

# UGANDA: NAPA PROJECT PROFILE

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# UGANDA

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## NAPA PRIORITY PROJECT NO. 1

### COMMUNITY TREE GROWING PROJECT

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#### JUSTIFICATION

In Uganda, forestry contributes substantially to economic development and well being of her citizens. The contribution comes either in direct or indirect forms. Unfortunately, the contribution of forestry is not fully recognized in the national accounting system. And yet as implied above, there are many opportunities for exploiting forestry for poverty alleviation, economic development and environmental improvement.

Conservative estimate indicates that the contribution of forestry to the nation's GDP is 6%. Mountain gorilla tourism, a forestbased enterprise earns the country Ushs 2.7 billion yearly. The value of non-timber products derived from forests is also significant. Similarly, the biodiversity value within forest ecosystems contributes to the economy of Uganda. Values of regulating services are difficult to quantify, although they are integral to agricultural productivity, climate regulation, soil and water conservation and nutrient recycling.

The rural population of Uganda depends on forest resources for basic subsistence needs. For example, over 99% of the national energy demand is met from wood fuels. Large volumes of poles and timber are also used for construction, furniture making and other manufactures. Similarly, forest sector creates significant employment probably the equivalent of one million jobs. Of these, perhaps 100,000 are in the formal sector and the majority in the fuel wood and charcoal production.

Characteristically, the productivity of Uganda's natural forests is low and has all along been known to be unable to satisfy demand of the population. Hence, a deliberate policy of tree planting was promulgated way back in the 1940s. The implementation of this policy was disrupted during the political upheavals that the country went through. This interruption has created a gap of about 30 years in the national tree-growing programme. This period coincided with onset of the everincreasing national demand for forest products, thus weakening the inherent low productivity of the natural forests and woodlands. The combined consequence of the two scenarios is two fold: severe scarcity of forest products and widespread environmental degradation. During data and information collection and the subsequent stakeholder consultations, participants overwhelmingly identified the problem of land and forest degradation as a principal factor causing rural poverty. This project is a response to this environmental complex problem and aims at empowering the vulnerable communities to produce planting materials of tree species of their choice and grow them to meet demands for forest products and services.

#### DESCRIPTION

##### **Objective and activities**

The objective of this project is to increase tree cover in vulnerable and resource-constrained communities. To achieve this objective the following activities will be conducted:

- Stakeholder analysis;
- Baseline surveys to identify constrains to tree growing in target communities;
- Develop and promote growing of suitable high value trees;
- Promote community involvement in planning, monitoring and evaluation;
- Promote best practices in land use management;
- Identify and promote synergies;
- Develop seedling production systems;
- Develop and enforce byelaws for tree growing;
- Enhance and promote energy-saving technologies and alternative energy sources.

##### **Inputs**

To implement the project a number of inputs are required. Tentatively the following inputs are envisaged: human resource of various professions, equipment and supplies, and vehicles.

## Outputs

The following short-term outputs are expected to accrue from the project:

- Stakeholder preferences for tree products;
- Constraints to tree growing and ways and means of solving them at community level identified;
- Pamphlets on growing of suitable tree species available and distributed to communities;
- Community-based nurseries and multiplication centers run by trained community-based extension workers;
- Wood lots;
- Byelaws made at community level;
- Incentive-based enforcement of byelaws at community level;
- Trained and equipped community-based technicians in land use management.

Two long-term outputs accruing from the project will be: (i) increased availability of tree products and services in the communities and (ii) increased employment opportunities in the forest industry.

### **IMPLEMENTATION**

The lead institution for implementing the project will be Forestry Resource Research Institute (FORRI) of the National Agricultural Research Organization (NARO). Collaborators for implementing the project will be drawn from NFA, MWLE, MAAIF, ENR/SWG, NAADS and Department of Information in the President's Office.

### **Risks and Barriers**

Possible risks and barriers to the implementation of this project:

- Limited knowledge of tree growing;
- Natural hazards and pests;
- Insufficient funding;
- Civil conflicts.

