

Position Paper

Improving Approaches to Mainstreaming Gender in Ghana's Youth Policy and Youth in Agriculture Programme:

Focus on Climate-Smart Agriculture and Market-Oriented Value Chains



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Cover photo: Ghanaian youth in a demonstration farm at the College of Agriculture, University of Ghana, Legon

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Abstract:

Youth inclusive participation in agriculture is receiving increased attention among Ghana's policy makers, development actors, youth-focused organizations and the private sector. In order to help with efforts to improve activities in the sector, Syecomp Ghana Ltd, through an APSP grant activity organized regional workshops to encourage professionals actively involved in various activities across the agricultural value chain to participate and discuss effective engagement of youth in agriculture in Ghana. The two regional workshops and a review writeshop served as opportunities for participants from both the private and public institutions to analyse, discuss and debate issues on effective engagement of youth in agriculture in Ghana to distil opinions. The workshop activities were designed to generate new ideas on how to directly achieve the aforementioned.

This paper aims to redirect, re-focus, and effectively mainstream youth in agriculture within the policy framework of the Ministry of Food and Agriculture and that of Ghana's Youth Policy to make it more relevant to leverage the youth agenda within the context of Ghana's Agricultural Policy processes. It is expected to be useful to the programmatic activities of relevant State agencies focused on youth empowerment activities. These include the National Youth Authority, Ministry of Youth and Sports, and Youth in Agriculture Programme (YIAP) and Women in Agriculture Development (WIAD) of the Ministry of Food and Agriculture,

To enable the attainment of food security and for food producers to improve their livelihoods, there is a need to emphasize focus on young men and women who make up a bulk of highly productive food producers. There is the need for sustainable increases in agricultural productivity; for reducing food losses and waste; for all food systems to be more resilient and able to adapt to climate change. Climate Smart Agriculture (CSA) and related approaches promise opportunities for youth self-employment. The need for young people to create independent spaces of action well fit into the context of CSA as they create employment through the value and supply chains, as well as diversified investments in CSA. This paper aims to broadly accentuate the use of market-oriented value chains to drive agriculture, private sector participation and youth involvement in agriculture to reduce pervasive unemployment among rural and urban youth in Ghana.

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Acronyms

USAID	:	United States Agency for International Development
APSP	:	Agricultural Policy Support Project
YIAP	:	Youth in Agriculture Programme
WIAD	:	Women in Agricultural Development Directorate
FGD	:	Focus Group Discussions
MoFA	:	Ministry of Food and Agriculture
CSA	:	Climate Smart Agriculture
CBOs	:	Community Based Organisations
FAO	:	Food and Agricultural Organisation of the United Nations
UNFCC	:	United Nations Framework on Climate Change
DFID	:	Department of Finance and International Development
UN	:	United Nations
FASDEP	:	Food and Agriculture Sector Development Policy
NYP	:	National Youth Policy
ICT	:	Information and Communication Technology
ARD	:	Agricultural Research and Development
METASIP	:	Medium Term Agricultural Sector Investment Plan
SME	:	Small and Medium Enterprise

Introduction

Implementing specific coherent and inter-sectoral youth in agriculture policies is one of the strategic levers for enhancing the involvement of Ghanaian youth in the sector and its value chains. However, close observations inform that these policies do not exist comprehensively in most relevant policy frameworks in the country. Supporting youth in agriculture has been a targeted area in Ghana’s agricultural development programmes and despite the launch of many projects, the non-existence of targeted formal policies and strategies is a missing link. Where they exist, youth development programmes hardly include clear and detailed provisions on the visions and strategic orientations to mobilize national resources and policy instruments for inclusive youth participation in agriculture. In the Food and Agriculture Sector Development Policy II (FASDEP II), National Youth Policy (NYP), and its implementation frameworks, youth inclusive participation in agriculture is not sufficiently recognized and provided targeted interventions.

Agriculture has been the dominant sector of the Ghanaian economy since independence. Its contribution by way of employment, personal incomes for farmers and other stakeholders along the value chain, export earnings, food security and social stability cannot be overemphasized. However, various commentators have over the years lamented on a number of challenges confronting the agricultural sector that require urgent attention from all stakeholders if the gains so far made would be improved and sustained. Among other issues like low investments in agriculture, lack of access to capital, poor infrastructure, weak diffusion and limited impact of improved agricultural technologies, lack of adequate research funding and support for scientists has also been cited as some of the major constraints limiting increased agricultural productivity in Ghana (FGD, Ho Tamale, 2016). Additionally, inadequate knowledgeable and skilled human resource has been a challenge to the growth of the sector.

Under-performing value chains	Limited coordination of <u>research and development</u>	Insufficient utilization of <u>inputs and mechanization</u>	Limited reach of extension to boost <u>on-farm production</u>	Poorly organized post-harvest <u>aggregation and transport</u>	Inconsistent capacity for <u>effective value addition</u>	Poorly developed <u>market linkages</u> and trade corridors
Insufficient infrastructure	Insufficient transport, energy, water, waste and other <u>hard infrastructure</u> , leading to uncompetitive cost structures			Undeveloped <u>soft infrastructure</u> including aging smallholder farmers and a lack of skills for commercial agriculture and agro-allied industries		
Limited access to agricultural finance	Real and perceived <u>risk</u> limiting private sector investment		High <u>service cost</u> due to small deal sizes, lack of credit data, and low capacity in agricultural lending	Limited <u>market attractiveness</u> relative to perceived higher returns outside of the agricultural sector		
Adverse agri-business environment	Unfavorable <u>market access and incentives</u> limiting trade and capacity to produce high-quality products		Ineffective <u>sector regulation</u> creating long lead times for new technologies and inconsistent trade policies	Unsupportive <u>business enabling environment</u> restricting land tenure and general ease of doing business		
Limited inclusivity, sustainability and nutrition	Insufficient <u>inclusivity</u> of women and youth in agricultural development		Limited incentives to ensure <u>sustainability</u> and climate-resilient practices	Limited access and affordability of commodities with high <u>nutrition</u> levels		

