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*Harnessing Ecosystem based Approaches for Food Security
and Adaptation to Climate Change In Africa*



Conference Report



1st Africa Food Security and Adaptation Conference

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REPORT

*Harnessing Ecosystem-based Approaches for Food Security and
Adaptation to Climate Change in Africa*

Table of Contents

1.	CONTEXT	1
2.	EXPERIENCES SHARED ON ECOSYSTEM-BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION	3
3.	LESSONS LEARNT IN USING ECOSYSTEM-BASED ADAPTATION APPROACHES (EbA)	9
4.	MAINSTREAMING ECOSYSTEM-BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION	12
5.	BEYOND 2°C- IMPLICATIONS FOR FUTURE AFRICA FOOD SECURITY & ADAPTATION UNDER INCREASING TEMPRATURES (2°C, 3°C, 4°C)	14
6.	THE ROLE OF THE PRIVATE SECTOR: CHALLENGES AND OPPORTUNITIES	15
7.	CONCLUSIONS	16
8.	RECOMMENDATIONS	18
9.	CONFERENCE DECLARATION ON ECOSYSTEM-BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION	20

1. CONTEXT

Africa's vulnerability to climate change impacts have been underscored by severe droughts experienced recently in the Sahel in 2012 and the Horn of Africa in 2011. By 2050 many crops in sub-Saharan Africa are expected to experience yield declines between 5-22% as a result of climate change impacts. These experiences and projections bring into focus the serious impacts of climate change on the continent and highlight the urgent need for adaptation as a priority for food security; reducing the vulnerability of a great majority of Africa's one billion citizens.

Africa's population is expected to constitute about 23% of the global population by 2050. This growing population already includes 239 million persons classified as "malnourished." This places a huge demand on governments and states to provide opportunities for enough food and new dietary demands. Both an increasing population and changes in dietary preferences will put further strain on productivity in matching quantity and quality in food outputs over the next coming years. The resulting question is; what are the types of measures/approaches required for the changing needs of food security? The challenge is in charting new pathways to eliminate food insecurity, adapt to the changing climate and build sustainable systems. This will require innovative solutions that build on an internally driven process of change by individuals, communities and institutions coupled with adaptation to climate change.

With the shift towards Sustainable Development Goals (SDGs) in expansion of the Millennium Development Goals (MDGs) after 2015, approaches that serve multiple purposes and provide cross-cutting benefits are highly needed in Africa and elsewhere. For example, achieving food security is unmanageable without climate change adaptation measures and practices that not only support farmers in producing enough food to meet people's nutritional needs, but that also preserve ecosystems from degradation. Preventing soil erosion, increasing water access, nutrients, and promoting pollinators will underpin agricultural productivity, particularly in smallholder dominated landscapes.

Approaches that carry the potential for informing and guiding policy and practices are imperative. One of these approaches is Ecosystem-based Adaptation Approaches (EbA), which provides flexible, cost effective, and broadly applicable alternatives for building robust food systems with fewer inputs and at the same time, reducing the impacts of climate change. Practices such as agro-forestry, buffer strips, on-site water conservation, use of native species, etc. have demonstrated that ecological-based approaches can provide just the right framework for catalyzing transformative change on a larger scale. Adopting ecological-based approaches could help build efficient food systems and resilient livelihoods, and ultimately achieve global food security in a changing climate. "What ecological-based approaches do differently to get Africa and other regions out of food insecurity?" "How emerging ecosystem-based approaches can be consolidated and up-scaled?" and "What scale of production is appropriate to achieve these aims?" were questions asked and answered during the 1st African Food Security and Adaptation Conference.

CONFERENCE DESIGN AND OBJECTIVES

The Food Security and Adaptation to Climate Change Conference with the theme: "Harnessing Ecosystem based Approaches for Food Security and Adaptation to Climate Change in Africa," was held on August 20th-21st 2013, at the United Nations Environment Program (UNEP) Headquarters in Nairobi Kenya. The conference was convened by UNEP in collaboration with FAO and other UN Agencies, governments, research institutions, NGOs, scholars, donors and local governments and experts from various sectors.

The conference brought together some of Africa's leading academicians, experts and subject matter specialists in the various climate change related sectors. This highly innovative and timely conference was a combination of plenary and panel group discussions. The mixture of plenary and panel discussions provided participants with an outstanding opportunity to interact and learn about the latest ideas and practices in harnessing ecosystems services for food security and climate change adaptation as well as map a way forward for ecosystems adaptation based approaches to food security in Africa.

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THE KEY OBJECTIVES OF THE CONFERENCE WERE TO:

- » Aggregate the lessons shared during the conference into common solutions for food security and climate change adaptation across country applications, in building the capacity of the practitioners, supporting policy processes at all levels as well as empowering countries to undertake larger actions.
- » Share information on targeted ecological actions that provide opportunities for addressing perennial food insecurity in sub-Saharan Africa.
- » Identify key challenges and bottlenecks hindering the scaling up of ecosystem-based adaptation practices and how they can be overcome.

THE EXPECTED OUTCOMES WERE:

- » Improved understanding of harnessing ecosystem services for food security and adaptation to climate change in agriculturally dominated landscapes in Africa and elsewhere.
- » Exploration of policy options and innovative approaches for increasing the role of ecosystem-based approaches in food security and climate change adaptation.
- » Engagement of the regional partners and policy makers within the continent on food security and climate change adaptation.



2. EXPERIENCES SHARED ON ECOSYSTEM-BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION



The first plenary session shared practical examples of projects from countries which harnessed ecosystem-based approaches to enhance food security and climate change adaptation and at the same time enhanced the productivity of the different ecosystems (agriculture, desert, aquatic and forest). Participating stakeholders included governments, non-governmental organizations, multi/unilateral organizations, the private sectors and the wider community in a bottom up approach in terms of decision making, project planning and implementation. The initiatives were gender sensitive, and mainly targeting small scale farmers (pastoralists, fishermen, and crop producers), rural dwellers and indigenous groups.

ECOSYSTEM-BASED ADAPTATION APPROACHES ADOPTED

The conference presentations shared experiences on a multiplicity of broadly applicable interventions which promoted food security, climate change adaptation and ecosystem productivity. The following sections report on the interventions, their objectives and their successes and failures presented and discussed at the conference. The presentations showcases clearly how the different ecosystem based adaptation actions contributed to addressing and enhancing food security, adapting to climate change and increasing the

productivity of the ecosystems. The lessons learned, and challenges faced, have been cataloged in this report so that future projects can evaluate the most efficient and effective methods to promote food security, climate change adaptation and ecosystem productivity.

