



THE REPUBLIC OF UGANDA

MINISTRY OF WATER AND ENVIRONMENT

PUBLIC POLICY AND FINANCING FRAMEWORK FOR THE ECOSYSTEM BASED ADAPTATION IN THE MOUNTAIN ELGON ECOSYSTEM

Popular Version

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Abbreviations

EbA	Ecosystem-based Adaptation
NEMP	National Environment Management Policy
Co2	Carbondioxide
LGDP	Local Government Development Programme
DDP	District Development Plan
WFP	World Food Programme
USAID	United States Agency for International Development
NGO	Non Government Organisation
MFPED	Ministry of Finance, Planning, an Economic Development
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MTEF	Mid Term Expenditure Review
NDP	National Development Plan
MWE	Ministry of Water and Environment

Executive Summary

Uganda is endowed with ecosystem services on which communities depend, and are vulnerabilities to climate change models that point to an increase in temperature of up to 1.5oC by 2020 and with most areas getting higher rainfall. The Mt Elgon ecosystem located on the Uganda-Kenya border is particularly vulnerable to climate change impacts like floods and landslides.

In March 2010, following unusually heavy rains, landslides occurred in the Buduuda district of the Mt Elgon region in Uganda and buried three whole villages. Many people died and were displaced.

This report identifies Ecosystem-based Approaches (EbA) considered routine as part of the adaptation options available at national and local government levels. It also shows opportunities that feed into existing public and finance sector policy processes.

The rationale for the analysis is threefold: to build a case for EbA at national level; to inform the audience on how to mainstream EbA approaches into existing public and finance sector policy processes. It also covers the policy needs and revenue options for EbA scale-up in the Mt Elgon ecosystem and beyond.

The report shows the gaps in the financing framework for EbA strategies to be considered routinely through the budget process and to take advantage of funding in research and development aimed at sustainable land management for climate change adaptation.

It also considers supporting EbA activities and work through moral suasion emphasising sustainable public land management, tourism sites protection and supporting local leaders. It explores ways for the EbA project to fill the gap in the relevant regulatory instruments, which are inadequately emphasised as well as building institutional capacity.

The report shows an analysis of gender issues in EbA activities in Mt Elgon districts and what can be done to improve women's participation in ecosystem and environmental management.

It recommends that the EbA project utilises the climate change policy, which is likely to cause positive change because several activities are already taking place and the implementation process seems to be proceeding as planned. But this requires comprehensive planning so as to minimise its unintended effects.

EbA-related policies are applied within complex systems characterised by multiple interrelated processes that interact in a non-linear manner and adapt to changes, which could cause unintended effects. It also supports human capacity training and access to credit facilities.

Most stakeholders appreciate the ideas and issues related to climate change so the EbA project has the opportunity of working on a theme supported by the local and international community. The EbA project will also greatly contribute to climate change adaptation.

By Dr. David Baguma
Consultant

INTRODUCTION

1.1 Ecosystem-based Adaptation - Fostering public sector policy and budgetary processes

Climate change impacts influence the functioning of ecosystems and exacerbate stress from anthropogenic activities such as unsustainable land use practices. Mountain ecosystems are particularly vulnerable to such impacts. The targeted ecosystems are in Mountain Elgon region.

The ecosystem-based adaptation (EbA) consultancy work, aimed to use development sectors that include water and environment for identifying gaps and to ensure EbA approaches are adequately integrated into policy planning and budgetary routines in future. There is also considerable evidence that points to the health and agriculture sectors influencing human livelihoods.

The health sector is important for EbA strategies because ecosystem degradation and biodiversity loss may play a role in escalating the transmission of diseases such as malaria and certain neglected tropical diseases (Pongsiriet al., 2009). Furthermore, outbreaks of Schistosomiasis, a neglected tropical disease, are associated with ecosystem degradation, including deforestation, dam construction and overfishing (Molyneux et al., 2008).

Additionally, ecosystem degradation and biodiversity loss is linked to the rising incidence of emerging infectious diseases (Keesing et al., 2010). Ecosystem degradation may also threaten food availability and access, and its adequate utilisation, which could exacerbate protein-energy malnutrition and micronutrient deficiencies. World Food Programme (WFP) estimates that approximately 900 million people lack access to adequate amounts of food to meet basic nutritional requirements and that almost all of them live in low- or middle-income countries (WFP, 2013; Ahmed et al., 2012; Richardson, 2010).

Human activities such as land conversion for agriculture, clear-cutting of forests, the building of infrastructure such as roads, dams, and stone quarrying can also cause widespread ecological disruptions linked to certain communicable diseases (Pongsiriet al., 2009; Molyneux et al., 2008).

In some EbA project areas, such as Kapchorwa district, there is a big stone quarry area, and the impact it has had on the ecosystem and livelihoods since the commencement of quarrying is inadequately analysed.

Intact ecosystems, however, partly guarantee adequate water quality and supply for communities, which can decrease the risk of diarrhoea diseases (Pattanayak and Wendland, 2009). The prevalence of such diseases can be investigated by using medical records for the EbA project area to build up a case for integrating EbA strategies into the public sector policy and budgetary processes. On other hand, ecosystem integrity can foster food security and prevent malnutrition in the agricultural sector.

The EbA project is an interdisciplinary area with enormous potential applicable to public health, agriculture, nutrition and conservation. By incorporating social equity, resilience, and cost-benefit implications, EbA activities provide information useful to policy-makers – particularly those in the ministries of finance, agriculture, health, and environment.

2. METHODOLOGY

The activities and methodology focused on identifying existing policy opportunities to feed into public sector finance and policy processes. By doing so, ecosystem-based approaches would be considered routinely as part of the adaptation options available at both national and local government levels.

The rationale for the analysis was threefold: to build a case for EbA at national level; to mainstream EbA approaches into existing public sector finance and policy processes; and to cover the policy and revenue options for EbA scale-up in the Mountain Elgon ecosystem and beyond. In such related countries, like Peru and Nepal.

The Scope of work included:

Conducting an analysis of the policy, institutional and expenditure environment in Uganda; Identifying opportunities for EbA to feed into public sector policy and finance processes; Developing targeted products (e.g., methodologies) for use in the public sector policy and finance processes so as to make a case for EbA at national level
Developing guidelines and training materials on how to mainstream EbA into policy and financing frameworks.

To deliver the key output, the following activities were implemented:

Output 1: To produce a detailed analysis of the current gaps in the natural resources sectoral policy and budget frameworks. The consultant conducted the activities as follows;
Document search and listing – key documents were:

EbA project reports

Progress report –monthly, quarterly, annual and any other regular reports

Project base line survey documents

Project documents recommended by the Programme Management Unit like the Uganda Rainfall Forecast Reports, ACODE Climate Finance Reports and USAID Climate change & Health Reports

Literature reviews from library reports and Internet sources

Key informants were interviewed to validate the gaps identified in literature reviews.

The five key and relevant policy articles and sections analysed are available, see Table 1.

Table 1: The EbA Relevant Policies, and Laws in Uganda .

Description	Relevant Policy /Law	Articles/Sections reviewed
Policy 1	National Environment Act (Cap 153)	2,3,17,18,30,38,39,40
Policy 2	Land Act (Cap 227)	16, 43, 44, 45, 46
Policy 3	National Environment Management Policy (Mountainous and Hilly Areas Management) and regulations (part 2)	3 -17
Policy 4	Local Government Act (Cap 243)	Second Schedule, part 2
Policy 5	Climate Change Policy	Chapter 4, Article 4.2.1 section on biodiversity and ecosystems

The framework showed a breakdown of two aspects; effects and implementation of policy) and was distributed into six analytical dimensions; effectiveness, unintended effects, equity, costs, feasibility and acceptability (Salamon, 2002; Swinburn, et al., 2005). The durability of the policy, that is, the capacity of a policy to be sustained over time, was assumed to cut across all the six dimensions (See Table 2).

Table 2: Dimensions of analysing natural resources sectoral policy

Effects	Effectiveness	What effect does the policy have on the targeted ecosystem problem?	Durability
	Unintended effects	What are the unintended effects of this policy?	
	Equity	What are the effects of this policy on different groups?	
Implementation	Cost	What is the financial cost of this policy?	
	Feasibility	Is this policy technically feasible?	
	Acceptability	Do the relevant stakeholders view the policy as acceptable?	