### **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities. To facilitate the process a logical framework approach for the project will be designed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

### **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 5,500,000*

# UGANDA

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## NAPA PRIORITY PROJECT NO. 2

### LAND DEGRADATION MANAGEMENT PROJECT

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#### JUSTIFICATION

The economic and social development of Uganda depends on exploitation of its natural resources, including land. The rapid human population growth and demand for food, energy and other social services has necessitated the expansion of land under rain-fed crop and animal agriculture. Although land degradation is caused by poor land use, increasing climate variability and climate change that have been experienced in Uganda recently have gravely compounded this problem. Presently, soil erosion alone accounts for over 80% of the annual cost of environmental degradation representing 4-10% of GNP and estimated at about US\$ 625 million per annum.

The backlash of these actions is degraded soils, quest for more bush clearing, encroachment into forest reserves, reduced production of food and livestock, desertification, migration to towns to look for employment, loss of biodiversity and erosion of gene pools in agro-ecosystems. Therefore, integrated land use management to address the impact of climate change in the NAPA is crucial.

#### DESCRIPTION

##### **Objectives**

To halt and reverse land degradation in climate change vulnerable and resource constrained communities in Uganda

##### **Activities**

The key activities of the intervention include:

- Sensitize and strengthen the enforcement of laws and byelaws;
- Promote agricultural and land use best practices;
- Scale up information management and communication system.

##### **Inputs**

The inputs of this project include human resources, equipment (meteorological instruments, communication equipment, logistics to enable installation and maintenance of field equipment), technical assistance and financial resources.

##### **Short-term outputs**

- A number of byelaws made at community level;
- Pamphlets on agricultural and land use best practices available and distributed to communities;
- A number of community-based resource persons trained on agricultural and land use best practices.

##### **Potential long-term outputs**

- Communities practicing land and water conservation;
- Increased crop and animal production and productivity.

#### IMPLEMENTATION

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

##### **Risks and barriers**

- Civil conflicts;
- Natural hazards and disasters;

- Limited knowledge of tree growing;
- Insufficient funding;

### **Evaluation and Monitoring**

The project will be evaluated every two years by a tripartite constituted by the Government of Uganda and relevant development partners. The project management will produce regular reports in accordance with the laid down monitoring plan of the project.

### **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 4,700,000*

# UGANDA

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## NAPA PRIORITY PROJECT NO. 3

### STRENGTHENING METEOROLOGICAL SERVICES

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#### JUSTIFICATION

Climate is Uganda's most valuable natural resource. It is not a mere natural resource, but a key determinant of the status of other natural resources such as water, land, plants and animals, on which the economic and social development of Uganda depends. Therefore, changes in Uganda's climate are translated directly to its economic and social performance.

In the past, communities knew their local climate well and it was predictable. Annual seasonal variations, particularly the onset and cessation of rains were minimal. Therefore, weather and seasonal forecast did not make any difference and indeed climate prediction could be based on relatively few climate-observing stations. Today, under climate change, the situation is radically different because there is increased climate variability, and frequency and intensity of weather and climate events. Therefore, strengthening meteorological services to provide weather and climate information to the vulnerable communities is crucial.

#### DESCRIPTION

##### **Objectives**

The main objectives of the intervention are to improve:

- Data collection and strengthen technical capacity;
- Availability, accuracy and timeliness of weather and climate information and its use by the vulnerable communities.

##### **Activities**

The key activities of the intervention include:

- Expand and maintain weather and climate observing network;
- Strengthen data collection, processing, analysis and interpretation;
- Strengthen human capacity in weather observing, forecasting and information management;
- Scale up information management and communication system;
- Strengthen early warning system and its coordination mechanism;
- Develop and package weather and climate information for vulnerable communities;
- Sensitize communities on weather and climate information use;
- Disseminate and promote use of weather and climate information;
- Develop partnerships and synergies with media and other stakeholders;
- Monitor and evaluate utilization of weather and climate.