FOOD SECURITY

All projects presented at the conference focused on either increasing productivity or diversifying food sources as an objective, albeit each project had a different approach to achieving the food security objective. Broadly, projects focused on capacity building within communities in order to ensure sustainable food security and encouraged innovative solutions in the context of future circumstances. Specifically the projects tended to implement one or more of the following techniques: Training and sensitization, engagement in policy development, value addition, diversification of food sources and emerging opportunities for income generating activities.

Training and sensitization of technical staff through workshop, conferences and exchange field visits has helped strengthen the capacity of communities to adopt new ways of harvesting and utilizing resources. A unique approach in Malawi played over 100 programs on the national radio station to generate awareness. The same project also worked directly with 85 women to increase amounts of their fish produce. Through the use of solar drying they were able to increase produce available for sale earning a 170% higher price (from US\$2.86 per kg of raw fish to US\$7.71 per kg of dried fish). These groups were also linked to markets and banks. The end result was not only greater food security gained through new knowledge but increased income.

Decision making among the communities in terms of policy development, formulation and planning of the projects and resource management has enhanced collaboration between different communities (e.g. between the farmers and pastoralists or local communities and national government). In Ethiopia one particular project sought to integrate water and watershed management, health and education initiatives across two cities - the result was the establishment of Corvallis-Gondar Sister Cities Association (C-GSCA). With the underlying goal of preserving the collective watershed for enhanced food and crop security the project undertook a bold plan that encompassed the promotion of soil conservation, tree planting, Agroforestry and collaboration with farmers, government representatives, and NGOs to develop sustainable, productive practices contributing to the longevity of the Angereb reservoir and subsequently greater food security.

Value addition is the process of increasing the margin between the sale price and the raw costs. Projects undertook to add value to previously unproductive but locally available resources e.g. wetland bamboo resources were used for building, and papyrus reeds for basketry have been used to generate an alternative source of income. The surplus production of products like watermelon and sweet melon can now be converted to more profitable jams through the uptake of new techniques. Through agro-processing techniques like dehydration of vegetables, sacks and barring the grains in mills, farmers can now store grains for 3-4 years. A Burkina Faso project targeted 120 women directly (and 11,260 indirectly) who depend on Shea butter production for between 80% - 100% of their income. It succeeded in increasing the volume and quality of the Shea Butter produced by the women, providing for higher prices. In addition, 5 hectares of previously unprotected, deforested land were replanted with the indigenous Shea tree (*Vitellaria paradoxa*) and are now under care of the women.

Additional flow of income was generated in a majority of cases, but several projects went beyond increasing productivity and moved into facilitating the adaption of new industries. In Togo, small water reservoirs were rehabilitated for water access for farming and livestock purposes. However, several women and youth groups were introduced to brick making/laying which significantly increased their economic value and self-sufficiency. The new income granted them a greater purchasing power and food security.

CLIMATE CHANGE ADAPTATION

The extensive awareness of the importance of the ecosystems has enabled communities to become adamant preservationist in their

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native areas. The infusion of the indigenous knowledge and the scientific views and cross-cutting initiatives at the local and national level has led to restoration of both terrestrial and marine/aquatic species. A range of specific techniques were adopted to enhance climate change adaptation, among these Payment for Ecosystem Services (PES), preservation and promotion of indigenous species and sustainable harvesting practices, afforestation and mangrove rehabilitation, water system rehabilitation (including reservoirs, wastewater reuse, and early maturing and drought resistant crop adaptation were among the most successful projects implemented.

Payment for Ecosystem Services (PES) has increased fauna conservation and contributed to expansion of natural preserves. Additionally, cultural-based or ecologically tourism have subsequently increased household income. One project in Kenya tracked PES payments from 2004-2009 and concluded that during that time income related to PES services had increased by over 350%. At the same time the income generated from livestock production decreased to a similar level to that of PES income. This indicates a more equitable diversification of income sources, enhanced food security in case of declines in livestock production (due to inadequate grazing, disease or weather-related circumstances), and recuperation of ecosystems overburdened by the impacts of overpopulated livestock presence.

Preservation and promotion of indigenous species has resulted in both increased conservation of natural habitats and increased incomes. In South Africa, farmers were introduced to management techniques of the natural areas where rooibos grows. This resulted in the preservation of the endemic sub-species of *Aspalathus linearis* which has higher rates of survival under climate change. In addition farmers are now using sustainable harvesting practices. As a result of the higher prices now offered for the sustainably-harvested, wild Rooibos farmers are both more economically secure and incentivised to further protect the native environment.

Afforestation campaigns have promoted agroforestry, continued the restoration of ecosystem biodiversity (including the return of birds, more insects for crop pollination, mushrooms and wild fruits), and contributed to the regeneration of vegetation cover. Catchments and other fragile areas are now protected from human induced degradation through slowed surface runoff. In Uganda, over 31,000 tree seedlings were planted over four and a half years while an Ethiopian project planted over 1,500,000 in six years. Additionally, the practice of wood enterprise is now generating income for local populations. In the case of Tanzania, enterprising but impoverished individuals (most frequently women) were able to use the woodlots they maintained as collateral for loans. This ingeniously-orchestrated loan scheme was essential in establishing a foundation for increased self-sufficiency and food security. In Mozambique, serious degradation was occurring to the mangroves along the Lower Limpopo river contributing to an increased risk of flooding, soil erosion, and decreasing fish populations as their natural habitat was being destroyed. One project successfully replanted 10 hectares of mangrove to alleviate these issues. Today, the fish population has rebounded and the community is more resilient to the climate change impacts on the coastal region. Similar projects have large applicability for the majority of African coastal countries.

Ecological water harvesting and irrigation techniques carry enormous benefit including providing populations with access to clean water, providing water sources for livestock, crops and wild animals, and improving climate change adaptation by providing water sources under situations of decreased rainfall, increasingly arid conditions or increasing and damaging run-off from flooding. In Togo, where rainfalls are concentrated in just four (4) months and temperatures frequently exceed 40°C, a reservoir rehabilitation project succeeded in increasing storage capacities from 9,000 to 24,000 cubic meters of water in one reservoir and from 50,000 to 70,000 cubic meters of water in another. A similar Ethiopian project developed water catchment systems that eliminated an average of six (6) hours from a single trip to collect water, and had the unintended benefit of promoting the return of several native bird species as a result of the newly available water. Nigeria built upon the local knowledge regarding “Lyialas” (water ponds) and integrated them into roadside catchments and sloping planes to mitigate the erosion caused by torrential floods.

