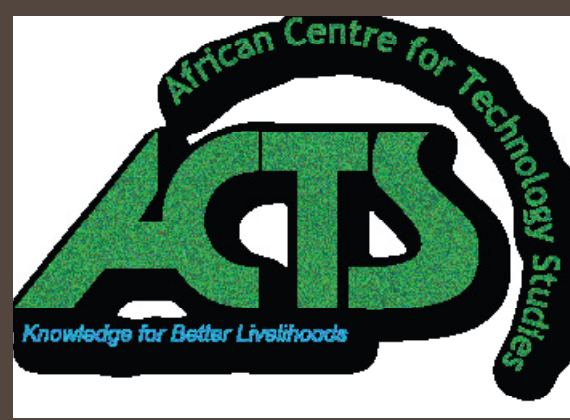


# Policy Brief



## Diversification of Livelihood as Adaptation to Climate Change by Local Communities

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The project was implemented with selected vulnerable communities in Kenya, Malawi, Uganda, Tanzania, South Africa, Sudan Zambia and Zimbabwe with the aim of assisting vulnerable communities from 8 African countries adapt to climate change.

Research on Community-Based Adaptation (CBA) offered rich opportunity for learning and the development of a new methodology for conceptualizing and planning community based adaptation projects. A specific strength in the Community-Based Adaptation to Climate Change in Africa (CBAA) was the diversity of circumstances and frame conditions in which participating partner organizations were operating.

### Overview

This policy brief highlights some climate change issues and provides recommendations on how to improve adaptation measures and thus reduce vulnerability. It draws from CBAA pilot study in Oyola and Wakesi in Nyando basin Kenya (BOX 1) and Increasing Community Resilience to Drought in Sakai Pilot project (Box 2). The two case studies sort to address the challenges of Climate change through livelihood diversification. The brief hopes to demonstrate the role of livelihood diversification as an adaptation strategy to climate change. While communities in the past have shown resilience and capacity to adapt to changes in climate through keen observation, experimentation and practice, adaptation to the rapid changes that are taking place in global climate and other sectors are beyond that of a natural self-correcting process. Efforts to reduce the vulnerability of the affected communities, must therefore reinforce their risk management and coping capacities by augmenting existing adaptation mechanisms and supplementing them with new options that are tailored to the unique local contexts. For that reason there is need for carefully planned interventions including supportive policies and regulations to mitigate the impacts of expected changes in climate while meeting household level requirements for food, fuel and income. Livelihood diversification is one of the strategies that can be used to augment the already existing strategies. The brief hopes to demonstrate the need for incorporating livelihood diversification in the policy(s) relevant to climate change. The brief further reviews some of the environmental and climate change related policies.

## Introduction

Over the past two decades, climate change has evolved from a debate on whether the globe is really warming to a focus on how to mitigate and adapt to its impacts, this is from the growing acceptance among scientists, policy makers, and even the general public that climate change is real and happening. Evidence of global warming comes from the scientific community through intensive monitoring of global climatic systems, extensive observations on changes in terrestrial and aquatic systems, and predictive modeling (IPCC, 2007; Stern, 2007; Hansen et al., 2007)

Africa has been identified as being one of the most vulnerable regions to the impacts of climate change (IPCC 2001; Nyong 2005; Orindi and Murray 2005; Reid 2005; Simms and Reid 2005; Sum Low 2005; *Tiempo* 57). In Africa the trend of warming is at a rate faster than the global average. Climate change exerts multiple stresses on the biophysical as well as the social and institutional environments that underpin agricultural production and in case of Sub-Saharan Africa, over 90% of agriculture is rain fed. It is now widely accepted that climate change is a development as well as an environmental challenge (Huq and Reid 2004; Huq *et al.* 2004; Huq *et al.* 2006; Simms and Reid 2005; Yamin 2004; Yamin and Huq 2005). For instance, in addition to the degraded environments, high levels of poverty, food insecurity and HIV/AIDS affecting large parts of Africa further confounded the climate change challenges. Unless this situation is addressed, many vulnerable populations could find their livelihoods worsening, and many countries may not make any progress towards achieving the Millennium Development Goals (MDGs) (Reid and Alam 2005).

