultaneously.

**Results and Discussions**

Smallholder farmers understood food security policies only at the level of implementation. They were not conversant with the fine details about the names of the initiatives, the individuals or organisations promoting them, much less their specific aims and objectives. The discussions and comparisons on food security policies were therefore organised in terms of 1) national policy frameworks for food security, 2) smallholder farmer definition of food security, 3) participation in policy formulation, 4) agricultural inputs policy (seed, fertilizers, pesticides), and 5) perspectives on sustainable agriculture.

***Food Security Policy Frameworks***

Table 1 contains a comparison of food security policy frameworks in Ghana and Burkina Faso indicating where possible, issues of convergence, divergence and complementarity with food sovereignty, the key concern of smallholder farmers. Among others, Table 1 showed that global and continental organisations and food security frameworks significantly influence the outlook and financing of national food security policies in Ghana and Burkina Faso. Ghana's Medium Term Agriculture Sector Investment Plan, and Burkina Faso's Stratégie de Développement Rural, the prevailing food security policy frameworks, were found to be sensitive to food sovereignty considerations. However, the mission of Ghana's Ministry of Agriculture and the very name of Burkina Faso's le Ministère de l'Agriculture de la Sécurité Alimentaire (MASA) (Ministry of Agriculture and Food Security), betray a food security focus. Also, while Burkina Faso's la Stratégie Nationale de Sécurité Alimentaire aimed at sustainable food security, Ghana's priority actions to achieve Sustainable Development Goal Two (SDG 2), under the Ghana Zero Hunger Project (GZHP), promoted actions that were food sovereignty-inclined. Though food security policies in both countries could be said to be sensitive to food sovereignty, they were governed more by food security principles such as the four dimensions food security framework.

For instance, both Ghana and Burkina Faso endorsed the use of agrochemicals to increase food production:

> "Les gens au Ghana comme au Burkina Faso utilisent les matières chimiques dans la production. Il y a bien sur des problèmes mais c'est la politique qui doit régler ça*"* - male key informant, unité d'apui technique (UAT), Adongo, Commune Urbaine de Pô, Burkina Faso.
>
> *[People in Ghana as well as Burkina Faso use agrochemicals in farming. Of course, that comes with its own problems but these can only be dealt with at policy level].*

**Table 1. National Policy Frameworks for Food Security in Ghana and Burkina Faso**

| **Ghana** | **Burkina Faso** | **Convergence, Divergence, Complementarity** |
|---|---|---|
| The **Medium-Term Agriculture Sector Investment Plan (METASIP 2010-2015)** is the implementation plan of the **Food and Agriculture Sector Development Policy (FASDEP II, 2007),** which provides the broad framework for national food and nutrition security interventions. The **Ghana Shared Growth and Development Agenda (GSGDA II - 2014-** | **Stratégie de Développement Rural (SDR, 2016-2025)** (Rural Development Strategy) is the prevailing policy framework for Burkina's agricultural and food security strategy. Under the SDR, the Programme National du Secteur Rural (PNSR) has also been developed with the aim to *"*improve sustainable food security through increased agricultural, pastoral, fisheries, forestry and | Ghana's long-term development agenda is food sovereignty- inclined whereas the sustainability aspect of Burkina's PNSR, and its focus crops, also makes the policy sensitive to food sovereignty considerations. |

