

**STRENGTHENING AGRICULTURAL VALUE CHAIN ECONOMICS FOR  
SUSTAINABLE DEVELOPMENT (SAVES); A FOCUS ON VEGETABLES**

**FINAL RESEARCH REPORT**



**AGENCY FOR HEALTH AND FOOD SECURITY (AHEFS)**

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## **STRENGTHENING AGRICULTURAL VALUE CHAIN ECONOMICS FOR SUSTAINABLE DEVELOPMENT (SAVES)**

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## Executive Summary

Vegetable production is very important for socio-economic development of Ghana due to its significant contribution to job creation, income generation as well as food and nutritional security. The vegetable industry provides a main source of livelihood for people, especially women along the vegetable commodity value chains. Ghana's vegetable sector offers great opportunities for growth given the steady increase in demand in the domestic markets and the increasing export opportunities. The domestic vegetable market alone is growing at more than 10% per annum and the potential value for export is estimated at US\$250 million. Despite the economic prospects of the sector, the overall vegetable production in Ghana is still relatively low in comparison with other sub-Saharan African countries such as Kenya, Mozambique, Uganda, among others. As a result, over US\$100 million is spent annually to import tomatoes and onions from the neighboring countries (i.e., Burkina Faso, Togo, and Niger) to meet the ever-increasing domestic demand. The poor performance of the vegetable industry has been partly attributed to poor agronomic practices, inadequate infrastructure (poor road networks, inadequate storage facilities, etc.), poor financial accessibility and most importantly ineffective agricultural development policies. Countries like Thailand, China etc. experienced similar challenges in their vegetable industry in the 1980s. However, with vegetable – specific policies, the aforementioned countries were able to transform from a situation of undersupply in the 1980s to an oversupply in less than a decade. The overall purpose of the study was to conduct a desk review and focus group discussions of existing agricultural policies and proposals based on evidences from the global best practices to inform national and sub-regional level policy recommendations and advocacy.

It became evident from the review that the agricultural policies in Europe (i.e., Common Agricultural Policy) and other emerging/developing economies such as Thailand, China etc. have been designed to target the development of specific crops and animals. For instance, there exist specific policies/interventions for cereals, legumes, eggs, potatoes, honey-beekeeping, cotton, live plants and flowers, milk and milk products, sheep/goat meat, pig meat, tobacco, oilseeds, hops, sugar, fruits and vegetables among others. On the other hand, the African regional and sub-regional agricultural policies such as the Comprehensive Africa Agriculture Development Programme (CAADP) of NEPAD and the ECOWAS Agriculture Policy (ECOWAP) tend to have themes that are too general without any specific programmes or projects to achieve the set objectives. In the

same vein, some of the African countries (e.g. Tanzania, Liberia, Zambia etc.) did not prioritize any particular crop in their agriculture policies. Other countries such as Nigeria, Togo etc. have highlighted the development of cereals, legumes, and cash crops in their policy documents. However, the strategies to achieve the said objectives are too general and do not target any specific crop as portrayed.

Similarly, in Ghana, there seems to be overemphasis on improvement in cocoa and cereal (maize, rice) or legumes (soybean, cowpea) production in agricultural policies but the implementation strategies have largely not been crop-specific, thereby defeating the purpose for labelling the forenamed crops as “priority crops”. Summarily, the policies have generally not been specific enough to address the peculiar challenges associated with certain types of crops such as the vegetables, fruits, etc. Surprisingly, in spite of the huge sums of money spent annually to import vegetables (i.e. onion, tomatoes etc.), there are no specific policies for the vegetable industry in Ghana.

Based on the desk review and focus group discussions held, the following recommendations are deemed necessary to help develop the vegetable value chain and, for that matter, the vegetable industry in Ghana. First, agriculture policies should be designed for specific vegetables with clearly defined implementation strategies that take into consideration the peculiar challenges and food safety concerns associated with such crops and their value chains. Second, agricultural value chain actors and project implementing partners should be properly trained and their responsibilities clearly defined to prevent role conflict and ensure proper coordination of various activities along the vegetable commodity value chains. Third, stakeholder consultations prior to agricultural policy designs should include the experts from the Universities, NGOs/CSOs in the agricultural sector and private sector actors such as market aggregators, financial institutions, marketers, input dealers, import and export agents and processors among others. Finally, there should be specific projects designed to meet the food sufficiency needs of key vegetable commodities.

## CHAPTER ONE

### INTRODUCTION AND BACKGROUND

#### 1.1 Background

Vegetable production is very important for socio-economic development of Ghana based on its significant contribution to job creation, income generation as well as food and nutrition security. The vegetable industry is a source of livelihood for many actors in agricultural sector and commodity value chain. Ghana's vegetable sector offers great opportunities for growth given the steady increase of high value domestic markets and export opportunities. The domestic market alone is growing at more than 10% per year and the potential value for export vegetables is estimated at US\$250 million (Saavedra *et al.* 2014). This increasing demand could be attributed to the perceived health benefits associated with vegetable consumption. According to World Health Organization (2003), high vegetable/fruit intake could reduce ischaemic heart disease and stroke by 31% and 11% respectively.

In spite of health benefits and economic prospects of the sector, overall vegetable production and consumption in Ghana is still relatively small in comparison with other sub-Saharan African countries like Kenya, Mozambique, Uganda, among others. The poor performance of the sector could be partly attributed to poor agronomic practices, inadequate infrastructure (poor road networks, inadequate storage facilities, etc.), poor financial accessibility and most importantly ineffective agricultural development policies.

These aforementioned challenges are pervasive because previous agricultural policies in Ghana have failed to explicitly address the issues peculiar to the vegetable sub-sector. Specifically, policies that address challenges along the vegetable value chain are either not effectively designed or hardly available. Pearson-Stuttard *et al.* (2017) argued that any policy to increase production/availability of vegetables/fruits, particularly for lower income individuals could increase food and nutrition security and massively reduce cardiovascular diseases and mortality rates. Almost all the available policy documents on agriculture in Ghana, notably, FASDEP 1, FASDEP II, GPRS 1, GPRS II, METASIP 1 and METASIP II appear to emphasize the need to ensure food/nutrition security. However, none of these aforesaid documents clearly outlines specific policies for growth and developments of the vegetable sub-sector. This calls for specific policies that holistically address the issues of technical production, post-harvest management, export and aggregation as well as access to financial services that are deemed relevant to the growth of the vegetable industry.

Agency for Health and Food Security (AHEFS) and the Ghana CSO platform on SDG 2 intends to advocate for effective agricultural value chain policies and projects that will enhance the competitiveness of the sector and result in productivity improvements, increase in foreign exchange earnings from vegetable exports, create jobs, facilitate poverty alleviation, and promote

food and nutrition security. As part of the SAVES project, AHEFS received support from the BUSAC Fund to commence with vegetable sector advocacy action. AHEFS intends to obtain additional support to expand the scope of the SAVES project to cover roots and tuber commodities and cereals and legumes commodities. The focus of this research is therefore designed to present policy recommendations specific to the vegetable sector to enhance its competitiveness for higher value.

## **1.2 Capability statement of AHEFS**

The Agency for Health and Food Security (AHEFS) is a leading national NGO working to ensure the achievement of Sustainable Development Goal (SDG) 2 of ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture. AHEFS has consistently championed advocacy and provided direct services (training, education and sensitization) for farmers and actors along agricultural value chains. Apart from agricultural interventions, AHEFS facilitate behavioural change communication within the health sector notably in nutrition, HIV and AIDS, malaria and TB towards contributing to the achievement of SDG 3 and other related SDGs. AHEFS holds a special consultative status with the United Nations Economic and Social Council. AHEFS is also the convener for the CSO Platform on SDG 2 and a steering committee member of the Ghana CSO Platform on SDGs. AHEFS has a seven-member Board of Directors that helps oversee the affairs of the organization. In 2007, the organization started implementing community level support to farmer-based organisations and cooperatives on record keeping, soil management, integrated pest management to promote improved yields and food security. AHEFS has presence in Ashanti, Northern, Bono, Bono East, Eastern and Greater Accra Regions of Ghana.

## **1.3 Objectives, Scope of work and Deliverables**

The overall objective of the assignment is:

- ✓ To conduct a desktop review of existing agricultural policies from the global to the national level relevant for vegetable value chain.
- ✓ To embark on stakeholder consultations and focus group discussions for feedback on Ghana's vegetable landscape
- ✓ To provide policy recommendation based on the desk review and stakeholder consultations.

## **1.4 Scope of Work**

The Consultant is expected to undertake, among other things, the under listed tasks:

- i. To document existing agricultural policies that govern agricultural production at the global, regional and national levels.
- ii. To review and identify gaps of national agricultural policies on vegetable production in Ghana (if available).

- iii. To draw policy implications from the empirical findings and suggest pragmatic interventions that prioritize the vulnerable such women and the youth along the vegetable value chain.
- iv. To evaluate the policy gaps and provide recommendations based on feedback from focus group discussions

### **1.5 Deliverables**

The expected deliverables are:

- i. An approved inception report outlining the methodology and organizational capacity assessment tool, plan for the assessment and an outline of field work and consultation with key stakeholders within 1st week of signing the contract and before commencement of fieldwork
- ii. Draft assessment report (Executive Summary, methodology, description of results of the assessment, and recommendations on how best the project can support the associations)

## **CHAPTER TWO**

### **METHODOLOGY USED**

Based on the objectives, scope of work and expected deliverables, consultants followed the under-listed steps to accomplish the assignment:

- ✓ Start-up/preparatory activities
- ✓ Desk study/review of relevant literature
- ✓ Identification of gaps in existing policies
- ✓ Feedback from focus group discussions
- ✓ Policy recommendations

#### **2.1 Start- up/Preparatory Activities/Desk study**

The consultant and the client signed the contract and agreed on milestones as well as quality assurance procedures or measures after initial consultations. Extensive desk study was done focusing mainly on gathering relevant literature/information on the project/assignment. Relevant information on the Ghanaian vegetable industry were sought from appropriate sources for critical scrutiny. The desk study/review concentrated on existing agricultural policies at the global, regional and national levels. Further, specific policies targeting vegetable production at the national level were reviewed and the gaps identified and examined.

