

# ETHIOPIA: NAPA PROJECT PROFILE

1. Promoting drought/crop insurance program in Ethiopia	Page 2
2. Strengthening/enhancing drought and flood early warning systems in Ethiopia	Page 4
3. Development of small scale irrigation and water harvesting schemes in arid, semi-arid, and dry subhumid areas of Ethiopia	Page 6
4. Improving/enhancing rangeland resource management practices in the pastoral areas of Ethiopia	Page 8
5. Community based sustainable utilization and management of wet lands in selected parts of Ethiopia	Page 10
6. Capacity building program for climate change adaptation in Ethiopia	Page 12
7. Realizing food security through multi-purpose largescale water development project in Genale–Dawa Basin	Page 14
8. Community Based Carbon Sequestration Project in the Rift Valley System of Ethiopia 1	Page 16
9. Establishment of national research and development (R&D) center for climate change 2	Page 18
10. Strengthening malaria containment program(MCP) in selected areas of Ethiopia	Page 20
11. Promotion of on farm and homestead forestry and agro-forestry practices in arid, semi-arid and dry-sub humid parts of Ethiopia	Page 22

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 1

---

### PROMOTING DROUGHT/CROP INSURANCE PROGRAM IN ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

Ethiopia is highly vulnerable to drought.. Drought is the single most important climate related natural hazard impacting the country from time to time. Ethiopian economy depends on rain-fed agriculture. 85% of the population livelihood is contingent upon this sector. But, climate extremes shackle the livelihood and economy of the country as it is closely linked to recurrent drought. Cases in points are the 1965, 1976, 1979, 1982, 1984, 1987, 1990-1992, 1997, 2002/3 droughts that resulted in poor crop production and economy. The 2002/3 drought affected 14, 000 peoples livelihood, particularly farmers. Drought insurances will minimize these shocks. The recurrent drought occurrences and population affected time series data reveal that population affected increases abruptly with time. To partially reverse this statistics and sustain the farmers' livelihood in the drought prone areas, drought insurance is one of the solutions. It will as well ease the impacts from climate change shocks.

Poor farmers face highly uncertain risks with a lot to loose. Because of their high risk they don't have access to credit. Weather insurance opens up the possibility to credit. Insurance is one way of weather risk coping mechanism. It is a risk management tool.

#### DESCRIPTION

##### **Objectives**

- Contribute to risk-management system to protect the livelihoods of Ethiopian farmers vulnerable to recurrent drought risk;
- Demonstrate the feasibility of establishing contingency funding for an effective aid response in drought years.

##### **Activities**

- Undertake assessment of needs and current situation;
- Undertake consultation with stakeholders;
- Build capacity for insurance design;
- Acquisition of facilities;
- Short and long term training of personnel on climate change issues;
- Preparation of full project proposal.

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

- Drought Indices and insurance design developed;
- Increased number of farmers insured for drought;
- Capacity building and training of key actors;
- Studies, research and assessments of various aspects of weather/drought insurance.

##### **Potential long-term outcomes**

Enhanced coping mechanism and adaptive capacity to drought impacts

## **IMPLEMENTATION**

### **Institutional arrangement**

Ministry of Agriculture and Rural Development will lead the coordination of the project. Other stakeholder institutions include the National Meteorological Agency, Disaster Prevention and Preparedness Agency, National/ international insurance company

### **Risks and barriers**

Lack of finance, lack of technical capacity

### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted as appropriate.

Evaluation of the project will be carried out by independent technical experts.

## **COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 8 million***

***Project design: USD 100,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 2

### STRENGTHENING/ENHANCING DROUGHT AND FLOOD EARLY WARNING SYSTEMS IN ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

*in relation to climate change, including sectors concerned*

According to the recent IPCC Fourth Assessment Report extreme weather and climate events are likely to increase in frequency and intensity under a changing climate. The report also concluded that the impacts of these events would be severe on developing countries like Ethiopia.