| | | |
|---|---|---|
| **2017**) "[promote] the consumption of locally available nutritious foods". | wildlife production…" (p. 6). Priority staple commodities include Rice, Maize, Millet, Sorghum, Fonio and vegetables. | |
| The vision of **Ghana's Ministry of Food and Agriculture (MoFA)** is for a "modernized agriculture, culminating in a structurally transformed economy and evident in food security…" | **Ministère de l'Agriculture de la Sécurité Alimentaire (MASA)** (Ministry of Agriculture and Food Security). | Whereas the food security mission of Ghana's MoFA is clear, the name of Burkina Faso's agricultural ministry betrays the country's narrow focus on food security. |
| **National Nutrition Policy For Ghana** (2013–2017) aims "to ensure optimal nutrition and health of all people living in Ghana, to enhance capacity for sustainable economic growth and development". | **La Politique Nationale de Sécurité Alimentaire et Nutritionnelle** (**PNSAN**) **(National Food and Nutrition Security Policy)** birthed **La Stratégie Nationale de Sécurité Alimentaire (SNSA)** which was adopted in 2003 to *"*improve sustainable food security through increased agricultural… production…". | Ghana's National Nutrition Policy, the Ghana Zero Hunger Project, and Burkina Faso's PNSAN draw inspiration from the various international, continental and sub-regional conventions to which the countries are signatory. These include the SDGs, Global Food Security Framework, and the five Rome Principles for Food and Nutrition Security. Burkina Faso's food and nutrition policies are also guided by le Cadre stratégique de sécurité alimentaire) adopted by the Inter-State Permanent Committee for the fight against Desertification in the Sahel in November 2000. Whereas Burkina Faso's SNSA aims at *"sustainable food security"* Ghana's priority actions to achieve SDG 2 promote actions that are sovereignty-inclined. This means these two policies can be said to be sensitive to food sovereignty. |
| The **Ghana Zero Hunger Project (GZHP)** acknowledges "the need to consider the integration of other paradigms such as local food systems and food sovereignty perspectives in food and nutrition security programming (Ghana Zero Hunger Strategic Review, 2017, p. 4). **Priority actions to achieve SDG 2 for northern Ghana:**<br>• Provide incentives for production of nutritious local foods<br>• Double millet and sorghum production<br>• Encourage mixed-cropping and mixed farming. | | |
| **Ghana Seed Policy**: Ghana imports $6m seed every year (Kale-Dery, 2018, September 4).<br><br>"The government provides seeds and fertilisers at 50% subsidy" - male key informant, Navrongo Municipality, Ghana. | L'Institut de l'environnement et de recherche agricole (INERA) conducts assessments and adaptation tests of seed varieties under Burkina's local conditions prior to the extension process. The procedure at INERA takes up to 3 years to complete (Holtzman, Kaboré,Tassembedo & | The importation of seed has the tendency to kill/harm local seed producers but also, and more importantly, kill off local indigenous seeds. |

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|---|---|---|
| | Adomayakpor, 2013). | |
| Ghana gives 50% subsidy on fertilizers (Banful, 2009).<br><br>The Fertilizer Subsidy is "an incentive for using 'improved seeds' and fertilizers to promote food production…" (Houssou, Andam & Asante-Addo, 2017).<br><br>Ghana's Fertilizer Subsidy Program aims to make 150kg of fertilizer available to each farmer to raise food production (Andoh, 2016). | Fertilizer has been subsidized to producers at 50%. Spot sales prices are 250 FCFA/kg for NPK and 270 FCFA/kg for Urea.<br><br>Burkina's la Commission nationale de contrôle des engrais (CONACE) has been operating under law 026 of 2007, which prescribes the quality of fertilizers admitted in the country but it has largely not been implemented until 2017 (Birba, 2017). | There is a lot of political will in support of food security initiatives but this often results in unnecessary political interference in policy implementation, which often hurts rather than help smallholder farmers. |

***Source:*** *Researchers' Field Data (2020)*

As shown in Table 1, the two countries even went as far as providing a 50% subsidy on imported seed and chemical fertilisers, though seed and fertilizer quality seemed to be better regulated in Burkina Faso than in Ghana. The cause for concern is that though the new seeds and the subsidy provided were enabling farmers increase agricultural output, these "improved seeds" threatened smallholder farmer's indigenous seeds which had the tendency to increase their vulnerability to food insecurity.

***Smallholder Farmers' Definition of Food Security***

**Table 2. Smallholder farmer definition of food security in Ghana and Burkina Faso**

| **Key Definitions of Food Security** | **Ghana** | **Burkina Faso** |
|---|---|---|
| "When all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 1996). | "Food security is not the volume of maize you produce. If a farmer harvests millet and beans, and another harvests only maize, who is more food secure? If you don't have other food systems but maize, you can have malnourished children" - male key informant, Kasena-Nankana West District, Ghana. | "Food security is about how the individual can manage foodstuffs so that the household does not run out of food for hunger to set in. Moreover, food security means the food we have should be healthy food, not necessarily food that just fills up one's stomach" - male key informant, Commune de Tiébélé, Burkina Faso. |
| Food security means being able to get all the healthy food you need and to enjoy it with friends and family. Food security also includes being able to make a living by growing and producing food in ways that protect and support both the land, sea and the food producers, and that ensures that there will be healthy food for our children's children" (NSNC, 2005). | | |

***Source:*** *Researchers' Field Data (2020)*

Food security is a complex issue that is defined differently by different stakeholders. As shown in Table 2, the Food and Agriculture Organisation (FAO, 1996) defined food security in terms of availability, access, quantity, safety, nutrition, and choice, but smallholder farmers in Ghana and Burkina Faso defined food security in terms of variety, diversity, quality and, food management.