##### **Inputs**

The inputs include: human resources, equipment (meteorological instruments, communication equipment, logistics to enable installation and maintenance of field equipment), technical assistance and financial resources.

##### **Short-term outputs**

- Effective and adequate climate observing network;
- Skilled and effective human capacity in climate management;
- Functional and effective early warning system;
- Increased use of weather and climate information by communities.

##### **Potential long-term outputs**

- Accurate and timely provision of weather and climate information;
- A community-based climate information distribution and management system.

## **IMPLEMENTATION**

The Ministry of Water, Lands and Environment will be the official recipient and the focal point will be Department of Meteorology to implement the project in close collaboration with key stakeholders such as local governments and civil society

### **Risks and barriers**

- Civil conflicts;
- Natural hazards and disasters;
- Limited knowledge of tree growing;
- Insufficient funding.

### **Evaluation and Monitoring**

The project will be evaluated every two years by a tripartite constituted by the Government of Uganda and relevant development partners. The project management will produce regular reports in accordance with the laid down monitoring plan of the project.

### **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

## **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 6,500,000*

# UGANDA

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## NAPA PRIORITY PROJECT NO. 4

### COMMUNITY WATER AND SANITATION PROJECT

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#### JUSTIFICATION

In Uganda, the last few decades have seen an increase in the frequency and intensity of extreme weather events with serious socio-economic consequences. Increased frequency of heavy rains leading to floods and landslides, compounded by a poor sanitation system, pollution of water sources and damage to sanitation infrastructure has led to increased outbreaks of water borne diseases such as typhoid, cholera, bacillary dysentery and other water related diseases (e.g. malaria, bilharzias). For example, the 1997/98 El Nino phenomenon had a significant impact on the health sector. The cholera epidemic, first reported in October 1997 in Lolwe and Sigulu Islands of Bugiri District, hit Kampala City in early December and subsequently affected 39 districts. An estimated 41,857 were hospitalized, of whom 1,682 died. About 1,000 died in flood-related accidents and 150,000 displaced.

#### DESCRIPTION

##### **Objectives**

- To increase access to safe water supply and improved sanitation among vulnerable communities in disaster prone areas;
- To strengthen community awareness on health impacts due to climate change;
- To strengthen emergency & disaster preparedness & response programmes.

##### **Activities**

- Sensitize communities on health impacts due to climate change;
- Establish emergency & disaster management plans and enhance strategic planning for disaster preparedness and response;
- Special assistance to vulnerable people;
- Relocate communities to safer areas/districts;
- Scale up poverty alleviation programmes and control population overgrowth through Family planning programmes;
- Formulating appropriate policies and strategies, legislation, standard;
- Enforce public health byelaws including public sensitization on relevant laws in health, environment and agriculture;
- Scale up hygiene and sanitation activities;
- improve on safe water supply through construction of more protected water sources and gravity flow schemes;
- Scale up preventive public health programmes including vector control e.g. mosquito control and management of malaria;
- Constitute food security programmes and plant multi -purpose trees for wind breaking, timber & fruits;
- Re-introduce herbal plants from other areas;
- Household Sanitation Promotion;
- Strengthen school Sanitation;
- Scaling up Food Safety and Hygiene;
- Strengthening Water Quality Surveillance;
- Scaling up Capacity Building Initiatives.

##### **Inputs**

- Funds from both Development Partners and Government of Uganda;
- Human Resources;
- Relevant logistics and equipment.

### **Short-term outputs**

The expected achievements will include:

- National latrine coverage will have increased from 49% to 60%;
- The minimum environmental health services package.

### **Potential long-term outputs**

- Improved health through reduction of water and sanitation related diseases;
- Improved and sustained socio-economic development for Uganda.

### **IMPLEMENTATION**

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

### **Risks and Barriers**

- Inadequate funds;
- Natural hazards and disasters;
- Civil conflicts;
- Limited knowledge;
- Some communities have strong cultural resistance to assimilation / adaptation of new water and sanitation technologies.

