

ECOSYSTEM-BASED APPROACHES TO CLIMATE CHANGE ADAPTATION (EBA)

Local Guidance



Partnership for
nature and people



ECOSYSTEM-BASED APPROACHES TO CLIMATE CHANGE ADAPTATION (EBA)

Local Guidance

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DISCLAIMER

This Ecosystem-based approaches to Climate Change Adaptation (EbA) National guidance is based on the projects implemented by **NatureUganda** around Echuya Central Forest Reserve and case studies collected and shared with organisations and agencies implementing EbA projects in Uganda. It is prepared within the mandate of NatureUganda in collaboration with EcoTrust (Uganda), IUCN (Uganda), WWF (Uganda), World Vision (Uganda), UNDP Uganda and the Climate Change Department (CCD), the Ministry of Water and Environment.

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ABOUT THE LOCAL GUIDANCE

Ecosystem-based Adaptation (EbA) is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people and communities adapt to the negative effects of climate change at local, national, regional and global levels. EbA provides many benefits to communities, including food security (from fisheries to agroforestry), sustainable water management, and livelihood diversification (through increasing resource-use options) and natural barrier against climatic hazards such as flooding and erosion. There is evidence that EbA actions can provide a framework for catalysing transformative change on a larger scale.

The local guidance profiles EbA measures providing a description of opportunities for use at local community level. This Ecosystems-based Approaches to Climate Change Adaptation (EbA) local guidance is based on the projects implemented by **NatureUganda** around Echuya Central Forest Reserve and case studies collected and shared with organisations and agencies implementing EbA projects in Uganda, in particular the Darwin Initiative project Ecosystem Conservation for Climate Change Adaptation in East Africa.

This guidance is aimed at supporting and empowering local communities to understand their vulnerability to climate change and develop and implement their own adaptation plans. EbA provides, multiple economic, social, environmental and cultural benefits, including, disaster risk reduction, livelihood sustenance and food security, biodiversity conservation, carbon sequestration and sustainable water management. The guidance should enable the communities to take full advantage of these benefits.

The guidance can be used to support development of site or local plans and community actions. Similarly, they can be used to guide the development of local bye-laws that will complement the implementation of interventions that will increase community resilience to a range of threats, including climate change. This local guidance is a result of extensive discussions with organisations and institutions that have and are implementing EbA projects in Uganda.

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LIST OF ACRONYMS

CbA	Community-based Adaptation
CBD	Convention on Biological Diversity
COP	Conference of the Parties
DRR	Disaster Risk Reduction
EbA	Ecosystem-based approaches to Climate Change Adaptation
ECOTRUST	Environmental Conservation Trust of Uganda
FMNR	Farmer Managed Natural Regeneration
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
LAC	Local Adaptive Capacity framework
MAAIF	Ministry of Agriculture Animal Industries and Fisheries
NAPAs	National Adaptation Programmes of Actions
SDGs	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
WV	World Vision-Uganda
WWF	World Wide Fund for Nature

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EXECUTIVE SUMMARY

The EbA is a way of using biodiversity and ecosystem services as part of an overall strategy to help people adapt to the adverse impacts of climate change. It takes into account anticipated climate change impacts and reduces the vulnerability of communities to these impacts by using sustainable management, conservation and restoration of ecosystems. EbA approaches are helping people adapt to the impacts of climate change at local levels. In response to growing climate change pressures, Ecosystem-based approaches have emerged as a promising strategy to increase the resilience of ecosystems and support sustainable livelihoods. Other development organisations prefer to use Community-based Approaches that considers community led processes, based on community's priorities, needs, knowledge and capacities, which should empower people to plan for and cope with the impacts of climate change. These two approaches are complementary and should be integrated for greater impact.

Having considered the above concepts, this local guidance profiles EbA measures providing a description of opportunities for use at local community level with examples from organisations in Uganda. From literature, most local communities in Uganda can be considered highly vulnerable due to their dependence on primary production and limited capacity for disaster management. **NatureUganda**, through its Darwin Initiative funded project, ***“Ecosystem conservation for climate change adaptation in East Africa”*** learnt from the demonstrations of community-based interventions to act on climate change impacts.