Wastewater reuse forms a reliable source for crop irrigation therefore playing a significant role in food security and raising rural incomes. Through irrigation, farmers are adapting to poor rainfall and drought resulting from climate change. Sustainable use of the arable land through improving the productivity of the farm lands and reclamation of other lands is complemented by irrigation farming which has led to more lands being under cultivation that is increasing food yields; while reducing the pressure on limited land, fragile soils and wetlands ecosystems. Ninety (90) farmers in South Africa were introduced to waste water techniques which promoted crop growth. This project has broad applicability throughout Africa where little more than 4% of agriculture is irrigated.

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Early maturing and drought resistant crops have an obvious role to play in food security in the face of climate change. Adapting these types of crops can assist communities who experience seasons of food insecurity due to harvest timing and assist during periods of unexpected drought or inconsistent rains. Over 4,000 households in Malawi experienced greater food security despite climatic impacts by adopting early maturing and drought resistant crop varieties.

CONTRIBUTIONS TO THE PRODUCTIVITY OF ECOSYSTEMS

Ecosystems underpin agricultural productivity and any climate change initiatives undertaken by the community. Conference outcomes were particularly strong in demonstrating increased productivity of ecosystems post-intervention. Many techniques were discussed, those most often highlighted included: conservation agriculture, barrier crops, biodiversity augmentation and intercropping, agroforestry, eco-agricultural water harvesting and irrigation, soil conservation and use of organic fertilizers, and ecological pest management.

Conservation Agriculture (CA) can take many forms, but all forms are an attempt to more efficiently and effectively utilize natural resources. Among many other techniques, CA includes “no till” practices to preserve the soil, favors organic manures over chemical, discredits mono-cropping, and includes mulching. All of these practices contribute to the greater health of the local ecosystem with the added goal of increasing yields. In Malawi, increases from 3T/Ha to 5T/Ha were recorded, while in Zimbabwe CA improved yields from 0.8T/Ha to between 2 – 4T/Ha.

Barrier crops are crops that are planted to enclose other crops more vulnerable to pest or animal intrusion. These crops provide benefits over “hard infrastructure” in three ways: first, they offer a natural form of protection, second, they contribute to the biodiversity and often soil improvement, and finally, they can provide an added source of food provisions or income. Rwanda created a 50m buffer zone along Kivu Lake composed of fruits trees and bamboo plantation which created a more robust environment for the local fauna and generated gains in food supply and biodiversity. A Ugandan project promoted chili (*capsium annum*) production. About 0.5tonnes sold during the off peak dry season can earn households about \$60 per week. Three (3) tons of chili marketed in peak season earns poor households about \$240 per week.

Agroforestry is the practice of incorporating trees into crop areas. The presence of the trees in cooperation with crops stabilizes erosion, filters and improves water supply, and increases the soil quality through nitrogen-fixation. Trees also facilitate carbon sequestration. Certain types of trees can also provide yields of fruit, tea, coffee, oil, fodder and medicinal products, in addition to the usual crop harvest. In Malawi, over 1,000 farming families have included over 12,000 fruit trees into their cropping systems including mango, avocado, pear and citrus. Uganda has planted over 40,000 agroforestry-purposed trees while Rwanda replaced invasive species with the native *Acacia kirkii* tree and facilitated a renewed habitat for more than 82 indigenous bird species.

Biodiversity augmentation can include intercropping, and diversification into livestock or fish farming among other techniques. Intercropping – the process of farming two or more crops in the same vicinity – and livestock farming – such as fish and crab farming – increase the inputs into the ecosystem by generating and depositing nutrients and elements that were previously unavailable by decreasing dependence and saturation of any one product. In the case of Mozambique, fish and crab farming contributed to alleviating the pressures of overfishing and mangrove deforestation and after some time fish populations in the area began to rebound greatly, restoring the surrounding ecosystem balance. In Mozambique an estimated 2,000 people benefited from fish and crab farming which produced greater food security and generated income.

Soil conservation technologies such as mulching, use of manure, planting of leguminous crops, and prioritizing fruits, oleaginous and food crops improve soil fertility by increasing the microorganism composition in the soil. This ensures that the natural process necessary for a healthy lifecycle of the ecosystem can occur. This positive feed-back cycle increases agricultural productivity. In Malawi at an estimated 21,000 people were made food secure due to ecosystem productivity that improved yields of smallholder farmers from 0.5MT to 1.25MT/

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Ha as a result of soil conservation practices. Lastly, an innovative project in Togo treated human waste and applied it as a fertilizer to promote soil health while sanitizing the surrounding environment.

Ecological pest management is the use of natural enemy dynamics or environmental positioning (e.g. crop shading) to eliminate or reduce the presence of pests. This significantly reduces chemical absorption and run-off from pesticides which contribute to greater ecosystem health, not to mention biodiversity. One project which spanned Kenya, Ethiopia, and Tanzania benefited 3,000 farmers reduced disruptions to biodiversity and facilitated a less costly pest management option for the farmers.

ADVANTAGES

- » Ecosystem-based approaches resulted in emerging opportunities that included: alternative livelihoods initiatives like bee keeping, fish farming, and brick making and subsequently promoted the local economy and augment the household incomes.
- » Replication has in many cases been organic; selected models are being demanded from neighbouring communities familiar to the benefits of the project. Replication is then possible as EbA projects demand minimal investment costs.
- » Scientific evidence gathered from pilot projects is quickly moved forward to facilitate larger policy initiatives. Larger policies are now informed of the success, failures, benefits, and replication potential of EbA projects through demonstration projects.
- » The projects have also addressed longevity through the formation of local management groups/committees; drafting bylaws for implementation; establishing linkages with ministries and government; linking farmer groups to markets to establish long-term relationships; linking the interventions to other initiatives like internal savings and lending and training for participating communities.
- » Further, the projects have addressed cross-cutting issues including; indigenous knowledge; gender analysis and mainstreaming; HIV/AIDS; child protection and disability; conflict and dispute resolution mechanisms; entrepreneurship; the development of social assets; natural systems management, and ensuring effective participation in decision-making.

CHALLENGES

The main barriers limiting the implementation of the interventions included:

- » Weak policy frameworks that compromised the success of the projects (e.g. unclear government policies) or unclear strategies towards improving scientific knowledge of the relevant ecosystems.
- » Conflicting indigenous beliefs and scientific knowledge. For instance, indigenous agricultural sector in some villages were increasingly being influenced by unsustainable external technologies and inputs, especially the use of chemical fertilizers, pesticides and market forces. This was further compromised by lack of documentation of indigenous knowledge.
- » Unclear land rights and high population densities led to widespread encroachment and degradation of fragile ecosystems by the farmers and conflicts over diminishing resources, therefore compromising the success of the adaptation approaches.
- » Extreme poverty and lack of sufficient funding compromised several situations as community processes were lengthy which created difficulty in sustaining the projects' objectives and outcomes.
- » Weak corporate social responsibility in the private sector.
- » Irresponsible or corrupt government practices and limiting bureaucratic processes, including misplaced government priorities on what exactly should be addressed for communal good leads to projects failure in tackling immediate challenges of the communities.
- » Inadequate awareness and sharing of research findings (i.e. knowledge gap where farmers were not aware of some of the ecosystem based technologies). This is worsened by inadequate resource inventory data and illiteracy which inhibits sustainable uptake and adoption of some the approaches as well as non-valuation of ecosystem services.