## CHAPTER THREE

### DESK REVIEW

#### 3.0 Global Agricultural/Vegetable Sector Policies

Any institutional initiative that affects the real income of persons engaged in the agricultural sector is deemed to be an agricultural policy (Lindert, 1991). According to Timmer (1991), historically, most of the agricultural policies have focused on the nexus between equity and efficiency, land tenure, stabilizing agricultural commodity prices, stimulating investments in agriculture, exports, farmers' organizations, agricultural labour markets and rural infrastructure. If not all, most of these agricultural policies, especially in the developing countries are spearheaded by the government. Nonetheless, the influence of global institutions such as the World Bank, the International Monetary Fund donor countries and other development partners in shaping such policies cannot be discounted (Isinika *et al.* 2016). The foregoing discussions presuppose that agricultural policy designs and implementation plans are largely determined by political and other external factors. It is, therefore, unsurprising that most agricultural policy distortions are triggered by regime changes (Swinnen, 2010). For instance, government's budgetary problems and election/campaign promises in the agricultural sector could trigger a dramatic change in agricultural policies. In order to ensure uniformity or consistency in agricultural policies, some regional/sub-regional organizations such as the European Union (EU), South Asian Association for Regional Cooperation (SAARC), African Union (AU), Economic Community of West African State (ECOWAS) etc. have designed comprehensive agricultural policies for member states. Whereas some of these policies appear to be general, others have been designed to target the development of certain types of crops and animals. Interestingly, most of the agricultural policies, particularly in Africa have been silent on the development of the vegetable sub-sector. The focus has mainly been on cereals/legumes and tree crops production. The following sub-sections present the review of existing agricultural policies at the regional, sub-regional, and national levels.

#### 3.1 Regional/Sub-Regional Agricultural Policies

At the 37<sup>th</sup> session of the Assembly of Heads of State and Government of the African Union (AU), the New Partnership for Africa's Development (NEPAD) was adopted as an economic development program of the African Union (AU). NEPAD was introduced to provide a policy framework for accelerating economic co-operation and integration among African countries. In order to respond to the increasing number of undernourished people in Africa, which was projected to increase from 180 million in 1995/97 to 184 million by 2015, NEPAD launched the

Comprehensive Africa Agriculture Development Programme (CAADP) with the ultimate goal of addressing the issue of food insecurity and alleviating poverty in Africa (NEPAD, 2003). The CAADP, therefore, focuses on investment into three key areas, which are: (i) extending the area under sustainable land management and reliable water control systems; (ii) improving rural infrastructure and trade-related capacities for improved market access; and (iii) increasing food supply and reducing hunger in Africa. The CAADP does not clearly outline any specific projects for investments nor prioritize any crop as key to addressing food insecurity issue in Africa. The aforesaid policy document is only intended to sensitize African policymakers on the need to act on the selected fronts in order to address the numerous challenges to agricultural development in Africa culminating in food and nutrition security (NEPAD, 2003). The CAADP policy framework is more generalist in nature hence there was the need for specific policy instruments tailored to individual sub-regional communities based on peculiar agro-climatic conditions and socio-cultural settings. For instance, heads of the Economic Community of West African States (ECOWAS) and governments met and adopted an aggressive regional agricultural policy document, the Economic Community West Africa Agricultural Programme (ECOWAP) on 19th January, 2005 (ECOWAP, 2005).

The overall objective of ECOWAP is to “contribute in a sustainable way to meeting the food needs of the population, economic and social development, the reduction of poverty in the Member States, and thus to reduce existing inequalities among territories, zones and nations.” The six priority areas of ECOWAP-NEPAD can be summarized as: (i) improvement in water management through irrigation and integrated water resource management approach; (ii) management of other natural resources through coordinated transhumance and rangeland development, sustainable forest and fishery resources management; (iii) farm level sustainable agricultural development through integrated soil fertility management, improved support services for producers and dissemination of improved technologies; (iv) development of agricultural supply chains and promotion of agricultural markets; (v) Prevention/management of natural disasters and food crises by developing crisis management systems, promoting early warning systems, and promoting disaster-related insurance/compensation; and (vi) strengthening of institutions to improve communication, capacity building in steering and coordination, monitoring and evaluation, formulation of agricultural and rural policies/strategies as well as the encouragement long-term funding for agriculture (ECOWAP, 2005). Intriguingly, in spite of the fact that the ultimate goal of all the aforementioned agricultural policies is to alleviate poverty and ensure food/nutrition security, none of these policies outlines strategies or projects to improve production of specific crops for which Africa has a comparative advantage. It can, therefore, be argued that the African regional/sub-regional agricultural policies appear to be too speculative and fail to address the crop-specific challenges confronting the agricultural sector in Africa.

On the other hand, the European Union developed a common agricultural policy (CAP) which clearly outlined interventions for production and marketing of specific crops and animals in the member states. Under the CAP, there are specific interventions for cereals, legumes, eggs, potatoes, honey-beekeeping, cotton, live plants and flowers, milk and milk products, sheep/goat meat, pig meat, tobacco, oilseeds, hops, sugar, fruits and vegetable etc. For instance, there is an intervention known as the Common Market Organization (CMO) for regulating the agricultural markets in the European Union and providing sector-specific support (e.g. for fruits and vegetables, wine, olive oil sectors) (EU/CAP, 2019). In some instances, payments are granted directly to farmers as a form of basic income support so as to stabilize their income stemming from sales on the markets, which are subject to volatility (EU/CAP, 2019).

In Sub-Saharan Africa, a number of countries are working hard to improve the horticultural performance to meet global value chain demands in spite of the myriads of developing countries' constraints. Notably, the introduction of standardized weights and measures in countries such as Burkina Faso, Cote d'Ivoire, and Togo, have improved efficiency and transparency in the marketing system (Robinson and Kolavalli, 2010). Additionally, with concerted and coordinated efforts at the domestic research institutions or universities to undertake varietal selection for vegetables for both the fresh and processed markets and investments in irrigation and support for farmer cooperatives, these countries are able to produce in excess to supply other markets and constitute a major source of vegetable imports to Ghana in spite of Ghana's comparatively more favourable climatic and soil conditions.

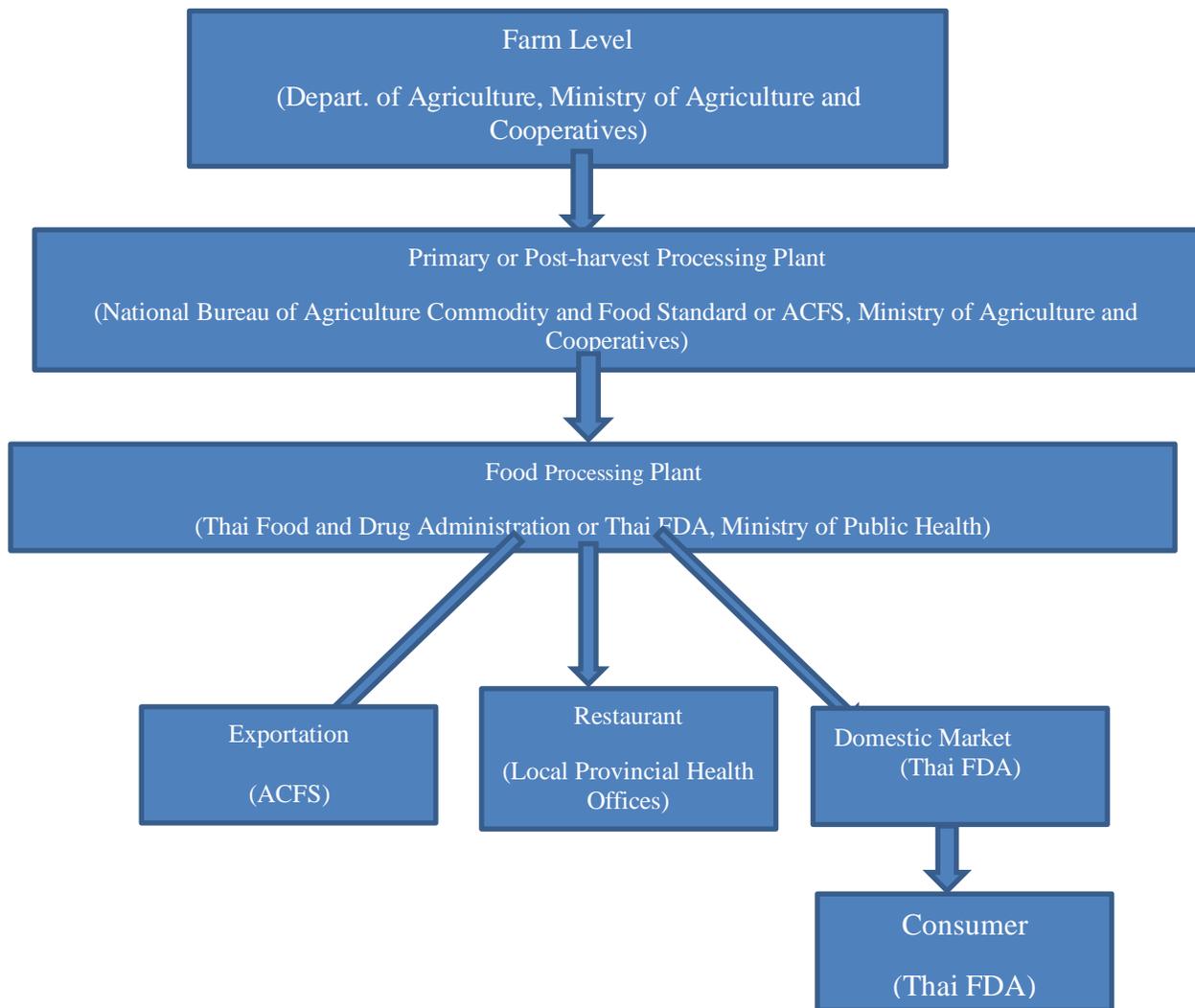
### **3.2 Agricultural Policies in Developing and Emerging Economies**

