

1.0 INTRODUCTION

Our climate is changing and, given the levels of greenhouse gases already in the atmosphere, there is a need to adopt a more sustainable agricultural production system that is climate-friendly and in turn ensure food production. One such sustainable production system is the Climate Smart Agriculture (CSA). CSA, as defined by FAO, is agriculture that sustainably increases productivity, enhances resilience, reduces/removes greenhouse gases mitigation where possible, and enhances achievement of national food security and development goals. This policy brief outlines the challenges and impacts related to CSA. It also presents three strategies that form the basis for enacting promising policy incentives for implementation of CSA.

2.0 CHALLENGES AND IMPACT OF CLIMATE-SMART AGRICULTURE

2.1 Challenges of CSA

1. **Cost of initial adoption:** to implement CSA, there is a need for new investment which involves an initial high capital cost. Most farmers and other stakeholders who are directly involved in the implementation of CSA practices lack the funds to finance this initial high investment, hence hampering the implementation.
2. **Delayed Benefits:** Unlike the conventional Agricultural practices which yield its dividends in at most 2 years, most of the benefits of environmentally sustainable Agricultural practices often comes only after several years of production. This coupled with the initial capital investment further discourages the farmer from adopting CSA.
3. **Uncertainties and risks:** In most developing countries where technological advancements and data access are limited, it is difficult to predict some natural risks and uncertainties associated with agriculture. Hence, farmers are reluctant to adopt new but sustainable methods of production
4. **Other factors include:** Lack of technical know-how, a high level of ignorance, lack of self will among policy makers and the age of the farmers also affects the implementation of CSA.

2.2 Impact of CSA

CSA if adopted, and efficiently implemented has lots of positive prospects on not just the environment but also food production and consequently food security.

It helps to build resilience to climate change and variability, reduced greenhouse gas emission and on the long run improving the individual and corporate economy. CSA is a win-win situation where the impact of agricultural practices on climate helps in greatly improved and in turn, the climate helps in improved agricultural yield.

3.0 THE NEED FOR POLICY COHERENCE IN CSA

3.1 At the International Level

The international policymakers with respect to food security, agricultural development, climate change and environmental sustainability had formulated various policies targeted at different objectives and priority areas. For example, the agricultural development and food security policymakers are more interested in agricultural yield while the climate change and environmental sustainability policymakers are more interested in less greenhouse effect. Just as their priority differs, so are their funding objectives. A greater coherent policy, between the different international policymakers, facilitate a win-win situation where everyone achieves its goal but not at the detriment of the other. In this policy, we have suggested ways to achieve coherence among these different sectors.

3.2 At the National Level

At the national level, there is a need for a greater coherence, proper coordination and integration between the major policy makers (**Climate change/Environment** related policy maker, **Agricultural** development policy Marker and **food security related** policy maker, **forestry, trade and investment** etc.) to achieve a well implemented CSA. Priority differences or focus of the different policymakers has resulted into lack of synergy between these major parties, thereby making it difficult to achieve policy coherence for CSA. Policies in the formulated at these different sectors have both impacts on agricultural production systems and on greenhouse gases emissions. More unified policies between these stakeholders will enable and promote synergy capture and make the pursuit of the stated policy objectives. To achieve policy coherence for

CSA, there must be a proper understanding and mutual agreement between the policymakers. Therefore, cross-sectoral collaboration for CSA does require a shared interpretation of CSA Policies among parties involved. An incentive-based policy for cross-sectoral collaboration for CSA is suggested by Team Nigeria below.

4.0 STRATEGIES FOR POLICY COHERENCE AT NATIONAL AND INTERNATIONAL LEVEL OF CSA

It has been established that the major reason for policy incoherence among the different policymakers is "seemingly" differing priorities as a result of the unavailability of a joint platform that the major stakeholders. Team Nigeria, strongly believe that a platform that brings all the stakeholders in different sectors together will not only help the policymakers to see the need to complement each other but will also facilitate a more coherent policy for CSA.

4.1 Suggestion 1: Information and communication technology provides an awesome opportunity for this networking. Hence, we are proposing an online platform (mobile and web-based application) that can serve as comprehensive integrated information systems for all National and international policies in CSA. The platform will track, measure and rate the impact of each policy on the other. For example, the impact of environmental policies on agricultural production as well as the impact of agricultural policies on the environment will be measured, tracked and rated. This will enable quick response and adjustment where need be.

4.2 Suggestion 2: Each of the sector that influences climate change and agricultural should deliberately put the impact of their policy on the other sector as a measure of success factor. For example, the climate change policymaker will measure the impact of their policy on agricultural productivity as an index for success and vice Versa.

5.0 POLICY INCENTIVES FOR IMPLEMENTING CSA

Policy 1: Credit - Insurance Policies (CIP)

As identified above, some of the major hindrances to the adoption of climate-smart agricultural practices are the initial capital investment required and the delay benefits alongside with lack of technical know-how by majorly rural and small-scale farmers in developing countries, particularly in sub-Sahara Africa. This policy is designed to tackle these problems by providing

farmers (Crop production, Livestock and Fisheries) with the required training, financial support in form of credit and insurance. This is shown in figure 1.0.

The farmers will be trained on **how** and the **need** for adopting the CSA practices after which they will be given credit facilities to implement what they have been thought. In order to help manage the risk, the farmers will be given insurance for their production. The large-scale producers with an annual turnover of \$100,000 and above will enjoy a single digit -interest credit facility and 70% insurance. The small and medium scale farmers with less than 100,000 would enjoy a zero interest rate on credits and 70% insurance on risk.

