

## **A Reflection on the Commitment to Enhancing Resilience of Livelihoods and Production Systems to Climate Variability and other related risks in Africa**

**Herve Wouapi**, assistant lecturer, Department of Agricultural Extension and Rural Sociology (corresponding author)

[herve.napi@univ-dschang.org](mailto:herve.napi@univ-dschang.org)

Dschang School of Agronomy and Environmental Sciences, University of Dschang (UDs), Cameroon  
Main Campus  
P.O Box 96

**Maruf Sanni**, National Centre for Technology Management, Federal Ministry of Science and Technology,  
Obafemi Awolowo  
University, Nigeria

### **1. Introduction**

#### **1.1 Food security and climate change: an opportunity to build resilience of agricultural production systems**

Food security in Africa is under threat by climate variability and change as well as weather-induced risks. The impacts of these climate-related conditions fall disproportionately on resource-poor small producers. Nearly 90% of staple food and livestock feed production come from rainfed agriculture. Lack of investment in this vital production system and its low productivity reinforce each other leading to poverty traps and increased vulnerability of livelihoods to rainfall variability, dry spells and other climate-related risks (Coe and Stern, 2011). The situation is exacerbated in arid and semi-arid climate change hotspots in Africa. In this region agricultural systems are becoming less reliable as ecosystems are degraded and the relevant structures in place to support small scale farmer's effort are often absent (UNECA, 2011). In these hotspot regions of Africa, more frequent and prolonged droughts threaten livestock and agriculture, a major source of food and income. Hence these regions are highly vulnerable to climate change and the threats it presents to the livelihood of vast populations who inhabit them. Of note, out of the 1.3 billion poor people 300 millions are located in sub-Saharan Africa. About 60% of these depend on livestock for some part of their livelihood, and it is projected that climate change is likely to have major impacts on poor livestock keepers and on the ecosystems (including fodder resources and water) goods and services on which they depend (Thornton et al., 2009). Recognizing this reality, the Head of State and Government (HSGs) of the African Union, in their 23<sup>rd</sup> Ordinary Session of the AU Assembly in Malabo, Equatorial Guinea, had agriculture and food security as their main agenda through the theme by committing to enhancing resilience of livelihoods and production systems to climate variability and other related risks. This dedication stresses the pressing need to build the resilience of agricultural production systems (including crop farming, fisheries and pastoralist systems) and a range of resource-poor dependents, vulnerable rural populations and their livelihoods that span small scale farmers, smallholder livestock and fisher households.

#### **1.2 Link to the goal of the Comprehensive African Agricultural Development Programme (CAADP)**

During the 2014 June summit in Malabo, the HSGs committed to enhance resilience of livelihoods and production systems to climate variability and other related risks. This pledge is

now being defined to enhance country efforts to sustain CAADP's momentum and sharpen implementation, and speaks to:

- (i) Level 1-Development Impact (*the higher level to which CAADP contributes indirectly to Africa's socio-economic development through wealth creation, resilience, improved food and nutrition Security*). In this regard, a key impact of the resilience goal will translate into increased resource-poor dependents' (small scale farmers, fisher households and smallholder livestock keepers) ability to cope with and recover from the effects of hazards associated with climate variability and change (dry spells, rainfall variability).
- (ii) Level 2-Outcome (*changes in African agriculture resulting from the implementation of CAADP i.e. agriculture systems transformed and production-productivity improved*). A key product of the resilience goal will transpire through promotion of e.g. conservation agriculture; expansion of irrigated land and increased use of agricultural inputs; and
- (iii) Level 3-Output (*added value of CAADP support and intervention to institutional transformation*) of CAADP result framework. At this stage, the operational effectiveness of the resilience goal will be reflected in e.g. the representation of resilience and risk management strategies that address climate change in relevant planning documents and processes

## 2. Commitment and Key Result Areas

### 2.1 The Commitment

In their 23<sup>rd</sup> Ordinary Session of the AU Assembly in Malabo, Equatorial Guinea, from 26-27 June 2014, the Head of State and Government of the African Union resolved to:

- a. **Ensure** that, by the year 2025, at least 30% of our farm, pastoral, and fisher households are resilient to climate and weather related risks;
- b. **Enhance** investments for resilience building initiatives, including social security for rural workers and other vulnerable social groups, as well as for vulnerable ecosystems; and
- c. **Mainstream** resilience and risk management in our policies, strategies and investment plans.