Figure 1: Barriers Crippling Ghana’s Agriculture Sector

A systemic challenge in smallholder agriculture is the ageing farmer population who are less likely to understand the urgency to transform the agricultural sector for food security, employment creation, and for environmental sustainability (FAO, 2014). Yet, there are approximately 230,000 youth joining the labour market each year, with limited knowledge and skills (Nsowaah-Nuamah and Amankrah, 20003). The agricultural sector in Ghana provides unprecedented opportunities for young people's decent work through formal and self-employment in the productive sector, research, extension and in policy (Montpellier Report, 2014; The World Bank Report, 2013; and ILO Report, 2012).

Over the years as modernization created new work opportunities, young people have adopted a negative attitude towards agriculture. They migrate to urban areas in search for white collar jobs, which are no longer forthcoming. Those who do not migrate, mostly out-of-school rural youth, remain in the rural areas and engage in the agricultural sector for lack of other opportunities. These young people are the majority of unemployed youth and hence play a significant role in the transformation of rural development. While agriculture might be their only present choice of making a living, there exists untapped opportunities to build their capacities and also break the systemic barriers that hold them back from improving their livelihoods.

To address this challenge and bring more young people back into meaningful and productive agriculture, public awareness campaigns have focused on occupational choices of young people by addressing the attitudinal question of how to get young people interested in agriculture. While these campaigns might succeed in changing their perceptions, they do not really retain young people in agriculture. Attitude change must be married with real change in the opportunities available to young people by overcoming the systemic barriers in the agricultural sector (e.g. access to land, skills, capital, and markets).

An opportunity that is available to the youth to engage in, to contribute to meeting the goals of sustainable development, is Climate-smart agriculture (CSA). CSA is a form of sustainable agriculture that aims at sustainably increasing agricultural productivity, supporting equitable increases in farm incomes, food security, and development, adapting and building resilience of agricultural and food security systems to climate change at multiple levels; and reducing greenhouse gas emissions from agriculture (including crops, livestock, and fisheries) (FAO, 2013). For young people, CSA provides a sustainable business model that would work for the millions of unemployed youth around the world while seeking a critical balance between the interest of people and their natural environment (Dalla, et al 2011).

Inclusive Gender Integration in Youth in Agriculture in Ghana

Gender is an important dimension of poverty in Ghana. Relative to their male counterparts, young women farmers face significant constraints that undermine their capacity to effectively engage in productive activities. These constraints run the gamut from unequal access to land, credit, inputs, technologies, extension services to relevant agricultural information farmers need to make critical market decisions. It is therefore important for gender to be considered especially when issues on youth mainstreaming is tabled for deliberations. This will help inform a more comprehensive youth in Agriculture policy re-orientation and focus.

The need for greater gender emphasis in all youth targeted initiatives especially in agriculture to reduce pervasive poverty and increase person's incomes and livelihoods is essential. Empowering and investing in young women has the potential to significantly increase productivity, reduce hunger and malnutrition and improve livelihoods. Discrimination and lack of recognition of young women within the agrifood system should

not be tolerated and appropriate mechanisms should be put in place to increase young women's participation in decision-making, building confidence, leadership and security. To this end ensuring gender dynamics in addressing youth development and empowerment should go beyond sex disaggregated analysis with strong leaning towards programmatic interventions.

Based on focus group discussions (FGD) conducted for representatives of youth groups in northern and southern Ghana under the theme: Integrating Gender Perspectives in Youth in Agriculture, good practices from integrating gender into youth in Agriculture is identified below:

- i. There is a need to distinguish between 'gender' as an analytical approach and clarify that 'gender' is not a synonym for 'women.'
- ii. Gender analysis can be presented as: identifying the differences among individuals in terms of needs and capacities; characterizing social categories and social roles (in the household, community, or society); or highlighting inclusion and exclusion in a given activity, system or opportunity.
- iii. Discussions of structural or macro-level phenomena, like national legislation or climate change that can create inclusion and exclusion can discourage young people from trying to understand how they can make an individual difference. Presenting gender analysis as a micro-level approach that can identify context-specific needs and opportunities provides young people with a framework to understand how their work in agriculture and could make a difference at a local scale.
- iv. Using a value chain approach to analysing ways to improve the agricultural sector allows gender to be incorporated into broader conversations about actors, linkages, and specific opportunities and constraints.
- v. Courses on post-harvest processing and the nutritional value of food processing techniques provide key examples of women's often overlooked role in agriculture as it relates to provisioning of nutrition for the household.
- vi. Training for public administrators and officials in natural resource management and agricultural land management can include discussion about exclusion, privilege and process, which helps to highlight marginalized groups.
- vii. Integrated pest management courses take into account the agricultural landscape and therefore must identify otherwise invisible production spaces like home gardens and forests, which are often organized and managed by women.
- viii. Courses on agricultural machinery and post-harvest machinery have the potential to affect different individuals differently, and can make a big difference for women in terms of freeing up time for other types of work. Identifying the needs and appropriate scale of machinery for women can help young persons understand these differences.