Extreme weather and climate events can be monitored and predicted with current technologies such as numerical weather prediction, climate models, satellites and radars. The National Meteorological services in Ethiopia, however, do not have adequate capacity to provide accurate and timely user specific weather and climate forecast. The current capacity to provide accurate and timely weather and climate forecasts in Ethiopia is limited due to lack of facilities, skilled manpower and technologies. Metrological station networks are not adequate. Communication, satellite and radar facilities that can support generating weather and climate information are lacking

In line with enhancement of meteorological services delivery, there is need to improve physical infrastructure (observation stations, telecommunications, data processing) and climate applications. In order to keep abreast with the rapid and ever changing new technologies especially technologies for advanced meteorological services, there is need to adopt human resource development strategies in information technology.

#### DESCRIPTION

##### **Objectives**

To establish improved drought and flood early warning system in Ethiopia through improved weather and climate monitoring and predication.

##### **Activities**

- Assess existing early warning systems and identify gaps in the country

Improvements of monitoring and prediction facilities:

- Improvement of observational network;
- Upgrading telecommunication network through modern technologies;
- Improvement of data processing systems and automation of data quality control, analysis and archival;
- Development of skilled human resource;
- Improvement of observational network;
- Specialized training in Numerical weather prediction(NWP), climate modelling; information technology, meteorological equipment and instrument maintenance;

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

- Improved observational network and telecommunications and data processing facilities;
- Adequately trained human resource at National Meteorological Agency (NMA);
- Improved dissemination techniques;
- Accurate and timely weather and climate forecasts

**Potential long-term outcomes**

Impacts of extreme weather and climate events on life and property minimized

**IMPLEMENTATION****Institutional arrangement**

National Meteorological Agency will lead the coordination of the project.

**Risks and barriers**

Lack of finance, lack of technical capacity

**Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted, as appropriate.

Evaluation of the project will be carried out by independent technical experts.

**COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 10 million***

***Project design: USD 100,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 3

### DEVELOPMENT OF SMALL SCALE IRRIGATION AND WATER HARVESTING SCHEMES IN ARID, SEMI-ARID, AND DRY SUB-HUMID AREAS OF ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

Dependency on seasonal rains has not only kept crop production and productivity very low but also made agriculture a risky business. Arid, semi-arid, and dry sub-humid areas of the country experience very high seasonal and inter annual rainfall variability affecting crop production and food security. Ethiopia is rich in its water resources and sometimes called the water tower of East Africa. However, the country is constrained; among others by lack of capacity to sustain and ably utilize its water resources.

The total irrigable land under irrigation currently averages 4 to 5 percent. Large and Small scale irrigation development is mentioned as one of the priorities of NAP and the Initial National Communication Report for UNFCCC has also suggested as one of the climate change adaptation options for the agriculture sector. Water harvesting could be a valuable tool in increasing crop production, supplying water for humans and livestock.

#### DESCRIPTION

##### **Objectives**

- To increase water accessibility for agricultural production and enhance food security as well as to minimize impacts of drought hazards;
- Enhance socio-economic growth and alleviate poverty;
- To increase domestic water supply and livestock through water harvesting;
- To develop arable production with runoff farming/ rain water harvesting;
- To rehabilitate existing traditional irrigation and improve water application practices;
- To increase capacity of farmers and key actors to utilize water for agricultural production.

##### **Activities**

- Assessment and inventory of existing situation;
- Study, design and implementation;
- Identification of suitable sites for water harvesting, small scale irrigation dams and boreholes;
- Construction/development of dams, boreholes and ponds;
- Develop improved field canals and on-farm works;
- Prepare land for irrigation;
- Develop river diversion schemes using gravity or pump supply for small scale irrigation schemes;
- Organization of workshops for training of communities and professionals in water management

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

- Small scale irrigation dams and boreholes developed at selected sites;
- Increased irrigated land (Development of 30,000 hectares of small scale irrigation scheme) ;
- Increased agricultural production through better productivity;
- Increased capacity of communities and professionals in small scale irrigation management.