### 2.2 Key Result Areas

Currently, climate policy debates focused on adaptation and resilience building to address the impacts of climate variability and change. While this remains an urgent priority, it is also clear that adaptation processes are local and place based whereas the processes that perpetuate vulnerability and poverty are often related to global economic and political factors and structures. This is particularly true for African agricultural producers that are globally the most affected by a range of risk factors and at the same time the least protected against them. The latter include *inter alia*: unequal terms of trade, price volatility including market and institution failure which affect African economies, weather induced shocks (droughts and floods), food insecurity and unemployment. These risks are threatening the livelihoods of millions of rural producers and constitute major impediments to increasing productivity and investment in the agriculture sector and the entire agro-value chain. This calls for effectual interventions that need to go beyond just technical fixes such as the development of new crop varieties, and must be based on a genuine contextual understanding of how different factors interact in a complex manner to drive risks (Brooks et al., 2009). Hence, understanding and addressing the drivers of climate impacts and other risks facing African agriculture is instrumental to securing food production system across the continent. Risk management tools that integrally deal with variability and uncertainty, including those associated with the entire agro value chain, are required to support the resilience of African farming systems dominated by rain-fed agriculture that underpins the livelihoods of the majority of smallholder farmers.

Moreover, a United Nations' report on climate change adaptation and resilience underlines challenges addressed by the HSGs to enhancing resilience of livelihoods and production systems to climate variability and other related risks. *In the Climate Change 2014: Impacts, Adaptation, and Vulnerability* report, the Intergovernmental Panel on Climate Change confirms that Africa's regions are ill-prepared for impacts of climate variability and change already being felt in agriculture, water resources, ecosystems and livelihoods (IPCC<sup>1</sup>, 2014). The report provides the strongest indication of the critical importance of developing adaptation and resilience policies and plans in response to rainfall variability, rising temperatures, climate-related disasters, and other risks. These challenges are at the heart of the strategy and roadmap for the implementation of 2014 Malabo decisions (**CAADP vision for the next 10 years**). Below we highlight, discuss key issues and identify relevant indicators to monitor progress in relation to the following three key result areas:

- KRA 1: Resilience to stresses and shocks
- KRA 2: Improved management of natural resources for sustainable agriculture production
- KRA 3: Climate change integration into planning

**KRA 1: Resilience to stresses and shocks**– What is at stake?

- **Vulnerability Assessment in the context of climate variability and environmental change**

Climate change hotspots regions are confronted with a mix of dynamics of vulnerability and multiple underlying stressors, of which climate variability and change is only one. This shows the importance of applying vulnerability framework to assess multiple underlying political, socioeconomic and environmental forces that influence the ways in which vulnerable groups are sensitive to climate variability and their capacities to adapt to changing conditions. Disaggregating vulnerability is a key part of ensuring that a range of biophysical and socioeconomic conditions that contribute to peoples' vulnerability will be better addressed. In their study of dynamic vulnerability and adaptation to multiple stressors in the Afram Plains of Ghana, Westerhoff and Smit (2008) show that processes of vulnerability can be found to occur (i) at several scales and unevenly affecting at-risk groups and communities, and (ii) over time or be cyclical, in that certain actions (e.g. methods of charcoal production, fishing and farming) taken for the purposes of resilience and adaptation can also exacerbate existing vulnerabilities. Overall, vulnerability types of assessments have important implications for the design and implementation of successful adaptation initiatives at the national, regional and continental levels. They make obvious the need to understand the social, economic and institutional challenges to development as a basis for any contemplation of adaptation to climate variability and change including disaster risk reduction measures.