### **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities and financiers. To facilitate the process a logical frame for the project will be constructed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

### **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

### **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 4,700,000*

# UGANDA

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## NAPA PRIORITY PROJECT NO. 5

### WATER FOR PRODUCTION PROJECT

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#### JUSTIFICATION

Agriculture is the mainstay of Uganda and is rain-fed. Subsequently, GoU aims at achieving agricultural modernization with high yielding species, varieties and breeds. These high yielding species usually require much more safe water throughout the year. However, increased climate variability and climate change will frustrate this initiative. Thus, providing appropriate water harvesting and irrigation technologies become pertinent. Therefore, access to improved water supply and sanitation for production by 2015 is crucial.

The IPCC Assessment Reports of 1995/2001 indicate that extreme weather events notably floods and droughts are to increase considerably in intensity and frequency. Floods and droughts have a negative impact on water resources. Floods pose a serious pollution of sources of drinking water with potential danger of outbreaks of water borne diseases. The large population of the rural poor and their livestock is most vulnerable to these effects given the fact that they are faced with inadequate access to water for production.

Therefore, attaining adequate access to and better use of water for crop and animal production is crucial. This is to be achieved in partnership with key stakeholders and community involvement. This also is in line with the national Poverty Eradication Action Plan (PEAP)

#### DESCRIPTION

##### **Objectives**

To improve utilization of water resources among vulnerable communities for production

##### **Activities**

- Stakeholder analysis;
- Baseline surveys to identify constraints to water for production access in target communities;
- Develop and promote appropriate rainwater harvesting technologies;
- Develop and promote simple and low cost irrigation technologies;
- Construct, protect and maintain valley dams;
- Develop water reservoirs inside protected areas;
- Promote community involvement in planning, monitoring and evaluation;
- Promote best practices in water for production use and management;
- Identify and promote synergies;
- Develop and enforce byelaws for water for production.

##### **Inputs**

To implement the project a number of inputs are required. Tentatively the following inputs are envisaged: human resource of various professions, equipment and supplies, vehicles and logistical support. In puts for training of trainers in the use/ production of water and sanitation technologies, construction works for safe water sources, drawing of guidelines on safe water use and sanitation and community training in water resources management will be required.

##### **Short-term outputs**

- Rain water harvesting demonstration units in strategic places;
- Appropriate irrigation demonstration units in strategic places;
- Communal valley dams constructed in arid and semi-arid areas;
- Increased availability and accessibility to safe water sources to vulnerable communities;
- Community with sufficient capacity in water resources management;
- Pamphlets on water for production use available and distributed to communities;

- Number of community-based production water sources established and managed by trained community-based technicians;
- Incentive-based enforcement of bylaws at community level;
- A number of community-based technicians trained and equipped in water and sanitation technologies.

#### **Long-term outputs**

- Increased availability and utilization of rain water for production in vulnerable communities;
- Increased crop and animal production and productivity;
- Improved animal health through reduction of water and sanitation related diseases.

#### **IMPLEMENTATION**

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

#### **Risks and barriers**

- Inadequate funds;
- Natural hazards and disasters;
- Civil conflicts;
- Some communities have strong cultural resistance to assimilation / adaptation of new water and sanitation technologies;
- Water Resources Management is strange concept to the communities and it could be not well appreciated at community level;
- Limited knowledge of water harvesting.

#### **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities and financiers. To facilitate the process a logical frame for the project will be constructed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

#### **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

#### **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

<p><i>Estimated total project cost is USD 5,000,000</i></p>
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# UGANDA

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## NAPA PRIORITY PROJECT NO. 6

### DROUGHT ADAPTATION PROJECT

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#### JUSTIFICATION

The most climate change prone communities in Uganda are those living in semi arid areas where droughts are most frequent and most prolonged. In the last decade alone, more than 10 severe droughts have occurred indicating a > 50% rise. The population growth rate is also highest in semi arid areas, averaging 9.7% in Kotido and 6% in Moroto and Nakapiripirit. Thus most climate change vulnerable communities have the highest population growth rates. Uniquely, more than 50% is < 18 years.