In Kenya, evidence of climate change is clear as seen in risen temperatures, irregular and unpredictable rainfall with extreme and harsh weather appearing as norm (GOK, 2010). In addition,

Kenya ability to adapt to climate change is compounded by numerous factors including poverty, weak institutions, poor infrastructure, inadequate information, poor access to financial resources, low management capabilities, armed conflicts due to a scramble for diminishing environmental resources and high interest rates.

The most vulnerable communities are observed to be unable to cope with current climate shocks besides future risks. So far policy response to climate change has been dominated by need for mitigation, however the effects of climate change are inevitable in the short and medium term, and therefore adaptation needs to be addressed with the same urgency as mitigation. It is therefore imperative that vulnerable communities are assisted to adapt to climate change. CBA is one of the approaches that seek to address community-based development activities towards adaptation to climate change at the local community level; In Kenya CBA started by identifying the most vulnerable communities to climate change.

### **Pre existing policies Relevant to Climate Change**

Kenya does not have climate change policy however, several policies exist that deal with issues to do with climate change. However, the policies analysed here are those that are related to environmental issues. Among the initial efforts by Kenya to develop climate change policies, include:

#### **Sessional paper No 10 of 1965 on African socialism and application to planning**

In part Kenya environmental policy efforts have been made to come up with comprehensive policy framework to guide environmental management. The first one is sessional paper No 10 of 1965 on African socialism and application to planning. The paper recognizes the need to conserve natural re-

sources for future generation, as well as the national development plans that have devoted some section to protection and management of environment.

### **National Environmental Policy (NEP)**

The draft NEP of 2008 treats Climate change and disaster management as emerging environmental issues with government expected to adapt to approaches that will combat CC mitigation and adaptation. The policy acknowledges that most natural disaster in Kenya are climate related e.g. drought, floods and landslides. In this regard, to address climate change, NEP proposes a number of measures that includes developing National Climate Change Strategy (NCC), raising awareness of adaptation opportunities, strengthening research on CC and environmental issues among others. However, besides proposing this measures, NEP does not clarify if the measures will help climate-proof the sectors in our economy against climate change. The Environmental Management and Coordination Act (EMCA) No 8 of 1999, is an additional policy instrument that provides legal framework for environmental concern. However it scarcely addressed adaptation and mitigation. EMCA provides for the establishment of a National Environmental Management Authority (NEMA) which is mandated to supervise and coordinate environmental issues in the country in relation to climate change, EMCA provides for emission reduction through air quality regulation section 78. In addition, it has provision for mitigation through incentives, under section 57.

### **Energy Policy**

This policy is contained in sessional paper no 4 of 2004 focusing on all forms of energy where renewable energy is addressed in article No 103 part V of energy Act. This policy is expected to play great role in CC mitigation through energy efficiency and renewable energy. The 2004 sessional paper

covers renewable energy widely with 1/3 of the paper covering renewable energy, the paper further committed the government to avail funds for geothermal power assessment, wind power, solar installation etc Commitment to promote research and development of renewable energy technology is outlined in the paper. However this Act does not include any legally binding target or strategies for renewable energy promotion. The decision is thus left to the minister of energy. Also missing in the Act is the proposal on financing pre-feasibility studies, code of practice and tax break policies that will promote renewable energies.

### **Forest Policy**

This policy is important in view of emerging CC discussions and REDD. Forest Act 2005 is expected to guide forest policy the Act provide for communities living adjacent to forests in management and conservation of forest by providing for incentives for promoting sustainable use and management of forest resources. The policy covers wide range of environmental conservation issues but does not cover CC. The policy has not captured opportunity for mitigation and adaptation such as REDD

### **Range Land Policy**

This policy highlights key issues that are pertinent to adaptation to CC despite the fact that it was not developed bearing impacts of CC Some of the issues addressed by the policy are diversification of livelihoods, development of local institutions improving ASALs land use and land tenure, addressing vulnerability to hazards and conflict management. However the policy does not include legally binding target.