- **Financing Resilience.**

A number of Adaptation Funds including the NEPAD's Climate Change Fund<sup>2</sup>, AfDB's Africa Climate Change Fund (ACCF) exist; and with these new monies going to adaptation and resilience building initiatives. Thus, it is important that the capacities of current institutions are strengthened to take on the challenge of handling the delivery mechanisms of adaptation and resilience management as well as supporting stakeholders' action towards viable resilience strategies. Providing appropriate responses to shocks is a necessary ingredient for food and

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<sup>1</sup> A UN-mandate Science Review Body

<sup>2</sup> established to provide financing in the following areas: (i) Adaptation of agriculture to climate change, (ii) Biodiversity, (iii) Access and benefit sharing, (iv) Development of implementation support to National Adaptation Plans (NAPs), and (v) Mainstreaming climate change into NAIPs

nutrition security, and for the achievement of Africa Accelerated Agricultural Growth and Transformation Goals by 2025 (3AGTGs 2025). In this regard, the vulnerability assessment carried out by SADC is an indication that regional institutions are important power brokers that can leverage policies to support a collective action for resilience, but also boost funds earmarked for adaptation projects. Such initiative exemplifies how strong institutions put in place can act as a buffer to insulate vulnerable fisher households, farmers and pastoral communities from shocks triggered by climate change. Equally worthy of note is that it can be challenging for resource-poor dependents, smaller community-based initiatives, and small civic society organisations to access large international funds. This prompts the need to secure domestic resources mobilization in establishing national funding mechanism and sound risk management tool, including harnessing farmer's investment. These structures and mechanisms should help secure affordable and accessible financial instruments for addressing climate-induced risk and hurdles toward adoption of innovative technologies (Ouma et al., 2011). The innovative financial instruments entail *inter alia* (i) Low-risk liquidity instruments that can allow farmers/pastoralists/fisher households to accumulate assets; and (ii) risk transfer products such as rainfall-indexed insurance to prevent resource-poor dependents from slipping into poverty traps.

*Proposed indicators to monitor progress in ensuring resilience to stresses and shocks*

- i. 30% of farms, pastoral and fisher households resilient to climate change and variability and weather-related risks - change in percentage of households (in climate change hotspots) whose livelihoods have improved (acquisition of productive assets, food security during sensitive periods of the year)
- ii. Change in damage/losses from extreme climate events in areas at risks that are the geographical focus of adaptation/resilience intervention
- iii. % of farmers with year round access to reliable and safe water<sup>3</sup> supply for domestic and agricultural purposes
- iv. Measure of vulnerability to shocks at community level compared to status quo (stability of ecosystem assets; increase in household assets and improvement in food security status)
- v. Measure of recovery speed and community level compared to status quo (speed in returning to level of ecosystem assets, household assets, and household food security status before shocks)
- vi. Measure of vulnerability to shocks at national level compared to status quo (stability of ecosystem assets; increase in household assets and improvement in food security status)
- vii. Measure of recovery speed at national level compared to status quo (speed in returning to level of ecosystem assets, household assets, and household food security status before shocks)
- viii. Government policy and budget instruments on disaster risk management and social protection
- ix. % of national budget allocated for disaster risk management and social protection

**KRA2: Improved management of natural resources for sustainable agriculture production:** What is at stake?

• ***Ecosystem based adaptation (EBA) approaches for improved resilience in Africa***

Climate change is no longer an abstract issue. However, our ecosystem should continue to function. Thus, building resilience of biophysical elements of the environment (land

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<sup>3</sup>lack of fundamental services as water constitutes a currently unfilled climate change adaptation gap in Africa, which needs to be prioritized

rehabilitation, water conservation etc) is a key. In light of the accelerating pace of change occasioned by biophysical processes and an arena of low socio-economic resilience that features African continent, EBA tools is largely viewed as an imperative for today and not a set of actions for the future. Food, water and a healthy environment are essential to human well-being especially where agriculture, development and environmental sustainability meet (Millenium Ecosystem Assessment 2005). Yet, these resources are threatened around the world, and more so in developing countries. EBA recognizes that the key to providing these essentials is to increase agricultural productivity, food and water security while ensuring environmental sustainability favoured by sound environmental policies. Climate change will bring social and environmental transformations. It will trigger a set of interconnected biophysical and social processes with serious implications for communities and institutions. This will require the biophysical processes to be analyzed within the social context in which they occur, and institutions should understand both biophysical and social vulnerabilities to foster long-term economic development that benefits local communities.