The implication of this population structure is that sooner or later, the demand on natural resources is going to increase significantly, leading to NR degradation.

These harsh environments are fragile and severely resources constrained. Ironically, these semi arid areas also form the cattle corridor, supplying most of Uganda's livestock and meat products. However, the prolonged and frequent droughts in these areas have led to almost perpetual dependency on food aid. A typical example is in the arid areas of Karamoja where the world food program (WFP) supplies virtually all the food. Also, climate change impacts differently on men, women and youth in these drought prone areas. Women have a key role of looking after the households. They spend long hours during drought in search of water, firewood depriving them of productive time for other economic activities.

This project aims to reduce impacts of droughts on vulnerable communities and fragile ecosystems. This is in line with the government PEAP which aims at improving farmers' livelihoods and eradication of poverty.

#### DESCRIPTION

##### **Objectives**

This project aims at enhancing the adaptive capacity of the vulnerable communities in drought prone parts of Uganda, especially those in the arid and semiarid cattle corridor zone, so as to enhance their capacity to cope with the increasingly frequent droughts. This will enable them not only to be prepared for seasons when rains fail, but also to mitigate the effect of droughts in a situation where normatively they wouldn't be able to cope.

##### **Activities**

- Baseline surveys to identify suitable intervention packages for target communities;
- Develop and promote appropriate rainwater harvesting technologies;
- These will include development and promoting drought tolerant perennials and early maturing varieties and breeds of crops which are able to utilize the shortened seasoned rains;
- The project will also carry out documentation on indigenous technologies to preserve food as well as improving them. These will include drying and use of native preservatives;
- Analysis of post harvest losses and promotion of adapted and improved post harvest technologies;
- The projects will also identify and promote alternative livelihood options to unsustainable coping mechanisms and promote best practices especially for women and youths. These would replace the present coping mechanisms of seasonal migrations to neighboring areas, reduced food consumption and sale of stocks and heirlooms /assets;
- Promotion of pasture production, harvesting and storage;
- Promotion of nucleus multipurpose trees suitable for improved livestock production and feeding as standing and perennial fodder banks and soil conservation pillars;
- Control and prevention of major animal diseases as a base for guaranteeing the major livelihood option in the cattle corridor;
- Promotion of a suitable and community led livestock and animal products marketing system;
- Promotion of a micro community rainwater harvesting and storage system.

## **Inputs**

To implement the project a number of inputs are required. Tentatively the following inputs are envisaged: human resource of various professions, equipment and supplies and vehicles. In puts for training of trainers in the use/production of adaptation technologies, construction works for feed banks and storage sites, water sources, drawing of guidelines on feed banks use, water use and community training in communal resource management and baseline research will be required.

## **Short-term outputs**

These will include producing:

- A list of drought tolerant and early maturing species and varieties of crops. The project will ensure they are well documented and the information passed on to the extension workers;
- The project also aims at producing booklets, brochures and materials on appropriate production methods; for drought tolerant and early maturing species, varieties and breeds for extension workers to distribute to the farmers;
- The other output in the short term will be printed information on improved indigenous food preservation methods available for community consumption;
- In the short term, the project also intends to train community based technicians in indigenous and appropriate food preservation technology;
- The community based technician will also have knowledge in drought tolerant agronomy and production including pasture harvesting and storage techniques;
- Communal feed banks and compost pens systems established;
- Nucleus demonstration sites with multipurpose trees growing established in the communities for adoption;
- Mass vaccination against major animal diseases carried out and a community based mechanism of vaccination and disease prevention established;
- A suitable and community based and community led livestock and animal products marketing system established;
- Promotion of a micro community rainwater harvesting and storage system.