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- » Gender, and youth mainstreaming in response to the impacts of climate change in agricultural systems was constrained by the distribution and use of rights, resources and power, which dictates the conditions and quality of the livelihoods in societies.
 - » Inadequate monitoring and evaluation structures for the ecosystem based adaptation approaches limited and continue to limit the long term success and impact of EbA projects.



3. LESSONS LEARNT IN USING ECOSYSTEM-BASED ADAPTATION APPROACHES (EbA)

After reviewing the various ecosystem based adaptation approaches, the following emerged as the lessons learnt:

POLICY AND PLANNING

- » Good governance is necessary for proper resource valuation (e.g. rehabilitation and preservation of forests and aquatic/wetland resources).
- » Transparency needs to be promoted in benefit-sharing derived from intervention revenues (e.g. Payment of Ecosystem Services schemes). These schemes often function best when intermediaries are excluded and payments go directly to the community resource stewards – in some cases this was accomplished by mobile phone transfer.
- » Integrating indigenous knowledge ensures that the ecosystem-based approaches are built on local, cultural, and social practices already in place.
- » Voluntary EbA initiatives by neighboring communities signal a successful project and should be highly prioritized for national uptake.
- » Compromise of the livelihoods of local communities (e.g. total exclusion of livestock grazing) should be severely limited or eliminated and efforts prior to the start of the project to evaluate the impact of the project on the livelihood of the community should be thoroughly investigated.
- » Legislation must protect, conserve, and incorporate the value of ecosystems in order for national policies to be cohesive with long-term initiatives.
- » Climate change adaptation policies at all levels must specifically consider how ecosystem services benefit communities (e.g. the importance of livestock and wildlife to the communities in Kenya, Ethiopia and Uganda was used to emphasize and inform the community members of the benefits of improved rangelands and forests).

CAPACITY BUILDING

- » Large-scale capacity building and awareness, education & expert training (extension farming), and timely support to farmers infused with elements of policy/legislation for large-scale sustainable resource management is necessary for long term success of EbA for food security and climate change adaptation. This was demonstrated successfully in the case of forest rehabilitation in Rwanda where timely capacity building of communities and stakeholders was accomplished through dialogues, sensitization meetings and trainings on climate change adaptation and security strategy.
- » Defining clear and concise goals for ecosystem-based adaptation is one of the most important steps in effective ecosystem-based adaptation implementation. This occurred in the case of Sudan where conservation of natural resources for improved crop and livestock productivity prioritized socio-cultural goals that moved beyond science-based or science-defined objectives enabling them to think and take actions that minimized statics in managing the agricultural ecosystem whereas countries that majorly used indigenous knowledge (i.e. Tanzania) experienced clash between Indigenous and scientific systems due to overlapping goals.
- » Successful implementation of EbA depends on involving all stakeholders in planning, decision-making and implementation. The most important part of successful ecosystem management is involving the surrounding community through a participatory approach. It is therefore recommended for effective up-scaling of the EbA to the rest of Africa.

IMPLEMENTATION

- » Formation of grass root farmers'/community organizations/cooperatives should be promoted for effective management of the demonstrations/projects. A community-driven approach can accomplish many social aims, and preserves the organic longevity of the project. This was seen in the case of women groups involved in the manufacturing of Shea Butter in Burkina Faso, who are now engaged in protecting 5Ha of Shea trees as the health of the trees directly impacts their livelihoods.
- » Understanding gender-differentiated and youth-driven impacts and vulnerabilities helps to address the specific needs of women, men, and youth. Understanding the social dimensions of the local communities is essential for successful EbA project implementation. This was seen in the case of Togo where providing women and youth with an alternative industry drastically altered social structures.
- » Access to microfinance or micro-insurance (on scientific basis of the weather index and insurance index as scientific indicators) are good practices for preparing farmers for the impacts of climate change. Efforts to digitalize data have proven very successful in preparing farmers for climate change effects and subsequently, food security.
- » Priority for up scaling the ecosystems approach should be given to the resource poor communities and those living in marginalized areas. This will also expose them to new technologies through innovative financial instruments, mechanization to improve harvesting techniques and reduce post-harvest loses, as well as access to processing technologies to improve quality and farmers' income.
- » As is evident, in up scaling ecosystem-based approaches the effects of increased demand on natural resources should be carefully considered otherwise carrying capacity of a particular area may be exceeded and the environment be damaged. Uganda succeeded in diversifying resource use using conservation agriculture to ensure the protection of forest ecosystem from the overharvesting of fire wood and wild fruits because the project provided better alternatives e.g. bee keeping, livestock keeping and harvesting of fruits.

DEMONSTRATION PROJECTS & TECHNICAL ASSISTANCE

- » Climate is changing and we need climate smart-crops that can be incorporated into the native ecosystem. The conference saw cases of their use in Nigeria where New Rice for Africa (NERICA) and the Open Pollinated Varieties (OPV) sorghum was utilized as well as millet in Zambia which improved farmers' resilience to climate change.
- » Ecosystem-based approaches should inherently incorporate alternative sustainable livelihoods packages that highlight the value of conserving ecosystems. Benefits respond to immediate livelihoods needs so as to induce intensive community engagement. The Uganda Support for Women in Agriculture and Environment (SWAGEN) group keeping goats and chickens, fish and crab farming in Mozambique, and basketry in Kenya, among other projects improved the livelihoods of the locals as a major objective in preserving the ecosystem.
- » Despite high vulnerability, women function as key agents of change in community natural resource management, innovation, farming and care giving. Thus, they hold the key to adaptation to climate change and their EbA-embedded roles should be carefully considered.
- » Indigenous knowledge (IK) provides the community with affordable, accessible and culturally acceptable strategies for survival which should form the basis of new project-related techniques whenever possible, to ensure uptake.
- » By integrating the management of natural ecosystems together with social systems the opportunity for mutual benefits between the two systems occurs as a synergy, which enhances sustainability and resilience to the impacts of climate change and variability – each preserving the continuation of the other. This was the case in Tanzania where woodlot maintenance doubled as loan assistance, and conversely by acting as collateral for the loan the woodlots were sustained.