Effectiveness

This was used to assess the success of the selected policy and its effectiveness in achieving its objective in the case of relevancy to EbA. It was necessary to report a possible absence of effects, or negative effects of the policy, which could aggravate the problem on the ecosystem.

Unintended Effects

Unintended effects could be positive or negative and could be produced in all kinds of areas. Given the complexity of human societies, it was impossible to control a policy to ensure that it produces only the desired effect, and no other. The analysis considered the effects that are produced by implementing the public policy, but are unrelated to the objective pursued.

Equity

The equity dimension was to determine the different effects on various groups (categorised by age, gender, socioeconomic status, ethnicity, religion, residential location, and disabilities), or whether policy could create, increase or correct inequalities in the distribution of the targeted problem (Milton et al., 2011; Swinburn et al., 2005; Tugwell et al., 2010; Oxman, Lavis, Lewin, & Fretheim, 2009). Equity was considered because it could deepen social inequalities.

Cost

Costs incurred by government were investigated in implementing the selected policy. As policy can generate gains, it was also necessary to consider the costs for other actors (Salamon, 2002). This is because these could influence the way stakeholders react to a given policy.

Feasibility

This was used to analyse the technical feasibility of the policy, and was tied to a series of elements of varying character such as personnel, material resources and 'technology'. It was necessary to verify whether the selected policy is in conformity with existing legislation, considering the distribution of responsibilities between levels of government (municipal, towns, sub counties).

Acceptability

Acceptability related with how the policy is judged by stakeholders and was hence focused on subjective elements. Also, as acceptability partly depends on factors external to the policy under analysis, the position of each stakeholder was determined by knowledge, beliefs, values and interests.

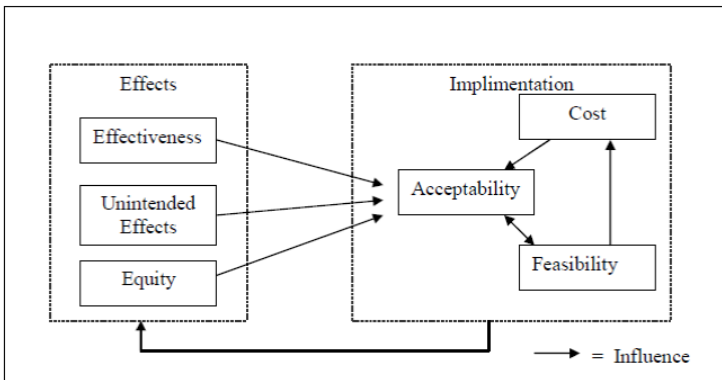
2.1 Scope of the Policy Analysis

The analytical framework allowed getting an overview of the implications of the selected policy. However, only certain analytical dimensions could be documented depending on the context of the decision-making strategy, time and resources available. What was considered was each analytical dimension and the limitation the policy imposes and all these were listed.

2.2 Relationships between the Six Dimensions

Figure 1 shows the relationship between the six dimensions. The analytical dimensions adopted show how acceptability is influenced based on the assessment of the other dimensions. Inversely, the degree of acceptability for any policy has a bearing on its feasibility (Morestin, 2013): if a stakeholder views a policy as unfavourable ("Acceptability" dimension), they take action to hinder its implementation ("Feasibility" dimension). But depending on a policy's feasibility, the greater the risk of implementation, the higher the costs. Finally, implementation conditions collectively influence a policy's ability to achieve the intended objective.

Figure 1: The influence of the six analytical dimensions on each other



2.3 Data Collection

Data was collected from 70 key and purposely selected respondents. This was partly due to the limited knowledge of policies, unavailable policy information and lack of interest on the subject of Mt Elgon area. The respondents included district leadership, such as Chief

Administrators Officers, elected politicians who influence policy, directors and commissioners from relevant Government ministries, non-government organisation managers as well as officers linked to environmental work from Mt Elgon districts of Kween, Kapchorwa, Sironko, and Bulambuli. The questionnaires were administered in focus group discussions, workshops, face-to-face interviews and the local community was represented by district council members.

2.4 Presentation of Results

The quantitative and qualitative data collected on each dimension was synthesized into text as the data collection was in narrative form and the aim was to organize it into coherent groups. An exception to this was with the 'acceptability' dimension, which required careful processing of the related data. Comparing several options, was done in particular choosing a policy's priority over others. An overview in form of a scorecard is below (Table 3).

Table 3: Score board for Policy Analysis

Relevant Law	Effectiveness	Unintended effects	Equity	Cost	Feasibility	Acceptability
Policy 1	++	-	+	+	++	-
Policy 2						
Policy 3						
Policy 4						
Policy 5						

The decision was made by comparing a heterogeneous array of results for six dimensions of varying nature.. The process of prioritizing policies was made by each stakeholder involved in the decision-making process openly discussing the weight they assign to each dimension.

Output 2: To produce the current opportunities that exist in the public sector and finance processes that EbA can take advantage of the consultant conducted the following activities;

- Literature reviews for documents such as:
 - o Budget framework papers
 - o Background to the budget
 - o Midterm expenditure framework documents
 - o Ministry/sector policy statements
- A check list of existing opportunities was developed and questionnaire responses validated by administering face-to-face interviews with key informants purposively selected

Output 3: To utilise targeted products for use in the public sector policy and finance processes using the EbA options cost benefit analysis. The consultant conducted the following activities;

- o Synergised outputs of cost benefit analysis
- o Verification of information to ensure accuracy

Output 4: To produce guidelines and training materials on how to mainstream EbA into the policy and financing frameworks; Activities were as follows;

- o Guidelines and training materials were generated based on information from outputs 1, 2, & 3
- o The materials were then subjected to a validation exercise with key stakeholders

Output 5: To produce a five minute documentary depicting a case for EbA options as part of the broader strategies in the country. Activities were as follows;
Production of a documentary on the EbA planning and budgetary processes saved on CDs and flash disks

In pursuit of the key outputs, the final deliverables will be as follows:

Output: 6: Inception Report;

Output 7: A draft Consultancy report detailing;

- o Gaps and opportunities that EbA can take advantage of in the policy and finance processes;
- o EbA targeted products for use in the public sector policy and finance processes;

Output 8: A detailed final report, having the following;

- o Guidelines on how to mainstream EbA into the policy and financing frameworks training materials;
- o An Action plan to be used in monitoring the achievement of the goals and targets of the guidelines;
- o Lessons learnt and recommendations on improving the methods

3. FINANCING FRAMEWORK ANALYSIS

The opportunities that currently exist in the public sector and finance processes of which EbA can take advantage

3.1 Gaps in financing framework

3.1.1 Budgetary process

The budgetary process is characterised by relative transparency, openness and broad participation (*MFPED, 2009; de Renzio et al., 2006*). Each financial year, ending June, Parliament discusses the budget and the concerns raised are incorporated before it is approved in September. To get EbA activities considered as routine adaptation options at national and local government levels, the EbA project could utilise this invaluable opportunity by contributing information in the consultative process of the budget debate.

Once Cabinet has approved the budget, a first budget call circular is sent out to communicate its strategy for the following financial year to prepare and submit Budget Framework Papers (BFP) which links the sector ceiling, priorities and the Cabinet vote. These are prepared at the national, sectoral and local government levels (*MFPED, 2009*). Similarly, given that the EbA activities are also prepared at all these levels, the EbA project could use the existing opportunity to contribute to the public sector finance and policy process at these levels.

It could also utilise these opportunities to make contributions to the sectoral budgetary process by working with sector working groups.

Using the decentralisation system of government, the EbA project could utilise this opportunity by suggesting emphasis of expenditure on EbA strategies. Local governments under decentralization enjoy about 10per cent flexibility of non-salary conditional grant allocations to recurrent sector budgets and sector budget lines (*Budget Monitoring, 2012*).

Ministerial policy statements are important in forming the basis for Parliament to scrutinise and debate the budget of each ministry. Since each ministry prepares and submits a Ministerial Policy Statement each financial year on the planned expenditure and outputs for the next financial year to Parliament, the opportunity to have EbA activities considered could be explored through networking and collaboration.

3.1.2 Financing instruments and implementation frameworks

The Sector Investment Plan (SIP) is a document that can make a strong case for a sector as a poverty reduction tool but does not determine final and approved investments (Poverty Status Report, 2012). Analysis of the SIP can identify activities that would help achieve relevant objectives. Resource constraints mean that only some of the sectors' policies and strategies receive due attention. So the EbA project can build a case and formulate strategies, which can be included in the SIP as they can be easily considered and funded.