Agriculture continues to be the mainstay of the rural economies, particularly in the developing countries. It is, therefore, considered a core driver for income growth and a potential tool for alleviating poverty and transforming poor rural households (Ravallion and Datt, 1996; IFAD, 2011). As a result, most of the countries in Africa (e.g. Nigeria, Tanzania, Liberia, South Africa, Zambia, Zimbabwe, Egypt, Ghana etc.) have designed national agricultural policy frameworks with the principal goal of transforming agriculture through investments in irrigation systems, development of improved crop varieties and new breeds of animals, improvements in access to credit and agricultural markets among others. The general theme of all these policies is to increase the productivity and competitiveness of agriculture in order to alleviate poverty and minimize food/nutrition insecurity. Some of the policies prioritized certain areas/sub-sectors and specific crops/animals as key to achieving the aforesaid objective. For instance, the new Nigerian Agricultural promotion policy (APP) prioritizes investments in production of rice, wheat, maize, soya beans, tomatoes, cocoa, cassava, oil palm, sesame and gum Arabic. However, the policy intends to focus on bananas, avocado, mango, fish and cashew nuts for export after 2018 (FMARD, 2016). Similarly, the agricultural trade policy (ATP) of Togo focused on cotton, coffee, cocoa, maize, sorghum, rice, groundnut, millet, soya beans, cowpea, yams, potatoes and cassava (Ali, 2017). The government of Togo through the National Food Security Agency (ANSAT),

nonetheless, designed price stabilization intervention for only the cereal market. Generally, agricultural policies across Africa tend to prioritize development of cereals, legumes and tree crops (cash crops). It is worth emphasizing that some of the African countries (e.g. Tanzania, Liberia, Zambia etc.) do not explicitly prioritize any specific crop or animal in their agricultural policies. Their action plans appear to be general for the crop and the animal sub-sectors. For example, most of the policy documents indicate that measures will be instituted to help develop irrigation facilities for crop production without necessarily prioritizing any particular crop. In other countries such as Thailand, China, Japan etc. there exist comprehensive policies and interventions for the various sub-sectors of Agriculture. The review highlights some of the policies for the vegetable sub-sector in Thailand and China that could serve as an inspiration for Ghana and Africa as a whole towards creating employment and reducing food and nutrition insecurity.

### *3.2.1 Vegetable/fruit Production and Consumption Policy in Thailand*

Thailand has a national policy on fruit and vegetables production and consumption. There are subsidies, price controls and other interventions to improve production. There are specific standards to be followed along the vegetable value chain for the produce to be certified under the National Good Agricultural Practices program (GAP). As shown in Figure 1, at each point along the chain there is a government agency mandated to ensure that there is compliance with the standards. The Department of Agriculture and Ministry of Agriculture and Cooperatives monitor the farmers during the production stage. Farmers who successfully satisfy the requirement of the National GAP gets registered or certified by the National Bureau of Agricultural Commodity and Food Standards (ACFS) under the Ministry of Agriculture and Cooperatives (MAC) (Tongkhao, 2015). Post-harvest processing of vegetables is monitored by the ACFS and the MAC. The main processing of vegetables is controlled by the Thai Food and Drugs Administration (Thai FDA) and the Ministry of Public Health. The ACFS ensures the safety of those vegetables meant for export while the Thai FDA takes charge of those for the domestic market/consumption. Local Provincial Health Services ensure the safety of the vegetables and other foods served in the restaurants. This underlines why Thailand made as much as US\$648.489 million from export of vegetables and their by-products in 2013(Tongkhao, 2015).



**Figure 3.1 Government agencies responsible for food safety at each point of vegetable chain**

*Source: Thai FDA. 2007; Tongkhao, 2015*

### **3.2.2 Policies in the Chinese Vegetable Industry**

Through “effective” policies, the Chinese vegetable industry has transformed from a situation of undersupply prior to the 1980s to an oversupply in the 1990s. The dramatic increase in vegetable production could be attributed to the Vegetable Basket Project (VBP) launched in 1988 with the ultimate aim of increasing vegetable production in order to overcome the vegetable supply deficit in the 1980s. In 1995, the government announced the second phase of the VBP which was intended to diversify vegetable production. To achieve the intended objective, in 1996-2000, the government invested RMB 500-600 million in construction of wholesale markets, building logistics facilities for promoting marketing between southern and northern China, and promoting

trade, processing, and integration (Guowen, 2002). Thereafter, *Anti-risk Fund for Vegetable Marketing* was also established. In the period 1995-2003, vegetable production in China increased by 96% (from 250 million tonnes in 1995 to 480 million tonnes in 2003) (EU, 2004). In 2004, about 150 million people were employed in the Chinese vegetable sector (Yuman *et al.*, 2004). The industry is now considered the second largest in the crop production sector. In 2000, vegetable became the top exported agricultural product in China generating USD 2.03 billion with a trade surplus of USD 1.96 billion (Guowen, 2002).

Recent policies have, therefore, focused on safety and quality of vegetable products. In 2001, the Action Plan for Pollution-free Agricultural Products (APPAP) was launched by the Ministry of Agriculture to ensure that agricultural products from China are pollution-free and 100% safe for human consumption (Yuman *et al.*, 2004). Other initiatives such as the Green food development project, and the Organic food development programme were designed to improve the safety and quality of vegetables produced in China. There several institutions responsible for safety of vegetable production, processing and marketing. Laws involving quality and safety issues related to vegetables are enacted by the National People's Congress (NPC). Other institutions such as the State Administration for Quality Supervision, Inspection and Quarantine, the Ministry of Agriculture, State Environmental Protection Administration, Ministry of Health, State Administration for Industry and Commerce, State Food and Drugs Administration, etc. ensure the implementation and compliance with the various laws (Yuman *et al.*, 2004). Other countries such as the United States of America, Japan, India etc. have similar interventions or initiatives that have helped transform their vegetable industry. China is now the world's leading producer of fresh vegetables followed by India (second) and United States of America (third).

### **3.3 Agricultural Policies in Ghana**

#### ***3.3.1 The Historical Antecedent***

The state-owned marketing board/corporation was established in the late 1960s as a tool for managing agricultural commodity (mainly maize) prices. The government of Ghana established Ghana Food Marketing Corporation (GFMC) in 1966 and mandated it to buy produce from the farmers and distribute or sell throughout the country so as to minimize localized scarcities and abundances, and ensure stable prices for producers/consumers (WTO, 1968; Singh, 2014). Export of agricultural commodities such as cocoa was also facilitated by the GFMC during the period. However, after the change of government, Grain and Legume Development Board (GLDB) was formed in the early 1970s under the Ministry of Food and Agriculture (MoFA) to, among other things, buy and sell staples such as maize and rice (Singh, 2014).

In 1971, Ghana Food Distribution Corporation (GFDC) was established (as a replacement of the GFMC) and charged to buy and sell perishable farm produce across the country. In the year 1975, the grain trade/marketing responsibility of the GLDB was assigned to the GFDC (Puplampu, 1999;

Singh, 2014). The GFDC, however, failed to achieve its intended goals (of ensuring regular supply of staples across the country and stabilizing food prices) and was dissolved in 1987 (Singh, 2014). The failure was attributed to the inability of the GFDC to purchase all the grains supplied by the farmers and maintain its stated floor price in periods of bumper harvest, defaulting on payment to producers, lack of storage facilities especially in the farming communities and difficulties in transporting the produce to the urban areas (Frimpong, 2013). There were other initiatives such as subsidies on imported poultry production inputs (i.e, vaccines, antibiotics etc.) in the 1960s which led to a dramatic increase in chicken meat and eggs production (Aning *et al*, 2008).

### **3.3.2 The FASDEP**

The government of Ghana designed the Food and Agriculture Sector Development Policy (FASDEP) in 2002 after the review of past interventions in the food and agriculture sector. FASDEP I was intended to be a framework for the implementation of selected strategies aimed at modernising the agriculture sector. After almost four years of its implementation, the poverty and social impact analysis (PSIA) of FASDEP I revealed that the attainment of the intended positive impact on poverty alleviation was not possible citing improper targeting of the poor, credit access, limited market, poor coordination between the Ministry of Food and Agriculture (MoFA) and other Ministries, Departments and Agencies as the core reasons. Based on lessons from FASDEP I, the CAADP of NEPAD, and national vision in the Growth and Poverty Reduction Strategy (GPRS II), the government launched FASDEP II in 2007 to “*enhance the environment for all categories of farmers, while targeting poor and risk prone and risk-averse producers*”. The specific objectives of FASDEP II are:

- Food security and emergency preparedness
- Improved growth in incomes
- Increased competitiveness and enhanced integration into domestic and international markets
- Sustainable management of land and environment
- Science and Technology Applied in food and agriculture development
- Improved Institutional Coordination

However, the broad strategies for achieving the aforementioned objectives, particularly the food security, focused on five staples (maize, rice, yam, cassava and cowpea). MoFA was supported to promote the development of at most two out of the five named staple in each selected districts. The Crop Development Policy under FASDIP II has specific strategies for developing the major industrial crops such as cocoa, cashew, citrus, cotton, coconut, oil palm, and rubber. Surprisingly, there are no explicit strategies outlined in FASDIP II for the development of the vegetable industry.

### 3.3.3. *The METASIP and Other Recent Interventions*

The FASDEP II outlines the medium/long term objectives of the government concerning the transformation of the agriculture sector to ensure that sector's stakeholders are best positioned to take advantage of the emerging opportunities (METASIP I, 2010). The METASIP I was, therefore, designed as an investment plan to implement the medium term (2011-2015) programmes of the FASDEP II. The estimated incremental cost of implementation was GHC 1,532.4 million (METASIP I, 2010). As anticipated, the implementation of METASIP I focused on food crops (maize, cassava, rice, yam and cowpea) prioritized in FASDEPII. In 2015, the METASIP II was adopted to continue with the implementation of government's agricultural policies in line with the ECOWAP and NEPAD's Comprehensive Africa Agriculture Development Programme. It was indicated in METASIP II that, in addition to maize, rice, soya beans, cassava, and yam, horticultural crops such as tomatoes could be considered. Nonetheless, at the implementation stage, the horticultural crops were ignored.