## **Potential long-term outputs**

- In the long term this project will lead to and restore household food security;
- This will in turn mean more and better quality food consumed, leading to improved nutrition as well as increased food/crops for sale; earning the household income;
- Secondly the project will ensure more livestock and crop productivity, through enhanced pasture production and storage, disease control and marketing.

## **IMPLEMENTATION**

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

## **Risks and barriers**

- Inadequate funds;
- Natural hazards and disasters;
- Civil conflicts;
- Limited knowledge of water harvesting;
- Insufficient community mobilization, response and adapting to new innovations may limit activities;
- Community based management is new concept to the communities and it could be not well appreciated at community level.

## **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities and financiers. To facilitate the process a logical frame for the project will be constructed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

## **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

## **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 3,000,000*

# UGANDA

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## NAPA PRIORITY PROJECT NO. 7

### VECTORS, PESTS AND DISEASE CONTROL PROJECT

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#### JUSTIFICATION

Climate changes have expanded the geographical distribution of pests, vectors and diseases to new areas and are now prone to epidemic outbreaks. This has complicated the management of vector borne diseases and pests in animals, crops and humans. For example, in semi-arid Karamoja, tick-borne diseases have been reported. The tsetse belt has expanded to cold mountainous ecosystems, resulting into higher morbidity due to nagana and sleeping sickness in animals and humans respectively. Newcastle disease epidemics in poultry rearing districts have escalated due to frequent and prolonged droughts.

Similarly, other water related diseases like Onchocerciasis (River Blindness), Bilharzia and malaria tended to increase. Malaria is now endemic in about 95% of Uganda. The incidence of malaria epidemics has increased in the highland areas in the recent years. Uganda experienced malaria epidemics in 1992, 1994, 1997/8 and in 2000/1. The most affected areas were Mbale, Sironko, Kabale, Rukungiri and Kisoro. The main factor that triggered this rapid increase was the El Nino rains. The rains led to floods; a lot of stagnant water and growth of bushes. All these encouraged the multiplication and spread of mosquitoes. According to the baseline study, morbidity attributed to malaria in children aged less than 5 years presenting to outpatient departments was 44.4% and 41.6% for those children above 5 years of age. It is responsible for more than 15% of life years lost due to premature death. It accounts for about 15 – 40% of OPD attendances at healthcare facilities and about 9 – 14% of inpatient deaths. Malaria stricken family may spend up to 25% of its income on the direct or indirect costs of the disease.

Climate change has also induced escalation of pest and disease epidemics in crops. In Katakwi district, grasshopper epidemics in 2005 destroyed all cereals the main source of food security. Armyworms have become rampant in Wakiso, Tororo and Pallisa districts. In semi – arid areas for example Nakasongola district, persistent termite epidemics have continuously destroyed natural vegetation.

This project aims at understanding the linkages of these outbreaks to climate change for more cost-effective management with special emphasis on vulnerable communities and gender dimensions.

#### DESCRIPTION

##### **Objectives**

- To strengthen the national programmes on prevention, control and effective management of disease vectors and pests.
- To enhance the protection of the vulnerable communities against climate change related diseases and pests outbreaks.
- To strengthen community awareness on health impacts due to climate change
- Identify communities and extent of damage to communities that are vulnerable to climate change related diseases and pests outbreaks
- Investigate the relationships between climate change and, disease vectors, pests, other biodiversity including the use of herbal plants
- To assess the impact of risky occurrences of climate change related diseases and pests outbreaks on the welfare of the victimized farmers
- To enhance the protection of the vulnerable communities against climate change related diseases and pests outbreaks
- To assess the impact of interventions proposed by the project and associated with the control of climate change related diseases and pests outbreaks on reduced health and income risks of the farmers

##### **Activities**

- Investigate the relationships between climate change and disease-, vector- and pest-outbreaks (e.g. termites) including biodiversity loss;

- Investigate the use of herbal plants in the management of these outbreaks;
- Develop and implement strategies for effective control of climate change related vector and pest outbreaks;
- Implement effective programs for treatment of diseases;
- Conduct monitoring and evaluation of effectiveness of vectors, pests and disease control strategies;
- Verify alternative technologies for management of disease pests and vectors.