The Environment and Natural Resources (ENR) SIP envisages investments in land, forestry, fisheries, wetlands, meteorology, wildlife, environmental management and administration, similar sub-sectors that the EbA project supports. The Government of Uganda can utilise this opportunity to recognise the sustainable management of natural resources as a tool of poverty reduction since only 0.64 per cent of total ENR expenditures are linked to poverty reduction resources, which are exclusively allocated to wetlands.

The National Agricultural Advisory Services (NAADS) was established to increase the efficiency and effectiveness of agricultural extension services. NAADS is implemented through local governments at district and sub-county levels and is funded by development partners through an earmarked budget support, pooled with the Government of Uganda's contribution into a common basket fund in the Government Consolidated Fund. Some contributions come from farmers through payment for services delivered. Under the Mid-Term Expenditure Framework, there is a ceiling for NAADS that imposes restrictions on the roll-out and implementation of the programme. EbA can utilize the opportunities in the NAADS Programme.

The Local Government Development Programme (LGDP) provides local governments with technical and financial support to implement their mandates in respect to decentralisation. To access LGDP funds, local authorities usually have a three-year rolling District Development Plan (DDP) in place and expenditures are in line with the approved annual work plans and budgets. An assessment of local government performance verifies compliance with an overall legal and policy framework as well as sector policies and guidelines. The assessments determine local government access to development grants under LGDP and are crucial for obtaining financing for the implementation of DDPs.

The allocation of unconditional grants presents few possibilities for financing EbA activities because grant transfers are formula-based and rarely cover more than operational expenditures.

3.1.3 Opportunities in Government Institutions

Government institutions present opportunities in the multi-sectoral approach, which adopt cross-cutting themes similar to those addressed by EbA. The relevant institutions are the Ministry of Agriculture, Animal Industry and Fisheries; the Ministry of Water, Lands and Environment; the Ministry of Finance, Planning and Economic Development; and the Department of Climate Change. Institutional settings support dialogue across sectors for coordinated planning, prioritisation, budgeting, joint implementation and accountability.

Financial instruments which, the EbA project has to operate within to suit the financing and public sector policy processes include the LGDP, the MAAIF Development Strategy and Investment Plan, the Environment and Natural Resources Strategic Investment Plan, the Budget Framework Papers and grant transfers.

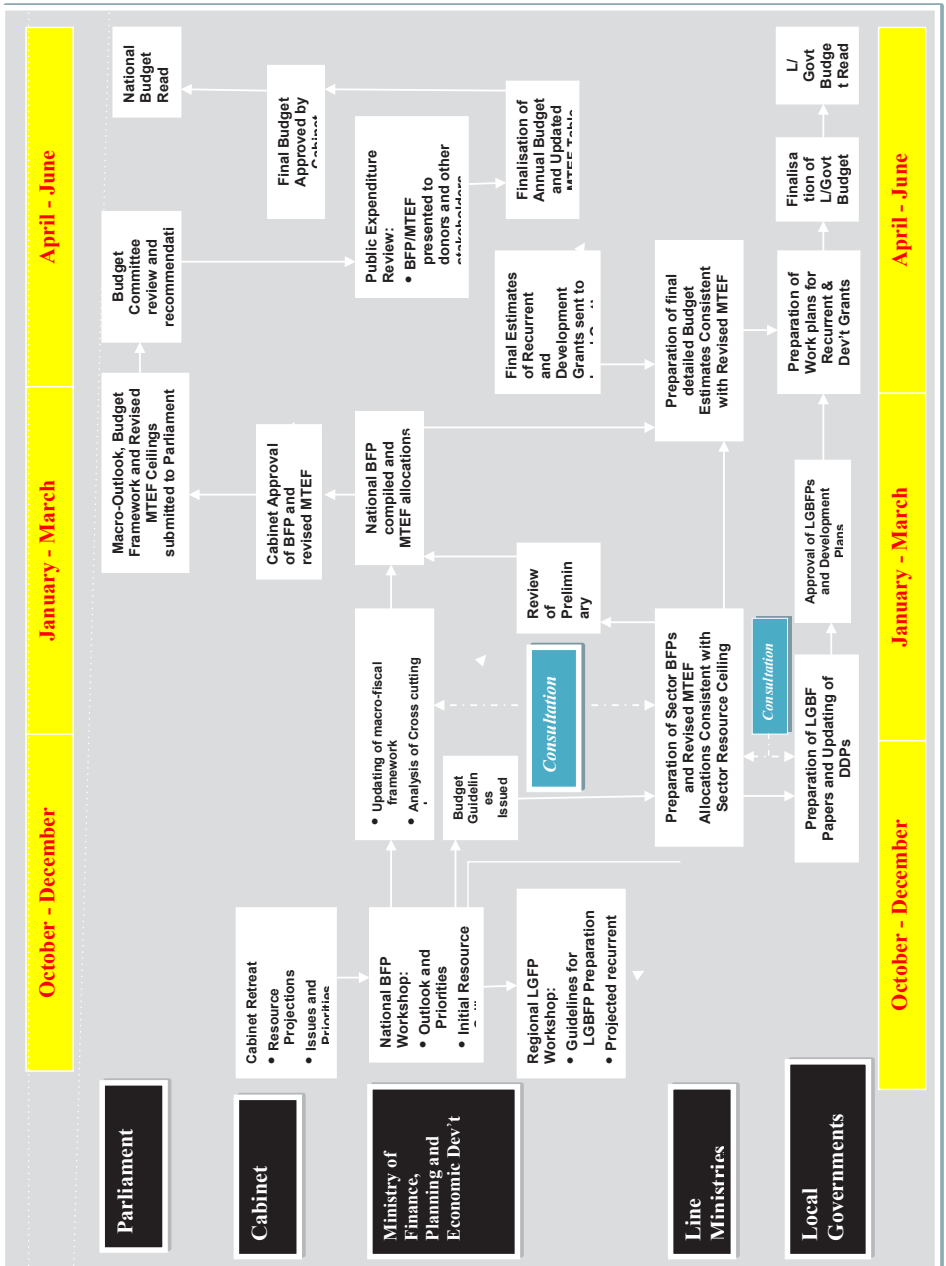
The policy process involves a comprehensive timetable specifying critical events and deadlines. The various steps of the budgetary process are presented (see Figure 2) in a calendar of items within a fiscal year and the timeframe. Transparency and sharing of information throughout the budgetary process are fundamental for adequate prioritisation and allocation of public resources.

3.1.4 Gaps from natural resource policies and institutional framework

The land use policy builds on principles, among them that land is a natural gift for all citizens of Uganda to hold, own, enjoy, use and develop either individually or in association with others. There are gaps, which EbA could utilise. For instance, the policy ensures that land registration fosters the acquisition of credit, yet most commercial bank loans are taken up by non-poor households (Ravnborg, 2013). EbA could consistently promote the provision of individual loans to poor households.

The United Nations Framework Convention on Climate Change (UNFCCC) provides information on the need to assess the physical impacts of climate change. Climate variability is associated with rainfall in Uganda (Bagumaet al., 2014). The policy on climate change was formulated using a participatory approach and it raises concerns about the implementation process. For instance, structural discussions about how the policy and the existing emergency assistance policy can be implemented together seem to have been inadequate. EbA activities could focus on using these two policies.

Figure 2: The annual planning and budgetary process in Uganda



Financing process and the Annual Planning Calendar (October–June)

4. POLICY ANALYSIS

4.1 Climate Change Policy

4.1.1 Effectiveness

The first element used to assess the success of the recent climate change policy was to analyse its effectiveness in achieving its objective, of bringing about adaptation changes through strengthening sustainable public land management to minimise climatic impacts on mountainous ecosystems.

Policy formation and implementation focuses on the role of individual participation in this process (Lane and Hamann, 2003) key personnel at district level were considered important to ensure policy implementation. In the analysis, 92.9 per cent believed that the climate change policy was likely to bring about a positive change, partly because several activities are already taking place and the implementation process seems to have a favourable condition.

For instance, integrated land management is being carried out, government ministries have adapted climate change concerns into action plans and there are ongoing practices like the resettlement of landslide-affected people, tree planting to reduce erosion, and river bank afforestation. Additionally, since the policy was developed using the participatory approach, this contributes to its effectiveness.

However, it is often difficult to judge the ultimate effects of a policy because it is not easy to prove the existence of a cause-and-effect relationship. And a specific policy item may represent only one of a multitude of factors that simultaneously influence the targeted problem (Milton et al., 2011).