Lessons from similar projects, especially on EbA and CbA by other organisations were considered. The local guidance therefore considers the following as important to all EbA interventions:

1. Guidance one: Conduct participatory vulnerability assessment and action planning that promote local engagement
2. Guidance two: Emphasises that for the prescribed interventions, there is need to link them to local bye-laws to strengthen compliance
3. Guidance three: Take actions across different and appropriate scales so that the actions at all these scales collectively contribute to the impact at ecosystem level
4. Guidance four: Build partnerships and synergies for engagement at site level

This EbA local guidance too, provides experiences from various sites where EbA is being implemented. The guidance provides community understanding of climate change and its impacts, which should be considered for any design of interventions. The experiences by far have been from mountainous ecosystems and dry-land areas. **NatureUganda**, therefore hopes that both conservation and development organisations promoting either EbA or CbA will find this guidance helpful. Likewise the communities will continue to embrace the community vulnerability action planning that gives them the opportunity to understand and use their landscape better. The guidance is proposed for use in community planning, development tool and advocacy for better services.

DEFINITION OF KEY CONCEPTS AND TERMINOLOGIES

Adaptation:

The IPCC (2014) states that adaptation is the process of adjustment to actual or expected climate and its effects. Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects.

Adaptation to climate change:

as defined by the IPCC (2007), is an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Adaptive capacity:

as defined by IPCC (2014), is the ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences

Climate change:

The IPCC (2014) defines climate change as: “a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer”.

Community based Adaptation (CBA):

Reid et al. 2009 defined it as a community-led process, based on communities’ priorities, needs, knowledge and capacities, which should empower people to plan for and cope with the impacts of climate change

Ecosystem approach:

Is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way (CBD 2011, IPCC 2014).

Ecosystem resilience:

is the capacity of a system to resist/absorb disturbance and/or rapidly recover from disturbance, without crossing a threshold to a different ecosystem structure or state. The disturbance may be natural, like a storm, or human-caused, like deforestation, pollution, or climate change (WRI 2008).

Ecosystem services:

IPCC (2014) defines Ecosystem services as Ecological processes or functions having monetary or non-monetary value to individuals or society at large. These are benefits people obtain from ecosystems such as food, fuel, fresh water, regulation of soil erosion, landslides, floods, disease outbreaks, and nonmaterial/tangible benefits like recreational and spiritual benefits of natural areas.

Ecosystem: An ecosystem is a functional unit consisting of living organisms, their non-living environment, and the interactions within and between them (IPCC, 2014).

Ecosystem-based Adaptation:

Ecosystem-based Adaptation is defined as “the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change”. Ecosystem-based Adaptation uses sustainable management, conservation, and restoration of ecosystems to provide services that enable people to adapt to the impacts of climate variability/change. The approach contributes to reducing vulnerability and increasing resilience to both climate and non-climate risks and provides multiple benefits to society and the environment (CBD 2010, IPCC, 2014)

Hazard:

A hazard is the potential occurrence of a natural or human-induced physical event or trend, or physical impact, that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources (IPCC, 2014).

Mal-adaptation:

is the action taken ostensibly to avoid or reduce vulnerability to climate change that impacts adversely on, or increases the vulnerability of other systems, sectors or social groups through: (i) increasing emissions of greenhouse gases; (ii) disproportionately burdening the most vulnerable; (iii) rising opportunity costs; (iv) reducing incentives to adapt; and (v) increasing the likelihood of path dependency (Barnett and O’Neill 2010). However, IPCC (2014) defines it as actions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future.

Mitigation:

There are two forms of mitigation is defined by IPCC, (2014). Mitigation of climate change defined as a human intervention to reduce the sources or enhance the sinks of greenhouse gases and mitigation of disaster risk and disaster as the lessening of the potential adverse impacts of physical hazards (including those that are human-induced) through actions that reduce hazard, exposure, and vulnerability.

Resilience:

Resilience can be defined as the capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganising in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation (IPCC, 2014).

Vulnerability:

The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC, 2014).

Vulnerability to climate change:

Vulnerability to climate change has been defined as the degree to which a system is susceptible to, or unable to cope with adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity (IPCC, 2007).

PART ONE: INTRODUCTION

1.1 Background

Healthy ecosystems and their services provide opportunities for sustainable economic prosperity in conjunction with a defence against the negative effects of climate change. Conversely, degradation of ecosystems results in increased climate change vulnerability for communities that live in these ecosystems as well as for the ecosystems themselves. EbA addresses these crucial links between climate change, biodiversity, ecosystem services and sustainable development.

The EbA is a way of using biodiversity and ecosystem services as part of an overall strategy to help people adapt to the adverse impacts of climate change. It takes into account anticipated climate change impacts and reduces the vulnerability of communities to these impacts by using sustainable management, conservation and restoration of ecosystems. EbA approaches are helping people adapt to the impacts of climate change at local levels. They are gaining increasing attention, as they are accessible to the rural poor in developing countries and can be cost-effective. Such approaches include, for example, sustainable agriculture, integrated water resource management, and sustainable forest management interventions that use nature to reduce vulnerability to climate change.