### **Inputs**

The following inputs are envisaged: human resource of various professions, equipment and supplies, vehicles, logistical support and laboratory services.

### **Short-term outputs**

- Knowledge of linkages between climate change and diseases, vectors, pests and other biodiversity for planning and capacity building;
- Reduced incidence and prevalence of climate change-related diseases, vectors and pests;
- Reports and publications about knowledge of linkages between climate change and diseases, vectors, pests and other biodiversity for planning and capacity building;
- Reduced incidence and prevalence of climate change-related diseases, vectors and pests;
- Tools for data collection available for use in related tasks.

### **Potential long-term outputs**

- Decreased outbreaks and ecological shifts of vector borne and communicable diseases and pests;
- Enhanced adaptive capacity of communities to climate change-related diseases, vectors and pests;
- Improved health (human, crop, animal) through reduction of disease vectors and pests;
- Improved and sustained socio – economic development for Uganda;
- Enhanced adaptive capacity of communities to climate change-related diseases, vectors and pests.

## **IMPLEMENTATION**

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

### **Risks and barriers**

- Inadequate funds;
- Natural hazards and disasters;
- Civil conflicts;
- Insufficient community mobilization, response and adapting to new innovations may limit activities;
- Community based management is new concept to the communities and it could be not well appreciated at community level.

### **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities and financiers. To facilitate the process a logical frame for the project will be constructed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

### **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

## **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 8,000,000*

# UGANDA

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## NAPA PRIORITY PROJECT NO. 8

### INDIGENOUS KNOWLEDGE (IK) AND NATURAL RESOURCES MANAGEMENT PROJECT

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#### JUSTIFICATION

Communities have from time immemorial used indigenous knowledge to cope with climate variability and extreme weather and climate events. During the NAPA process many IKs were encountered and they tended to be area, culture- and subject specific. For example, in Rakai, the Lwanyi, a local shrub is used as antidote to lightening. In Karamoja, initiation of farming following the first rains is sanctioned by the elders after examining the content of ruminant guts and forecasting based on an apparently “indigenous meteorological system”. Others include food preservation in Kapchorwa using honey, rain making using a combination of rituals and herbal concoctions, and water purification using Moringa seeds. These traditional practices are of considerable cultural value to communities, although the scientific basis of some of them is doubtful.

IK is integral to many community based practices in the areas of agriculture, forestry, water, wildlife, human and animal health management. These time-honored practices (IK) are effective ways of involving communities in sustainable management of natural resources. IK thus provides a suitable entry point for community mobilization and action.

To exploit this potential for adaptation to climate change, there is need to document and understand IK and where possible establish their scientific basis. Despite the need, modern research efforts have largely ignored the integration of IK. This is due to lack of frameworks for conducting research in this important area, coupled with total disregard of IK due to misconception and disrespect of cultural values.

#### DESCRIPTION

##### **Objectives**

The major objective is to enhance sustainable use and management of natural resources by the vulnerable communities. Specific objectives include:

- Support the maintenance, protection and continuity of use of indigenous knowledge in the management of natural resources;
- Create awareness among stakeholders about the importance of use of indigenous knowledge in natural resource management;
- Develop and implement strategies based on use of indigenous knowledge that would enhance communities to cope with effects of climate change.

##### **Activities**

- Document and validate climate related indigenous knowledge (IK) for natural resource management;
- Develop and implement community based strategies for effective NR management;
- Train communities in integrated NR management;
- Promote use of appropriate IK in natural resources management;
- Strengthen collaborative management of NRs;
- Identify and promote alternative livelihoods.

##### **Inputs**

The following inputs are envisaged: human resource of various professions, supplies, vehicles, logistical support, community mobilization and copyright services.