In response to these issues, the consultant undertook an analysis of other types of data on effectiveness: those focused on the link between a public policy and its intermediate effects and on the link between these intermediate effects and the ultimate effect on the targeted problem. Adopting from programme evaluation methods, it was necessary for the consultant to deconstruct the chain of expected effects between the policy under study and the targeted problem (Champagne et al., 2009b; Weiss, 1998). A useful way was to visualise the chain of effects in the form of logic (Figure 3) below.

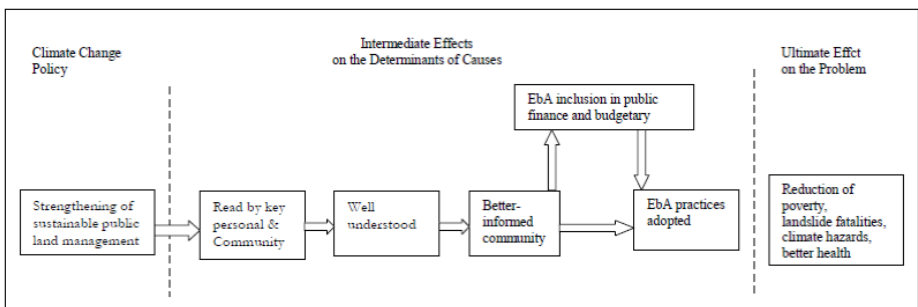


Figure 3: Climate change policy model: Ecosystem based Adaptation

Measuring the effect of an intervention on a determinant can be as important as measuring the (ultimate) effect on the climatic hazard targeted (McNeil & Flynn, 2006). Conversely, it is often unnecessary to gather data on the relationship between the problem targeted and its close determinants: e.g., between soil erosion and flooding; or between pollution and carbon emission.

The logic model above, represents the expected effects and the extent to which these are produced in reality. The analysis of intermediate effects strengthens the assumption of causality because effects are less distant and their cause-effect relationship with the policy under study is easier to establish. If a policy is effective up to a certain point, in the chain of effects, then its actual contribution to the ultimate effect is readily assessed. Moreover, specifying the intermediate effects makes it possible to precisely identify steps that function well, and thus resolve the problems.

In Figure 3, the steps are presented as part of a linear process. However, in reality, the proposed method is open to iteration. The logic model also enabled the consultant to judge the plausibility of the intervention because of inadequate data available (Swinburnet al., 2005).

4.1.2 Unintended effects

These are unforeseen consequences that may be negative or positive of a seemingly well-intentioned policy design. But the fact that the consequences are unintended implies nothing about their value. Unintended effects occur partly because EbA-related policies are applied within complex systems characterised by multiple interrelated processes that interact in a non-linear manner and adapt to changes (Morell, 2005).

The evidence collected indicates that 80 per cent of respondents agree that unintended consequences of the climate change policy are likely to occur. For instance, when trenches are made to reduce soil erosion, water affects the lowland. Since Mountain Elgon is a border mountain, there is a likelihood of migration, especially from Kenya to Uganda, due to a stable mountain ecosystem. Also, relocating people after landslides tends to create resistance, as people are unsure of who takes over their land when they leave, or how they are compensated. There are also other unintended environmental problems, like pollution and deforestation due to resettlement in the new places.

While the local community in the Mountain Elgon region (in the four districts) believed the likely effects of the climate change policy, some of the respondents at national level did not believe that unintended negative effects could occur. These contradictory responses related to the work of the African Climate Change Policy Centre suggest that the problem of climate change involves a fundamental failure of markets: 'those who damage others by emitting greenhouse gases generally do not pay'.

According to key personnel, unintended negative effects can be minimised in several ways including sensitisation; land use planning and dialogue; technical support and community encouragement; strategic assessment; as well as a comprehensive and coordinated approach, which can be used in project planning.

4.1.3 Equity Analysis

The analysis of the equity dimension of the policy was to determine the different effects on various groups (categorised by gender and socio-economic status) or whether the climate change policy could create, increase or correct inequalities in the distribution of the targeted pollution. The discourse on equity contains conceptual and ideological barriers and historical distortions that affect Ugandan society in general, and are expressed in subtle ways, even among those most dedicated to overcoming such barriers and implementing equity (Bakan & Kobayashi, 2000). Furthermore, equity was considered because, frequently, policies could improve climate change adaptation and at the same time could deepen social inequalities.

Equity in the socio-economic arena relates to the whole purpose of climate change policy, which must address economic issues, including women's access to land. But there is inequality in incomes as men predominantly focus on cash crops while women focus on food crops.

Evidence collected indicates that the climate change policy mainstreams gender (as indicated by 91.4 per cent) but women's roles were not adequately spelt out at implementation. For instance, strengthening public land management, fails to stipulate which gender dimension could do it. In some instances, men will take possession of fertile land, leaving women with the less fertile one, which creates disharmony in families.

Besides, women do better than men in activities of land management, such as tree planting and domestic food security. One key respondent said that 'the specific role of each gender is left for districts to implement'. But it is likely that failure of districts to adequately address equity could imply failure to support hard-pressed members of the community.

4.1.4 Cost

The policy analysis considered the actual costs incurred at implementation. This was partly because the Ugandan government expenditure on policies are reflected in national and local government budgets (MFPED, 2014). Evidence collected indicated that 95 per cent agreed that it was crucial to spend on climate change-related adaptation and the government costs mainly consisted of salaries for technical people and inputs. The costs also included wages for extension workers, technology acquisition, training costs (e.g. related to floods and landslides). Other costs included were also incremental (short-, medium-, and long-term) for climate change proofing, water harvesting and climate-smart agriculture, awareness costs (advertisements and consultancy, e.g. for proposals to generate income).

However, the spending plans published in the annual budget may not always result in the stated amount of funding being released to the relevant agencies (Tumushabeet al., 2013). Implementation of policies is, therefore, affected because less money than planned is usually received. Furthermore, it was surprising to find that the individual costs incurred included expenses, which usually arise when the government offers support to the community. For most such support, the amount is usually less because individuals incur such additional costs.

4.1.5 Feasibility

The analysis also took into account the possibilities of the human, material and technological resources being adequate for the climate change policy on adaptation to minimise climatic impacts through strengthening sustainable land management in the ecosystem. Moreover, the pre-existence of government institutions is an indication of the feasibility of the policy and a facilitating factor, if the policy can draw on the experience and structure of ministry departments and units (Swinburnet al., 2005) to ensure that it conforms to all applicable legislation (Pineault&Daveluy, 1986).

The evidence collected showed that there are inadequate financial and technological resources. Additionally, the department of climate change is 'skeletal', with a few technical staff, skills and tools. The implication is that the available technical staff are unable to coordinate all government agencies and the entire rural community adequately.

The climate change policy is expected to be enhanced by pre-existing administrative mechanisms (Salamon, 2002) but these have their own institutional objectives, which may not completely coincide with those of the policy.

The application of a policy tends to be simpler in contexts of greater 'directness', i.e. when the entity that authorises, finances or launches the policy is also involved in its implementation

(Salamon, 2002). Inversely, policies tend to become more complicated as the number of actors involved in their implementation rises. This complexity can, however, be addressed, through a form of hierarchical integration, i.e. the extent to which those spearheading the public policy guide the activities of the other actors involved in its implementation, using an appropriate system of incentives and sanctions (Sabatier & Mazmanian, 1995).

Climate change issues are considered cross-cutting thematic issues and could be challenged due to the multiplicity of actors involved. For instance, the evidence collected indicates that the role of the climate change department is to coordinate activities. The policy is implemented by the Office of the Prime Minister, the Ministry of Water and Environment receives reports, the Ministry of Finance facilitates implementation with financial resources, but the decentralisation policy empowers district authorities to operationalise government programmes in local areas. The usual criticism of 'to whom it may concern' arises because too many actors compromise policy implementation.

4.1.6 Acceptability

Acceptability refers to the way stakeholders viewed the recent climate change policy. Stakeholders, who are actors usually concerned with the objectives and implementation of a policy (Rychetnik et al., 2002) include the wider public, ministries, decision-makers, professionals from the relevant public sectors (in this case health and education), funding agencies, industry, the media, political organisations etc. (Swinburn et al., 2005).