1.1.1 Ecosystems-based Approaches

The phrase Ecosystem Approach was first coined in the early 1980s, but found formal acceptance at the Earth Summit in Rio in 1992 where it became an underpinning concept of the Convention on Biological Diversity (CCD), and was later described as: *a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.*

In response to growing climate change pressures, Ecosystem-based approaches have emerged as a promising strategy to increase the resilience of ecosystems and support sustainable livelihoods. The Ecosystem-based Approaches focuses on maintaining ecosystem functions and services, it is an integral part of any broader strategy for human adaptation. These approaches can be cost effective and generate social, economic and cultural benefits, including disaster risk reduction, livelihood sustenance and food security, carbon sequestration and sustainable water management. Whereas environmentalists often quote the potential of Ecosystem-based approaches to climate change adaptation (EbA), development practitioners similarly promote Community-based Adaptations (CbA). In fact these two approaches are complementary and should be integrated for greater impact.

1.1.2 Community-based Approaches

Community-based approaches have been defined as, community led processes, based on community's priorities, needs, knowledge and capacities, which should empower people to plan for and cope with the impacts of climate change (Reid, et al, 2009). They also refer to an evolving yet distinct set of principles and practices that consistently target the most vulnerable populations and focus on activities with the greatest direct impact. Adaptation strategies are generated through participatory processes that build on existing cultural norms and address the underlying causes of poverty that render some people especially vulnerable to the impacts of climate change.

1.1.3 Farmer managed landscape regeneration

Conventional methods of reforestation in Uganda and Africa in general have often failed to produce results. Community-based projects with individual or community nurseries have always been seen to struggle to keep up the momentum once project funding ends. A new method of reforestation called Farmer Managed Natural Regeneration (FMNR) has been seen to change this situation to re-green the environment. World Vision-Uganda has proved that Farmer managed landscape regeneration commonly known as the FMNR approach to environmental conservation is more realistic, sustainable and affordable. The FMNR involves selecting and pruning stems regenerating from stumps of previously felled but still living trees to re-vegetate areas. New stems which can be selected and pruned for improved growth sprout from these stumps. Standard practice has been for farmers to slash this valuable re-growth each year in preparation for planting crops.

1.1.4 Integrated landscape management

Integrated Landscape Management (ILM) is an increasingly popular approach to addressing development, climate change, food security and a host of other global issues. It involves different processes running all the way from planning, implementation and monitoring and evaluation. Yet each stage requires different tools that are tested and proven. Challenges related to climate change, deforestation, ecosystem degradation, desertification, the loss of biodiversity, food insecurity and poverty call for integrated approaches to landscape management that increase synergies among multiple land-use objectives.

1.2 Understanding climate change and impacts to livelihoods

Uganda just like any other Least Developed Country is vulnerable to the effects of climate change. According to 2002 report to UNFCCC, there is low capacity in both financial and human resources to acclimatise to climate change. Nevertheless, there is hope since Uganda has committed herself in the spirit of global cooperation to actively participate in the global climate change policy processes. Accordingly, Uganda has embraced and ratified most of the climate change related international conventions. It signed and ratified the UNFCCC, on 13th June 1992 and 8th September 1993 respectively. Furthermore, Uganda has indeed participated and implemented some of the requirements of the COP 7 that adopted National Adaptation Programmes of Action (NAPA) as an additional channel of developing and communicating urgent and immediate adaptation interventions required to minimise impacts of adverse effects of climate change.

1.2.1 Impacts of hazards

Uganda's climate is naturally variable and susceptible to natural hazard events which have had negative socio-economic impacts in the past. There are many parts of Uganda already experiencing climate change related hazards like erratic rain, drought, famine, floods and landslides together with their associated impacts on natural resources that form the basis of people's livelihoods. These hazards do not only affect the crop life cycle but also the entire value chain from pre-production to post-harvest storage, marketing and transport. This ultimately leads to serious socio-economic consequences in food security, health, and economic development. The Intergovernmental Panel on Climate Change (IPCC) reports that parts of Africa may experience longer and more intense droughts, with other areas experiencing more erratic rainfall (IPCC 2012).

1.2.2 Adaptation and socio-economic changes

The socio-economic characteristics such as gender, age, education, occupation, and income level affect how they perceive the effect of climate change on their life and livelihood. Socio-economic conditions also contribute to increasing or reducing vulnerability and enabling or preventing individuals to take certain adaptive measures during crisis periods. It is stated that communities have three different response measures to climate change: mitigate, adapt and accept the residual climate damages. However, mitigation and adaptation should be chosen over accepting damage. Decreasing the vulnerability of socio-economic sectors and ecological systems to natural climate variability through a more informed choice of policies, practices and technologies will, in many cases, reduce the long-term vulnerability of these systems to climate change.