### **Vision 2030**

The vision makes reference to CC adaptation in the capacity building context. The vision further states

the aim of attracting at least 5 clean development mechanism projects per year while the NDP highlights adaptation in relation to EL Nino and La-Nina outlining the UNFCCC commitment including carrying out national program for mitigating CC and adaptation impact of climate variability on water resources and need for sustainable environ-

mental management is appreciated. On the other hand in ERS, CC adaptation and mitigations not mentioned and this is attributed to NP & D limited ability to integrate climate information within the planning process. CC consideration has been perceived as less relevant to development process.

## Case studies

### BOX 1 CASE STUDY AREA

#### **Adaptation to Floods and drought in Oyola and Wakesi villages in Kano Plains through Livelihood Diversification**

Oyola and Wakesi villages in Kano plains Western Kenya are in flood prone area. The main livelihood support of the communities in this area is rain fed agriculture and pastrolism with heavy reliance on maize and other subsistence crops. The area has two rain seasons the long rain season in late March to mid May and short rain season in mid October to late December. The area experiences flash floods and long dry spell. The flood impact ranges from loss of human lives and livestock to widespread destruction of crops, damage to houses and public utilities and disruption of various economic activities. However, in the past 30 years the magnitude and frequency have increased flooding and drought leaving the communities vulnerable to food insecurity which threatens their livelihood support. During floods communities have been forced to move to higher ground in school and churches relying on food relief while during drought they move their cattle's to other villages for pasture.

A number of initiatives have been introduced by development agencies in an attempt to improve the livelihoods of these communities, one of the initiative is Community-Based Adaptation to Climate Change in Africa (CBAA) pilot project implemented by African Centre for Technology Studies (ACTSo and Uhai Lake Forum, Kisumu. This is one of the 8 CBAA project supported by IDRC and being implemented in 8 African Countries. The project sought to reduce the vulnerability and enhance the capacity to adapt to climate change of vulnerable communities in these countries through information, training and implementation of climate change adaptation activities. One of the approach that was identified by the community and other stakeholders was livelihood diversification. This was promoted through encouraging farmers to grow variety of crops such as indigenous vegetable, fruits trees drought and flood tolerant crops, tree for timber etc. In addition the community was trained on suitable crop management practice such as grafting of fruits trees for higher quality fruits, establishment of tree nurseries for multi purpose trees for sale, fodder trees, proper animal husbandry and soil management techniques. The training was conducted through farmer field school that had been formed by Uhai Lake Forum. In addition communities were supplied with two money maker water pump for small scale irrigation. The community is now practising the techniques they acquired and this had reduced their reliance on one type of crop making them less vulnerable to Climate Change.



## BOX 2 Livelihood Diversification Options in Sakai, Mbooni District, Eastern Province

### Livelihood diversification options in Sakai, Mbooni District, Eastern Province

Sakai Sub-location in Mbooni District, Eastern province of Kenya is an Arid and Semi-Arid (ASAL) region. The mainstay of communities in this area is small scale rain-fed agriculture, with farmers depending heavily on maize and beans, crops that are very drought sensitive. The region has two main rainy seasons the short and long rains. However, since the 1980s the long rains have become unreliable, leaving the farmers to depend on only one season for the annual harvest (CSTI, 2009). This has left the community vulnerable to food insecurity, water scarcity, and generally their livelihoods are threatened. In addition, households with low purchasing powers depend on food relief during droughts while middle class households spend about 50%- 98% of their incomes on food purchases (GoK, 2008). There have been considerable efforts by different development initiatives to improve livelihoods of communities in Sakai. One such effort is the initiative on: 'Increasing Community Resilience to Drought in Sakai Pilot project' implemented by Centre for Science and Technology Innovation (CSTI) and the Arid Lands Resource Management Project (ALRMP). This was one of three pilot projects being implemented under the "Integrating Vulnerability and Adaptation to Climate Change into Sustainable Development Policy Planning and Implementation in Eastern and Southern Africa" (ACCESSA) project supported by UNEP and funded by the Global Environment Fund (GEF) and partially managed by ACTS. Similar initiatives ran in Rwanda and Mozambique to promote the integration of vulnerability and adaptation to climate change into sustainable development plans and planning.