Farmers who are part of this scheme will be organized into clusters and their products aggregated for off-takers. This will also help in connecting the farmers to the market seamlessly.

Policy 2: Subsidy Payment for Agroforestry Practices (SPAP)

The aim of this policy incentive is to promote afforestation and improve carbon sink by encouraging farmers to plant trees simultaneously with climate-smart crop production practices and or rearing of animals for effective land use management. This policy is targeted at the rural low-income farmers.

Farmers will be trained to on how to effectively practice agroforestry and allowed to sign an undertaking. After which the inputs needed for the practices will be subsidized. This will help to cushion the effect of delay gratification and the initial high capital cost, thus encouraging farmers to adopt CSA.

Implementation Strategies for policy 1 and 2

Sources of Funds

- **Private sector** – Their role will be to finance R&D and provide the required training to the farmers who will purchase their products such as seeds, and other inputs at again. The food multinational organization can also provide funds to be given to the farmers upfront and the raw materials from the farmers will be offtake by them at the end of the farming season.

- **Public Sector & International Development Organization** – Their role is to make funding for the risk management (insurance) available and to ensure the monitoring and implementation of the project. The government can also generate employment by recruiting, training and deploying the extension workers who will be working directly with the farmers to train and provide technical support in the implementation of the CSA
- **Crowd Sourcing** – This is an innovative source of funds proposed by Team Nigeria. A web-based or mobile application platform will be developed for crowdsourcing; where an ordinary person and philanthropists can make a financial donation towards climate-smart agriculture; or crowd investing: where people can invest in climate-smart agriculture and get a return of investments. The funds generated would be given as incentives to farmers, used for quality information and dissemination and training of farmers on how and the need for Climate Smart Agriculture farmers on how and the need for Climate Smart Agriculture. Block Chain Technology would be used to encourage transparency.

Other Implementation Strategies

This insurance policy will be made available for farmers who are interested in practising climate-smart agriculture in crop production, animal production and fisheries under two (2) categories

First, a comprehensive training will be organized for farmers who have shown interest in practising CSA. After the training has been completed, trainees have access to CIP if they agree to farm in a climate-smart way through and undertaken.

Category 1: for Medium – Large-scale farmers with an annual turnover of \$50,000 and above. The credit facility will be of a single digit interest rate ranging from 0-9 and in a situation where factors beyond farmer's control cause yield loss or reduced yield, such a farmer will be insured up to 70% for such a loss thus they do not bear all the risk alone

Category 2: For Small-scale farmers or starters whose annual turnover is \$50,000 or less, the credit facility will have a zero interest rate and in a situation where factors beyond the farmers control causes loss of yield or reduced yield, such a farmer will be insured up to 70% for such a loss this they do not bear the risk alone.

Influencers such as religious leaders and community chiefs will be involved in the areas of sensitization and in some sort of project monitoring.

The policy will be implanted in batches, with a trial batch with a small sample of farmers before the full implementation.

For SPAP

SPAP helps to enlighten farmers that planting trees on their farmland is not a waste of natural resources. This policy makes inputs available for farmers to practice agroforestry

After comprehensive training has been organized, the farmers who show interest in practising agroforestry will have access to inputs for forest establishment at a subsidized rate. Also, technical know-how is made available for the farmers to encourage them to plant trees

Policy 3. Incentives for Inter-sector Policy Coherence (ICPC)

This incentive is targeted at the bureaucracy level, where policy implementation for CSA is hampered by policy incoherencies among different sectors such as agricultural development, forestry, climate, trade and investments etc. The main idea is to provide incentives for the implementation of a joint policy by two or more sector within a state. For example in Nigeria, the ministries of Agriculture, Water Resources, Environment, Trade and Investment, Finance, Budget and Planning could unanimously develop a policy that has a common ground for climatic smart agriculture. It is expected that such policy will be highly coherent as it takes into critical consideration the various objects of the different sectors.

The funding of such policy could be in form of a special fund which will be set aside by the international and regional organizations such as World Bank, UN, IMF, AFDB, WFP etc. strictly for the implementation of this kind of projective. It can also be by giving priority to funding the implementation of such coherent policy over the incoherent policies. This will encourage inter-sector policy coherence for the CSA at the national level.

The Implementation Strategy for (ICPC)

The following strategies can be used for the implementation of ICPC.

1. The sectors should be first of all sensitized on how and the benefit for a more coherent policy. This will help them to see that they have to complement and not to compete with each other if there must be a win-win game. For example, the agricultural and climate or environmental sector should understand that unsustainable agricultural policies affect the climate which in turn will affect the agricultural production in the long run.
2. Haven understood the need for a coherent policy, the sectors involved will need to jointly find a common (win-win) ground where they complement each other.
3. Then a coherent policy should be formulated from the standpoint of the "Win-Win" ground.
4. The funding agency will have to study the policies and rate it against an agreed and a standard "Coherent Index" which must be passed before the funding of the implementation of such policy
5. The project implementation will be carried out jointly by the different sector in such a way that conflict of interest is avoided.
6. A joint but neutral account can be open strictly for the implementation of the Joint policy.
7. An inter-sector platform can be created where the impact of the policy of one over another can be tracked and measured. This platform can be informed of a web application or a mobile application. This will provide a clearer view to policymaker of the impact of their policy of the climate, agricultural production and food security which will facilitate quick adjustment of the policy is found to be negative.

CONCLUSION

Implementation of Climate Smart Agriculture is possible and it can be enhanced if there are more coherent policies within and across different sectors and they are also incentives for farmers especially the smallholders' producers to encourage the adoption and implementation of the policy.