1.2.3 Upstream and downstream implications

The need to understand the upstream-downstream linkages is essential for climate change mitigation and planning processes. Upstream-downstream linkages include environmental, socio-economic, institutional, and cultural factors. Resource management practices in upstream areas can have both beneficial and adverse effects on downstream communities. Good catchment management practices upstream can provide better opportunities for downstream communities, for example, a clean and sustainable water supply for irrigation. In contrast, poor catchment management practices may not only degrade upstream environmental conditions, but will also limit the opportunities downstream.

1.2.4 Individual impact and collective action

Climate change affects the livelihoods of people differently and therefore, the poor experience mostly negative impacts given their lack of capacity to prepare for and cope with the effects of changing climatic conditions. Among poor people, women and men may experience these impacts differently. Rural communities across the developing world use various coping and adaptation strategies in response to poverty, food insecurity, conflict as well as environmental stresses; all the challenges are compounded by climate change and variability.

1.3 The key principles/ ingredients of EbA

1.3.1 Improving resilience

EbA is about promoting resilient ecosystems and using nature-based solutions to provide benefits to people, especially the most vulnerable. This involves understanding what makes resilient ecosystems – and the services they provide; working with rural communities and vulnerable people to create local ownership and resilient local institutions; and ensuring that local stewardship enhances both livelihoods and ecosystem management. While members of communities and policy-makers are particularly concerned about adaptation to climate change, some authors have argued that attention should be given to adaptation to current climate. Increasing resilience of ecosystems will ensure they continue to provide services to people such that they become resilient. This can be done through promoting/enhancing services (e.g. by planting trees) that will reduce impacts of climate change (e.g. landslides) so that the community increase their resilience.

1.3.2 Integrated actions

The EbA activities should be able to be integrated into sector plans of government. The National Adaptation Plan of Action (NAPA, 2007) and the National Development Plan (NDP II) initiatives focus on integrating climate change mitigation and adaptation measures in Uganda on land management

and agriculture sector policies and programmes. It is therefore important the EbA/ecosystem/Climate Change considerations are integrated across all sectors and coordinated by mandated agency to realise desired outcome. Additionally, EbA is one approach that needs to be supported by hard infrastructure and other approaches to provide greater impact.

1.3.3 Enhancing adaptive capacity

Adaptive capacity is understood as the ability of individuals and communities to anticipate, deal with and respond to changing climate and development pressures, while maintaining (or improving) their wellbeing.

EbA will have to operate under conditions of imperfect knowledge and uncertainties, as it is difficult to extrapolate from current ecological knowledge on how ecosystems will adapt, on how cumulative ecosystem vulnerability will evolve, and how the form, scale, location and distribution of ecosystem services will be altered by future climate change. Factors shaping the adaptive capacity of individuals, households and communities are their access to and control over natural, human, social, physical and financial resources.

1.3.4 Restoration of ecosystems

Another ingredient is the ability to restore ecosystems. What makes ecological restoration uniquely valuable is its inherent capacity to provide people with the opportunity not only to repair ecological damage, but also to improve the human condition. Ecosystem restoration can renew economic opportunities, rejuvenate traditional cultural practices and refocus the aspirations of local communities. EbA minimizes trade-offs and maximizes benefits with development and conservation goals to avoid unintended negative social and environmental impacts. EbA can result in multiple benefits, including increased livelihood assets, biodiversity conservation, and increased water and food security. This might however involve the active management of ecosystems for the provision of certain services at the expense of others.

1.4 A Case Study on Echuya landscape communities: background to local context

The Echuya Central Forest landscape is used as a demonstration area by **NatureUganda** for building community resilience to climate change. Activities at site level included awareness on EbA and climate change raised within communities, local government and CSOs. The lessons from local governments and CSOs at demonstration sites were used to build national partnerships on EbA. There were opportunities for providing quantitative evidence of the benefits from Ecosystem-based approaches through Toolkit for Ecosystems Services Site Assessment, Vulnerability Assessment and action planning and sharing experience and best practices. These were used to build collaboration with other institutions at national level.

1.4.1 General description of the community

Echuya Central Forest Reserve (ECFR) is particularly known for its high quality bamboo, *Yushania alpina*. There are also areas of broad-leaved forest on higher altitude on the northern end of the Kabale - Kisoro road. The community has a very high rural population density that depends entirely on natural resources and forest products for their basic livelihood needs, for instance, firewood, bamboo for construction, medicinal plants among others. Most of the landscape around Echuya has been

deforested, leaving the ECFR as the only local source of forest products. The surrounding communities have been using forest products unsustainably due to lack of alternative sources of livelihoods.