RESEARCH & DEVELOPMENT

- » Given the challenges related to the application of scientific knowledge and technologies here in Africa, research is critical to ensure that technologies are compatible within the local context and adaptable in new regions. This has been demonstrated in the case of agro-ecology in Togo by improving the livestock feed system and by improving soil nutrients the soil conservation project in Uganda.
- » Sharing of research findings and community experiences are necessary to improving the knowledge gap and adoption of best practices. For example, crop demonstrations in Uganda on intercropping and other agroforestry trees based on research are now employed by farmers who were convinced through visual demonstrations of the scientific research findings.
- » Ecosystem-based approaches to adaptation are anchored on the useful role played by the biotic (weeds, pests, diseases) and abiotic (droughts, floods, landslides) components of the environment, providing support mechanisms for both plants and animals. The cases of Kenya, Ethiopia, and Tanzania demonstrated that integrated pest management was a less costly option that also improves health of the natural environment which in turn contributes to the social wellbeing of the community (e.g. water harvesting).



4. MAINSTREAMING ECOSYSTEM-BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION

Adapting ecological based approaches can help build efficient food systems, resilient livelihoods and ultimately, achieve global food security in a changing climate. In order to address the issue of what EbA can do differently to get Africa and other regions out of the pack of food insecurity the conference discussed up-scaling Ecosystem-based Approaches, maximizing policy frameworks to integrate ecosystem-based approaches, funding mechanisms for Ecosystem-based Approaches and the scientific perspective on Ecosystem-based Approaches. Discussions and working sessions were held on these thematic areas.

I. UP-SCALING ECOLOGICAL BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION

Key questions deliberated regarding the above issues were:

- » *What are some examples of guidelines for up-scaling ecosystem based approaches?*
- » *What should be considered in up-scaling ecosystem based approaches?*
- » *What are the barriers to up-scaling ecosystem based adaptation practices, and how can they be overcome?*
- » *How can emerging ecosystem-based innovative solutions be consolidated and up-scaled?*
- » *What scale of production is appropriate to achieve integration? Small versus large?*
- » *How can we expand food productivity beyond agricultural lands and consolidate gains made through ecological approaches?*

The conference participants identified the thematic areas of Ecosystem-based Approaches as Agroforestry, Conservation agriculture, Organic farming and Water Harvesting. Identified barriers to up-scaling included: Lack of funding, support, incentives and relative policy frameworks and cultural acceptance as well as a dearth of research and gap between existing research and implementation. These barriers can be overcome through enhanced investment, policy integration, information campaigns and demonstration projects, use of appropriate technologies, enhanced role and integration of governments and institutions, and sustainability initiatives that rely on enabling market conditions that benefit short-term local needs and foster long term large scale gains.

II. MAXIMIZING POLICY FRAMEWORKS TO INTEGRATE ECOLOGICAL BASED APPROACHES FOR FOOD SECURITY AND ADAPTATION

Key questions deliberated regarding the above issues were:

- » *How can existing policy frameworks on food security both at the regional and national levels be maximized to integrate ecosystems based adaptation approaches for food security initiatives?*
- » *What are some shortcomings of current food security policies and frameworks?*
- » *What are examples of current linkages between food security frameworks and Climate Change Adaptation strategies?*

The discussion group concluded that existing policy frameworks should be maximized through: food security, climate change and ecosystem policies that ensure community involvement in their formulation, cascading to the roots and use of indigenous knowledge, collaboration and public-private partnership, capacity building regarding food security, climate change and ecosystem measures, budgetary allocation food security measures, monitoring and evaluation of policy implementation and evidence-based policy making. Currently food security policies often lack resources for implementation, considerations for cross-cutting issues of food security, sufficient knowledge dissemination, gender-mainstreaming and political goodwill.

Examples of current linkages between food security and climate change adaptation strategies are: the trans-boundary co operations such as Regional Agricultural Policy for West Africa (ECOWAP), East African Community (EAC) climate change adaptation strategies and country policy like that of Sudan which has a policy under approval for food security to become a national programme for food security targeting

climate-vulnerable areas. Harmonizing policies nationally, regionally, and globally is an important step to increasing food security.

III. FUNDING MECHANISMS FOR ECOSYSTEM BASED APPROACHES FOR FOOD SECURITY AND ADAPTATION

Key questions deliberated regarding the above issues were:

- » *What funding mechanisms for food security should be harnessed to promote integrated ecosystems based adaptation approaches?*
- » *How can investment and institutions be mobilized?*
- » *What are the potential impacts on future economic development?*

Participants of the Funding Mechanisms group discussion determined that funding mechanisms that should be harnessed include Local Finance, Private Finance, Development Banks (World Bank, AfDB, EXIM), Public Country Budget Frameworks, self-generation from projects and resources within the UN system (FAO/WFP).

Investment and institutions at the local level can be mobilized through group funding of grassroots farmers organizations including Build Operate Transfer/Sell/Lease mechanisms, Self-funding project mechanisms, and from the returns on project outputs.

Project funding proposals should seek to; determine a cost Benefit analysis; demonstrate the return on investment (ROI); demonstrate how EbA can address multiple dimensions (social, capacity building, etc); focus on the most productive areas even if non-agricultural; incorporate into national investment plans (allocating a budget); and coordinate funding from various actors.

The potential impacts on future economic development may include: expansion of infrastructure; looking at agriculture as a business and wealth creation - not only for food supply or poverty alleviation; and a reduced unemployment rate as a part of the national agenda.

IV. THE SCIENTIFIC PERSPECTIVE ON ECOSYSTEM BASED APPROACHES USED ACROSS THE CONTINENT

Key questions deliberated regarding the above issues were:

- » *What does the science tell us about those approaches? This will allow matching local knowledge use of these practices with their scientific basis where applicable.*
- » *What are other examples of ecosystem based approaches in use?*
- » *What are the current limitations in their use in their respective places*
- » *What do we know of the scientific basis of some of the ecosystem based approaches?*
- » *What are some of the limitations of the ecosystem based approaches?*
- » *What would be the current research prioritized?*

The discussion group concluded that “a farmer is a scientist” and a model who knows best how he is producing, linking local knowledge and science, therefore he should be involved in participatory research approaches. This will open up avenues to addressing resource limitation which is key to up-scaling ecosystem based approaches and sustainable land management. Therefore we must undertake gender responsive and multidisciplinary research to unravel the unknown, capture knowledge and communicate the scientific outputs to farmers in accessible journals. The research products should:

- » Enhance Innovation, conservation, sustainability and equity sharing and include an exit plan
- » Promote training among young people, and convince them that farming is viable business and laudable profession
- » Address the gaps between research, use and implementation (this can often be accomplished through “demonstration projects”)
- » Include biophysical and socio-economic indicators
- » Consider the agriculture climate change health nexus and address health risks that could be associated with some of these methods.