Ghanaian Youth in Context and Value Chain Opportunities

Youth unemployment continues to rise even today, partially due to the skills-mismatch in the labour market, including among university graduates. Besides increasing unemployment

there is a substantial problem of underemployment that does not support a living wage. The technical and managerial ability, which are so critical to improving productivity and outcomes, will require a steady stream of targeted and reliable information and knowledge as well as technical capacities to improve efficiency of operations. This calls for access to knowledge and improved capacity for the youth to engage with experts and the three tiers of government on emerging developmental issues. To address this gap and increasingly reduce poverty in Ghana, there is need to establish a support system that guarantees young graduates' and non-graduates exposure and participation in agricultural investment and self-employment in rural, peri-urban and urban areas.

With growing numbers of disenfranchised youth in Ghana and a strong focus on finding opportunities for their engagement and employment, there is an urgent need for decision-makers to be committed to finding ways to approach the topic and planning appropriate activities, especially through highly targeted interventions for maximum impact.

Through USAID/APSP grant activities regional workshops were organised for wide range of stakeholders to discuss and debate feasible and innovative approaches to youth engagement in agriculture. The following opportunities for youths to engage in agriculture and for mainstreaming gender in Ghana's Youth Policy and Youth in Agriculture Programme have been extensively discussed and laid out in this paper for consideration by policy makers:

Scoping Observation of Opportunities for Youth Employment in Agricultural Value Chains in Ghana

OPPORTUNITIES FOR YOUTH EMPLOYMENT IN AGRICULTURAL VALUE CHAINS

COMMODITY	INPUTS	PRODUCTION	PROCESSING	WHOLESALE	PACKAGING	RETAILING	CROSS-CUTTING
CEREAL							✓
ROOTS & TUBERS							✓
HORTICULTURE							✓
VEGETABLES							✓
COCOA							✓
OILSEEDS							✓
MEAT							✓
FISH							✓

SKILLS SETS REQUIRED TO TAKE ADVANTAGE OF AVAILABLE OPPORTUNITIES

COMMODITY	INPUTS	PRODUCTION	PROCESSING	WHOLESALE	PACKAGING	RETAILING	CROSS-CUTTING
CEREAL							✓
ROOTS & TUBERS		✓			✓		
HORTICULTURE							✓
VEGETABLES		✓				✓	
COCOA		✓	✓				
OILSEEDS		✓		✓			
MEAT		✓			✓	✓	
FISH							✓

SKILLS SETS OF POTENTIAL YOUTH FOR ENGAGEMENT IN AGRICULTURAL SECTOR

COMMODITY	INPUTS	PRODUCTION	PROCESSING	WHOLESALING	PACKAGING	RETAILING	CROSS-CUTTING
CEREAL		✓				✓	
ROOTS & TUBERS		✓				✓	
HORTICULTURE						✓	
VEGETABLES					✓		
COCOA		✓					
OILSEEDS						✓	
MEAT						✓	
FISH					✓	✓	

SKILLS SET GAPS TO BE FILLED TO ENABLE TAKE-UP OF OPPORTUNITIES BY YOUTH

COMMODITY	INPUTS	PRODUCTION	PROCESSING	WHOLESALING	PACKAGING	RETAILING	CROSS-CUTTING
CEREAL							✓
ROOTS & TUBERS							
HORTICULTURE							✓
VEGETABLES							✓
COCOA			✓				
OILSEEDS		✓					
MEAT			✓				
FISH	✓	✓		✓			

I. Opportunities in Aquaculture

Aquaculture, a sub-sector of the agriculture sector is one such sector with significant potential and is becoming a priority sector in Ghana. Given the demographic landscape of Ghana, the development of small and medium scale aquaculture sector will be closely linked to the uptake of aquaculture by the young entrepreneurs. However, this up-take will not be automatic. Aquaculture sector policies and programmes should address both the aquaculture sector constraints (feed, seed, market, credit and information) as well as include specific measures and interventions addressing the key barriers to entry for youth into the sector (especially access to productive and financial resources). Ghana's aquaculture output as at 2010 stands at 10,200 metric tonnes compared to the Sub-Saharan average of 359,790 metric tonnes. This represents just a 2.8% of the production output thus indicates a potential job creation avenue.

The potential of aquaculture in Ghana remains not fully exploited, and the development of the sector requires strong political will and the development of adequate policy, investments and institutional support. The main challenges facing the development of the aquaculture sector in Ghana include land, feed, seed, market, credit and information. Challenges facing the aquaculture sector are magnified for youth, particularly for young women, who have limited access to productive resources. Youth engagement in aquaculture requires addressing these key challenges and lowering youth barriers to entry into the sector. The employment creation potential of aquaculture in Ghana depends on several factors including the scale and the labour-intensity of the operations. This notwithstanding, aquaculture sub-sector is financially rewarding and a viable entry opportunity for Ghanaian youth to exploit. Key outputs from the USAID/APSP supported workshop discussions is the need for policies that seek to encourage youth entrepreneurship should address youth barriers to entry and facilitate their access to productive resources, in particular to land and finance. Participants' key recommendations to enhance youth entrepreneurship in aquaculture include:

- i. *Policy*: There should be explicit targeting of youth in Aquaculture Development Policies, Strategies and Plans
- ii. *Land Access*: Facilitate youth access to land and water resources through establishment of Aquaculture Estates/Aqua-Parks, as well as facilitating rental and lease markets for land.
- iii. *Access to Finance*: Facilitate youth access to finance through improving their financial and business literacy, disseminating information on profitability of aquaculture to the financial institutions, providing loan guarantees, start-up grants and subsidies as well as guaranteed access to land and water (as collateral).
- iv. *Information*: Establish technical and economic benchmarks for aquaculture SME's and produce and disseminate self-assessment guides for producers and processors.
- v. *Training*: Expand investments in youth capacity in technical, entrepreneurial and managerial skills through formal as well as informal education and extension systems.