'Acceptability' also refers to the balance of power between stakeholders concerned by a climate change policy. The evidence collected indicated that most stakeholders appreciate the ideas and issues related to climate change, and 88.6 per cent agreed that the problem targeted by the policy is a social issue, which requires intervention. Indeed, some stakeholders were troubled by climatic hazards affecting their livelihoods directly.

4.2 National Management Environmental Policy (on Mountainous and Hilly Areas Management and Regulation, Part2)

4.2.1 Effectiveness

The consultant pursued an analysis of the National Management Environmental Policy in relation to EbA work. It focused on aspects that address mountain and hilly ecosystems by using district environment committees to draw up guidelines for environmental management. It also investigated the opinions of key stakeholders on the effectiveness of such a policy in bringing about the desired changes. This was partly because district environmental committees operate in local communities and the inhabitants of the Mountain Elgon region are mostly susceptible to severe climate-related hazards, like landslides and flooding. Besides, these district environmental management arrangements are part of a broader decentralisation process and are intended to increase local ownership and improve the implementation of the environmental policy (Oosterveer & Van Vliet, 2010).

The evidence collected indicated that it was difficult for the policy to be effective as the committee could not carry out monitoring visits due to financial constraints and lack of awareness of their roles, which affected the operation and functioning of the policy.

In analysing the effectiveness of the policy, respondents were asked if they thought the guidelines provided were applicable over the long term, only 44.1 per cent agreed that these are likely to be sustainable. There is therefore need to update the policy to make it work well, and as the process uses local people, the guidelines should be sustainable for environmental management to be more effective.

It is complicated to judge the effectiveness of the policy given the difficulty in proving the existence of a cause-and-effect relationship, so the consultant deconstructed the chain of expected effects between the policy under study and the targeted problem in the form of logic (Figure 4).

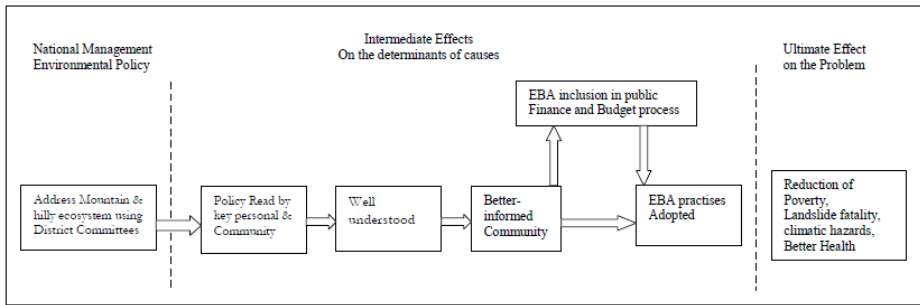


Figure 4: Logic model for National Management Environmental Policy (on Mountainous and Hilly Areas Management and Regulation, Part2)

Figure 4 shows that specifying the intermediate effects makes it possible to identify steps that do not function well, and so implementation challenges must be resolved (Morestin, 2012).

4.2.2 Unintended effects

Environmental policy involves difficult decision-making processes because of competing interests. The unintended negative effects created by the policy designed to address mountain and hill ecosystems by using district environment committees were investigated. The evidence collected indicated that when people are displaced by relocating them to other areas, they lose their natural social fabric and livelihoods. They could also die due to inadequate health and environmental services in the new gazette areas.

The respondents indicated that the unintended effects can be minimised by having a dialogue with the community on the approach to use, sensitization and the provision of incentives.

4.2.3 Equity

Gender equity mainstreaming into the environmental policy designed to address mountain and hilly areas using district environmental committees was investigated. It was found that gender is considered in the recruitment of members of environmental committees.

In socio-economic equity, for the national management environmental policy, men and women are involved together in socio-economic work. For example, men largely take care of planting commercial timber trees while women are responsible for planting fruits and firewood trees on-farm and extracting materials to make handicrafts.

This is despite the rhetoric about the integration of gender issues into ecosystem and environmental management, women in Uganda continue to be marginalised in decision-making and collaborative environmental management (Obueta et al., 1998; Kugonza et al., 2009). This is partly because social norms limit women's participation in decision-making that influences ecosystem management, a finding supported by Howard and Nabanoga (2007).

All four focus group discussions in held in the districts reported that women regularly attend environmental meetings and participate fully and freely. But in about 30 per cent of cases, local politicians and wealthy individuals control the agenda, dominate discussions and influence decision-making.

4.2.4 Cost analysis

EbA involves costs to governments and individuals which are usually financial and non-financial, and result from the implementation of the environmental policy. Within this context, the consultant explored the extent to which cost items can be identified as paid out by the government and individuals. The costs incurred were as follows: transport and communication costs, sitting and field visit allowances, meals, resettlement costs, including non-financial costs such as time. The evidence collected indicated that 75.6 per cent of respondents considered it worthwhile for the government to incur such costs.

4.2.5 Acceptability

To analyse the acceptability of the policy, the stakeholders affected by it were identified because such members either accept or reject it. The stakeholders' reactions to decisions depended on the extent to which they acknowledge the legitimacy of the decision-making process and its makers (Singer et al., 2000).

Evidence shows that 65.7 per cent thought the policy was acceptable and these were women, children, the landless, landowners, district administrations and those seeking revenue from ecosystem resources

Opinions and reactions to the idea of intervening to address the mountain ecosystem problems (such as landslides and floods) were analysed because these are woven into the daily lives of the people, thus the stakeholders' judgement concerning the policy also affects its acceptability in the community (UNEP, 2002). Evidence collected indicated that stakeholders are interested in addressing adaptation concerns, although they think about the gains from it as the resources to facilitate their work is limited.

The stakeholders further suggested several ways in which they thought ecosystem-related hazards such as landslides and floods should be addressed. For flood controlling, they suggested relocation, and the involvement of sub-county members in formulating interventions against hazards. The measures they suggested for addressing hazards in some instances contradict. While some suggested it would be okay to protect the environment others thought that some stakeholders (like encroachers on gazetted land) should not be evicted. Their responses revealed the need to continue awareness campaigns on the importance of the ecosystem vis-à-vis individual needs.

4.3 Land Act 44(1)

The land policy builds on several fundamental principles, including that 'land is a natural gift for all citizens of Uganda to hold, own, enjoy, use and develop either individually or in association with others.' It also states that the 'management of land resources must contribute to democratic governance, by nurturing institutions and procedures for resolution of land disputes and conflicts' (Ravnborget al., 2031). Its within this context, that the consultant explored if the Land Act (policy) design of using local authorities to control public land and natural resources for ecosystem protection and tourist activities, had been effective in bringing the desired changes in EbA related activities.

In all the four Mt Elgon districts visited (Kween, Kapchorwa, Bulambuli and Sironko), the stakeholders indicated that the Land Act (policy) requires enforcement to ensure compliance because encroachers are putting up resistance. Indeed, the government reported that it

had successfully evicted encroachers on forest reserves in the Mountain Elgon region and in Semiliki (Budget Background, 2014). In some instances, enforcement by local political leaders is difficult because they fear to lose votes and so fail to implement approved local laws. The implication is that the policy is not effective in bringing about the desired change.

Additionally, the policy is not working well partly because the district officials are uninformed about the land policy, and most of the land has no titles and its not covered by the national policy. This notwithstanding, where village chiefs (LCs) are involved, they are enthusiastic and active in interventions aimed at reversing land degradation. Increased awareness through additional provision of the policy in both hard and soft copy could improve its effectiveness.

4.3.1 Effectiveness

Effectiveness of the land policy is difficult to ascertain using a single policy given the existence of the cause-and-effect relationship in communities. However, the chain of expected effects between the policy under study and the targeted problem was deconstructed in the form of logic.

The respondents felt that local authorities understand the people and the environment in their locality better than anybody else, thus their involvement implies the land policy is applicable sustainably.

For instance, once trees are planted, they remain on the land for a long time, managed by clans. Since the land policy has taken at least ten years to be developed, the land policy is applicable over the long term.¹

As Figure 5 shows, specifying the intermediate effects makes it possible to identify steps that do not function well, and hence the challenges that the EbA project could help resolve. For instance, district environmental committees lack adequate knowledge and the capacity to handle environmental challenges but they could be supported through the provision of adult learning for councilors to enable improvement in reading and having access to the land policy.