- ***Putting climate smart agriculture in perspective***

Africa is one of the most highly vulnerable locations to climate change because of its geographic position, economic situation and rampant poverty. Population growth and increase in meat and dairy consumption will further place heavy demand on food supply. In this regard, the application of Climate Smart Agriculture (CSA) is a critical response to the above challenges through pooling resources from multi-stakeholder (coalition of farmer's organisations, governmental agencies, NGOs/CBOs, private sector, academicians and research development institutions). Of note, much adaptation happens despite lack of institutional support, and there is a growing focus around 'climate-smart' farming systems (FAO 2013). Policies do not prohibit the use of inorganic fertilizers, and CSA does not stop farmers from using inorganic fertilizer but to use them in a sustainable manner (environmentally-friendly). Moreover, smart agriculture provides different options such as use of conservation agriculture and organic fertilizer, which is complimentary to the inorganic fertilizer. It tries to find synergies between climate change and agriculture given that agriculture contributes to climate change by emissions. Hence, there is a need to practice agriculture in a way that increases productivity and at the same time reduces green house gases emissions

*Proposed indicators to monitor progress in improving management of natural resources for sustainable agricultural production*

- i. Biodiversity and ecosystem resilience index
- ii. % of pilot project climate resilient (conservation agriculture)

**KRA 3: Climate change integration into planning:** What is at stake?

- ***Integrating a holistic approach to agriculture, food security, risk and resilience building***

'Stability' is a key component of food security, which has not received enough attention to date. Agricultural growth is determined by the level of stability that African countries will be able to reach and sustain. In this context, there is a need to appropriately consider the typology/anatomy of risk associated with agricultural production, and to address the drivers of these risks. To this end, it appears imperative to swiftly shift from crisis and disaster management to a risk management approach considering that production and market risks are interrelated and have to be managed accordingly. Equally relevant is the resilience of public budgeting and credit financing to agricultural production and marketing cycle. Example includes medium resilient green economy framework (**CRGE**) applied in Ethiopia, wherein agriculture contributes 45 % to the GDP and approximately 83 % of the population relies directly on agriculture for their livelihoods, with many more dependent on agriculture-related activities. With such a sizeable proportion of the GDP associated with climate sensitive activities, Ethiopia has

adopted a CRGE strategy to keep its development objectives<sup>4</sup> on track in the context of a changing climate (World Bank 2013a). The Ethiopian government is currently designing an impressive portfolio of public policy responses to address climate change and risk in the livelihoods-agriculture sector and capitalise on the opportunities provided by climate change policies, like access to climate finance and technology. The above exemplifies that understanding and addressing the *drivers of climate risk in African Agriculture* is fundamental to secure food production system across the continent. Hence, risk management and dealing with variability and uncertainty are some of the distinctive competencies required to make livelihoods-agriculture more resilient. This strategy will also help deal with vulnerability to climate change effects and underlying processes that accentuate vulnerability

- ***Mainstreaming climate change adaptation into agricultural development plans***

Adaptation and resilience are the critical responses to the impacts of climate variability and change (AfDB 2010). However, African countries at large are yet to adequately integrate climate change adaptation in their respective national agricultural development plans. Climate change and development in Africa are inseparably interlinked, requiring strong institutions that are capable to undertake policy analyses, strengthening analytical capacity and integrated approach to adaptation and providing climate services. Equally important is that climate change policy should integrate sensitive sectors such as agriculture at local, regional and continental levels. This consideration deserves a particular importance at least for two reasons. First, rainfed agriculture in Africa is the mainstay of the continent's food and feed production; and nearly 90 % of staple food and feed production continue to come from rainfed agriculture (Coe and Stern, 2011). Second, integrating such provision in the climate change policy will ensure to a greater extent that the interests of small scale farmers are not overlooked when it comes to funding and implementing adaptation and resilience-building projects.