1.4.2 Climate related activities the communities are involved in

Nature Uganda is working with the Echuya communities through the implementing activities such as:

- a. Agro-forestry and Bamboo domestication: Under the agro-forestry, the emphases are on the promotion of high value indigenous tree species and planting of bamboo on-farm to meet household needs of such products.
- b. Forest restoration/ enrichment planting: in degraded parts of the forest, communities have been mobilised to plant native tree species to restore such areas for the forest to provide better services for the neighbouring communities.
- c. Collaborative Forest Management (CFM) implemented together with National Forestry Authority (NFA) and the Forest Adjacent Communities especially on the promotion of livelihood improvement options such as Sustainable Organic Agriculture (SOA) and apiculture.
- d. Environmental Education is another area which is majorly conducted through primary school environmental clubs and awareness through community meetings/dialogues. The areas covered include tree planting, soil and water conservation and use of energy saving cooking stoves as means of coping with climate change impacts.
- e. Promotion of Soil and Water Conservation component on slopes with the help of Sub County leadership and every member who is on a slope is required to participate according to the by-laws that were formulated.

PART TWO: LOCAL GUIDANCE

2.1 Guidance one: Conduct participatory vulnerability assessment and action planning that promote local engagement



Communities of Kalengere parish, MUKO Sub County, Kabale District preparing a community resource map.
Photo by, **Nature**Uganda.

Vulnerability, the potential to be adversely affected by an event or change is a key concept for appraising effective interventions and responses to climate change at any level. Most local communities in Uganda can be considered to be highly vulnerable given their dependence on primary production and natural resource use, weak institutional capacity, limited infrastructure, limited capacity and equipment for disaster management, limited financial resources and low income per capita and heavy reliance on rain fed agriculture (MWE 2002). Mapping vulnerability to climate is important to inform adaptation activities that enable local communities to build their resilience to climate change. Participatory approaches promote learning, reflection, and ownership, and empower communities to take meaningful action.

2.1.1 Emphasise participation of most vulnerable and marginalised groups

When conducting the vulnerability planning, there is need to do proper stakeholder mapping. All categories in the local community should be part of the planning. This is required such that all the interests of the community are captured in the plan, particularly the most vulnerable. It is important to note that vulnerable people include people both upstream and downstream, people who are old and youth, girls and boys, women and men, able, disadvantaged and marginalised. It is important to consider all categories of resource users, including subsistence and commercial purposes, resource adjacent communities and those far off it such that appropriate interventions are proposed.

2.1.2 Define interventions that the communities identify with and can link to, in real life situation from the onset of planning

Local communities understand climate hazards and are keen to take actions against them. However,

it is important that such actions are borne from them. If the actions are borne by the communities, there are higher chances of sustaining the interventions. Where appropriate, the local challenges are better solved by local solutions. And only in cases where a proposed intervention is not sufficient enough to address the problem, then we help the communities to use a tried and approved intervention from elsewhere.

2.1.3 Use the planning process to provide holistic training opportunity for communities to understand the importance of the plan and whole planning process

There are a series of steps taken to reach a complete vulnerability plan. It is therefore important that community engagement tactics are used to avoid participants fatigue during planning process. The planning sessions should be made interesting and engaging. This therefore requires that in addition to generating ideas, the sessions are used as training opportunities to communities to appreciate the work and what it will eventually do.

2.1.4 Emphasise vulnerability assessment and planning using appropriate tools at every stage for successful EbA interventions

The use of the adaptive management in planning and implementation is important. Consider starting with the assessment of vulnerability prior to formation of adaptation plans. The agreed adaptation plan is then implemented. This plan however may be reviewed after monitoring and evaluating its performance. The tools that can be used in planning include, resource mapping, hazard mapping, stakeholder mapping, developing seasonal calendar, events trend mapping and livelihood vulnerability mapping. Clear understanding of the products from each of these tools will lead to clear definition of interventions (actions) in the landscape for building resilience.

2.2 Guidance two: For the prescribed interventions, link to local bye-laws to strengthen compliance



Environmental Education messages at Ncundura Primary School. Simple rules, big impact.

Photo by, **Nature**Uganda.

Bye laws are rules or regulations initiated by communities and passed by local governments at sub-county or lower levels through local government council resolutions. In Uganda, bye laws are made at sub-county and other lower local government levels, e.g. parishes and villages. This is important since people at the grassroots identify more with the bye-laws because the bye-laws affect day to day operations. The by-law processes in environmental management in Uganda have been derived from the Decentralisation Policy, the National Environment Statute of 1995 and the local governments Act of 1997 under which some aspects of environmental management have been decentralized in order to promote and encourage their democratic management.