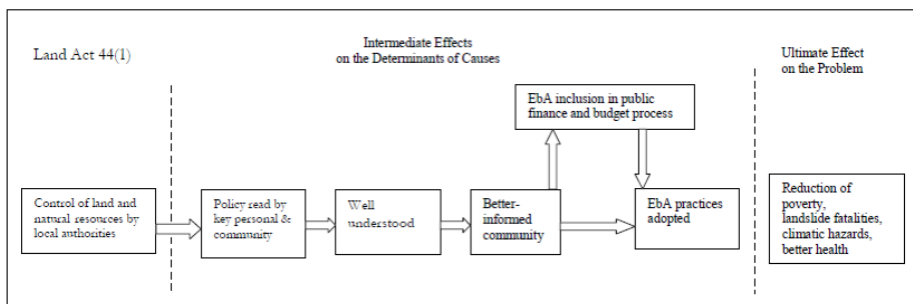


Figure 5: Land Policy Logic Model: control of public land and natural resources by local authorities

4.3.2 Unintended effects

Policy implementation is often difficult to make without unintended positive or negative effects (Rychetnik et al., 2002). Implementation tends to be complex, programmatic, and context-dependent. In the analysis, the evidence indicates that 51.4 per cent agreed there

were negative unintended effects created by implementing the land policy.. For example, after hazardous landslides displaced communities, conflicts due to settlement in the new area ensued.

All groups in the four districts reported that to minimise the unintended negative effects, the authorities should sensitise communities to protect land, be transparent, conduct comprehensive meetings, provide security for tourists, approve land for national parks and for resettlement of displaced people.

4.3.3 Equity

The use of local authorities to control public land and natural resources for ecosystem protection and tourism activities was analysed. This was done partly because land policy analysis is expected in any equity investigation. Also the land policy is expected to foster land markets, including rental markets, which potentially facilitate access to land for those who, owing to non-economic factors, like gender or ethnicity, are excluded from gaining access to land or the economically resourceful, in terms of land access and perceived tenure security.

The evidence collected from women councilors indicated that whenever a household wanted to sell land, the consent of women was provided for in Bulambuli district. In all the districts surveyed, the communities were aware that as part of government mandate, at least a quarter of committee constituted of women, a provision adequately implemented.

However, despite legal and policy rhetoric about women participation in decision-making that influences ecosystem management and adaptation strategies, it was found to be limited.

4.3.4 Costs

In line with the national efforts to strengthen land administration, financial and non-financial costs/gains linked to the Land Act (policy) concerned with local authorities controlling public land and natural resources was analysed.

The costs identified were those incurred by the government and individuals. They included expenses such as surveying, support for land administration and dispute resolution, transport for monitoring, and non-financial costs such as time. Most of the land in the Mt Elgon districts is not surveyed and its use for obtaining formal commercial credit is still low.

4.3.5 Feasibility

The consultant analysed whether the required human, material and technological resources were adequate to implement the Land Act (policy). This was because the feasibility of the policy depends on the availability of such resources, including personnel, material resources and technological resources (Pineault&Daveluy, 1986; Sabatier & Mazmanian, 1995; Swinburnet al., 2005).

The evidence collected indicated a lack of adequate funds and logistical resources like motorcycles, motor vehicles and low human resources capacity.

An analysis of whether the Land Act (policy) falls under the department that has the right mandate to implement it was also undertaken. This was because the distribution of roles between levels of government (municipality, town and sub-county) needed to be considered and verified (Pineault&Daveluy, 1986; Buffet et al., 2011). If the land policy involved several other sectors besides the natural resources department in districts or the Ministry of Lands, the limits of each agency's mandate had to be respected.

The majority (98 per cent) of the respondents said that the implementation of the Land policy falls under the department that has the right mandate to implement it. This is important, as the policy is able to target the right stakeholders, and hold them responsible and accountable.

At least 75.7 per cent respondents also indicated that the policy falls under the department of natural resources in each district, which has the right mandate to implement and oversee land-related activities. However, the department is constrained by inadequate capacity and structural problems. Resistance faced in policy implementation is due to activities such as encroachment on wetlands and forest reserves.

4.3.6 Acceptability

To analyse the acceptability of the land policy, the stakeholders affected by the objectives and the implementation were considered. This was because any policy that does not get enough support is likely to face difficulties being adopted and implemented, and achieving the desired effects (Salamon, 2002). Data collected indicates that the affected people are the local community and those benefiting from land and the Government.

Furthermore, the analysis investigated whether stakeholders thought the challenges targeted by this section of the Land Act (policy) was considered a social issue that requires intervention. The evidence collected indicates that the motivating aspect was the sustainability and maintenance of land fertility, which, requires intervention. The respondents also appreciated the idea of intervening to address the problem linked to controlling public land and natural resources for ecosystem protection and tourism.

However, there is still a degree of coercion associated with the Land Act (policy). These range from moderate to more coercive policies (e.g regulations prohibiting or making mandatory certain kinds of behaviour) (Salamon, 2002). Stakeholders think that ecosystem-related-problems like landslides or floods should be addressed by organisations other than the government such as community-based organisations (CBOs). They believe enforcement should be emphasised. But they also want exclusive rights to control the land.

5. PRESENTATION OF POLICY ANALYSIS RESULTS

5.0 Determining and Comparing Policies

The purpose of the analysis was to identify gaps in the policy for EbA-related work. Comparison of the three policy options was done, in particular through choosing one priority over others. The information gathered on each policy dimension is presented in the form of a scorecard (Table 4).

Table 4: Score board for comparing policies

Relevant law	Effectiveness	Unintended effects	Equity	Cost	Feasibility	Acceptability
Climate change policy	+	-	-	-	+	+++
National Environment Management Policy	+	++	+	+	?	+++
Land Act	++	++	0	?	--	++

+++ = Highly positive effect:

++ = Moderately positive:

+ = Slightly positive

0 = Neutral: implies

-- = Slightly negative effect

--- = Moderately negative

---- = Highly negative

? = Policy effect unclear:

5.1 Determining the sign: Climate Change Policy

Effectiveness

The climate change policy is likely to cause a positive change because several activities are already taking place and the implementation process seems to have a favourable condition. However, as the policy formation and implementation focus on the role of the individual in the process of policy implementation (Lane & Hamann, 2003), in the Mt Elgon region requires substantial capacity-building. The sign attached to effectiveness of the climate change policy is (+).

Unintended effects

Unintended effects occur because EbA-related policies are applied within complex systems characterised by multiple interrelated processes that interact in a non-linear manner and adapt to changes (Morell, 2005). As the evidence collected by the consultant indicates, the most prominent cases of unintended consequences of the climate change policy are likely to occur. The sign attached to it is (-).

Equity

The discourse on equity contains conceptual and ideological barriers as well as historical distortions that affect society in general, and are expressed in subtle ways, even among those most dedicated to overcoming barriers and implementing equity (Bakan & Kobayashi, 2000). As women tend to do more than men in most cases, the sign attached is (-).

Cost

Government expenses on policies are reflected in national and local government budgets. However, the spending plans published in the annual budget may not always result in having the stated level of funding released to the relevant spending agencies (Tumushabeet al., 2013). The sign attached is (-).

Feasibility

The pre-existence of government institutions is an indication of the feasibility of the policy and a facilitating factor, if it can draw on the experience of structure ministries, departments and units (Swinburnet al., 2005). Unfortunately, these institutional mechanisms have their own objectives, which may not completely coincide with those of the policy. This problem does not arise when a new structure is created specifically for the implementation of a policy (Sabatier & Mazmanian, 1995). The sign attached is (+).

Acceptability

Stakeholders are actors concerned with the objectives and implementation of a policy (Rychetniket al., 2002). From the evidence collected, most stakeholders appreciated the ideas and issues related to climate change. The sign attached is (+++).

5.2 The National Environment Management Policy Gaps in Policy: Determining the sign

Effectiveness

The district environmental management arrangement is part of a broader decentralisation process and is intended to increase local ownership and improve the implementation of the environmental policy (Oosterveer & Van Vliet, 2010). The policy involves difficult decision-making in order to balance competing interests. This is partly because offsets between different choices are necessary and result in winners and losers among local stakeholders. This calls for adequate ecosystem and natural resource management strategies. The sign attached is (+).

Unintended effects

The unintended effects of the implementation of the national management environment policy can be minimised by agreeing with the community, discussing the approach to use, sensitising them, using the participatory approach, awareness-raising and provision of incentives, e.g. energy, sustainable land and water management, and composting solid waste. The sign attached is (++).