##### **Short-term outputs**

- Booklets on IK for natural resource management available and distributed to communities;
- Enhanced use of IK in NR management by communities;
- Incentive-based enforcement of NR management at community level;
- Trained community-based technicians in NR management;

### **Long-term outputs**

- Enhanced sustainable use and management of natural resources by the communities;
- Better understanding and appreciation of cultural values;
- Enhanced adaptive capacity of communities;

### **Risks and barriers**

- Inadequate funds;
- Civil conflicts;
- Poor information access and flow;
- Insufficient community mobilization;
- Undervaluing IK by elites;
- Poor packaging of IK;
- Competition by western knowledge;
- Lack of recognition and copyright protection by relevant authorities;

### **IMPLEMENTATION**

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

### **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities and financiers. To facilitate the process a logical frame for the project will be constructed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

### **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

### **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of training of communities, construction works, technology development, facilitation of project component personnel, production of manuals, stationeries, computers and other office accessories.

Estimated total project cost is USD 1,200,000

# UGANDA

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## NAPA PRIORITY PROJECT NO. 9

### CLIMATE CHANGE AND DEVELOPMENT PLANNING PROJECT

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#### JUSTIFICATION

The economic and social development of Uganda depends on exploitation of its natural resources, including climate. Climate is a key driver of the natural resources and therefore changes in Uganda's climate will directly and negatively impact on its social and economic development. The importance of climate and its relationship with natural resources and social economic development is not well understood nor are impacts of adverse effects of climate change on development well understood either by planners and policy makers. Therefore climate change issues are not taken into consideration in the development of sectoral and investment plans.

While climate change cannot be stopped, its impacts of adverse effects on social and economic development can be minimized by climate proofing development programmes. The cost of adaptation can therefore be significantly reduced and also spread.

The purpose of this project is therefore to support the development, dissemination and application of mainstreaming guidelines at various levels to climate-proof development activities. Generation of climate change scenarios and their packaging will be required to support dissemination of key messages to improve understanding of climate, its variability and change.

#### DESCRIPTION

##### **Objectives**

To integrate climate change issues into development planning and implementation at all levels.

##### **Activities**

The key activities are:

- Review existing relevant policies and laws/regulations in relation to climate change;
- Develop policy, laws, regulations and byelaws on climate change;
- Develop guidelines for mainstreaming including gender issues;
- Sensitize and train decision makers, planners and implementers on impacts of climate change;
- Undertake monitoring and evaluation.

##### **Inputs**

The inputs of this project include human resources, technical assistance and financial resources.

##### **Short-term inputs**

- Knowledge on gaps and weaknesses of existing legislation with regard to climate change available;
- Policy, laws, regulations, ordinances and byelaws on climate change available;
- Guidelines for mainstreaming climate change at all levels available;
- Pool of trained climate change agents across sectors;
- Development plans integrating climate change.

##### **Potential long-term outputs**

The long-term output of this project is climate change proofed development programmes.

##### **Risks and barriers**

- Inadequate funds;
- Poor information access and flow;
- Inadequate sector awareness.

## **IMPLEMENTATION**

The Ministry of Water, Lands and Environment (Department of Meteorology) will be the official recipient and will delegate to the appropriate institutions to implement the project in close collaboration with key stakeholders such as local governments and civil society

### **Monitoring and evaluation**

This important stage of project implementation will be a joint activity, involving the target communities and financiers. To facilitate the process a logical frame for the project will be constructed in which milestones of achievements and their objectively verifiable indicators will be clearly specified.

### **Time Frame**

A period of 3-5 years is planned. Since there is an urgent need for adaptation to climate change, it should commence immediately.

## **FINANCIAL RESOURCES**

NAPA implementation will require financial resources from the Government of Uganda, Bi-laterals, Multilaterals, NGOs and CBOs. Financial Requirements will include but not be limited to: costs of stakeholders' sensitization, facilitation of project component personnel, consultancy costs, production of manuals, stationeries, computers and other office accessories.

*Estimated total project cost is USD 1,200,000*