5. BEYOND 2°C- IMPLICATIONS FOR FUTURE AFRICA FOOD SECURITY & ADAPTATION UNDER INCREASING TEMPERATURES (2°C, 3°C, 4°C)

A key threshold measuring the march of global warming was crossed recently when the concentration of carbon dioxide in the atmosphere topped 400 parts per million. Understanding how much worse the situation could be when more climate change is induced when the CO₂ concentration increases from 400 ppm to 450 ppm and beyond is essential to solving food security and its ecosystem linkages. At this rate, we are on track not for a 2 degree but for a 3 to 5 degree increase in temperature by the end of the century. The discussants proposed what this increase in temperatures means for future African food security efforts and participants energetically responded with concerns, questions, ideas, and initiatives.

Questions posed to the Discussants during the session included:

- » In which ways can ecological based approaches facilitate a reduction in carbon and avert the rising temperatures?
- » What are some of the most effective methods for achieving institutional change?
- » How best can information be transferred to all parties – especially communities?

Lively contributions from the audience resulted in a myriad of responses, which included:

- » All together in Africa with many countries experiencing very similar situations of food insecurity and climate change impacts
- » Scale up by pressuring government
- » Fuel subsidies could be transferred into funding for ecosystem approaches
- » Mainstream EbA into development schemes will be imperative for long term growth
- » Eco-friendly lifestyles should be maintained by all
- » Diversification of food and energy methods are key to achieving growth
- » Education for young Africans is imperative
- » Green Funds exist; Mauritius, Mauritania, Rwanda are good examples
- » Regional blocks should be used to ensure passage of funding
- » Constitutional rights could contribute to obtaining funding through country budgets
- » National governments should be held accountable for funding and adequate policy implementation
- » Focus on what has been proven in the “landscape approach”

There was a general consensus that the most essential piece of the equation is to ensure that we maximize what is utilized of every resource available (water, energy, soil, trees, etc) and that interventions that increase carbon output must cease. Because very little carbon emissions currently come from the region, Africa is well-suited to lead in ecosystem-based approaches to agricultural, energy, and resource use. The participants concluded that the way forward will include detailed research on the effects of climate change, and adaptation measures as well as innovation in current agricultural practices to increase productivity especially as growing conditions change. Lastly, it was recognized that this research and innovation will only come from promotions in education whether it is for upcoming students or rural farmers - ways of consolidating and disseminating this information will be foundational to achieving food security under climate change.

6. THE ROLE OF THE PRIVATE SECTOR: CHALLENGES AND OPPORTUNITIES

The alignment of ecological approaches that enhance food security with economic opportunities is crucial in undertaking the changing climate adaptation. Looking at how different business models can be used to allow companies to target growth while contributing to better management of ecosystems is necessary for societal wellbeing. The conference deliberated on opportunities for the private sector in underpinning their supply chain with ecological approaches. The following issues were of focus:

- » *How can an enabling environment be created for private sector engagement?*
- » *What challenges are faced by the private sector that prevents its participation?*
- » *What are the investment opportunities in harnessing ecological approaches for businesses?*
- » *What models have worked and how can they be capitalized on?*

Private sector plays a central role in society in complimenting the government and other stakeholders in feeding communities. Private sector requires an enabling environment for effective and sustainable production and distribution. Discussants and audience participants put forth initiatives that would assist the private sector in contributing positively to food security and ecosystem management. The contributions included:

- » Providing tax incentives for feeding the public
- » Predictability of government behavior and policy initiatives
- » Clear rules and regulations, infrastructure, raw materials and markets
- » Clear policies by government to support farmers and their linkages to larger companies
- » Smart partnerships and collaboration that is beneficial to all. Therefore government was requested to create a framework for engagement
- » The creation and uptake of research & development (R&D) innovation labs
- » Inclusive and holistic processes from farm to market
- » If international funding is received it should be received at the communal level to ensure funding reaches those affected
- » Efforts to combat corruption in government which compromises transparency and discourages large companies from engaging in various countries

There is need for a huge policy shift in Africa to provide an enabling environment for EbA. Most critical is improving capacity building of producer organizations and farmers through adult literacy. Urbanization presents investment opportunities in harnessing ecological approaches for businesses particularly with regards to providing raw materials for alternative energy. Nestle is a model company that is committed to contributing to society in the areas of nutrition, water and rural development to create shared values. They are committed to achieving the highest standards of compliance with laws, codes of conduct and their own corporate business principles as well as to protect the environment for future generations. These elements of transparency should be emulated by other corporations but government must first promote a level playing field such that law-abiding corporation are not disadvantaged in the market.

7. CONCLUSIONS

Reflecting on group discussions, the experiences, achievements, challenges and lessons learnt in the use of ecosystem-based approaches across Africa for improved food security and enhanced adaptation and resilience to climate, we can conclude that;

- » Emerging ecosystem-based innovative solutions require consolidation and up-scaling. At the same time successful up-scaling of ecosystem based adaptation approaches requires guidelines so as to overcome barriers.
- » There is need to expand food productivity beyond agricultural lands and consolidate and properly value gains made through ecological approaches.
- » Food Security frameworks and Climate Change Adaptation strategies are interlinked and so existing policy frameworks on food security both at the regional and national levels should integrate ecosystems-based adaptation approaches and food security initiatives.
- » The lessons gathered in use of EbA need to be consolidated into common solutions for food security and climate change adaptation and shared for regional application, in building the capacity of all stakeholders, supporting policy processes at all levels as well as empowering countries in undertaking bigger actions and providing opportunities for addressing perennial food insecurity. Such actions should take into account the cross-cutting dimensions of ecosystem-based approaches.
- » The recognition of key challenges and bottlenecks such as lack of funding support, incentives, political will and commitment, and relevant policy frameworks as hindering the scaling-up of ecosystem based adaptation practices, and how they can be overcome is also vital. These need to be addressed by increasing investments in ecosystem based approaches, promote appropriate technologies, provide access to information and fill up the gap between the science and practice while mainstreaming indigenous knowledge systems.
- » Policies must ensure sustainability by enabling market conditions that benefit short-term local needs and foster long term large scale gains.
- » African countries should ensure good governance and promote transparency in benefit sharing derived from revenue generated from EbA such as Payment for Ecosystem Services (PES) schemes as lack of it derails community integrated natural resource management. This should be accompanied by instituting enabling policy and legislation to support voluntary EbA initiatives that do not compromise the livelihoods of local communities.
- » The involvement of the communities to the planning, implementation and evaluation of EbA enhances the sustainability of the interventions as it improves the community ownership of the projects. Additionally, the private sector which has mostly faced isolation from the whole debate should be encouraged to participate through policy incentives which commit them to the process.
- » Ecosystem-based approaches can help restore, conserve and manage critical ecosystems and habitats if we ensure that ecological values that develop the knowledge base, support education and information programmes are fully integrated into the planning, management and use of resources to promote ecosystems conservation, protection and management.
- » Value addition is useful at all levels of production while the most accurate value addition practices go beyond the value food chain to also encompass ecosystem sustainability.
- » To be able to mainstream ecosystem-based approaches into policy and planning at all levels, we need to refine the science and understanding of what works where and why and situate it in a context understood by all stakeholders, and move to better integration of science policy and practice. This should also cover markets, policies and programs that encourage synergies and reduce trade-offs among ecosystem-based approaches objectives. National and sub-national policies should support integrated ecosystem based approaches and encourage business leaders/corporates to incorporate integrated ecosystem approaches in their business models which would permit expanded financing for integrated ecosystem investment