Equity

The evidence collected indicated that gender is considered in recruiting members of environmental committees and that women were at the forefront of handling environmental conservation activities. Despite the legal framework and policy on gender issues in ecosystem management, women continue to be marginalised. Social norms limit women's participation in decision-making that influences ecosystem management (Howard & Nabanoga 2007). The sign attached is (+).

Cost

EbA involves costs to governments and individuals. The sign attached is (+). For feasibility, the sign attached is (?).

Acceptability

The stakeholders' reactions to decisions depend on the extent to which they perceive

the legitimacy of those who make them (Singer et al., 2000). From the evidence collected stakeholders were interested in addressing adaptation concerns, but thought about what they would gain from it, as the resources to facilitate their work were limited. The sign attached is (+++).

5.3 Land Act: Determining the sign

Effectiveness

In Uganda 'land is a natural gift for all citizens of Uganda to hold, own, enjoy, use and develop either individually or in association with others' and that the 'management of land resources must contribute to democratic governance, by nurturing institutions and procedures for resolution of land disputes and conflicts' (Ravnborget al., 2031). Since local authorities understand people and the environment in their locality better than people elsewhere, the land policy could be applicable in the long term. The sign attached to this is (44) is (++).

Unintended effects

It is often difficult to undertake interventions without creating unintended effects (Rychetnik et al., 2002). Indeed, policy implementation tends to be complex, programmatic, and context-dependent. All the group respondents reported that to minimise unintended negative effects, the authorities should sensitise the communities to protect land, be transparent, conduct comprehensive meetings on measures to minimise unintended consequences, provide security for tourists, and approve land for national parks and to resettle people. The sign attached is (++).

Equity

To address area-specific inequality practices, whether based on gender or socio-economic status, the government introduced affirmative action providing that three-quarters of the committee membership be constituted by women. This provision is implemented in all the surveyed districts. The sign attached is (+).

For the cost, the sign attached is (?).

Feasibility

Feasibility of the policy depends on the availability of the required resources, including personnel, material resources and technological resources (Pineault&Daveluy, 1986; Sabatier & Mazmanian, 1995; Swinburnet al., 2005). Evidence collected indicated a lack of adequate funds and logistical resources (motorcycles, motor vehicles and human resources capacity). The sign attached is (--).

Acceptability

Any policy that does not gain enough support is likely to face difficulty being adopted and implemented, and producing the desired effects (Salamon, 2002). Affected individuals reject or accept a policy and these are the community, government, and those benefiting from land. The motivating aspect was the sustainability and maintenance of land fertility, which required intervention. The sign attached is (++).

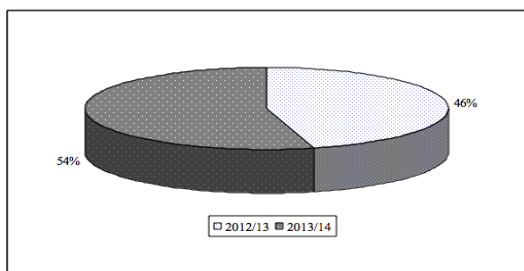
6. GOVERNMENT EXPENDITURE REVIEW

6.1 Domestic generated revenues

Domestic generated revenues for two consecutive years are anticipated to rise from the projected outturn of USh. 6,213 billion for Financial Year (FY) 2013/2014 to USh. 7,332.5 billion in the FY 2012/2013 (Budget Background, 2013/2014) (see Figure 1). The increase is equivalent to 13.4

per cent of market price nominal GDP representing a 19.8 per cent increase on the projected outturn.

Figure 6: The anticipated raise in domestic revenue sources and EbA activities



Taxes constitute the largest proportion of domestic revenue. The government generates domestic revenue from tax and non-tax sources. Examples include revenues of taxes on income, profits, capital gains, goods and services (such as value added tax (VAT) and excise duty). Non-tax revenues are obtained from sources such as licences and concessions. In this analysis, tax is one important economic instrument that generates revenue.

Taxes, charges, and user fees schemes require that money be paid to the government in return for engaging in some behaviour (Barget al., 2000). Introducing these economic instruments discourages undesired behaviours towards ecosystem resources by raising their prices. The general principle to follow in applying revenue-generating instruments is to tax activities and behaviours that are to be discouraged or reduced. The EbA project could conduct research and training aimed at using taxes for adaptation purposes.

Table 5. Climate change-related expenditure considering budgets and outturns for 2008/9-2011/12

	2008/2009		2009/2010		2010/2011		2012/2012	
Institution	Budget	Outturn	Budget	Outturn	Budget	Outturn	Budget	Outturn
MAAIF	5.6	5.6	9.4	1.6	3.5	6.5	7.4	2.3
MoH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MWE	9.5	6.4	13.9	5.8	16.8	7.1	25.9	13.7
MoWT	16.2	13.4	23.4	12.4	32.3	30.9	10.9	28.2
MLHUD	0.6	0.6	0.8	0.8	1.0	0.6	0.9	0.6
OPM	0.0	2.2	1.1	0.9	3.3	2.0	1.9	4.0
MTTI	0.1	0.0	0.1	0.1	0.1	0.0	-	-
MTIC	-	-	-	-	-	-	0.1	0.0
MTWA	-	-	-	-	-	-	0.0	0.0
MED	64.7	13.1	154.2	31.0	96.0	18.2	88.2	22.1
NPA	0.2	0.2	0.6	0.6	0.7	0.7	0.9	0.9
Total	96.9	41.5	203.4	53.2	153.6	66.5	136.0	71.8

6.2 Climate change relevant expenditure by ministry

Climate change is regarded as a cross-cutting theme by government institutions. Expenditure on climate change-related activities are, therefore, spread across ministries, though concentration is in only a few ministries (Table 5).

According to Tumushabe et al. (2013) about half of the climate change-related programmes are run by two ministries (the Ministry of Water and Environment, and the Ministry of Agriculture, Animal Industry and Fisheries). Few climate change-related programmes are found in the Ministries of Energy and Mineral Development, Ministry of Works and Transport, while the rest are scattered in four ministries. The evidence collected indicates that the climate change unit was upgraded to a department in the Ministry of Water and Environment and as a result climate change-related expenditure is expected to increase. Interestingly, in 82 per cent of the government institutions listed in Table 5, the outturn is less than what is budgeted for the four years analysed. Furthermore, the pre-existence of government institutional spending on items related to climate change is an indication of the feasibility of the policy and a facilitating factor for its implementation if it can draw on the experience and structure of government agencies.

Nevertheless, the existing institutions have their own mandates and objectives, which may not completely coincide with those of the policy. This is a challenge, which does not arise when a new structure is created specifically for the implementation of a policy. For example, while the national climate change operations require the Ministry of Health to contribute to implementation and response, inadequate programmes exist in that ministry. The project can take advantage of the opportunity of focusing on EbA operations, which support the department of climate change and minimise weaknesses in government institutions and their related expenditure.

7. HEALTH RISKS AND ADAPTATION

7.1 Health and EbA activities

Awareness about the health impacts of the global population is increasing. Effects of climate change's influence on ecosystems and the delivery of health-care services, including treatment for climate-related diseases are rising (Gill et al., 2007). Additionally, changes in disease patterns are also linked to variability in the condition of ecosystems (Nichols et al., 2010; Ryveset al., 2011).

Data was collected on the top ten diseases causing mortality and morbidity in Kween district (Table 6). Kween was selected because the district is situated on the upper reaches of Mt Elgon, and has poor health facilities. Several diseases that are currently endemic in Uganda will likely increase in prevalence and distribution owing to climate change (USAID, 2014).

In Kween, Malaria topped the list at 58.1 per cent mortality and morbidity among men while typhoid fever caused 67.1 per cent mortality and morbidity among women. The EbA project could contribute to minimising climate change impacts by supporting adaptation, such as putting emphasis on the use of mosquito nets and water management through sensitising the community on the importance of draining stagnant water and eliminating mosquitoes in the Mt Elgon region.