- ***Capacity building needs***

The limited attention paid to Africa by researchers in non-African countries means that a continued reliance within Africa on climate analyses undertaken elsewhere will severely constrain decision-making processes related to climate variability and change. These also include those decision-making processes related to climate risk management and the implications of climate change for development in Africa. A heavy reliance on data and analysis from non-African sources conveys the message that the details required for climate change decision making (e.g. adaptation, resilience and resources management), are very often lacking. Furthermore, while climate change is a global issue and concern, most climate change adaptation and resilience interventions need to be context-specific and build upon local knowledge and institutions. While involving local communities is important, its effectiveness will depend on a proper knowledge management put in place. A lack of indigenous studies indicates that African perspectives on climate change, its impacts, and appropriate societal responses, are lacking in international contexts (AfDB 2010). As a result, a dependency on external resources and interpretations limits capability within Africa to interpret scientific findings and translate these into success policy-relevant guidance that can inform decisions made by African nations in their own interests.

*Proposed indicators to monitor progress in integrating climate change into planning*

- i. Degree of integration of climate change into national planning, including sector planning -e.g., national communications to UNFCCC, national strategies, PRSPs, annual development plans and budgets, National Adaptation Plans (NAPs) and NAIPs

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<sup>4</sup>With a GDP of US\$41.61 billion in 2012, Ethiopia has sustained a high and impressive growth rate in the last decade and is on track to achieving middle-income status by 2025(World Bank 2013a).

- (representation of resilience and risk management strategies that address climate change in relevant planning documents and processes)
- ii. Extent to which vulnerable households use improved supported tools, instruments, strategies, activities to respond to Climate Variability and Change and weather-induced risks
  - iii. Evidence of strengthened government coordination mechanism to mainstream climate resilience
  - iv. Evidence showing that climate information products/services are used in decision making in Agriculture, Livestock and Fisheries (i.e. climate sensitive sectors)
  - v. Quality of, and extent to which climate responsive instruments are developed and tested

### 3. Linkages of Goal 6 to other Summit Goals

Other Goals	Linkages with Goal 6: Commitment to Enhancing Resilience of Livelihoods and Production Systems to Climate Variability and other related risks
1. Recommitment to the Principles and Values that Define CAADP Processes	<b>Goal 1</b> places emphasis on the exploitation of regional complementarities and cooperation to boost growth. Thus it underscores the importance to pursue agriculture-led growth, which is heavily reliant on the resilience of African agricultural systems vis a vis climate change, weather-induced risks, and other risks
2. Commitment to Enhancing Investment Finance in Agriculture	<b>Goal 2</b> highlights the need to Enhancing Investment Finance in Agriculture, which is inseparably linked with financing adaptation and resilience projects in the rural livelihoods-agriculture sector.
3. Commitment to Ending Hunger in Africa by 2025	<b>Goal 3</b> pledges to Ending Hunger in Africa by 2025. This rests on African countries capacities to significantly increase their agricultural production and productivity on one hand. On the other hand, the resilience of livelihoods and agricultural production systems will be needed to sustainably adapt to e.g. rainfall variability both within and between seasons. Rainfall variability is such a risk that creates an underlying risk and uncertainty for current farm-level production including the limited consideration given to the potential impact of innovations to improve crop, soil and livestock management practices
4. Commitment to Halving Poverty, by the year 2025, through Inclusive Agricultural Growth and Transformation	<b>Goal 4</b> on Halving Poverty by the year 2025 brings into stark perspective the outcomes of lack of investment and low production of rainfed agriculture. These factors reinforce each other leading to poverty traps and increased vulnerability of livelihoods to climatic and other shocks. Hence, there needs to deliver resilience outcomes that will be substantiated at country level with e.g. (i) an average number of different agricultural products/incomes streams per household, and (ii) an average number of different non agricultural income streams per household
5. Commitment to Boosting Intra-African Trade in Agricultural commodities and services	<b>Goal 5</b> stresses an increased investment in rural infrastructure, which is important particularly for vulnerable groups by addressing the severe impacts of climate change in e.g. arid and semi-arid climate change hotspots regions whereby food security, migration and trade are affected to a greater extent
7. Commitment to Mutual Accountability to Actions and Results	<b>Goal 7</b> on Mutual Accountability to Actions and Results places particular emphasis on monitoring and assessing

outcomes. This concern is at the heart of African country governments, their regional economic communities and technical wings, and development partners. Currently, these stakeholders are increasingly focusing their attention on climate change adaptation and resilience. With this comes the need for result frameworks including indicators that will enable stakeholders adequately assess the success of adaptation and resilient building interventions