2.2.1 Relate clearly the importance of the bye-laws and link to EbA interventions

By-laws and ordinances are tools to help govern society members towards acceptable social behaviour and to allow society to achieve justice that is predictable, fair and right. By-laws are made to put in place local means to implement community objectives and development policies to guide rational use of the relevant land and land resources. They help put the national laws in the local context and put in place mechanism for actions on use, misuse and abuse of natural resources. Using appropriate means of dissemination of information such as radios, the public can be made aware of either an existing or up-coming bye-laws. By reaching the public with the message, it helps to empower all categories of people in the communities in deciding on natural resource management issues and concerns that affects their livelihoods and put in place measures and regulations to sustain the benefits for future use.

2.2.2 Make the most of the key moments and opportunities for influence through bye-laws

It is important to understand the existing bye-laws in the community and define the interventions that can be easily protected by the already enacted local laws. The lower local councils are responsible for the formulation of the bye-laws. Within the landscape, it is important to identify influential councillors and make them appreciate the importance of such laws. Through these councillors, it is therefore possible to table a member's bill which can then be taken as new bye-laws for the community where they did not exist. This is an opportunity taken at the right time through supporting the technical formulation of the laws.

2.2.3 Take note of what works well and under what circumstances when proposing the laws

Most times the formulation of the bye-laws are done through consultative process. It has been seen to work well when the local communities are the ones who define the penalties and only debated by the councillors for harmonisation. The lower level bye-laws should in addition of being passed by the lower councils, be approved by the district council too. It is therefore important that the local government authorities take the lead and other stakeholders play the supportive role. This way, the implementation will be through the government structures.

2.2.4 Ensure from the onset there are joint efforts and compliance

For any law to be successful, it has got to be embraced by all stakeholders. Within the landscape and indeed the communities efforts should be made to garner collective responsibilities. In this way the monitoring of compliances will not only be vested on the local government authority but on all who are responsible in the community. Once there is clear understanding of the issues and how to protect the interventions through the existing bye-laws, then the landscape will benefit.

2.3 Guidance three: Taking actions across different and appropriate scales



The landscape around Echuya CFR, landscape problems require landscape approaches.

Photo, by Edward Perry - BirdLife International

The interventions should be implemented at different and appropriate levels: individual, household level and collective households' efforts at site level and actions taken to cause impact at landscape level. With this approach, the resilience is built at all these levels and the resultant impact can therefore be felt at ecosystem level. It has also been known that interventions (nature friendly actions/activities) implemented at individual/household levels are better maintained and sustained than the ones done collectively with almost none having direct ownership.

2.3.1 Emphasis on landscape approach for greater impacts

EbA benefits should go beyond the point of action that is why it is important that the interventions are designed to answer this call. Whether the interventions are for mountainous landscapes, dry-land landscapes or watersheds, they should focus on the resultant impact at the greater landscape. Once this is ensured, multiple benefits can be realised. It is also important to adopt a landscape approach because ecosystems and the pressures upon them transcend political and administrative boundaries.

2.3.2 It is important to concentrate on adaptation strategies that are of priority

Through the consultative and planning meetings, identify adaptation strategies that the communities consider priority and helpful in building resilience. These are the strategies that are most likely going to be sustainable because the communities understand them better. The most important thing to note is that for all these priority interventions, the communities need to be guided on how to do them better. Other relevant criteria may include: (a) Urgency for action and immediacy of benefits; sometimes a community may not be vulnerable immediately but will become vulnerable in the future. It is important to consider when the target is most vulnerable (how urgent the adaptation need is) and the timeframe required for an adaptation option to provide benefits; (b) Contribution to poverty-reduction and other co-benefits; EbA offers opportunities for win-win actions that contribute for example to

development and poverty reduction. The extent to which the adaptation option achieves this could be a key selection criterion.

2.3.3 Involve the local leaders with clear roles and responsibilities right from the onset

For all landscape interventions, it is important to involve the local leadership with clear roles and responsibilities right from the planning, to execution and monitoring of the interventions. Local leaders are usually the mouth piece of the communities and the communities believe in them. In areas where the interventions are community-based, the local leaders become more relevant and can be helpful in areas of community mobilisation. At the same time it is important to ensure that the most marginalised are also given a voice.