One may ask: *does the absence of clearly defined policy on vegetable production imply that the country is self-sufficient in vegetable production? The answer is **NO**.*

According to Saavedra *et al.* (2014), the Accra and Kumasi markets alone import over US\$120 million worth of onion from Togo and Burkina Faso. A wholesaler survey by van Asselt *et al.* (2018) involving 82 wholesalers from Agbogbloshie (Accra), Tudu (Accra), Abinkyi (Kumasi), Bolaho (Kumasi) and Market Circle (Takoradi) markets estimated the annual value of onion imports to be US\$52.9 million. About 43% of all onions produced in Niger ends up in the Ghanaian markets with an estimated cost of approximately US\$107 million.

Over the period 2011 to 2016, members of the Ghana National Tomato Trader and Transport Association imported 101,640 MT of tomato, valued at US\$8.7 million, from Burkina Faso annually (Asselt *et al.*, 2018). Due to this worrying trend, the recent Planting for Food and Jobs (PFJ) campaign by the government included tomatoes, onions, chili, carrots, cabbage, cucumber and lettuce in the list of priority crops. It must, however, be noted that vegetables are perishable crops and require specific comprehensive value chain policies, as done in other countries, to address the peculiar challenges associated with the sector.

## Reviews and Policy Gaps

- Any comprehensive agricultural policy is expected to have an overall goal, specific objectives, strategy, targets, and most importantly, clearly defined programmes or projects geared towards the attainment of the goals (Iwuchukwu and Igbokwe, 2012). Surprisingly, the African regional and sub-regional agricultural policies tend to have themes that are too general without any programmes or projects to achieve the set objectives. These policies appear to be nothing more than the *wish list* for the agriculture sector in Africa.
- In Ghana, there seems to be overemphasis on improvement in cocoa and cereal (maize, rice) or legumes (soybean, cowpea) production in agricultural policies. Horticultural commodities, mainly vegetables, which are the major source of foreign exchange in China, India, etc., have been almost ignored in all the agricultural policies.
- But for the cocoa production in FASDEP II, the implementation strategies in agricultural policies have not been crop-specific. This could affect the effectiveness and efficiency of the policy implementation. For instance, under crop development policy in FASDEP II, the strategies are as follows:
  - Support production of certified seeds/planting materials and increased farmer usage through intensification of awareness campaigns.
  - Intensify dissemination of updated crop production technological packages.
  - Facilitate the development of high-yielding, disease and pest-resistant varieties and increase supply of certified planting material.
  - Ensure that operators of urban agriculture are reached with the needed information technology and inputs

These strategies are too general and do not target any specific crop. The probability of having implementation challenges is therefore high. It is not surprising that, in spite of several agricultural policies and interventions, attainment of self-sufficiency in staples such as maize and rice has become a mirage.

- Poor coordination among the implementing partners. This issue was identified as one of the key factors that led to the failure of FASDEP I to achieve its intended goals. Nonetheless, the same implementing partners (MoFA, Development Partners and other Ministries, Departments and Agencies) were relied upon in the implementation of FASDEP II.
- The experts in the Universities and research institutions are almost always ignored at the stakeholder consultation stage prior to the design of the agricultural policies.

## CHAPTER FOUR

### A CASE STUDY OF THE VEGETABLE INDUSTRY IN GHANA

#### 4.1 Data Collection and Analysis

The study uses the qualitative research approach through focus group discussions to gather opinions of duty bearers and private sector actors on policy gaps and recommendations within the vegetable industry. Participants of the focus group discussions were selected using purposive and quota sampling technique according to the number of persons engaged in specific agricultural activities along the vegetable value chain. Notably, 30 members of the CSO platform on SDG 2 and farmer-based organisations, 80 members from vegetable farmers and sellers association, and 10 from research and agriculture institutions (KNUST, CRI and MOFA) were selected to respond to various questions pertinent to vegetable value chain policy. Other value chain actors such as input dealers, transport operators, processors and financial institutions were interviewed separately to provide responses unique to their operations within the vegetable value chain and categorized as private sector inputs. The Focus Group Discussion Data were analysed with SPSS version 17. Analysed data were presented in tables and charts. Overall, 120 persons -33 males and 87 females, were involved in the study. Respondents were categorized into 5 age groups. Thus, the age groups 19-24, 25-30, 31-45, 46-60 and above 60 had 10%, 28%, 60%, 16% and 4% respondents respectively.

#### 4.2 Results

In Table 4.1, respondents were assessed for their experience in vegetable production. The least and greatest number of years in vegetable work was 3 and 17 years respectively.

Table 4.1 Respondents' experience in vegetable activities in years

No. of Years in vegetable work	Frequency	Percent	Cumulative Percent
3	12	10.0	10.0
4	16	13.3	23.3
5	12	10.0	33.3
6	16	13.3	46.7
7	16	13.3	60.0
8	8	6.7	66.7
9	8	6.7	73.3
10	16	13.3	86.7
12	4	3.3	90.0
14	4	3.3	93.3
15	4	3.3	96.7
17	4	3.3	100.0
Total	120	100.0	

From Figure 4.1 majority (56.7%) of participants were not aware of any specific policy on land acquisition for vegetable production while 30% claimed such policy exist and 13.3% were indifferent. Among the 30%, participants identified the Administration of Lands Act (Act 123); Concessions Act (Act 124); Alternative Dispute Resolution Act; Land Title Registration Act and Interstate Succession Act among the policies which facilitate land acquisition and promote land holdings and tenure among vegetable farmers particularly for women and youth. The result appears to suggest that there are some general policies governing land acquisition which may be leveraged to promote access to land to boost vegetable production in the country. However, as a result of limited technical and financial capacity to manage large scale commercial vegetable production and the risk associated market constraints, farmers prefer to operate as smallholders on family lands or rented lands.

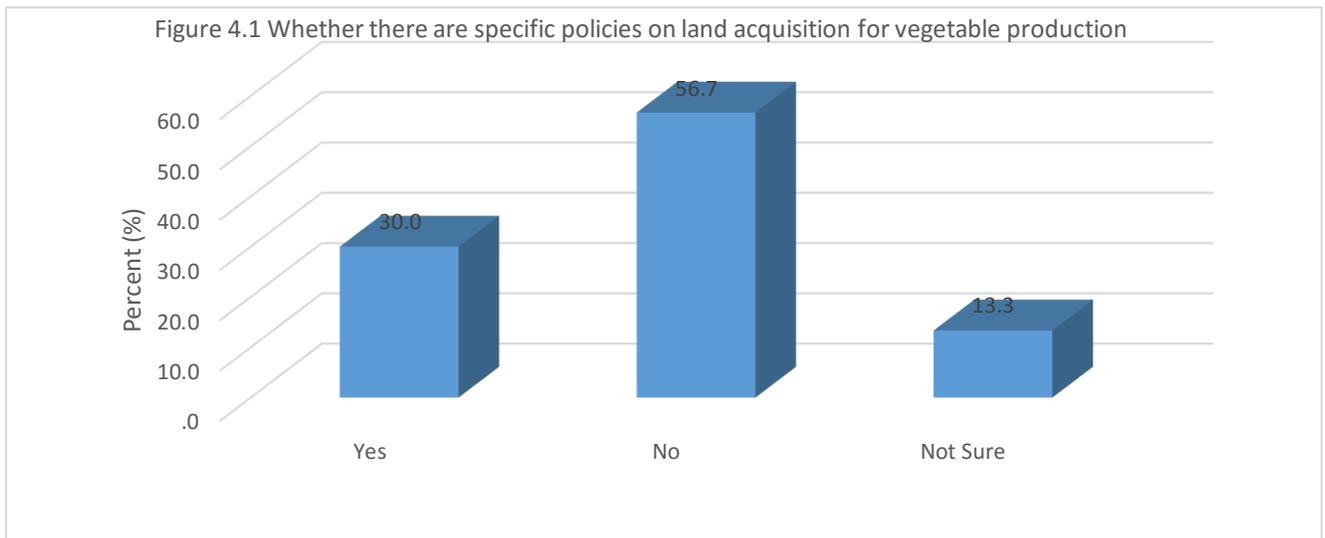


Figure 4.2 presents policy recommendation on land acquisition. Twenty (20%), 56.7% and 23.3% of respondents recommended review of existing policy, enforcement of existing policy and creation of new policy respectively. It was, however, established that the implementation of existing policies as mentioned above at the community level remain weak. It was recommended that Metropolitan, Municipal and District Assemblies (MMDAs) Departments of Agriculture facilitate farm land acquisition in collaboration with traditional leaders and allocate such lands to community-based farmers and farmer-cooperatives and that this action should be preceded by well-established market infrastructure and systems to guarantee good prices and minimize postharvest losses.