##### **Potential long-term outcomes**

Improved food and energy security, water supply and economic development

## **IMPLEMENTATION**

### **Institutional arrangement**

Ministry of Agriculture and Rural development will lead the coordination of the project. Ministry of Water resources, Bureau of Agriculture and Rural development, Water Users Associations, farmers and private investors are the main stakeholders

### **Risks and barriers**

Lack of finance, lack of technical capacity, unavailability of suitable sites

### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted, as appropriate.

Evaluation of the project will be carried out by independent technical experts.

## **COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 30 million***

***Project design: USD 500,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 4

### IMPROVING/ENHANCING THE RANGELAND RESOURCES MANAGEMENT PRACTICES IN THE PASTORAL AREAS OF ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

The rangeland resources of the country are deteriorating, thus threatening the very livelihoods of the vast majority mainly the pastoral community. The major reasons for the decline in the resources bases include, among others: overgrazing, decline of the traditional mode of managing the rangeland resources, bush encroachment, introduction of Invasive Alien Species, expansion of development endeavors, population pressure, etc. These phenomena have been exacerbated by climatic change/variability and the spread of desertification. This project is believed to contribute to efforts aimed at reversing the degradation of the rangeland resources, which has been one of the main concerns in those National Regional States especially the lowlands where the pastoral communities inhabit.

#### DESCRIPTION

##### **Objectives**

To improve the current status of rangeland resources degradation by taking one woreda (district) from pastoralist areas as a pilot site from each National Regional States.

##### **Activities**

- Assessment of the socio-economic conditions of the pilot woredas;
- Introduction of fodder development initiatives such as site specific suitable fodder trees and shrubs planting program;
- Undertake controlling measures on bush encroachment problems;
- Measures to control of Invasive Alien Species such as *Prosopis Juliflora*, for instance, in Afar National Regional state;
- Document and undertake promotional activities on the indigenous rangeland resources management practices using various awareness raising approaches/ means such as media;
- Undertake adaptive research.

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

Improved rangeland management practices piloted in selected site

##### **Potential long-term outcomes**

Improved productivity and sustainable use of rangelands

#### IMPLEMENTATION

##### **Institutional arrangement**

Ministry of Agriculture and Rural Development (MoRAD) will lead the coordination of the project.

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

Lack of finance, lack of technical capacity



### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted as appropriate.

Evaluation of the project will be carried out by independent technical experts.

### **COST**

Estimated (indicative and tentative) project cost

*Full project implementation: USD 2 million*

*Project design: USD 50,000*

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 5

### COMMUNITY BASED SUSTAINABLE UTILIZATION AND MANAGEMENT OF WET LANDS IN SELECTED PARTS OF ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

Wetlands are among the world's most important assets, providing the basis for human survival and development, and contribute to global biodiversity. Among their significant functions, they reduce the greenhouse effect (through their capacity for sequestering and retaining carbon); stabilize microclimates; provide tourism/recreation and water transport opportunities; retain and purify agrochemicals, toxicants and sediments; minimize natural disasters such as drought and floods; recharge ground water; and contribute to the hydrological characteristics of aquatic ecosystems. They also generate various products such as water supply, fisheries, wildlife, forest and agricultural resources.

The above paragraphs explicitly show the significance of protecting the wetlands ecosystems for climate change adaptation, biodiversity conservation and combating desertification and mitigate the effects of drought.

#### DESCRIPTION

##### **Objectives**

To conserve and wisely use the selected wetlands to promote the adaptation capacity of the rural community for climate shocks

##### **Activities**

- Detail assessment of current situation;
- Undertake consultation with stakeholders;
- Create awareness and training of personnel;
- Identification of potential and target areas;
- Preparation of full project proposal.