2. Opportunities in Agricultural Value Chains

Value chains can be seen as a vehicle by which new forms of production, technologies, logistics, labour processes and organizational relations and networks are introduced.

There is overwhelming evidence indicating the presence of innumerable opportunities which Ghanaian youth can exploit if given relevant information. The agricultural and agribusiness sector in Africa, and Ghana in particular, is awash with opportunities given that it is the dominant economic sector and there has been immense interest and focus on the sector by stakeholders such as governments, private sector and international development institutions in recent times. The fact that agriculture is the dominant economic sector in Ghana means that it has the potential to absorb more people. In the 2030 sustainable development agenda (SDGs), it is acknowledged that proactively engaging young men and women in profitable agricultural value chains is a potential game-changer in reducing youth unemployment and increasing the economic indicators in emerging markets.

3. Opportunities in Information and Communication Technologies for Agriculture

A vast potential exists for the use of ICTs in agricultural development and numerous applications are being developed for this purpose. ICTs can be used to carry out soil tests; to apply fertiliser; to receive extension advice and weather forecasts; to monitor pests and diseases; to make marketing decisions; to decide when to harvest; to weigh produce in the field; to send and receive payments, including credit; to monitor produce during transportation and storage; to improve transport, wholesale and retail logistics; and to generally upgrade management efficiency.

In Ghana, the internet and mobile phones have considerably spread and new information and communication technologies are reaching all development sectors. Mobile phone use is now widespread: Ghana has recorded 128 % of subscriptions. ICTs have become major vehicles for information and knowledge dissemination, becoming unique means to target youth and to promote agriculture. As extensively discussed during regional focus group discussions across the country, there is the need for Ghana's technologically-savvy youth to identify constraints in Ghana's Agricultural value chain and develop locally-relevant ICT solutions. It was noted that youth groups in Ghana are already successfully established for-profit companies in the area of agriculture that are youth-led. Some successful examples of youth-led companies in Ghana mentioned include geospatial mapping solutions by Syecomp Ghana Ltd; agronomic information and data capture solutions by Farmerline Ghana Ltd; and farm-to-market solutions by *mFarms Ghana Ltd*. Additionally, ICTs are contributing to safeguarding and transferring ARD knowledge from ageing populations to younger generations.

4. Opportunities in the Input Industry and Mechanization

The input industry is one of the core sectors in agriculture in Ghana. Evidence gathered from the two regional workshops indicate that Ghana is operating way below capacity in the utilization of agro-chemicals and fertilizers and also in agricultural mechanization. This creates a gap which entrepreneurs can fill. With the right information, knowledge and skills support youth can get involved in the input industry as producers/manufacturers of fertilizers, seed and equipment such as irrigation systems. Over the years, Ghana's universities and other tertiary institutions have been churning out thousands of graduates in fields such as engineering, chemistry, and other applied sciences. The opportunity for these graduate youth to develop innovative mechanization products and services for the agricultural sector to grow is an avenue for job creation for them as well.

Agricultural inputs and industrial equipment for processing constitute important components of the agribusiness value chain. The use of these in Ghana's agricultural sector, however, is limited, with serious implications for the scope for increasing agricultural

productivity and the supply of adequate output of raw materials for agro-industrial processing. This lack of productivity-enhancing inputs from the industrial sector and processing equipment represents a missing link of strategic importance to the agribusiness value chain and to the country's agricultural and industrial development. There is a large untapped potential for expanding irrigation in Africa. Expansion of irrigated areas has been very limited compared with other developing regions, with only 4 million hectares added during the last 40 years. A new generation of better designed irrigation projects exists, where costs are comparable with those in other developing regions. Economic returns can be substantial if cultivated with higher-value crops. Industry has an important role to play in irrigation projects in terms of supplying irrigation pipes, equipment and construction.

5. Opportunities in agro-processing

The widespread adoption by developing countries of export-led growth strategies has drawn attention to the economic potential of their agro-processing sectors, particularly in the light of the difficulties faced by many traditional primary commodity export markets. Food processing can be understood as post-harvest activities that add value to the agricultural product prior to marketing. There are a number of success stories in Ghana such as Blue Skies Company, Eden Tree, and Ghana Nuts. Quin Organics is another company in Ghana which is into the production and export of packaged horticulture produce. The company was incorporated in Ghana in 1992 and focused on the processing and export of vegetables and fruits to the EU market. There are a number of factors which make agro-processing a field of untold opportunity for young Ghanaian entrepreneurs. Chief among them is the rising local demand as the middle class expands in the country which has resulted in Ghana becoming a net importer of foodstuffs. Due to the global economic crisis and other factors, several countries have faced industrial decline in recent times and as the world moves toward the post-crisis phase there is an opening up of opportunities.

6. Opportunities in agricultural marketing and distribution

Globalization and expanding international markets as well as the fast-growing middle and high income classes in Ghana and other emerging markets offer opportunities for developing country entrepreneurs to operate in emerging national and international markets. A fertile opportunity exists for young Ghanaian entrepreneurs to offer innovative services to enhance the marketing and distribution of agricultural produce. The evolution of ICTs gives young Ghanaian entrepreneurs a competitive edge given the opportunity to use these as tools for accessing new markets both locally and globally. Young people can also come in as providers of transport services in the agricultural sector given the existence of this gap in the country.