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- » Some shortcomings of current food security policies and frameworks in Africa include: Lack of resources to implement policies; failure to take into account the cross-cutting nature of food security; insufficient knowledge dissemination; failure to take into account the role of women in ensuring food security; failure to clearly define authority and ownership over resources; and general lack of political will. Additionally, there is need to increase budgetary allocation specifically for ecosystem-based food security programmes.
 - » Some of the current linkages between food security frameworks and Climate Change Adaptation strategies include: agriculture and business i.e. agribusiness and trans-boundary cooperation; regional policy development and as regional blocs i.e. EAC climate change adaptation; and collaboration within government sectors.
 - » Large scale capacity building and awareness, education & expert training (extension farming), and timely support to farmers infused with elements of policy/legislation for sustainable resource management is necessary for long term success of ecosystem based approaches for food security and climate change adaptation. New models of extension practice where communities undertake peer education and information dissemination need to be considered, as well as the scaling up of farmer field school approaches. This provides the communities with the tools to fully implement EbA and to generate innovative strategies.
 - » Further consideration should be given to linking ecological to social resources (knowledge, institutions, practices and processes) at different levels as scaling up must fit within new and larger contexts (i.e. national and regional policies) as it grows and must take into account the changes in ecological and social trade-offs as the context enlarges.
 - » Formation of grass root community organizations (cooperatives) promotes effective management of the demonstrations/ projects. Formation of community-based natural resource governance structures increases lead agencies coordination and facilitation of strategic linkages for the governance groups.
 - » Climate is changing and we need crops that are adaptable, climate smart that can fit very well into the natural ecosystems for improved farmers' resilience to climate change. Ecosystem based approaches come with alternative sustainable livelihoods packages that highlight the value of conserving ecosystems. Benefits which can respond to immediate livelihoods induce intensive community engagement.
 - » The sharing of research findings and community experiences to improve knowledge gap and recognition, and adoption of best practices is vital in ensuring wide scale impact of the EbAs. First, the practice must be enshrined in overarching policy frameworks e.g. through the establishment and strengthening of a research and development agenda as a medium for channeling best practice to policymakers. Information can be obtained on the cultural practices usually employed by farmers in agricultural production i.e. proper resource inventory for wide applicability of both indigenous and scientific data.
 - » The imperative of complementary technologies and agro economic techniques (involving best practices and local level knowledge) are critical to creating optimal conditions for the performance of the EBA initiatives. This helps in ensuring the achievement of complete balance among the pillars of sustainability i.e. environment, economy and society.
 - » More research is needed to ensure that technologies are compatible with local context taking into account cultural space and adaptability in new regions. This will be futile if the findings are not promptly shared across the continent for further improvements of the EbAS. This is important if Africa is to exhaustively address its perennial food insecurity problem and for long term adaptation to the changing climate.
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8. RECOMMENDATIONS

Governments, civil societies, NGOs, indigenous peoples, development partners, the private sector and other stakeholders are invited to in strengthening the contributions of ecosystem-based approaches to food security and adaptation to climate change through:

POLICY AND PLANNING

1. Strong institutional structures/frameworks should be established to support the implementation and replication of ecosystem based approaches c within sound Sustainable Development objectives;
2. Monitoring and evaluation frameworks that include adaptive research and involve different stakeholders should be established.
3. Existing policy frameworks on food security both at the regional and national levels should be expanded to integrate ecosystems-based approaches for food security and climate change adaptation (by ensuring collaboration with other sectors, creating budgetary allocation for food security measures in government development plans, and promoting evidence based policy making);
4. National policies should be aligned with regional and global processes with aim to increase food security;
5. All stakeholders should be involved in planning, decision-making and implementation through frequent consultations to create ownership of the process of food security and climate change adaptation integration and cooperation.

CAPACITY BUILDING

1. Large scale capacity building and awareness campaigns should be built through dialogues, sensitization meetings, on-farm demonstration using farmer field schools and trainings on climate change adaptation and food security strategies;
2. Public storage and marketing infrastructure should be developed and managed.

FUNDING MECHANISMS

1. Ecosystem based approaches for adaptation and food security should be incorporated into national investment plans/budget frameworks
2. Funding should be sourced from various actors like development Banks and the private sector
3. Funding should be mobilized through group funding of grassroots agricultural organizations;
4. Donors should ensure that any project they fund for adaptation and food security should very clearly show how the multiple dimensions of EbA including social dimensions and capacity building;

IMPLEMENTATION

1. Successful implementation of Ecosystem-based Approach will require the ability of societies to take a more flexible position on policies as wide ranging as trade and subsidy, taxation and consumption, agriculture and environmental protection;
2. Practical demonstrations should be emphasized in promoting up-scaling and the carrying capacity and effects of up-scaling at every level should be carefully considered;
3. Community driven development approach should be used as it can enhance community ownership and management;
4. Science should become part and part of every Ecosystem based approach project design for food security and climate change adaptation as it helps in informing implementation and also at the same time inform assessments
5. Gender and youth dimensions should be taken into account in the design and implementation of ecosystems based approach for food security and adaptation

DEMONSTRATION PROJECTS

1. Developing strong partnerships and networks among other stakeholders like governments, civil societies, private organizations etc. to explore ecosystem based approaches and build on the successes of the current interventions.
2. Promoting ecosystem-based approaches that contain sustainable livelihoods packages and highlight the value of conserving ecosystems.

RESEARCH AND DEVELOPMENT

1. Technologies that are compatible with local context and adaptable in new regions should be ear marked and promoted for up scaling;
2. Indigenous knowledge should form the basis of intervention prior to blending with scientific knowledge;
3. Adapting and promoting rigorous academic programs that focus on the nexus of climate change, ecosystems and agriculture; and
4. Sharing data and information from research findings among stakeholders on issues of climate change and variability.