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

Selected wetlands situated in arid semiarid and dry sub-humid parts of the country are sustainably managed

##### **Potential long-term outcomes**

Sustainable utilization of wetland in Ethiopia

#### IMPLEMENTATION

##### **Institutional arrangement**

Ministry of Water Resources will lead the coordination of the project. The main stakeholders include Regional Environmental Protection Agencies; Bureaus of Agriculture and Rural development; Community Based Organizations; Local NGOs, farmers, pastoralists and local administrations.

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

Lack of finance, lack of technical capacity

### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted, as appropriate.

Evaluation of the project will be carried out by independent technical experts.

### **COST**

Estimated (indicative and tentative) project cost

*Full project implementation: USD 2 million*

*Project design: USD 50,000*

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 6

### CAPACITY BUILDING NEEDS FOR CLIMATE CHANGE ADAPTATION IN ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

Currently there are a number of constraints for planning and implementing climate change adaptation. These constraints include:

- Inadequacy of skilled manpower on climate change issues;
- Weak institutional set up and coordination on climate change;
- Inadequate facilities;
- Lack of specific policies on climate change adaptation;
- Inadequate research

Available studies and research conducted so far on vulnerability and adaptation specific to Ethiopian case are scanty due to lack of capacity. Adequate knowledge and information has to be generated to develop adaptation policies for the country.

Strengthening research in the field is essential. Skilled human resources development on climate change issues is of a primary importance and needs to be given due attention. Unless the country has adequate number of cadres that can spearhead climate change issues, implementation of adaptation will be slow.

#### DESCRIPTION

##### **Objectives**

- To develop capacity that enables to plan and implement adaptation to climate change in the country;
- To develop capacity that enables to conduct research, promote documentation and information on climate change

##### **Activities**

Capacity building in terms of development of skilled human resource, infrastructure and facilities including institutional strengthening is a prerequisite for planning and implementing adaptation to climate change.

Specific human resource capacity needs required includes short and long term training including specialization at higher levels (such as MSc, PhD levels) in the areas of:

- Climate change vulnerability and adaptation assessment for sectors of Agriculture, water resources, human health, biodiversity/ecosystems;
- Climate modeling, climate analysis and prediction;
- Environmental economics, environmental management;
- Policy analysis and appraisal focused on climate change;
- Sustainable agriculture;
- Irrigation agriculture;
- Integrated water resource management;
- Natural resource management;
- Land use planning.

Specific needs in terms of infrastructure and facilities/institutions include:

- Vulnerability and adaptation assessment tools such as DSSAT, WEAP;

- Information and research data base, (global, regional, national, local);
- Statistical and GIS Packages such as SYSTAT, ARCGIS, IDRISI;
- Climate data base management systems;
- Integrated assessment tools, economic models;
- Climate analysis tools and Climate prediction tools (regional climate models such as Magic/Sengen, Precip, downscaling methods);
- Risk assessment tools;
- High speed connectivity and high capacity/speed computers;
- Upgrading the current research department to a national center on climate research.

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

- Adequate number of trained manpower to undertake adaptation planning and implementation;
- Adequate facilities and analytical tools and institutional setup put in place

#### **Potential long-term outcomes**

The country will be in a better position to meet its obligations and exploit opportunities under the Climate Convention.

### **IMPLEMENTATION**

#### **Institutional arrangement**

National Meteorological Agency will lead the coordination of the project Disaster Prevention and Preparedness Agency, Ministry of Capacity Building and Higher Learning Institutions departments, academic and research institutions, and NGOs

#### **Risks and barriers**

Lack of finance, lack of technical capacity, legal/institutional

#### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted. as appropriate.

Evaluation of the project will be carried out by independent technical experts.

### **COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 3 million***

***Project design: USD 100,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 7

### REALIZING FOOD SECURITY THROUGH MULTI-PURPOSE LARGESCALE WATER DEVELOPMENT PROJECT IN GENALE-DAWA BASIN

---

#### RATIONALE/JUSTIFICATION

*in relation to climate change, including sectors concerned*

The mainstay of Ethiopian economy is subsistent and rain-fed agriculture. 85% of the population is engaged in farming. Compounding the problem, drought and flood dictates our lives. The largest part of the country is under semi-arid and arid ecology. According to the recent Human Development Resource, incidence of poverty is considered to be one of the highest in the world with 55% of the population below the poverty line –in some regions, as high as 85%. Food is unsecured and health problems are prevalent. Climate change makes this situation more serious. It is therefore imperative to opt to multipurpose large-scale irrigation project ameliorate the impacts of recurrent drought in the country.