Climate Smart Agriculture - A viable option for job creation for Ghanaian youth

Climate Smart Agriculture is a form of sustainable agriculture that aims at sustainably increasing agricultural productivity, supporting equitable increases in farm incomes, food security, and development; adapting and building resilience of agricultural and food security systems to climate change at multiple levels. For young people, CSA provides a sustainable business model that would work for the millions of unemployed youth around the world while seeking a critical balance between the interest of people and their natural environment (Dalla et al, 2011).

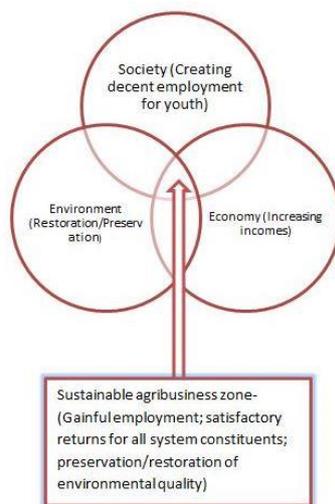


Figure 2: Interrelations of CSA with the Society, Economy, Environment and Agribusiness

Youth are the key to agricultural transformation, even in the smallholder agricultural sector, which currently offers few youth opportunities- owing to their increasing numbers and the systemic barriers in the agricultural sector. With increasing vulnerability of communities to climate change impacts and projected future impacts of climate change, it is urgent to adopt and scale out sustainable agricultural practices and innovations across the world, particularly in developing countries where most of the food is produced. However, these youth are unable to fulfil this potential because of lack of appropriate skills, productive resources, and lack of an enabling political environment (FANRPAN, 2012).

A United Nations’ guide to youth participation in development constructs youth as assets, partners, and leaders (UN & DFID, 2010). This investment and opportunity approach depicts youth participation in development as offering multiple benefits to the state and the young people themselves: it strengthens young people’s abilities to meet their own needs; prevents and reduces vulnerabilities to economic, political and social instabilities; promotes ownership and sustainability of interventions; helps gain entry into target youth categories; and builds up social capital among the youth.

To sustainably increase agricultural productivity, there is need for countries to make investments in the adoption and sustainable use of agricultural inputs; in infrastructure and financial markets; in the creation and application of local knowledge as well as in the growing population of young people who can tap into these opportunities through entrepreneurship (UNDP, 2012; Agriculture for Impact, 2014)).

The framework for youth in climate smart agriculture

Scaling out climate-smart agriculture entails new approaches to production and the value chain that reduces externalities and delivers high productivity and better incomes for farmers. Although further research is required to quantify climate-smart agricultural practices, existing experiences from around the world confirm that sustainable forms of agriculture — including low-tillage farming, use of organic fertilizers and natural pesticides, and agroforestry — are increasing yields, providing environmental gains and major financial gains, in addition to enhancing social and economic inclusiveness (CCAFS & CTA, 2013; FAO, 2014a).

Interventions to increase the number of young farmers meaningfully engaging and benefiting from climate-smart agriculture include: -

1. Changing attitudes and perception of education, formal employment and of agriculture among school going children and young people

Education and public awareness campaigns alone will not help young people change their attitude towards agriculture as a low life rural activity. It is the content of that education as well as the society in which one is socialized. Providing platforms where young people can access information on decent and meaningful work opportunities will motivate and transform their thinking of formal and informal employment opportunities within the agricultural sector. Particularly, the promotion of opportunities within CSA must include training on skills set that will enable youth identify and engage in such opportunities. The Songhai Centre in Benin is a good case study of how young people can acquire practical skills that eventually lead to self-employment in the agricultural centre.

2. Intergenerational transfer of knowledge and resources

This entails preparing and promoting avenues for developing of relationships between old and young or new smallholder farmers which eventually lead to adoption and scaling out of CSA. Organizing intergenerational dialogues between older farmers and the youth to discuss the transition of cocoa farms from older to younger farmers. Such transition is expected to lead to newer technologies being introduced on the farms, more labour being available, and eventually increased productivity and value chain enterprises.

3. Access to productive resources and full cost-benefit analysis

Ensuring knowledge of the full costs and benefits of sustainable agribusinesses that the youth might engage in will increase the chances of preparing for possible risks and strategies to manage such costs. Land, capital and farm inputs are the major constraints for any farmer. These become even more critical in CSA where access, use, and risk management capacity is even more daunting for young people

There lacks institutional support for young people willing to venture into agribusinesses but facing challenges accessing these major resources. Institutional support through the provision of market-oriented approach to development might overcome these barriers by facilitating platforms for easy access to land, incentives, and access to inputs at reasonable costs.

4. Access to knowledge and information on CSA

Continuous access to new and improved technologies is a major factor to the success of farm enterprises. The capacity to access and use such is dependent on one's social capital. Farmers belonging to groups for instance, have increased chances to access and test new knowledge. With increased use of ICT, farmers can easily access information on their mobile phones, through radio, printed materials, and through online platforms. More investment is needed in the assessment of CSA-specific information, its synthesis, and dissemination to farmers to enable them navigates the opportunities in CSA. Information services include in weather forecasting, new and improved seeds that are climate resilient, new and improved farming systems, and post-harvest techniques, new methods of pest and disease control among others. This creates opportunities for young people as providers and users of this information.