9. CONFERENCE DECLARATION ON ECOSYSTEM-BASED APPROACHES FOR FOOD SECURITY AND CLIMATE CHANGE ADAPTATION

(NAIROBI DECLARATION OF 21 AUGUST 2013)

We, Participants of the 1st Africa Food Security and Adaptation Conference,

Having met in Nairobi, Kenya at the First Africa Conference on Harnessing Ecosystem-based Approaches for Food Security and Adaptation to Climate Change;

Concerned about the adverse effects on social, economic well-being, human health, the environment, and continental prosperity from food insecurity and climate change;

Noting that Africa faces food shortages due to high illiteracy and unawareness, inefficient agricultural practices, resource depletion and degradation of ecosystems, poor governance, population growth, water scarcity, disease, natural calamities and disasters, extreme poverty and insufficient policies;

Taking into account the end of the current Millennium Development Goals (MDGs) and the upcoming Sustainable Development Goals (SDGs);

Welcoming the outcome of various national, regional and continental programs, initiatives, strategies, policy frameworks and conventions addressing food insecurity and climate change in Africa;

Recognizing that this conference presents the first continental dialogue on food security and climate change adaptation through harnessing Ecosystems Based Adaptation Approaches ;

Further recognizing this conference as the first opportunity for a variety of stakeholders to dialogue on how Ecosystems Based Adaptation Approaches can be used to serve multiple purposes and provide crosscutting benefits;

Further recognizing the emerging opportunities for alternative livelihoods, asset building, improving scientific knowledge for value addition project, up scaling, replication and sustainability, institutional linkages, and the importance of participatory approaches and addressing cross-cutting issues like mainstreaming gender, indigenous knowledge, HIV/AIDS, child protection, and disability;

Stressing the desire of all participants present to network and collaborate in achieving and strengthening regional and continental solutions to climate change adaptation and food security challenges;

Recognizing that ecosystems provide invaluable services for society, particularly rural communities, whose livelihoods directly depend on the health of ecosystems, reaffirm our dedication to sustain healthy ecosystems;

Noting with appreciation the support provided by the United Nations Environment Program (UNEP), UN Food and Agriculture Organization (FAO), Regional Economic Communities (RECs), Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), Faith-based Organizations, private sector, and other partners for the implementation of Ecosystem-based Adaptation Approaches in Africa;

Recognizing the success of previously implemented Ecosystem-based Adaptation Approaches throughout Africa, to build capacity through training and sensitization, community involvement in policy development, project formulation and planning and resource management, value addition through adoption of various agro- technologies including indigenous knowledge, addressing cross-cutting challenges to provide food insecurity and climate change solutions;

Acknowledging lessons learnt with regard to policy and planning, capacity building, implementation, demonstration projects & technical assistance research & development, replication and up-scaling potential of previously implemented Ecosystems-based Approach projects;

Concerned however about the challenges such as weak policy frameworks, conflicting indigenous beliefs and scientific knowledge, non valuation of ecosystem services, high population densities, insufficient financial support, poverty, inadequate awareness and sharing of research findings, lack of coherent action from different stakeholders, misplaced government priorities, lack of capacity building opportunities, inadequate monitoring and evaluation;

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Taking note of the concurrent processes underway between climate change adaptation and food security efforts and their potential for greater synergy;

Further noting the importance of information sharing and convening regularly to ensure that Ecosystem-based Adaptation Approaches currently taking place are calibrated with emerging knowledge to solve crosscutting challenges and align with achieving the proposed Sustainable Development Goals (SDGs), and

Taking into account the key recommendations of the 1st African Food Security and Adaptation Conference 2013,

Hereby declare as follows:

1. We *note* the increasing continental challenges on food insecurity, malnutrition and climate change and recognize Ecosystem-based Adaptation Approaches as the first step towards regenerating biodiversity, building resilient food systems and adapting to climate change in Africa.
 2. We *resolve* that Ecosystems Based Adaptation Approaches should be up-scaled and funded to build resilient food systems and adaptation to climate change in Africa.
 3. We *appeal* to: UNEP and FAO to: (i) Request governments and regional bodies to institutionalize Ecosystems Based Adaptation Approaches into national policy frameworks for food security and climate change adaptation (ii) Urge African regional bodies to encourage member states to develop guiding funding frameworks to support Ecosystems Based Adaptation Approaches for food security and climate change adaptation (ii) Encourage member states to fully implement guidelines that provide for the right to food for vulnerable people
 4. We *resolve* to determine the optimum Ecosystems Based Adaptation Approaches from relevant and prioritized research, monitoring and evaluation efforts, packaged results, deliberately timed implementation efforts, and the inclusion of all stakeholders in the design of Ecosystem-based Adaptation Approaches.
 5. We *urge* African States to adopt Ecosystem-based Adaptation Approaches, conduct in-depth assessments of ecosystems conditions and policies in their countries, identify barriers to a transition to Ecosystem-based Adaptation Approaches, identify gaps in capacity development, ensure policy coherence, provide support in value addition and linking farmers to markets.
 6. We *appreciate* the support received from the UNEP, FAO, RECs, NGOs, CSOs, the private sector and numerous countries, and request continued support through financial and technical assistance to encourage the development and implementation of the Ecosystem-based Adaptation Approaches in Africa;
 7. We *urge* the African Ministerial Conference on Environment (AMCEN) to adopt the recommendations and declaration of the First African Food Security and Adaptation Conference
 8. We *further urge* AMCEN to integrate Ecosystems Based Adaptation Approaches into their regional Flagship programs
 9. We *recommend* the Thirty-Second FAO Regional Conference for Africa to adopt the recommendations and declaration of the First African Food Security and Adaptation Conference
 10. We also *urge* the Africa Adaptation Knowledge Network (AAKNet) to continue to synthesize and communicate technical information on optimum techniques, short-, mid-, and long-term follow up activities, as well as technical assistance needs, for continued capacity-building for sustainable development.
 11. We *recommend* that AAKNet continues providing a Learning Platform and convening the conference annually to facilitate knowledge sharing and ensure that ecosystem based actions solve crosscutting challenges including achieving the proposed Sustainable Development Goals.
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12. We *advise* African states to improve upon efficiency, transparency and accountability through self regulation and compliance with environmental and socio – economic safeguards as a means of promoting ecosystems health.
 13. We *commit* ourselves to use and share this declaration in our respective countries and networks to advocate for follow up on activities to AAKNet.

Adopted by the Plenary Session on August 21st 2013 at the UNON at 16.05



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