2.3.4 Provide avenues for communities to see the results of the intervention

Communities want to see both the short term gains and the long term gains of the interventions. Where appropriate, all the interventions taken up should be able to provide both short and long term gains. In cases where the intervention can only show long term gains, an alternative needs to be provided to engage the communities to get returns from their involvement. This also means providing several interventions to address vulnerability/benefits at different time-scales. Through this approach, we can guarantee sustainability of the interventions.

2.4 Guidance four: Build partnerships and synergies for engagement at site level



Building partnerships during and after planning is important. Partner mapping during Kalengere adaptation action planning.

Photo by **Nature**Uganda.

2.4.1 Chose who to work with and identify key and influential partners and stakeholders

To be effective, build partnerships and choose stakeholders with whom to work with. These might be both governmental and non-governmental stakeholders. These partnerships are initiated and for-

mally established at the planning stage. This allows partners to have an opportunity to influence the stakeholders based on their knowledge of the context and their own priorities as well as creating a sense of ownership.

2.4.2 Learn from partners strengths and weaknesses and turn them to building blocks of successes

During partnerships building and stakeholder selection, identify each stakeholder's strengths and build on them, and their weaknesses, to support and improve them for better results. If there are synergies to be built, then they should come from understanding the work priorities of partners, the issues at hand and where each partner can have a great contribution. Throughout the process, there will be opportunities to learn from each other, combine resources and avoid duplication of work and working on key priorities as collectively agreed.

2.4.3 Understand the weak links and suggest appropriate solutions

In partnerships, to avoid misunderstandings, it is important to lay down clear roles and responsibilities for each partner to take the lead on. Where there seem to be gaps, discuss and collectively agree on how to address them. The roles and responsibilities need to be aligned to partner mandates, strengths and priorities. The division of tasks in this way works well for both government and non-government entities.

2.4.4 Periodically monitor and evaluate performance of interventions

It is important to bring all the stakeholders in the landscape periodically to discuss the delivery of intervention. The stakeholders brought together in a forum can then discuss progress, lay new strategies and learn from what has so far been delivered. This way, both the communities and the other stakeholders can provide solutions to areas that might require another strategy altogether. This is particularly important because there is uncertainty about how climate will change at the local level, and it is important to monitor, evaluate and revise approaches depending on how climate changes and the effectiveness of the adaptation actions.

PART THREE: COMMUNITY UNDERSTANDING AND EXPERIENCES

3.1 Case study I: Local voices on climate change and impacts

3.1.1 Impact on natural resources and ecosystems

Experiences from various sites where EbA is being implemented provide community understanding of climate change and its impacts, which should be considered for any design of interventions. Most of the time the community will make reference to inability of the system to resist adverse conditions such as from storms and droughts or inability to maintain essential services that help people in daily life such as water supplies for both domestic use and animal watering. The measures to manage the ecosystems should therefore link to answering these areas of need.

3.1.2 Impact on livelihoods

On livelihoods, most communities quickly identified reduced production of major food crops as a result of increased occurrence of droughts, floods, and soil erosion or landslides. There have been occasional mentions of increased water stresses that are likely to result in loss of livestock. Consequently, climate change is likely to increase food insecurity, poor soils, floods and shifts in the productivity of agricultural and natural resources. It is a general understanding within the community that the poor and vulnerable feel these impacts the most since the wealthy and advantaged ones are able to provide for their families during hard times.

3.1.3 Impact on health

Most communities relate climate change impact on people's health with inability to access enough food through the year. The change relating to drought means that most local communities are unable to use rain-fed agriculture to farm crops. Additionally, many cases of Malaria have been associated with the onset of heavy rains and results in inability to provide much needed labour during agricultural productive seasons.

3.1.4 Impact on income

For communities that depend on ecosystems to provide a wide range of goods, the impacts of climate change have been seen to limit resource options for sale. Due to low agricultural activities during prolonged drought, means that the communities have limited options of agricultural products to be sold to get money. Additionally, the households will spend more on food items during such times therefore impacting on the household income.

3.2 Case study II: Local voices on climate change and community efforts

3.2.1 Community efforts on flood control

The experiences by far have been from mountainous ecosystems and dry-land areas. The impacts of degradation on mountainous areas have resulted into erosion and loss of fertility of land. The two common coping strategies that have been adapted are: (i) digging of trenches across the slopes and planting them with stabilisers to control run off and (ii) cultivation in the valleys /wetlands during the drier parts of the year, in attempt to 'follow up the soils' moved down the valley by erosion. In dry-land areas, the most efforts have been tree planting to increase tree cover.