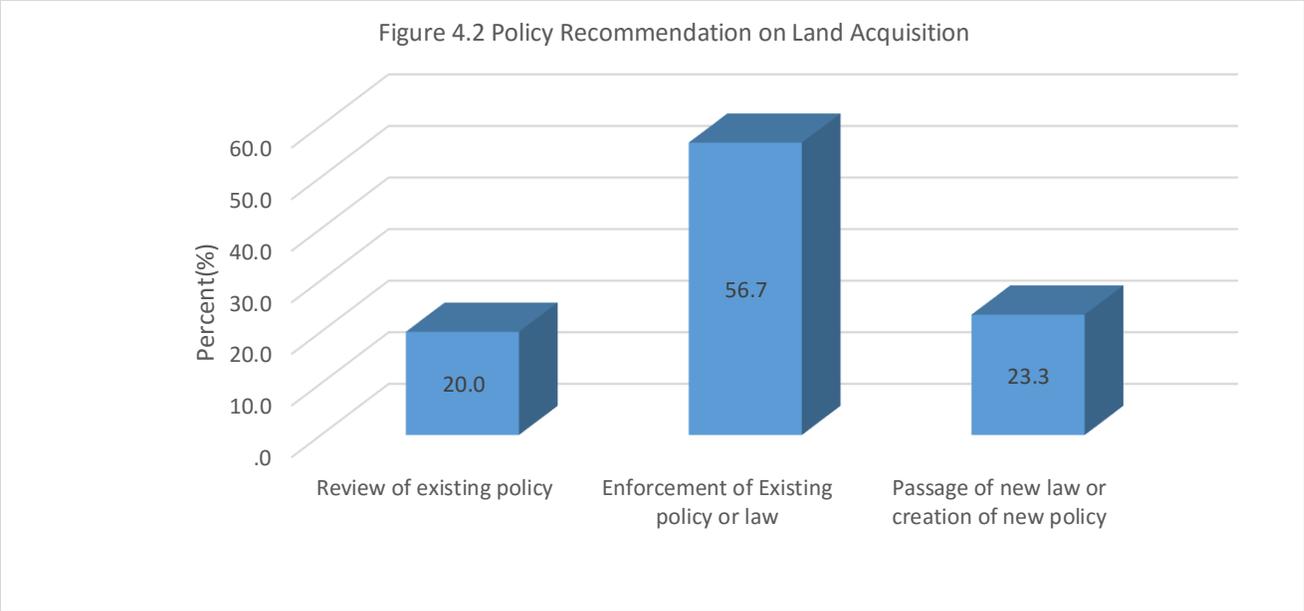
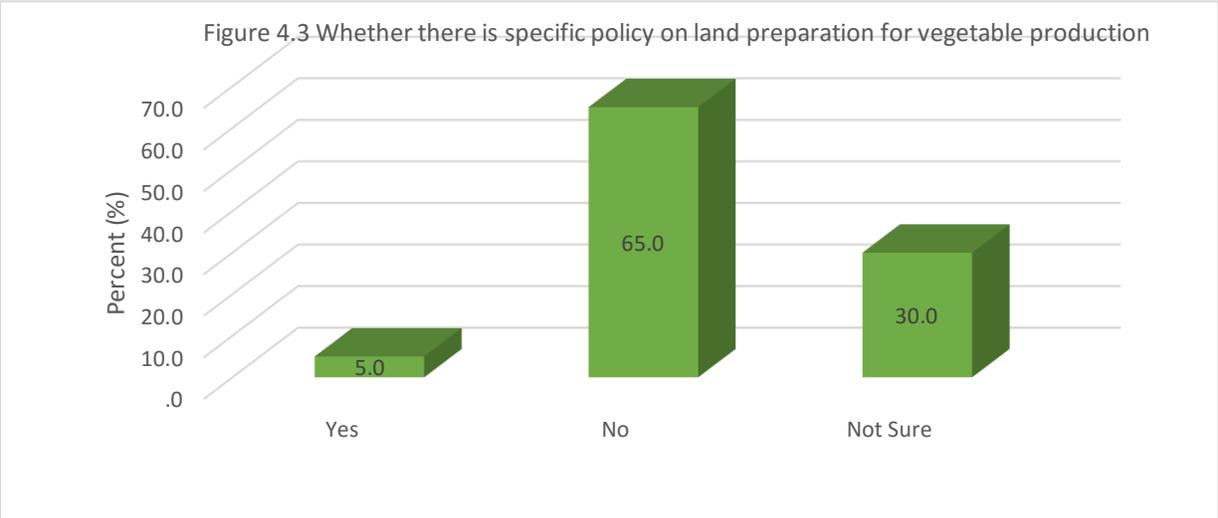
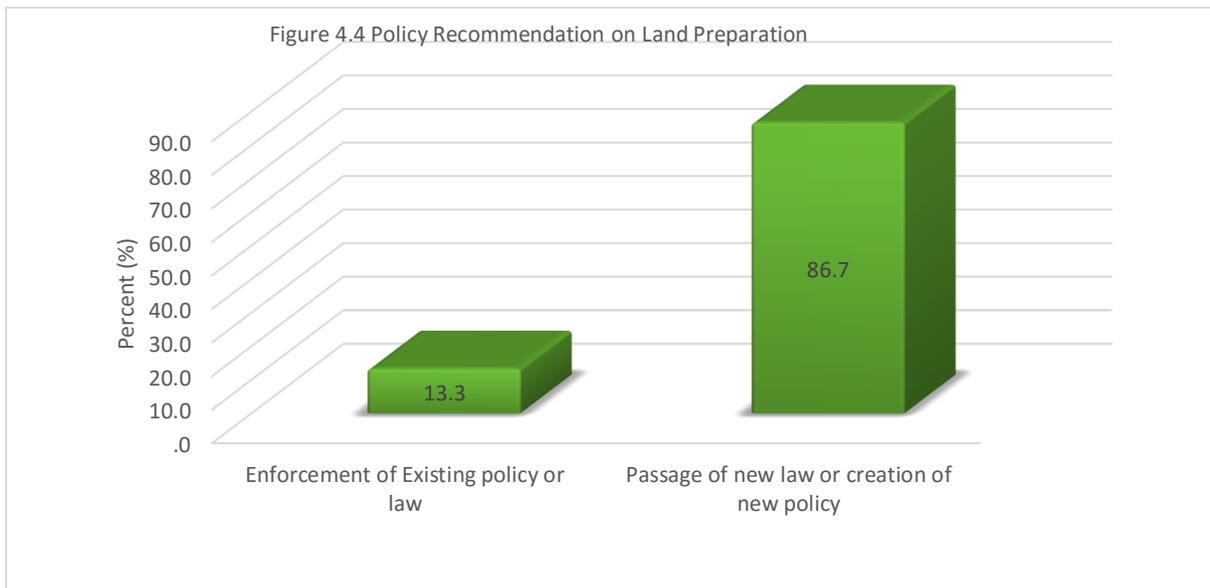


Figure 4.3 shows participants responses to whether there are specific policies on land preparation for vegetable production. It was observed that 5%, 65% and 30% of participants responded yes, no and not sure respectively. Among the 5% who confirmed the existence of policy on land preparation for vegetable farmers, it was noted that as a result of increasing land degradation from slash and burn practices, deforestation and forest degradation, there exist global conventions to which Ghana has ratified such as the African Union Framework and Guidelines on Land Policy, International Soil Protection Law and the Sustainable Development Goals (SDGs) particularly SDG 2 of promoting sustainable agriculture to guide land preparation and land use activities.



In Figure 4.4, 13.3% and 86.7% of participants recommended enforcement of existing policy and creation of new policy respectively. Among those going for enforcement of existing policy, it was argued that the adoption of sustainable agriculture as part of the SDGs mandates localization and

practice of minimal or zero tillage, integrated pest and nutrient management, organic soil amendment, vertical and urban agriculture among other soil conservation practices to guarantee the long term productivity of agricultural lands and growing media and prevent further movement of farmers into forests for want of fertile lands. The majority (86.7%) were of the view that new policies should be created to fit local landscape context and particularly directed at incorporating more organic materials and effective use of small mechanical implements which cause minimal disturbance to soil such as rippers, slashers, looseners, etc.



From Table 4.2, 80% and 20% participants respectively responded no and not sure to whether there is specific policy on planting and crop management. Consequently, 10% and 90% of the participants recommended enforcement of existing policy/law and passage of new law or creation of new policy. On whether there is specific policy on vegetable harvesting, 90% and 10% participants respectively responded no and not sure leading to 6.7% and 93.3% of respondents respectively recommending enforcement of existing policy and creation of new policy. On storage, 83% and 16.7% of participants respectively responded no and not sure to whether there is specific policy on vegetable storage. Thus, 10% and 90% participants recommended enforcement of existing policy and creation of new policy.

From the responses from participants, the enabling policy environment for on-farm support to local vegetable farmers from planting to harvesting and storage is clearly missing. Production and vegetable supply is thus left to the fate of environment and farmers. Hence, with frustrations and losses, farmers abandon their farm work for petty trading and other livelihood activities. Participants therefore, called on better policies to respond to the needs of vegetable commodity

value chains and that such policies should be attended to with commensurate investments and targeting.

Table 4.2 Some aspects of supply-associated policy issues for vegetable sector

<b>VEGETABLE POLICY ISSUES AND RESPONSE DISAGGREGATION</b>	<b>PERCENT (%)</b>
<b>Whether there is specific policy on Planting and Crop Management</b>	
No	80.0
Not Sure	20.0
Total	100.0
<b>Policy Recommendation on Planting and Crop Management</b>	
Enforcement of Existing policy or law	10.0
Passage of new law or creation of new policy	90.0
Total	100.0
<b>Whether there is specific policy on vegetable harvesting</b>	
No	90.0
Not Sure	10.0
Total	100.0
<b>Policy recommendation on harvesting phase of vegetable value chain</b>	
Enforcement of Existing policy or law	6.7
Passage of new law or creation of new policy	93.3
Total	100.0
<b>Whether there is specific policy on vegetable storage</b>	
No	83.3
Not Sure	16.7
Total	100.0
<b>Policy Recommendation on Vegetable Storage</b>	
Enforcement of Existing policy or law	10.0
Passage of new law or creation of new policy	90.0
Total	100.0

Table 4.3 shows participants' responses to some demand associated policy issues in the vegetable sector. On whether there are specific policies on vegetable distribution, 86.7% and 13.3% of participants responded no and not sure respectively. Accordingly, 10% and 90% of participants recommended enforcement of existing policy and creation of new policy respectively. Responses and recommendations for market aggregation, vegetable processing, export and local market and financing for vegetables were not different. The implication is that Ghana needs a well-coordinated demand-based vegetable policy and investments which address the challenges of demand-associated value chain factors such as access of farmers to alternative buyers, exporters, processing companies and agriculture-friendly financial institutions and agencies. An arrangement with vegetable importers to substitute increasing proportions of imports for local supplies and the creation of low to negative interest agricultural funds to finance agriculture were also cited. Among

the 20% who indicated the existence of export and local marketing policy, it was noted that the Ghana Export Promotion Authority (GEPA), established by Act 396 has the mandate to development and promote Ghanaian export commodities including vegetables. Thus, among the 30% who went for creation of new policy for export of vegetables, it was indicated that the mandate of GEPA was too generic and does not address the requirements of the international standards for vegetable export and food safety issues raised by the CODEX Alimentarius and that the Environmental Protection Agency, Ghana Standards Authority and Food and Drugs Authority have not been active within the vegetable sector in ensuring food and consumer safety standards.