5. *Research-driven innovations to support CSA*

To support knowledge and information services, continued research and innovation is required in different sectors- agriculture, communication, education, industry etc. Educated youth particularly have the potential to delve into deeper research on CSA in devising new information tools that will enable farmers become more resilient to climate change by receiving right information at the right time and in the right format. Tapping into youth-focused and youth led research and innovations might be helpful in directing investments in climate-smart agribusinesses. However, innovations are beyond ICT; they include developing simple mechanization for instance in water pumps, machines for making dairy feeds, food processors and grinders, milk chilling equipment, among many others.

6. *Opportunities for quick and diversified returns in the CSA value chain*

The youth are first driven by the quick returns from any available opportunity. Therefore, outlining varied value chain approaches and identifying key entry points for young people, e.g. through ICT, mechanization, processing, transport and marketing is a great step towards ensuring the youth seeing climate-smart agriculture as a viable business opportunity (Filmer & Fox, 2014).

In regions where farm sizes have significantly reduced, there is opportunity for young people to develop off-farm agro-based enterprises that will continue supplementing household incomes while boosting on-farm activities. These include opportunities in processing farm produce, packaging, trading among others. On-farm diversification strategies are also required to ensure that young farmers still make income through the period of waiting for the maturity of a long term project.

Additionally, with a growing middle class population conscious of their carbon footprint, there is increased demand for organically produced and low carbon footprint farm produce. This puts pressure on farmers to acquire new knowledge and skills set, as well as join institutions to support them. Young people have opportunities in the production and/or service sector of this niche market e.g. in certification, training of local farmers, organizing producer groups and linking them with niche markets, or as farmers.

7. *Learning by sharing*

In the history of agriculture, most farmers learn by observing other farmers in their fields. Farmer field schools and farmer trainers continue being most successful forms of passing on new knowledge and skills among smallholder farmers. Co-learning strategies help farmers to create new spaces and to provide the additional support that may be needed, to encourage dialogue at household and community levels and in supporting agricultural innovation. Such strategies can be employed to help reduce structural inequalities around resource access for young people (SIANI, 2013).

8. *An enabling political environment*

The success of climate-smart agriculture is dependent on the strengthening of national and local institutions in implementing CSA, building of technical capacity, improving the knowledge management systems, raising the level of national investments in agriculture and creating innovative financing mechanisms (AGRA, 2014). At the international level, there exists the Global Alliance for Climate Smart Agriculture, of which FAO is supporting the establishment of a youth network within it, while an African Alliance has already been

established. Furthermore, climate change and agriculture are strongly anchored on the United Nations Convention on Climate Change (UNFCCC).

At a national level, a strong and willing political environment is required to ensure the agricultural financial sector is developed to support young and smallholder farmers; access to favourable markets and prices of agricultural produce, enhancing local and export markets, and standardizing procedures for export and ensuring farmer support are facilitated. Importantly, infrastructural development to support agriculture is required in most rural parts of the world including transport, processing, storage, post-harvest techniques among others.

9. Partnerships

Public private partnerships are extremely important in addressing the core challenges of youth engagement in CSA. Workshop participants advanced the need for a partnership model to support and facilitate the development of an integrated model for youth employment in agriculture collaborating with the government, and the private sector. The model needs to support the youth at various levels to access the agro-sector inputs and markets; develop skills appropriate to ongoing labour demands; access land; access credit; and develop climate friendly agribusiness skills.

The Opportunities: Where and how can youth lead in the practice, science, and policy of CSA?

A major investment in the human resource to make climate-smart agriculture successful is required. The average age of current farmers is 55, and it is estimated that few of these are willing to adopt new technologies and take risks in their farm enterprises. On the other hand, young people, a majority of the unemployed population in the food producing countries of the world, have the potential and time to innovative and try out new technologies that will potentially advance agricultural development while the same time addresses climate change and agricultural impacts. To increase the number of youth joining agricultural sector and accelerate the adoption of CSA practices, Ghanaian youth have a range of opportunities to explore. In the following table, we categorize the climate smart strategies and practices and the youth options in each category.

STRATEGY	PROGRAMME ACTIVITIES	YOUTH OPTIONS
Agricultural market development	Facilitate access to financial services to fund adaptive technologies, practices and processes Investments in agribusiness infrastructure and market information systems to stimulate behaviour change Cluster farming in order to attract agribusiness contracts and insurance cover	Youth farmer cooperatives Youth Agribusinesses Contractual farming Certification processes
Alternative livelihoods (farm management and technical options)	Reassessment of the crops, trees and livestock, and varieties grown Diversification of income sources	Research New crops/animal farming New off-farm enterprises Export high value products Investing in Bio-fuels
Behaviour change	Cultural, social, attitude, perception, and lifestyle management (changing tastes and preferences) Behaviour change campaigns Legal enforcement	Farmer field visits Documenting and sharing best practices online, on radio, and through publications