3.2.2 Community views on 'Alternative livelihood options'

Climate change has been seen to affect livelihoods through excesses of either drought or rain. In the drier parts, drying of almost all the streams in the area means no water sources for the communities in the area. There have been community efforts in such areas to construct and protect valley dams for watering animals and adoption of rain water harvesting technologies for domestic use. For the excesses from floods, flood control measures such as trenches have been adopted.

3.2.3 Community efforts of turning the climate change challenge to wealth creation

There are examples where the communities have initiated enterprises of turning the climate change challenges to wealth creation. Communities in Echuya landscape have turned to growing of Irish potato in the wetlands during drier parts of the year and moving out of it when it floods during wetter parts of the year. The short growing seasons in Eastern Uganda has prompted the people in this area to adopt early maturing varieties of cereals and are some of the major suppliers of cereals in the region.

3.3 Case study III Local voices on EbA

3.3.1 Community views on action planning and plans

The process of community vulnerability action planning is well appreciated by the communities. This makes the communities own the plans. The action planning gives them the opportunity to understand and use their landscape better. The plans that are produced are not only for the communities but by the communities themselves.

3.3.2 Community views on working with multiple partners

The interventions initiated within the communities are most times branded by the name of the institution that initiated it. In this way, it is most likely that the successes from the various partners in the landscape be sustained over a long time and those that were unsuccessful also easily forgotten. This therefore makes the case for healthy competition and avoidance of duplication of work. EbA emphasises benefits, sustenance and adaption which all come from partnership building.

3.3.4 Community joint actions programmes

This is better coordinated by the local community leaders who play a major role in mobilisation. The areas of community actions that are appreciated most are those that are aimed at water source protection, flood control and valley dam protection. There seem to be more community action towards hazards that are non-selective and are of community interest. It is less likely that the community tree planting efforts will work better than those at household level where successes at that level have been registered.

PART FOUR: HOW TO APPLY OR USE THE GUIDANCE

4.1 When using EbA local guidance as community planning and development tool

- a. Ensure that there is voluntary participation. However, there should be representation of all interests right from the beginning of the planning process through to the monitoring and evaluation of the interventions. The participation should include all resource users, all stakeholders in the ecosystems and all potential partnerships be done on a voluntary basis. In this way, a more sustainable relationship will be built.
- b. Ensure that the community proposed actions complement government efforts. The governments (central and lower) have established structures that can support monitoring and evaluation of the community actions within their own systems. Additionally, the local governments can incorporate elements of community initiated interventions into their work plans.
- c. In the design of the community actions, there need to be clearly spelt out community proposals outlining those that the communities will lead on and those for which the communities will be supported. However, the overall guidance on the execution of the work may be with the community group management or facilitating body.
- d. There should be clear, robust and cheap priorities interventions that are implementable. These characteristics are good for communities to be able to replicate or sustain them for long term impacts.

4.2 When using EbA local guidance as an advocacy tool

- a. This guidance does not necessarily give clear advocacy plan, but rather notes that the lessons and the community views that come from their engagement at various levels should provide strong grounds to advocate better services for the communities or for the uptake of their proposed actions.
- b. During Vulnerability Impact Assessments and action planning, the community's vision and aspirations are generated. These can be used as community voices to lobby for funding of community interventions.
- c. Throughout this guidance, the importance of linking people and ecosystems functions and building resilience around it cannot be over emphasised. It is important that the advocacy message appreciates this linkage.

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About *Nature*Uganda

NatureUganda, formally the East Africa Natural History Society, is the oldest conservation organisations in East Africa having been set up in 1909 as a scientific organisation with the primary aim of documenting the diversity of wildlife in East Africa. Although the activities of the society were disrupted by political instability in Uganda in 1970s-1980s, the activities were rejuvenated in early 1990s with the identification of Key Biodiversity Areas (KBAs) such as the Important Bird Areas (IBAs) and Ramsar sites. Over the past 20 years, the activities of the organisation have diversified to embrace biodiversity conservation and sustainable Natural Resource Management.

The organisation implements research, conservation and advocacy programmes with particular focus on priority species, sites and habitats across the country. This is achieved through conservation projects, environmental education together with government lead agencies, local government and local communities, and membership programmes activities such as Public Talks, excursions and Nature-walks that are key advocacy and public awareness tools. Our mission is to promote the understanding, appreciation and conservation of nature.

In pursuing this mission **Nature**Uganda strives to:

- Create a nature-friendly public
- Enhance knowledge of Uganda's natural history
- Advocate for policies favourable to the environment
- Take action to conserve priority species sites and habitats

GOAL is contributing to biodiversity conservation and sustainable natural resource management at both national and international levels.

MISSION is «Promoting the understanding, appreciation and conservation of nature». In pursuit of this mission, NU strives to:

Create a nature-friendly public;
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