Towards this end, an integrated developmental project to develop the adaptive capacity of drought prone population within Genale - Dawa River Basin (in southern part of Ethiopia) is proposed. It is in this Basin that the higher percentage of people under poverty line. Infrastructures such as electricity, water supply, health are absent. The region is known with subsistence farming and pastoral livelihood facing frequent drought and rainfall declining abruptly. More than 91% of the population in the Basin lives in rural areas, where accessibility of basic needs hardly any.

The Basin is a highland –lowland system with a risk of natural resource degradation, particularly water and land, due to a rapid increase in the demand of water and high variability. The multipurpose project entails large-scale irrigation, food security (large-scale agriculture of food and cash crops), rural water supply (drinking) and sanitation, water supply for livestock and hydro-power generation. The Basin has an area of 168,000 km<sup>2</sup>, annual flow of 6.10 billons cubic meter of annual flow and 406,000 ha of irrigable land, optimal for this type of project.

#### DESCRIPTION

##### Objectives

- To contribute to the reduction of poverty, improvement of the welfare of the rural populations and sustainable natural resources management towards viable sustainable development in the basin.
- To improve the living standard and general socio-economic well being of people
- To realize food self-sufficiency and food security of population in the Basin.
- To extend water supply and sanitation coverage to large segments of the society
- To access electric energy from the hydropower for multiuse
- To increase the availability of water for livestock, crop irrigation, aquaculture, energy , rural industry and domestic use

##### Activities

- Assessment and review of existing master plans and works on Genale–Dawa river basin;
- Feasibility studies;
- Construction of dams;
- Training of personal on irrigation development and management.

### Short-term outputs

- Increased availability of water for livestock, crop irrigation, aquaculture, rural industry and domestic use;
- Dams constructed;
- Irrigated land;
- Increased agricultural production;
- Hydro power generated;
- Capacity built in irrigation management.

### Potential long-term outcomes

Improved livelihood with minimum impact of climate variability and change with easy access to drinking water, water for livestock, electricity, reliable food production and cash crops towards food security

### **IMPLEMENTATION**

#### **Institutional arrangement**

Ministry of Water Resources will be the lead institution to coordinate the project

#### **Risks and barriers**

Lack of finance, lack of technical capacity, environmental impact, legal/institutional

#### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies and field visits will be conducted as appropriate. Evaluation of the project will be carried out by independent technical experts.

### **COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 700 million***

***Project design: USD 2 million***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 8

### COMMUNITY BASED CARBON SEQUESTRATION IN THE RIFT VALLEY SYSTEM OF ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

The Ethiopian Rift Valley system is endowed with immense natural resources of high values. It embodies a chain of Ethiopian famous lakes packed with various resources of commercial importance such as fishery and highly nutritious algal group (*Spirulina* species). The project will focus on community carbon budget forestry to rehabilitate the *Acacia* woodland. It should be realized that accelerated degradation of *Acacia* woodland in the rift valley system does also trigger losses of both soil and terrestrial biodiversity.

#### DESCRIPTION

##### **Objectives**

- Establishment of nursery sites for the propagations of indigenous *Acacia* species;
- Enrichment plantations of *Acacia* woodland;
- To trade Carbon;
- To establish incentive schemes.

##### **Activities**

- Assessment of current situation;
- Undertake consultation with stakeholders;
- Create awareness and training of personnel;
- Identification of potential and target areas;
- Preparation of full project proposal.