The Nova Scotia Nutrition Council's (2005) definition of food security significantly highlighted the importance of how food is produced. By so doing, its definition of food security had a food

systems perspective, which satisfied smallholder farmers' concerns about food sovereignty and sustainable agriculture. Though smallholder farmers in Ghana and Burkina Faso shared similar perspectives on food security, their views collectively differed significantly from the policy makers' understanding of food security. In their study, Stoop and Hart (2005) also observed this kind of conflicting understanding of policy initiatives between policy makers and end users which often hampers effective policy implementation and the achievement of set goals.

Significantly however, these definitions take for granted that nutrition will automatically be addressed when food security objectives are met. This does not resonate with the position of Dittoh et al. (2007) who have always argued that nutrition has consistently been neglected in food security discourses.

***Participation in Policy Formulation***

Inclusive participation is a prerequisite for sustainable development but smallholder farmers have not been included for participation in the design of food security policies in both Ghana and Burkina Faso. At best their participation is consultative, with just an opportunity to validate already decided interventions. Political interference in the implementation of food security policy was also rife in both countries, which did not augur well for effectiveness. There was also a problem with agricultural extension. An Agricultural Extension Agent in the Commune Urbaine de Pô in Burkina Faso insists: *"*Nous, on est là, on est pas des enseignants, on est des accompagnateurs, voilà. On dit qu'un agent de vulgarisation ce n'est pas un enseignant mais c'est un facilitateur*". [As for us, we are not teachers; our job is to provide support and that is it. As the saying goes, 'an Agricultural Extension Agent is not a teacher but a facilitator'].*

The same Agricultural Extension Agent in the Commune Urbaine de Pô in Burkina Faso had this to add:

> "Nous, on ne leurs dit pas que ce qu'ils pratiquent là n'est pas bon mais on leurs montre ce qui peut les amener plus et maintenant c'est à eux de choisir s'ils veulent laisser leurs anciennes pratiques et pratiquer ce que nous leurs dit et ils vont bien sur avoir une production augmentée"
>
> *[As for us we do not tell them that their practices are not good enough. But we show them what they can do to increase their yields. It is now up to them to decide if they wish to continue in their old ways or adopt what we tell them so as to raise their production]*

The above quotation reflected the teacher-pupil relationship between Agricultural Extension Agents and farmers, which did not augur well for the development of farmer indigenous knowledge. In reality therefore, as shown in Table 3, Agricultural Extension Agents came to smallholder farmers with matching orders, without offering them opportunity to shape the outlook and content of food security policy.

**Table 3. Smallholder farmer participation in food security policy formulation**

| Ghana | Burkina Faso |
|---|---|
| *"*The Agricultural Extension Agents came and told us that farming has changed, and that as farmers we also have to change the way we farm… Now we know that they just deceived us to climb a tree but they are not helping us to get down*"* – male focus group discussant, Nakong, KNWD, Ghana. | In 2018 the government of Burkina Faso through the Communes, took over the distribution of fertilizers and other agriculture inputs from the Ministry of Agriculture. When asked if that is a more efficient way of ensuring that inputs get to the right people at the right time, an Agricultural Extension Officer said it is too early to tell. He however put it diplomatically that the advantage the Ministry of Agriculture has is that they have worked with the farmers over a long period of time so they know them better in terms of their needs, where they are and how to reach them. |