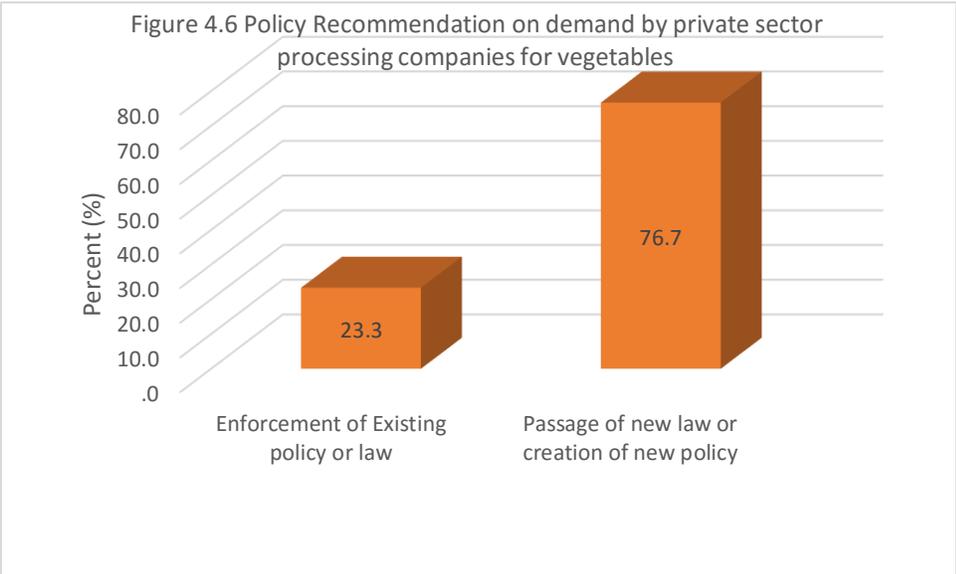
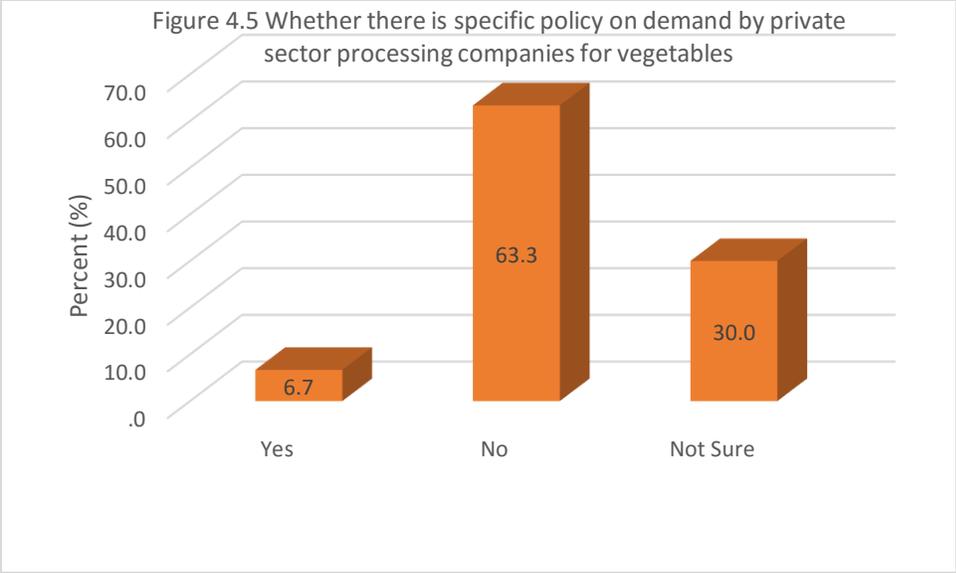
Additionally, among the 26.7% who confirmed the existence of policy on funding and financial institutions for vegetables, it was noted that the establishment of Agricultural Development Bank and in principle Ghana Commercial Bank and most other commercial banks makes it possible for agribusinesses in the vegetable sector to obtain financial support. It was, however, indicated that the commercial interest rates charged by these banks for agribusinesses make Ghana's agriculture uncompetitive. This is because across Ghana's neighbouring countries and Sub-Saharan Africa, interest rates revolves around 4% to 6% per annum. Ghana's interest rates simply escalates above 17% to the point that most commercial banks in Ghana charge rates between 30-36%. Consequently, commodity prices are increased far above competing African countries. This could also explain why a number of importers would prefer leaving Ghana for other African countries. It was therefore recommended that special funds be created for the vegetable sector that accommodates risks associated with climate change such as the provision of irrigation infrastructure, crop insurance for flooding, fire and drought.

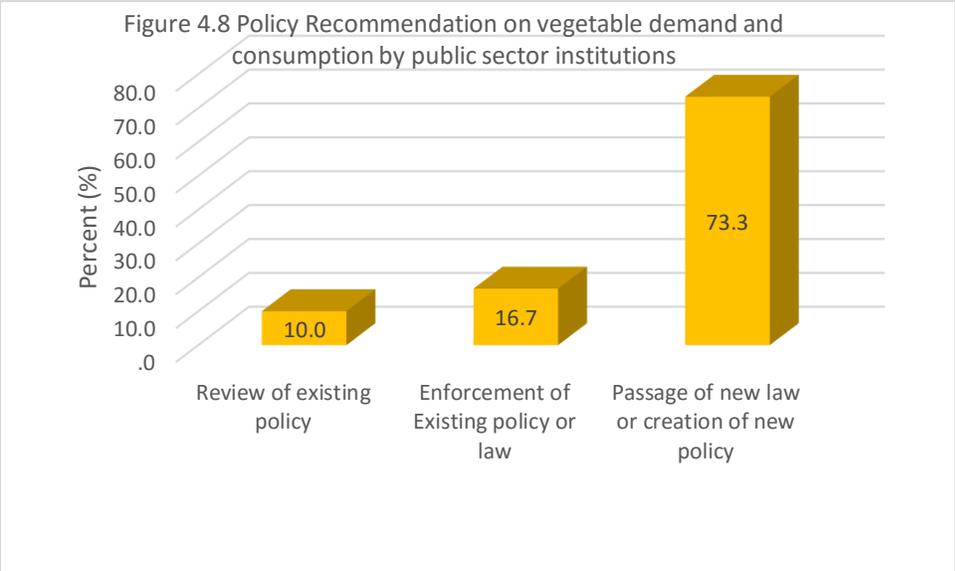
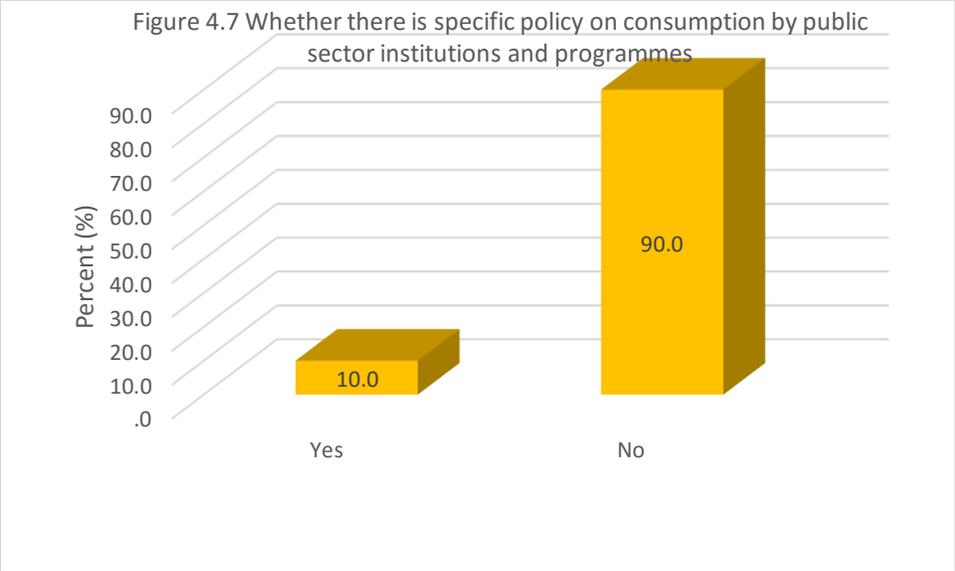
Table 4.3 Some aspects of demand-associated policy issues for vegetable sector

<b>VEGETABLE POLICY ISSUES AND RESPONSE DISAGGREGATION</b>	<b>PERCENT (%)</b>
<b>Whether there is specific policy on vegetable distribution</b>	
No	86.7
Not Sure	13.3
Total	100.0
<b>Policy Recommendation on vegetable distribution</b>	
Enforcement of Existing policy or law	10.0
Passage of new law or creation of new policy	90.0
Total	100.0
<b>Whether there is specific policy on market aggregation for vegetable commodities</b>	
No	83.3
Not Sure	16.7
Total	100.0
<b>Policy Recommendation on market aggregation for vegetables</b>	
Enforcement of Existing policy or law	6.7
Passage of new law or creation of new policy	93.3
Total	100.0
<b>Whether there is specific policy on vegetable processing</b>	
No	76.7
Not Sure	23.3

Total	100.0
<b>Policy recommendation on vegetable processing</b>	
Review of existing policy	6.7
Enforcement of Existing policy or law	6.7
Passage of new law or creation of new policy	86.7
Total	100.0
<b>Whether there is specific policy on export and local market</b>	
Yes	20.0
No	66.7
Not Sure	13.3
Total	100.0
<b>Policy Recommendation on export and local market</b>	
Review of existing policy	20.0
Enforcement of Existing policy or law	50.0
Passage of new law or creation of new policy	30.0
Total	100.0
<b>Whether there is specific policy on funding and financial institutions for vegetable commodities</b>	
Yes	26.7
No	66.7
Not Sure	6.7
Total	100.0
<b>Policy Recommendation on financing for vegetable commodities</b>	
Review of existing policy	16.7
Enforcement of Existing policy or law	20.0
Passage of new law or creation of new policy	63.3
Total	100.0

Additionally, Figure 4.5 shows 6.7%, 63.3% and 30% of participants responding yes, no and not sure to whether there is specific policy on demand by private sector processing companies for vegetables. Among the 6.7% who confirmed the existence of policy on demand by private sector processing companies, it was indicated that Ghana's Private Sector-led industrialization could be leveraged to promote the purchase of local vegetables like tomatoes for processing. In response, 23.3% and 76.7% of participants respectively recommended enforcement of existing policy and creation of new policy (Fig 4.6). Similarly, 10% and 90% of participants respectively responded yes and no to whether there is specific policy on consumption by public sector institutions and programmes (Fig. 4.7). This led to 10%, 16.7% and 73.3% recommending review of existing policy, enforcement of existing policy and passage of new law or creation of new policy (Fig 4.8).