The pilot project sought to demonstrate how an integrated approach coupled with government policy can strengthen the capacity of rural communities to cope with climate change. One of the approaches applied in the Sakai Pilot project in Kenya is livelihood diversification. This was promoted through introducing the community to an alternative to maize crop through promotion of drought resistant traditional crops, which once dominated small scale farming in this region, the project provided farmers with seeds including: traditional cereals- gadam sorghum, pearl and finger millet, pigeon peas and green grams and indigenous rootcrops- yams and cassava. Farmers were also encouraged to plant fruit trees. The community was trained on appropriate crop management techniques, seed bulking and fruit trees husbandry (IISD, 2009). In addition, a micro-credit financing scheme in partnership with the District Social Development Office targeting women self groups was introduced. Women self help groups in the area were trained on business plan development and accounting and were provided with loans based on contexts of their business plans. This was in the form of a revolving fund with the first round of the fund being provided to five women's groups. These groups are now involved in various businesses including buying and selling of cereals, eggs, vegetables, as well as kerosene. This has increased the community's capacity to afford to purchase food from the local market during periods of droughts (ibid.).

### National Climate Change Response Strategy (NCCRS)

This strategy seeks to focus actions towards adapting to and mitigation against changing climate through engagement of all stakeholders while considering vulnerability of our natural resources. Review of existing environmental policies and legal frameworks shows that Kenya has no policies that directly deals explicitly with CC, its only NEP of 2008 that has attempted to deal

with CC therefore the NCCRS recommends for comprehensive CC policy to be established either by Enacting new CC policy or reviewing clauses on CC of the NEP. There is also need to review existing laws e.g. EMCA of 1999 to make them CC responsive or enact comprehensive CC law.

In the strategy, it was observed that there are inadequate institutions currently mandated to govern CC affairs therefore the strategy recommend a well funded CC secretariat to be established

within the ministry of environment and mineral resources to oversee CC issues. The institution is then to be anchored on provision of new CC laws.

### **Lessons from the case studies**

- Mainstreaming climate change adaptation is never a 'one off' activity. Continued sensitization, individual interest for new knowledge and mentoring are some of the needed strategies to achieve the objective

When working with some vulnerable communities, it is best to consider their socio-economic conditions upfront. For instance, it is important that the time allocated to project work and activities do not compromise other livelihood programmes.

- When coming up with interventions, the implementing organization should play a facilitator's role by giving technical guidance and advice. In this regard, communities can then come up with their own priority areas which they feel would address their current challenges.
- Given the right support and training communities are willing to diversify their source of livelihood
- Integrate top-down and bottom-up approaches, for example, **integrating indigenous/local knowledge** with scientific knowledge is fundamental in integration of climate change adaptation into plans, programmes, projects and policies
- An integrated approach is needed in putting up strategies to support community initiatives

### **Key policy Issues related to Climate change**

- Climate change is a cross-cutting issues, however, existing policies do not provide

sufficient measures to climate-proof these sectors

- Legally binding target is missing in all policies that attempted to cover climate change issues. (Joan requested to expound)
- Kenya has National Climate Change Response Strategy (NCCRS) however the initiated NCCRS action plan need to be fast-track
- There are unclear and weak institutional arrangements for holistic coordination actions

### **Recommendations**

- There is need for harmonization of existing policies that touch on climate change and provide legally binding targets Promote interdisciplinary approach in addressing climate change since its cross-cutting issue
- Build the capacity of various stakeholders to promote synergy and also sensitize at the grassroot level
- Provide budget to cater for climate change strategies implementation
- There is need to promote climate change issues through public-private partnership.

### **Lessons for Regional Economic Communities (RECs)**

There is need for climate change to be approached from a regional perspective.

There is need for the REC to harmonize their approaches to climate change. Currently, there is fragmentation in the approach by regional bodies like EA, COMESA among others.

## Note

1. Institutions include social norms of behaviour, habits, routines, values, aspirations; laws and regulations, all of which are social constructs rooted in the history and culture of a given society (Berdegue, 2005:9).

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