***Source:*** *Researchers' Field data (2020)*

***Agricultural Inputs Policies in Ghana and Burkina Faso***

Chemical-based farming is the stock-in-trade of food security policy. Table 4 shows there is strong support for, and promotion of the use of chemical fertilizers in Ghana and Burkina Faso through a 50% subsidy. But fertilizer and seed quality seem to be better regulated in Burkina Faso than in Ghana. Notably, Burkina Faso's "pesticides homologueés" underscores the country's commitment to soil quality and sustainable farming than Ghana's wholesale promotion of agrochemicals. Perhaps as a result of Ghana's weak agrochemicals regulation, there is considerable cross border transportation of agrochemicals from Ghana into Burkina Faso. Price differentials also substantially account for this cross border illegal trade:

> "Most of the chemicals, particularly the weedicides, are coming from across the border in Ghana. The chemicals in Ghana are cheaper. For instance, a chemical that may cost the equivalent of about CFA400 in Ghana could go for as high as CFA1000 in Burkina Faso. But the chemicals we have here are specifically adapted to our type of soil (pesticides homologueés)*"* - male key informant, Maire de la Commune Urbaine de Pô, Burkina Faso.

Weak political will, and the need to feed a fast-growing population, among others, made regulation of agrochemicals problematic: "The surest way to stop the use of these agrochemicals is to stop their production altogether*"* - male key informant, Commune de Tiébélé, Burkina Faso.

**Table 4. Agricultural Inputs Policies in Ghana and Burkina Faso (Seed, Fertilizers, and Pesticides)**

| **Ghana** | **Burkina Faso** | **Convergence, Divergence, Complementarity** |
|---|---|---|
| Ghana gives 50% subsidy on fertilizers (Banful, 2009). | Fertilizer has been subsidized to producers at 50%. Spot sales prices are 250 FCFA/kg for NPK and 270 FCFA/kg for Urea. | Food security policies in both Ghana and Burkina Faso promote the use of chemical fertilizers through a 50% subsidy. Fertilizer quality seems to be better regulated in Burkina Faso than in Ghana |
| The Fertilizer Subsidy is "an incentive for using 'improved seeds' and fertilizers to promote food production…*"* (Houssou et al., 2017).<br>Ghana's Fertilizer Subsidy Program aims to make 150kg of fertilizer available to each farmer to raise food production Andoh, 2016). | **Burkina's** la **Commission nationale de contrôle des engrais (CONACE)** has been operating under law 026 of 2007, which prescribes the quality of fertilizers admitted in the country but it has largely not been implemented until 2017 (Birba, 2017). | |
| Ghana spent GH¢181.29m in the agriculture sector in 2016 out of which GH¢164.24m **(90.6%)** was on fertilizer subsidies and mechanization services (MoFA & CDCI, 2017). In 2017, of the GH¢450.33m budgeted for the agricultural sector, GH¢421.52m **(93.6%)** was dedicated to the fertilizer subsidy and mechanization (2017 Budget Statement). | Burkina Faso engages in *la pratique de microdosage* (microdosing) for compound fertilizers, which is less costly and favours precision application to support plant growth (Institut de l'Environnement et de Recherches Agricoles [INERA], 2009). Over 5,000 rural farmers in Burkina Faso have adopted Microdosing, which raises farm productivity to US$116 from US$76 for zero fertilizer. | There is strong support for the use of chemical fertilizers in Ghana and Burkina Faso. Ghana spends over 90% of its allocations to the agricultural sector on chemical fertilizers. |

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|---|---|---|
| "This year the seed was called 'AGRA' and it came from Burkina Faso" - male key informant, Chiana, KNWD, Ghana. | "The new food security policy is to support farmers with new seeds" - male key informant, Commune Urbaine de Pô, Burkina Faso. | The importation of new seeds is a policy issue in Ghana and Burkina Faso. |
| "After the harvest, seed was separated from what was meant for food and stashed away. No matter the severity of hunger, seed was never eaten! On rare occasions though, you may take a little of the seed to prepare food for a visitor" – male case study participant, Chiana, Kasena-Nankana West District, Ghana. | "Today, seed is for sale. If you get these seeds and you plant this year you would get a good harvest, next year when you plant the yield will be low. So, you must go back and get new seed. Since I was young this is the first time, I am seeing this kind of thing" – male key informant, Commune de Tiébélé, Burkina Faso. | New or "improved seed" made available through food security interventions not only threatens smallholder farmer indigenous seed but it also exacerbates the vulnerability of smallholder farmers to food insecurity. |

***Source:*** *Researchers' Field data (2020)*

But,

> *"*It's difficult to regulate agrochemicals use because it all has to do with policy. Worse of all is the fact that pesticides are business. So those big pesticides companies, as long as they agree with our leaders, all the chemicals will enter into the country*"* – male key informant, Commune Urbaine de Pô, Burkina Faso.