**4.3 Focus Group Discussions (FGD) Feedback**

As part of evidence gathering for the vegetable sector advocacy and support project under the Strengthening Agricultural Value Chain Economics for Sustainable Development (SAVES), focus group discussion (FGD) was held among farmers, traders, researchers, crop officers of Ministry of Food and Agriculture (MOFA) and members of the CSO Platform on SDG 2-(CSOs working on Ending Hunger, Achieving Food Security and Improved Nutrition and Promoting Sustainable Agriculture). Using a policy gap identification tool developed for vegetable value chain by the Agency for Health and Food Security and the College for Community and Organisational

Development (CCOD), participants were made to identify policy gaps and present recommendations to help address the gaps. The gap identification tool had 2 sections- one on supply factors and the other on demand factors. The supply section was designed to elicit responses on issues pertinent to land acquisition, land preparation, planting and crop management, harvesting and storage while the demand section centered on distribution, market aggregation, processing by private sector companies, export agencies and local marketing centres, financial institutions and consumption by public sector institutions and programs. For each stage of the value chain in both supply and demand sections, participants were made to identify the critical issues/ constraints or challenges, establish whether or not there were specific policies available to address the issues identified and if necessary, which new policy, program or project can be proposed to help strengthen vegetable value chain in Ghana. 120 participants were engaged in the FGD. This includes 30 members of the CSO platform on SDG 2 (Farmer-based organisations and agribusiness networks), 80 members from vegetable farmers and sellers association, and 10 from research and agriculture institutions (KNUST, CRI and MOFA).

#### **4.4 Supply-Associated Policy Issues from Private Sector Perspective**

As part of the critical issues pertinent to land acquisition and tenure, participants identified land-based conflicts, unprofitable land rent arrangements which assign high percentage (between 30% to 50%) of harvestable produce to land owners and increasing land use change making permanent and sustainable soil amendment strategies such as organic amendment impracticable.

Under land preparation, inadequate knowledge on new technologies for preparing land or obtaining space or medium for cultivation, limited access to small and medium size farm machinery for small holder operations, limited institutional support for farm mechanization and high cost economic and environmental cost of hiring heavy equipment were identified as critical issues demanding policy interventions. Participants were generally not aware of any specific policy in place to address the problem. It was recommended that government sets up agricultural mechanization centers in all farming districts and municipalities to facilitate mechanization of vegetable farms.

As part of discussions under planting and crop management, participants identified limited access to modern farm machinery for planting, untapped irrigation potential, limited use of improved varieties and agronomic practices and excessive and unregulated chemical use and residues. Corruption among government officials in charge of supply of inputs such as fertilizer and pesticides was identified as key hindrance to the transformation of local vegetable production. While no specific policy was identified to be in place to address the problem, participants were of the view that the implementation of the one-village one dam project could resolve some of the challenges pertaining to crop management and irrigation in some areas but that may not be sufficient to address the production constraints as farmers often lack access to basic inputs such as improved varieties, pest and weed management technologies and secured markets to guarantee limited post-harvest losses. Members reiterated that the implementation of flagship programs in

the agricultural sector of Ghana was not transparent and modalities for inclusion and engagement of farmers are not clear or publicised. Participants recommended strengthening technology transfer and extension services of MOFA and research institutions.

Under harvesting, post-harvest and storage, participants noted that most small holder vegetable farmers do not know how to handle produce after harvesting and there seem to be no form of support for them. Review of MoFA's policy on extension support was recommended. Road network to farms were also cited among post-harvest constraints. Participants recommended specific projects to provide technology support to farmer cooperatives and distinguished individuals in the vegetable sector such as maintaining cold chain, provision of solar dryers and warehouses or cold rooms as done by countries making strides in vegetable value chain.

#### **4.5 Demand-Associated Policy Issues from Private Sector Perspectives**

Under the distribution phase of the vegetable value chain, participants at the focus group discussions identified limited number of formalized agents and institutions solely responsible for distributing agricultural commodities; limited number of markets dedicated to vegetables and horticultural commodities; inadequate distribution vans that can maintain cold chain in transit; and limited access to large markets including shopping malls by local farmers; and poor shelf life of commodities from local producers. No specific policy was identified to be in place for vegetable distribution. The establishment of commodity purchasing centers at the MMDA and regional levels by government and MOFA was recommended.

Further, critical issues identified under the market aggregation included produce insecurity among large marketers, middle-persons and market queens who often times disappoint farmers with the excuse of produce degrading on storage leading to huge income losses for farmers. The absence of standards in vegetable sales and regular income for farmers were also identified as threat to the continuation of food production in Ghana. Participants did not identify any policy in place for market aggregation. It was recommended that standards be set for farmers and commodity pricing so that income due farmers and actors along the vegetable value chain can be guaranteed.

Participants were made to respond to the processing phase of the vegetable value chain. Inability of farmers to produce enough to meet demand from processing companies was cited for tomato-based vegetable value chain. Lack of constant supply of quality produce was also identified. Participants were generally not aware of any policy in place for addressing processing constraints within the vegetable sector. It was recommended that government establish transparent mechanism for the provision of improved varieties and other agricultural inputs to meet demand from food processors along the vegetable value chain.

Again, among the critical issues identified under export and local marketing of vegetables was the lack of clear directives on standards and certification for local farmers and a system to enable easy tracing of commodities to farmers and providing feedback for quality improvement. The

concentration of chemical residues in vegetables was mentioned as major constraint to excelling in vegetable export and even for local consumption as more Ghanaians are skeptical of the quality and safety of vegetables and horticultural produce in general reducing the general local demand for vegetables at the risk of compromised nutrition. Participants also identified production of unimproved varieties as a contributor to the rejection of Ghana's horticultural commodities aside the problem of chemical residue. Participants recommended community level support to individual farmers and cooperatives by MMDA Departments of Agriculture and a coordinated support from Ministry of Food and Agriculture and the Ministry of Local Governance.

Additionally, under financing and financial institutions, participants indicated limited funding support to the vegetable sector as a result of perceived risks associated with climate variability and environmental stresses. High cost of obtaining capital for agribusinesses was identified as a major constraint to production. Finally, under consumption by public sector institutions and programmes such as Free SHS and School Feeding Program, critical issues identified were that schools and caterers do not buy from local market and producers. High political interference in the selection and involvement of service providers was noted. Specific policies enhancing vegetable sector financing for farmers and consumption by public programs were not identified. Participants recommended that Government sets up a special fund at lower interest to support local vegetable production as done in developed countries such as United States, Japan with negative interest rates for agricultural activities and further empower local farmers to produce to meet demands of flagship programs.

A critical point made among participants as a major influencer of both the supply and demand of vegetables is the concern on chemical and biocide residue management among vegetable producers. It was noted that most consumers in Ghana are afraid of or skeptical about the wholesomeness of sources of water used for irrigating vegetable during off-season production and the chemicals or biocides used in the control of pests and diseases. This observation is corroborated by Afari-sefa *et al.* (2015) on the practices and perceptions of vegetable Farmers in the Cocoa Belts of the Ashanti and Western regions of Ghana in which an assessment of how much farmers know about the safe handling and use of chemicals and biocides, and what they perceive to be the hazards around their use was conducted. The study which features 437 vegetable producers revealed that only 15.6% of the respondents fully protect themselves during spraying operations while others either wore partial protective clothing (38%) or did not wear any protective clothing at all (46.4%), there by coming into direct contact with pesticides and that over 80 % of vegetable farmers re-entered their farms within 3 days of pesticide application and harvest their produce within 7 days, without observing safe harvest interval protocols or chemical withdrawal period. The study also revealed that the farmers were aware of and had experienced pesticide hazards such as headache, dizziness, body weakness, and itching. Three (3) per cent of the farmers also mentioned burning sensation, catarrh, stomach pain, unconsciousness, itching of eyes and body pains as side effects from pesticides application. Females and illiterates were found to be more vulnerable to these hazards than their male and literate counterparts. Consequently, the

misapplication of chemicals and pesticides among majority of producers justify the safety concerns among consumers and necessitate a comprehensive policy and programmatic intervention to help address.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Conclusion**

It is evident from the review that there has been some commitment by the government over the years to improve and stabilize crop yield and prices in Ghana in order to alleviate poverty and increase food and nutrition security. This has been demonstrated through a number of agricultural policies/interventions that appear to target the poor. However, the policies have generally not been specific enough to address the peculiar challenges associated with certain types of crops such as the vegetables and fruits. Hence, the various agricultural policy interventions have not yielded the intended results as evidenced by the increasing import levels of rice, maize, tomatoes, onion etc. in recent years.

This confirms AHEFS problem statement “There is no co-ordinated agriculture value chain policy in Ghana for vegetable sub-sectors. Ghana's vegetable sector is constrained by weak value chain linkages due to uncoordinated value chain actors (producers, sellers, suppliers, researchers, certifications and users) and support mechanisms. The negative effects are; limited opportunities for producers, sellers, investors (private sector) and for government too (not able to increase revenue, unable to expand jobs)”.