#### **4. Concluding remarks: customary function that different stakeholders should play to translate the resilience goal set by the HSGs into success**

Many environment related institutions in Africa were created some forty years ago with specific standalone mandates – food security and desertification, water resources, and tend not to be well-equipped for the myriad complex changes – of which climate change is only one. Formal national and regional institutions can play an essential role in supporting and guiding private sector institutions and civic society in the uptake of adaptation actions. Resource-poor households will remain in the frontline of the negative impacts of climate change in the absence of strong local, national and regional institutions that are capable of creating an enabling environment and an arena for capacity development. This can be mediated with the establishment of climate units and new roles assigned to relevant stakeholders. Figure 1 below has been proposed as possible institutional arrangement that could enable AUC, NEPAD and RECs assume their leadership roles in climate change adaptation management in the livelihoods-agriculture sector in Africa. The strategy proposes the establishment and strengthening of climate change units (CCUs) within each of the REC secretariats. It is informed by ongoing adaptation and resilience initiatives carried out by IGAD in the Horn of Africa, AGIR in the ECOWAS Region, and SADC in Southern Africa Region. The CCU would take the form of a department that would interact with all directorates established within a REC's organizational structure and preferably reporting to the Executive Secretary. The bottom line is not to anchor it in any sectoral department, where it would receive less cooperation from other units that would feel alienated. In this framework, the Member States are the key client of the inter-relationships between a selected REC and strategic stakeholders. These would include key continental (AUC and NEPAD) and regional policy institutions (e.g. ACPC, relevant specialized technical committees – **STC**<sup>5</sup> of the AUC), research and development actors (e.g. CGIAR Centres, ACMAD, FARA, AGRHYMET, policy think-tanks), development partners and funding agencies for climate programmes (e.g. Climate Green Fund, Adaptation Fund) and technical wings established by the REC (e.g. ICPAC, established by IGAD)

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<sup>5</sup>There exists 7 Committees as stated in the Constitutive Act whose membership is unlimited.; they are: (i) The Committee on Rural Economy and Agricultural Matters; (ii) The Committee on Monetary and Financial Affairs; (iii) The Committee on Trade, Customs and Immigration Matters; (iv) The Committee on Industry, Science and Technology, Energy, Natural Resources and Environment; (v) The Committee on Transport, Communications and Tourism; (vi) The Committee on Health, Labour and Social Affairs; and (vii) The Committee on Education, Culture and Human Resources