There was even a more compelling reason that made it difficult to avoid the use of agrochemicals in smallholder agriculture: "if we stop using chemical fertilizers to farm, hunger will enter Ghana!" - male key informant, Chiana, Kasena-Nankana West District, Ghana.

***Sustainable Agriculture***

Despite the widespread use of agrochemicals in smallholder agriculture, sustainable farming remained a major concern for smallholder farmers in Ghana and Burkina Faso. Smallholder farmer practices, including mixed farming and mixed cropping, and the use of farmyard manure was purposely to ensure continuous farming without much harm to the environment. Smallholder farmers felt they have been shortchanged: "Ba gane pe se debam di teo mo ye ba daa wo jaane debam se de tu". *[They deceived us to climb a tree but they are not helping us to get down"].*

The quotation above directly referred to the adoption of external agricultural technologies under food security policies, which came with initial substantial increases in food production but with long-term harmful effects on the environment. As indicated in Table 5, agrochemicals not only destroyed the soil and its organisms, it also harmed human health.

| **Ghana** | **Burkina Faso** |
|---|---|
| "As for the chemicals they destroy the soil nutrients and organisms and because it helps us to get immediate and quick returns, we are not mindful of tomorrow" - male focus group discussant, Chiana, Kasena-Nankana West District, Ghana. | "Since food was not enough for people, it was necessary to bring 'improved seed' to increase food production. But when you go and take someone else's seed and plant, when you even apply our farmyard manure it won't yield well (claps his palms in despair)" - male key informant, Commune de Tiébélé, Burkina Faso. |

| | |
|---|---|
| "Farmyard manure is good for soil organisms; it actually nurtures them! And because manure lasts longer in the soil – up to three years – when you apply in one part of the soil, you apply to the other part the following year. Manure also has the advantage of getting rid of striga. But like chemical fertilizer, too much manure does not support crop production" – 19-year-old key informant, Manyoro, Navrongo Municipality, Ghana. | *"*Farmyard manure and compost make the soil breathe so we should go back to that. It's good for both the soil and the food we eat*"* - male focus group discussant, Tangassoukou, Burkina Faso. |
| "When you collect the farmyard manure and spread it on your farm you can farm on it for two or three consecutive years without the soil losing its fertility. In the past, that is what they did because they were concerned about sustainable farming but today when we want to farm, we use chemicals to spray the weeds..." - male focus group discussant, Chiana, Kasena-Nankana Wests District, Ghana. | "If we want to enrich the soil we have to apply manure and also rotate the crops" - male key informant, Commune Urbaine de Pô, Burkina Faso. |
| "Doctors say the chemicals we apply on our crops can give us hypertension, heart diseases and lever problems. It affects animals too" – male key informant, Katiu, Kasena-Nankana West District, Ghana. | "Agrochemicals pollute drinking water sources when sprayed indiscriminately… People fall sick and we don't know where it is coming from." - male key informant, Commune Urbaine de Pô, Burkina Faso. |

***Source:*** *Researchers' Field Data (2020)*

**Table 5. Smallholders' views on agrochemicals and sustainable agriculture**

The Kasena have a saying that *"teo ko mun-viri, teo ko mun-viri"* to with, *"every community has its peculiar way of preparing millet flour."* This applies to food security policies also. Food security policies differed from country to country, and varied even between districts in the same country. The views between food security policy makers and smallholders were at cross-purposes. Whereas food security policy makers focused on increased production through mono-cropping cultures, smallholders were more concerned about crop variety through mixed farming and mixed cropping. Also, the stock-in-trade of food security policies is the use of synthetic agrochemicals that delivered short-term returns on investment, they left long-term disastrous consequences on the environment. On the other hand, smallholder agriculture was based on mixed-farming and inter-cropping systems and the use of farmyard manure and other natural and organic soil enrichment materials that benefit an entire ecosystem comprising humans, animals, the soil and its organisms, and the environment. It has been observed from the study that food security policies feed the crop whereas smallholder-farming systems feed the soil which in turn feeds the crop. Thus, the monoculture orientation of food security policies not only works against food sovereignty, it works against nature itself.