#### **5.2 Recommendations**

- Vegetable value chain policy should be designed for specific. General policies, as done in Ghana, have never been an effective way of accelerating the growth of the agriculture sector in any country.
- Project implementing partners should be properly trained and their responsibilities clearly defined to prevent role conflict and ensure proper coordination of various activities. As done in other emerging and developed economies, new agencies can be formed under MoFA and assigned specific roles at each stage of the implementation process. These agencies will then report regularly to the MoFA on the specific tasks they have been assigned.
- In future, stakeholder consultations prior to agricultural value chain policy designs should include interdisciplinary mix of experts from universities and other research institutions as well as civil society organisations (CSOs) and private sector actors engaged in agriculture.

- The need for a systems approach to vegetable value chain policy and project planning in which sectors and ministries are well coordinated is paramount.

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**ADVOCACY RESEARCH**  
**TOWARDS**  
**STRENGTHENING AGRICULTURAL VALUE CHAIN ECONOMICS FOR SUSTAINABLE**  
**DEVELOPMENT**  
**FOR**  
**AGENCY FOR HEALTH AND FOOD SECURITY AND GHANA CSO PLATFORM ON SDGS**

**QUESTION GUIDE FOR FOCUS GROUP DISCUSSION PARTICIPANTS**

**PREAMBLE AND BACKGROUND INFORMATION**

Ghana's vegetable sectors is constrained by weak value chain linkages due to uncoordinated value chain actors among producers, marketers, market agregators, food processes, distributors, researchers, certification agents and consumers including public sector social interventions such as school feeding programme. The weak value chain linkages have been attributed to low prioritization of issues of vegetables in Ghana's agricultural policy and consequently limited allocation of resources to support the sector.

A study on vegetable value chain economics is being conducted to inform policy recommendation geared towards creating enabling environment for actors along the value chain to be appropriately and adequately linked to promote sustainable vegetable production and food security. You are asked to participate in this study because we believe you have some experience in vegetable value chain activities. Your participation is entirely voluntary. The information you provide would not be used against you in anyway but would rather help initiate some research towards strengthening vegetable value chain in Ghana.

Please be informed that there are no wrong or correct answers. Note also that your personal information would be kept confidential. What matters is your experienter or opinion about the vegetable value chain constraints in Ghana and the recommendations to dealing with them.

Please indicate whether you give your voluntary, informed consent for participation in the study.

- I agree to participate in the study (Interviewer:-**Proceed to question 1**).
  - I disagree to participate in the study: (Interviewer:-**Record this very response but do not initiate the interview**)
1. How old are you, please? ..... V1 **Record actual age of respondent and code appropriately**

V2	Circle as appropriate	
Less than 15 years	1	Terminate
16-18 years	2	Recruit per quota
19-24 years	3	Recruit per quota
25-30 years	4	Recruit per quota
31-45 years	5	Recruit per quota
46-60 years	6	Recruit per quota
Over 60 years	7	Recruit per quota

2. What is the name of the association or organisation? V3  
 .....
3. How many members constitute the association/organisation? V4 .....
4. Using a scale of 1-4 where 1 is not at all helpful, 2 is not helpful, 3 is helpful and 4 is very helpful, how would you rate the relevance of the association in the agricultural sector? V5 ..... **(write code)**
5. How long have you been into agricultural activities? V6 ..... years
6. How long have you been into vegetable activities? V7 ..... years

**SECTION A**

In this section, you shall respond to specific issues pertinent to the supply aspect of vegetable value chain which requires advocacy action namely; land acquisition, land preparation, planting/sowing/crop management, harvesting and storage.

**Part 1: Land Acquisition**

1. What are the critical issues, constraints or challenges associated with commercial land lease for vegetable production  
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2. Are there specific policies in place to dealing with the issues raised in 1 above?
  - a. Yes
  - b. No
  - c. Not sure
3. If yes name the policy or law in place and the mandated institution to handle it  
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4. For the advocacy action what would you recommend?
  - a. Review of existing policy
  - b. Enforcement of existing policy or law
  - c. Passage of new law creation of new policy
5. In the case of 4c, which policy or law would you recommend to improve problems of land tenure and land lease?  
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**Part 2: Land Preparation**

6. What are the critical issues, constraints or challenges associated with land preparation in vegetable production  
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7. Are there specific policies in place to dealing with the issues raised in 6 above?
  - a. Yes
  - b. No
  - c. Not sure
8. If yes name the policy or law in place and the mandated institution to handle it  
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- .....
9. For the advocacy action what would you recommend?
    - a. Review of existing policy
    - b. Enforcement of existing policy or law
    - c. Passage of new law
  10. In the case of 9c, which policy or law would you recommend to deal with the constraints of land preparation including bush clearing, ploughing and fertilizer application?

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**Part 3 Planting and Crop Management**

11. What are the critical issues, constraints or challenges associated with sowing/planting and crop management vegetable production prior to harvesting?

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12. Are there specific policies in place to dealing with the issues raised in 11 above?
  - a. Yes
  - b. No
  - c. Not sure

13. If yes name the policy or law in place and the mandated institution to handle it

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14. For the advocacy action what would you recommend?
  - a. Review of existing policy
  - b. Enforcement of existing policy or law
  - c. Passage of new law or creation of new policy

15. In the case of 14c, which policy or law would you recommend to deal with the constraints of sowing/planting and crop management including the use of improved planting materials or seeds, soil amendment with organic or inorganic fertilizers, support for irrigation, chemical use in pest and disease control?

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**Part 4: Harvesting**

16. What are the critical issues, constraints or challenges associated with harvesting in vegetable production

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17. Are there specific policies in place to dealing with the issues raised in 16 above?
- a. Yes
  - b. No
  - c. Not sure

18. If yes name the policy or law in place and the mandated institution to handle it

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19. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law
- c. Passage of new law

20. In the case of 19c, which policy or law would you recommend to deal with the constraints of harvesting and post-harvest including vegetable handling technologies and drying?

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**Part 5: Storage**

21. What are the critical issues, constraints or challenges associated with storage of vegetable production in Ghana

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22. Are there specific policies in place to dealing with the issues raised in 21 above?

- a. Yes
- b. No
- c. Not sure

23. If yes name the policy or law in place and the mandated institution to handle it

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24. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law
- c. Passage of new law or creation of new policy

25. In the case of 24c, which policy or law would you recommend to deal with the constraints of storage including vegetable drying technologies, buffer-stocking ware housing, cold storage and commodity holding centers?

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**SECTION B**

In this section, you shall respond to specific issues pertinent to the supply aspect of vegetable value chain which requires advocacy action. The themes captured include vegetable distribution, market aggregation, processing, marketing and consumption.

**Part 1: Distribution**

26. What are the critical issues, constraints or challenges associated with distribution of vegetable produce in Ghana

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27. Are there specific policies in place to dealing with the issues raised in 26 above?

- a. Yes
- b. No
- c. Not sure

28. If yes name the policy or law in place and the mandated institution to handle it  
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29. For the advocacy action what would you recommend?  
 a. Review of existing policy  
 b. Enforcement of existing policy or law  
 c. Passage of new law or creation of new policy
30. In the case of 29c, which policy or law would you recommend to deal with the constraints of distribution including channels, transport systems and road infrastructure?  
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**Part 2: Market Aggregation**

31. What are the critical issues, constraints or challenges associated with market aggregators and networks of vegetable produce in Ghana  
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32. Are there specific policies in place to dealing with the issues raised in 31 above?  
 a. Yes  
 b. No  
 c. Not sure
33. If yes name the policy or law in place and the mandated institution to handle it  
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34. For the advocacy action what would you recommend?  
 a. Review of existing policy  
 b. Enforcement of existing policy or law  
 c. Passage of new law or creation of new policy
35. In the case of 29c, which policy or law would you recommend to deal with the constraints of market aggregation (linking marketers) including market queens?  
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**Part 3: Processing Demand by Private Sector Companies**

36. What are the critical issues, constraints or challenges associated with demand by processors in vegetable work in Ghana  
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37. Are there specific policies in place to dealing with the issues raised in 36 above?

- a. Yes
- b. No
- c. Not sure

38. If yes name the policy or law in place and the mandated institution to handle it

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39. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law
- c. Passage of new law or creation of new policy

40. In the case of 39c, which policy or law would you recommend to deal with the constraints of vegetable processing plants?

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**Part 4: Export and local marketing**

41. What are the critical issues, constraints or challenges associated with export and local marketing of vegetable produce in Ghana

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42. Are there specific policies in place to dealing with the issues raised in 41 above?

- a. Yes
- b. No
- c. Not sure

43. If yes name the policy or law in place and the mandated institution to handle it

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44. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law
- c. Passage of new law or creation of new policy

45. In the case of 44c, which policy or law would you recommend to deal with the constraints of local and export market?

**Part 5: Financial institutions**

46. What are the critical issues, constraints or challenges associated with financial institutions and funding in vegetable work in Ghana

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47. Are there specific policies in place to dealing with the issues raised in 46 above?

- a. Yes
- b. No
- c. Not sure

48. If yes name the policy or law in place and the mandated institution to handle it

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49. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law
- c. Passage of new law or creation of new policy

50. In the case of 49c, which policy or law would you recommend to deal with the constraints of market aggregation (linking marketers) including market queens?

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**Part 6: Processing Demand by Private Sector Companies**

51. What are the critical issues, constraints or challenges associated with demand by processors in vegetable work in Ghana

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52. Are there specific policies in place to dealing with the issues raised in 51 above?

- a. Yes
- b. No
- c. Not sure

53. If yes name the policy or law in place and the mandated institution to handle it

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54. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law

- c. Passage of new law or creation of new policy

55. In the case of 39c, which policy or law would you recommend to deal with the constraints of market aggregation (linking marketers) including market queens?

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**Part 7: Consumption by Public Sector Institutions and Programmes**

56. What are the critical issues, constraints or challenges associated with demand by public sector institutions and programmes such as school feeding and Free-SHS which can drive demand for vegetables in Ghana

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57. Are there specific policies in place to dealing with the issues raised in 56 above?

- a. Yes
- b. No
- c. Not sure

58. If yes name the policy or law in place and the mandated institution to handle it

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59. For the advocacy action what would you recommend?

- a. Review of existing policy
- b. Enforcement of existing policy or law
- c. Passage of new law or creation of new policy

60. In the case of 39c, which policy or law would you recommend to deal with the constraints of market aggregation (linking marketers) including market queens?

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