Biodiversity management	Switching to new alternative and more suitable crop species and varieties Crop and tree diversification, change of cropping mix, and intercropping Movement of crop species and varieties from less suitable to more suitable agro-ecological zones Technology development and transfer (adaptable technologies) Promotion of indigenous crops that are more resilient to anticipated climatic conditions (and improved access to markets for these crops) Low water-consuming crop species Farm micro-climate management Shelterbelts and wind breaks Agroforestry farming systems, farm micro-climate management, tree planting, and improved fallows	Agroforestry Farming indigenous and drought resistant crops Intercropping high value crops with trees Establishing ree nurseries Making & marketing timber and non-timber products from agroforestry trees Crop rotation
Infrastructure development	Greenhouse farming Rural infrastructure development (including irrigation and rural roads) Climate-proofing of agricultural resources	Greenhouse farming Mechanization Drip irrigation systems
Insurance	Insurance (social networks to spread, bear, and share losses) Index-based agricultural insurance (weather, area yield)	Social networks Insurance
Integrated Pest Management (IPM)	New ways of pest, parasite, vector and disease management	Organic farming Crop rotation Introducing bio-pesticides
Improved natural resource management (land, water, biodiversity, terrain)	Sustainable land management Agroforestry Conservation agriculture Integrated soil fertility management (ISFM) including fertilizer trees Organic farming Water demand management, water harvesting, and irrigation Watershed conservation and management, moisture conservation measures Irrigation, more efficient water use, and minimizing water loss	Integrated farming Residual management Manure management Crop rotation
Precision/response farming	Improved efficiency in resource/input use, and improved timing of operations Precision of farm operations – flexibility in crop management based on weather variability Minimum tillage, cover cropping, and appropriate application of fertilizer/manure Conservation agriculture with trees Improved meteorological information, climate early warning systems, and weather information management	Weather forecasting Climate Analogues Greenhouse farming ICT-based agro-advisories
Social safety nets	Application of indigenous technical knowledge, networks, and local governance Weather forecast information dissemination Using little or no inputs Borrowing from family or local lenders Sale of family assets Investing in family ties and social networks Collective provision of farm inputs Collective marketing of farm products Farmer-to-farmer training Increased experimentation by farmers and other stakeholders	Farmer cooperatives Weather forecasting Farmer-to-farmer training Demonstration plots Off-farm investments Social networks
Capacity building	Training, system development, and climate proofing	Training Farmer to farmer learning
Strategic food reserves	Food preservation and storage, especially cereal grains	Post-harvest enterprises

		Processing Transport Community seed and fodder banks
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Strategic focus areas for youth in CSA

Inputs	Outputs	Outcomes	Impact
Skills Development	Young people gain employability capacity	Increased number of young farmers trained and adopting CSA practices	Improved livelihoods of young people and sustained transformation of the agricultural sector
Agribusiness Incubation	Young people gain skills and experience in entrepreneurship	Improved youth-led climate-smart farm enterprises/agribusinesses	
Strengthening institutions	Institutions are supported to provide services to young people	Improved access to productive resources - land, inputs, capital, etc Improved access to opportunities for young women	
Partnerships	Brokering partnerships to enhance youth engagement in agriculture	Diversification of on-farm and off-farm youth agribusinesses Financing youth in CSA	
Scientific Research	Youth gain research capacity in CSA	Increased adoption of improved farm practices and services	
ICT Innovation	New ICT innovations are developed for CSA	Increased use of technology (esp. information) by smallholder farmers	
Knowledge Management	Knowledge gathered and disseminated to young farmers	Increased awareness, attitude change and adoption of CSA	
Policy	Youth men and women in policy dialogues	Development of youth-sensitive agricultural policies and programmes	