The use of agrochemicals in smallholder agriculture was therefore viewed as a necessary evil. This was most likely the result of lack of consultation with smallholder farmers to design policies and interventions that responded to their felt needs as end-users. Food security interventions were not based on beneficiary needs but on what policy makers and external funding agencies determined. Political authorities in Ghana and Burkina Faso seemed to have a vested interest in food security policies and often interfered in the implementation process to the detriment of smallholder farmers. Whereas policy makers claimed to be working in the interest of smallholder farmers, the smallholder farmers themselves believed the policies were designed to kick them out of their main, and often only, livelihood activity. Rather than a critical component of sustainable farming, smallholders were now being treated like a stumbling block to the future of farming.

It appears that the idea itself of modernizing smallholder agriculture was not a wholesome idea because farming for most smallholder farmers is not a business – it was a way of life, it was an identity. Since agriculture encompasses culture, philosophy, medicines and networking, farming enabled Kasena to connect the natural world with the metaphysical world. Therefore, whereas food security policies focused on addressing hunger and improving smallholder farmer livelihoods, smallholder farmers themselves were more concerned about their general wellbeing and the environment, which goes far beyond mere livelihoods.

## Conclusions

Ghana and Burkina Faso share many things in common in terms of food security policy. In both countries food security policy has significantly influenced smallholder farmer beliefs and agronomic practices. Maize now dominates "food security crops" in both Ghana and Burkina Faso - mainly as a result of its high market value - to the detriment of more nutritious traditional crops such as millets and sorghum. In both Ghana and Burkina, food security policies are externally funded, inconsistent, and subject to political interference. Burkina Faso appears to have a better seed and agrochemicals regulation regimen than Ghana. However, there is dissonance between how smallholder farmers and policy makers define food security. Whereas policy makers focus on the economic aspects of food security, smallholder farmers are more concerned about food variety and quality as well as the ecological consequences of food production. Fertilizer and seed subsidies have improved farmers' access to critical inputs in both countries to raise food production but there are long-term deleterious effects on the environment that need to be taken into serious account.

Both Ghana and Burkina Faso have failed to institute the necessary measures to ensure food security policy delivers outcomes in consonance with smallholder agricultural practices. Food security policies have also distorted the goals of agriculture, as food security is now business and politics, with little to do with food itself. Besides, the technology that fosters the pursuit of food security goals is environmentally unsustainable and this jeopardizes the future of farming in both countries.

## Policy Implications

Since smallholder farmers constitute the largest number of people who benefit from food security policies, there is the need for policy makers in Ghana and Burkina Faso to co-create food security policies with smallholder farmers so as to synergize objectives and implementation processes in order to achieve the desirable outcomes. This is one sure pathway that exists for pursuing the "zero hunger" project and promoting sustainable food systems in the West African Savannah. The study also recommends a strategic integration of modern agricultural technologies and smallholder farmer indigenous agricultural knowledge to improve food production systems. There is also the need to shift from food security to food sovereignty to reflect the current conceptual concerns about the direction of African agriculture such as the need for smallholder farmers to maintain control over the farm enterprise, which goes beyond being food secure. Then there is the need to shift the paradigm from a food security focus to food systems focus. To signal this new perspective, the Ministries of Food and Agriculture in the study countries should be renamed "le Ministère de l'Agriculture et de la Souveraineté Alimentaire (MASA)" rendered in English as the "Ministry of Agriculture and Food Sovereignty" (MAFoSo).

## Study Limitations

This study suffers from a number of limitations, notable among them is that, eurocentric concepts, definitions and descriptions about indigenous people, most of which have been disproved as inappropriate, have been applied in this research. Until the appropriate concepts are widely adopted, western concepts will continue to guide research, even when indigenous methodologies are applied. This is the case in this study, and it is a limitation because "complications arise when attempting to understand indigenous knowledge and their ways of doing research from a eurocentric (Western) point of view*"* (Smith, 2007, as cited in Millar, et al., 2012: p. 19). This notwithstanding, the true voice of study participants - smallholder farmers - has


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been presented, and the data has been interpreted to the best of the researchers' ability.

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