Table 6: The top ten diseases causing mortality and morbidity monthly, in 2013, for Kween district

	Diseases	Male	Female			
		Number (n)	Per cent (%)	Number (n)	Per cent(%)	Total
1	Malaria	28,502	58.1	20,565	41.9	49,067
2	Pneumonia - cough or cold	12,515	41.08	17,953	58.9	30,468
3	Intestinal worms	7,693	42.63	10,354	57.4	18,047
4	Pneumonia	2,289	40.59	3,350	59.4	5,639
5	Skin diseases	1,886	42.30	2,573	57.7	4,459
6	Diarrhoea- acute	1,749	46.36	2,024	53.6	3,773
7	Urinary tract infections (UTIs)	1,200	33.00	2,436	67.0	3,636
8	Typhoid fever	959	32.92	1,954	67.1	2,913
9	Injuries due to trauma	1,253	44.21	1,581	55.8	2,834
10	Other eye conditions	1,112	42.15	1,526	57.8	2,638
	Total	59,155		64,316		123,471

8. POLICY GAPS

8.1 Key Policy Gaps

The specific identification of the types of gaps is facilitated by using a policy mix illustrated in Table 7. The advantage of a policy mix matrix is its ability to reveal which policy instrument types might be under-represented. These instruments help in shaping and managing people's behaviours and include economic, regulatory and direct expenditure. Analysis reveals that the mix of policies resulted in inadequate improvement in adaptation.

Economic Instruments

Economic instruments are measures that directly influence the price that a producer or consumer pays for a product, behaviour or activity. Economic instruments are known for shaping and managing people's behaviour into a desired norm. The climate change policy and the National Environment Management Policy have not provided adequate advice on the use of such instruments to influence community behaviour towards EbA. In this regard, the EbA project could carry out research and advise on ways to inform the stakeholders on policies that ensure the effective use of economic instruments for sustainable land management and on the use of district environment committees.

The land policy enables the use of collateral to obtain formal credit for land thereby enabling both land-related and non-land-related investment. However, most of the land in the Mt Elgon region has no land titles and the use of economic instruments is still on a low scale. EbA activities could explore ways to inform policy about the need to utilise these instruments and to improve community incomes.

Table 7: Policy matrix for indentifying the instrument is under-represented

	Drivers	Pressure	State	Impact	Effect*
Description DPSI	Demograph-ic changes, economic and societal processes	Land use change, resource extraction, emissions of pollutants and waste, and modification and movement of organisms	Climate change, stratospheric ozone depletion, changes in biodi- versity and pollu- tion, degradation of air water and soils, landslides, flooding, river bank ero- sion	Health, economic per- formance, material assets, good social relations, security	
Economic instru- ments	Market creation instruments, e.g. tradable permit Revenue- creating instruments Subsidies Moral suasion	Project operations Carbon tax	Landslides, flooding, degradation of air, water and soils, deforestation	Health, low incomes, food insecurity, malnutrition	+
Regulatory instru- ments	Enforcement activity	Settlement policy in hilly areas	Climate change policy Land policy	Health, economic per- formance	-
Direct ex- penditure	Research and development Moral sua- sion Programme/ project oper- ation	Innovation			+

Institutional instruments	Internal education Internal policies and procedures		Climate change	Material assets	++
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Direct expenditure

Governments (such as Uganda, Nepal and Peru) may influence producer and consumer behaviour by channeling expenditures directly at the behaviour they want to encourage. This can be achieved by directly supporting the operation of projects. With regard to the climate change policy, environmental policy and the Land Act, the Uganda government could direct the budget towards programmes and projects related to ecosystem protection and restoration in the Mt Elgon region. So far, this has not been adequately done. The EbA project could utilise the opportunity by contributing to and supporting new projects aimed at improving its activities.

Green procurement

Governments can also opt to spend their routine procurement budgets on goods and services that enhance EbA goals. As resources are inadequate, the EbA project could utilise the opportunity by continuing to support efforts aimed at improving adaptation, such as promoting the establishment of commercial tree nursery beds and riverbank plantations.

Research and development

Research and development present another area where governments (such as those of Uganda, Nepal and Peru) can allocate budget expenditures directed at specific environmental goals such as sustainable land management for climate change adaptation. The EbA project could consistently utilise this opportunity since funding for government programmes is usually slow in coming.

Moral suasion

Moral suasion is an important aspect where direct expenditure by governments (Uganda, Nepal and Peru) may positively influence EbA activities. In this respect, governments can encourage behavioural changes consistent with ecological goals by funding programmes designed to provide information and education to raise awareness. These moral suasion and education programmes are based on the premise that people behave in environmentally harmful ways because they lack information and knowledge, and that if they have such information, they will do the 'right' thing (Barget al., 2000). Moreover, evidence from the analysis indicated that some people mistake degrading the environment for utilising it. However, government support for moral suasion in the Mt Elgon region is inadequate and limited. The EbA project could utilise this gap by supporting activities that emphasise sustainable public land management, tourism sites protection and the involvement of local leaders in EbA work.

Regulatory instruments

The use of regulatory instruments relates to creating changes through legal means. There are laws barring communities from degrading the ecosystem in Uganda like enforcement and liability. In the survey, respondents indicated that the environment was degraded because there is no adequate enforcement and people continue to cut forests across hills for settlement. Moreover, according to one respondent, communities settling in areas considered

inhabitable viewed themselves as utilising natural land, and would prefer being advised on good management practices instead of being evicted. The EbA project could explore ways to fill this gap in the regulatory instruments as it is inadequately emphasised.

Institutional capacity

The institutional capacity affects the workings of government in efforts to promote change. In some instances, internal efforts to improve skills and increase numbers among technical officers is important for coordinating policies. For the climate change department however, the challenge is in attaining the required number of staff and improving knowledge capacity in climate adaptation, especially in rural areas. The EbA project could support the policy by enhancing information flow to these areas regularly.

8.2 Other Policy Recommendations for EbA and conclusion

Climate Changer Policy

The climate change policy is likely to cause the desired change because several activities are already taking place and the implementation process seems to have a favourable condition. However, as the policy focuses on the role of individuals in implementation (Lane & Hamann, 2003), communities in the Mt Elgon region require substantial capacity-building. The EbA project could utilise the opportunity of supporting the region's human capacity by enabling access to training and credit facilities.

Unintended effects occur because EbA-related policies are applied within complex systems characterised by multiple interrelated processes that interact in a non-linear manner and adapt to changes (Morell, 2005). The evidence collected indicates that the most prominent cases of unintended consequences of the climate change policy are likely to occur. Comprehensive planning and implementation of EbA activities is necessary to support the climate change policy in Uganda.

The discourse on equity contains conceptual, ideological barriers and historical distortions that affect society, EbA regions (-Uganda, Nepal and Peru) in general, and are exacerbated in delicate ways, even among those most dedicated to overcoming barriers and implementing equity. As women tend to be more committed than men to ensuring equity, consistently fostering gender equality is necessary for policy that supports and improves the socio-economic and gender dimension in the EbA regions.

Government expenses on policies are reflected in national and local government budgets. However, the spending plans published in the annual budget may not always result in the stated level of funding being released to the relevant agencies. In Uganda, for four consecutive years (2011 - 2013) expenditure on climate-related work has significantly deviated from the actual budget (Tumushabeet al., 2013).

The pre-existence of government institutions is an indication of the feasibility of the policy and a facilitating factor if it can draw on the experience and structure of government agencies. Unfortunately, the existing institutional mechanisms have their own objectives, which may not completely coincide with those of the policy. This is a challenge, which does not arise when a new structure is created specifically for the implementation of a policy. As an independent project, EbA's operations could adequately contribute to reducing weaknesses in the region and continue to work in its implementation structure.

The evidence collected shows that most stakeholders appreciate the ideas and issues related to climate change. Moreover, stakeholders are actors concerned with the objectives and

implementation of a policy and how it affects them directly. EbA has the opportunity of working on a theme that is appreciated by the EbA region governments as well as and the international community (Bagumaet al., 2014).

The district environment management arrangement is part of a broader decentralisation process intended to increase local ownership and improve the implementation of the policy. The National Environment Management Policy (on Mountains and Hilly Areas Management and Regulation, Part 2) involves difficult decision-making because of the need to balance competing interests. This is partly because offsets between different choices are necessary and result in winners and losers among local stakeholders, which calls for adequate ecosystem and natural resource management strategies. The EbA project contributes greatly in its support of adaptation.

The unintended effects of the implementation of the national environment management policy can be minimised in several ways. The EbA project could contribute to this through strategies such as sensitising the community, discussing the approach to use and the provision of incentives, e.g energy, sustainable land and water management and composting solid waste.

The evidence reveals a lack of adequate funds and logistical resources (motorcycles, vehicles and human resources capacity). Indeed, the feasibility of the land policy depends on the availability of the required resources, including personnel, material and technological resources. The EbA project could support some of the resources required for promoting this work.

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