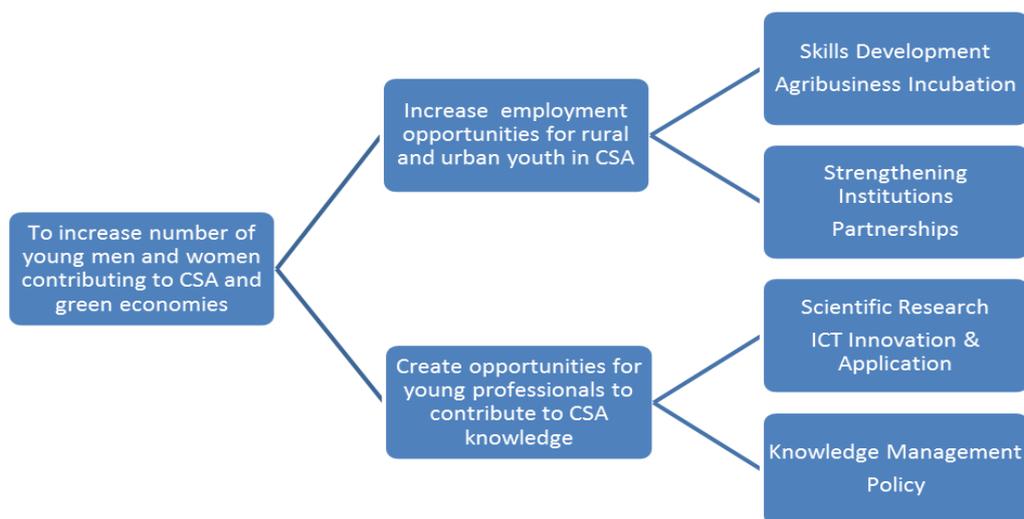


Figure 3: Theory of change for youth employment in climate-smart agriculture

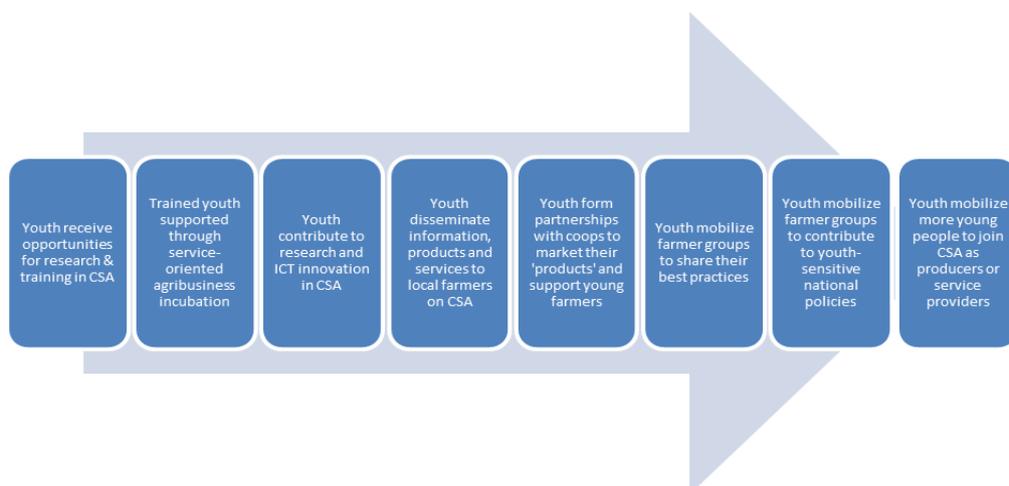


Figure 4: Impact pathway for engaging youth in CSA in Ghana

RECOMMENDATIONS

It is generally acknowledged that youth are a priority on Ghana’s development agenda. Youth possess the energy and creativity to exert change and there is always a threat that this can be destructive if not harnessed towards a positive channel. The majority of youth in Ghana (15 to 35 years) are without employment and they constitute close to 80% of the total number of unemployed people on the continent. In Ghana, youth are emerging as real threats to its stability and progress as they demand a stake in its resources and opportunities.

The situation of youth unemployment in Ghana however has a remedy in very practical opportunities in agriculture. The current and future prospects of agriculture in Ghana are immense and this also creates an opportunity and space to address the problem of youth unemployment through increasing youth participation through entrepreneurship in this viable and sustainable economic sector. A fully fledged, youth driven Ghana’s agricultural sector will go a long way in tackling in a very practical way the undesirable socio-economic status of young people.

With a renewed focus on agriculture, the proactive attention to engage the youth in agriculture will help drive an agricultural transformation across the country that will improve the livelihoods, incomes and employment creation of the youth. However, the Government of Ghana need to ensure that country's Medium-term Agriculture sector Investment Plan (METASIP) better reflect the challenges that rural and urban youth face as a result of limited youth-friendly financing policies. This will require incorporating opportunities for youth in agriculture into FASDEP and METASIP, partnering with the private sector with better incentives, and developing highly targeted youth improvement policies.

Entrepreneurship is an active engagement in Ghana,. In essence young Ghanaians are entrepreneurial by design and if this aptitude is married with the growth-poised agricultural sector, a winning formula will ensue.

These recommendations for increasing youth participation in agricultural entrepreneurship were formulated on the basis of the regional workshops held across the country with support from the USAID Agricultural Policy Support Project. Inputs from regional workshop participants representing various segments of the Ghanaian society was consolidated. Participant's active involvement in the regional workshop activities, localised knowledge of the sector; interest in youth in Agriculture development in Ghana, and their technical competences have helped in making appropriate recommendation for adoption.

i. Youth-friendly Agricultural Policies

It is necessary to draft and subsequently implement a policy aimed at providing a coherent framework to guide sustainable and inclusive youth development in agriculture in Ghana. Some of the key issues which the Government need to consider include

- i. Developing a Land Policy/Land Bank System so that Ghanaian youth can have access to lease lands.
- ii. Developing Credit/financial Schemes targeting youth in the agricultural sector
- iii. Liberalizing markets for agricultural produce for youth-managed agribusinesses
- iv. Promoting and expanding training in agriculture and agribusiness through designing and availing relevant syllabi and infrastructure.

ii. Improved Private-Sector Financing for Young People

The peculiarities of agriculture, such as its high seasonality and risks (related to weather and policy); lack of secure property rights; heterogeneity across commodities, farmers, and regions; and bankers' inexperience in the sector severely limit formal lending to the sector. In many instances, the only financial services available are provided by informal agents or mechanisms, which offer a narrow range of financial services. Proactive policies and strategies to make agriculture more attractive to youth are needed to be discussed and implemented through innovative youth-friendly policies. Notable ones for consideration include:

- i. Positive tax regime*
- ii. Positive regulatory regime and*
- iii. Incubator/accelerator support services.*

Leveraged financing was actively advocated during the regional focus group discussions by the workshop participants. One marketplace session backed increased collaborations in the design and set-up of incentive-based risk sharing systems for lending to Ghanaian youth in agriculture. Incentivizing financial institutions to create and increase lending to youth in selected agricultural value chains through de-risking solutions is an innovative approach to be explored.

Increasing risk-sharing mechanisms for financing agriculture in Ghana is seen to be a more viable approach to addressing the short, medium to long-term financing constraints.

Improved access to financial credits is crucial to the successful participation in agribusiness in Ghana. Financial institutions must rebrand their portfolios to focus more on production-oriented ventures. The government and financial institutions should dialogue to create credit financing schemes for young men and women in agriculture through a development finance institution. Additionally, special tax incentives may be introduced to attract investments along the agricultural value chain.

iii. Prioritising Capacity-building

International development agencies as stakeholders in Ghana's development agenda need to expand their interventions towards building knowledge and skills and in particular the capacity of Ghanaian youth to maximize benefits derived from agriculture. Workshop participants' recommend that agribusiness development programs need to pay particular attention to inclusive growth that integrates market-oriented smallholders and rural communities into dynamic value chains through contract farming and the generation of jobs. They further recommend the need for intensive capacity building and individual development.

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