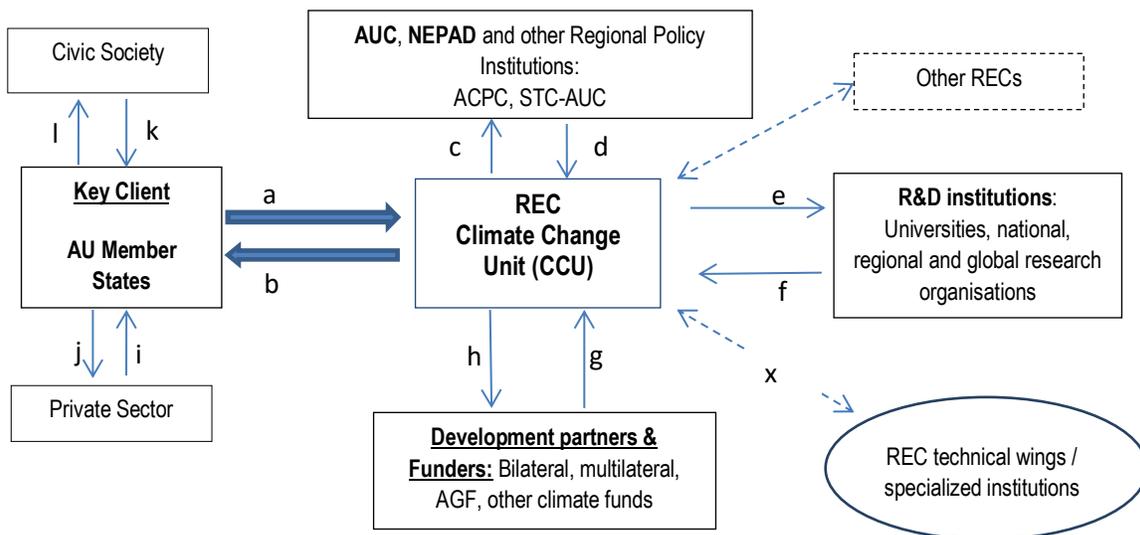


Fig1. Proposed institutional arrangement for strengthening the role of key actors

Table 1 below lists the value-added elements and feedbacks underpinning each of the envisaged inter-relationships and roles (between AUC, NEPAD, the RECs and other strategic stakeholders). The initial step toward establishing a CCU entails the appreciation by a sub-region's political leadership and secretariat's top management and governance of the need for a coordinating entity specifically for climate change issues to be located within the secretariats. This step has already been overtaken by recent events following the political endorsement by all Ministers of Environment of Africa through AMCEN at its 12<sup>th</sup> Special Session in 2008 in Johannesburg. The ministers then stressed the need for all countries to give full support to efforts to mitigate or adapt to climate change, by calling upon the RECs to take this leadership role in guiding related implementation of related activities.

Table 1. Innovative institutional arrangement and roles proposed for AUC, NEPAD, RECs and other strategic stakeholders

Arrow	Role description/elaboration	Assumption
x	CCU and the out-posted technical arm of the REC interact and exchange knowledge on climate change adaptation and resilience in the livelihoods-agriculture sector	Both institutions appreciate the need and facilitate such interaction
a	Country office (relevant one) sends new data, emerging information or requests specific advice or assistance on resilience and risk management pertain to livelihoods-agriculture	National focal point dealing with CC issues exists
b	CCU co-ordinates regional climate change adaptation (CCA) initiative at country level provides strategic advice for resilience building at local-national level action.	National focal point dealing with CC issues exists
c	REC feeds AUC, African Negotiators, ACPC or regional level expert groups with its positions on a common issue on resilience-building initiatives in the livelihoods-agriculture sector	CCU officer up to date with calendar of events and processes
d	Requests strategic information, sharing down strategies for sub-regional intervention in resilience building in the livelihoods-agriculture sector	The continental bodies and processes recognize the CCU
e	CCU requests for data, new findings or contracts strategic	CCU has database of R&D

	studies on climate change adaptation and resilience within the realm of livelihoods-agriculture	institutions, their expertise and lead researchers
<b>f</b>	R&D institutions submit research results, new findings on resilience and risk management in agriculture for consideration at sub-regional or regional policy level	Sub-regional research agenda and priorities for CC are well known and considered
<b>g</b>	Development partners, donors, grant makers provide finance for CCA and resilience interventions/projects	CCU meets all requirements (absorptive capacity, human capital etc.) for funding
<b>h</b>	CCU advises donors on priority areas of investment, submit funding requests	Donors accept and have confidence in advisory from REC, AUC and NEPAD
<b>i</b>	Private sector to play a prominent role in the transformation of African Agriculture through shift in agribusiness	Agricultural apex institutions to mobilize domestic private sector investments exists
<b>J</b>	Endorses CAADP agenda on <i>Private Sector engagement and inclusive Agribusiness transformation in Africa</i> ; and provides a clear path of engagement to help the private sector engage effectively	Public policies that create an enabling environment for agricultural innovation which reduces risk and encourages investment so that these new opportunities can be grasped exist
<b>K</b>	AUC member countries provide space for active citizenship to champion adaptation and resilience efforts	An enabling public policy environment exists
<b>l</b>	Civic society draws the attention of countries' government on critical or unresolved issues affecting at-risk groups in the context of climate change and environmental change	Learning infrastructure and information channel are accessible and affordable

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