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

Community based carbon sequestration projects piloted in selected sites in the rift valley

##### **Potential long-term outcomes**

Improved livelihoods through clean development mechanisms (carbon trading); restored ecosystem and permanent in-situ carbon fixation

#### IMPLEMENTATION

##### **Institutional arrangement**

Environmental Protection Authority will be the lead agency for coordinating the project

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

Lack of finance, lack of technical capacity, legal/institutional

##### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted as appropriate. Evaluation of the project will be carried out by independent technical experts.



**COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 1 million***

***Project design: USD 50,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 9

### ESTABLISHMENT OF NATIONAL CLIMATE RESEARCH CENTER

---

#### RATIONALE/JUSTIFICATION

Climate is a key natural resource on which the others depend. It influences food production, water and energy availability. It sets the stage for the establishment of habitats, affects the pace of primary productivity, and influences species density and distribution. At the moment there is no dedicated institution which carries out research and studies on the issues of climate change and variability in the country.

#### DESCRIPTION

##### **Objectives**

To establish a national climate center which can provide information and policy advice for government through research and studies.

##### **Activities**

- Assessment of needs and current situation;
- Undertake consultation with stakeholders;
- Acquisition of facilities;
- Short and long term training of personnel on climate change issues;
- Preparation of full project proposal.

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

- Establishment of well equipped centre for climate change research centre;
- Trained human capital that can undertake research and studies on climate change.

##### **Potential long-term outcomes**

The Centre will help the country to pursue sustainable development that contributes for the protection of the earth's climate. The establishment of the center will also enhance the adaptive capacity of the country for climate related risks.

#### IMPLEMENTATION

##### **Institutional arrangement**

National Meteorological Agency will lead the coordination of the project.

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

Lack of finance, lack of technical capacity, legal/institutional

##### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted as appropriate. Evaluation of the project will be carried out by independent technical experts.

**COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 3 million***

***Project design: USD 200,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 10

### STRENGTHENING MALARIA CONTAINMENT PROGRAMS IN SELECTED AREAS OF ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

One of the potential adverse impacts of climate change is range expansion of vector-borne diseases such as malaria. It is now a common practice in Ethiopia to witness malaria infections in places, which were safe hitherto. Although eradication of malaria may be a long way to pursue, containment could be viewed as the best alternative at this juncture. To further pursue this goal, the proposed project combined direct assistances for the local community with the development of traditional knowledge for the treatment of this disease.

#### DESCRIPTION

##### **Objectives**

To contain and reduce the infection rate of malaria in selected parts of Ethiopia.

##### **Activities**

- Assessment of current situation;
- Undertake consultation with stakeholders;
- Identification of potential and target areas;
- Distribution of mosquito nets to local people;
- Upgrading and maintaining high level of environmental standards of streams, ponds and other water bodies close to settlements;
- Conduct scheduled training programs involving experts and local development agents;
- Up-scaling traditional health practices in connection to treatment of malaria;
- Preparation of full project proposal.

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

Malaria containment programs strengthened in selected malaria prone areas (districts)

##### **Potential long-term outcomes**

Impact of malaria on mortality and morbidity minimized

#### IMPLEMENTATION

##### **Institutional arrangement**

Ministry of Health will be the lead in coordinating the project

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

Lack of finance, lack of technical capacity, legal/institutional

##### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted as appropriate. Evaluation of the project will be carried out by independent technical experts.

**COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 6 million***

***Project design: USD 500,000***

# ETHIOPIA

---

## NAPA PRIORITY PROJECT 11

### PROMOTION OF ON FARM AND HOMESTEAD FORESTRY AND AGRO-FORESTRY IN ARID, SEMI-ARID AND DRY SUB-HUMID PARTS OF ETHIOPIA

---

#### RATIONALE/JUSTIFICATION

Decline in farmlands productivity and production as one of the manifestations of land degradation is caused mainly due to loss in soil fertility. The decline in soil fertility in turn is mainly caused by removing or not planting the trees, notably, the indigenous trees which are important for nitrogen fixation. In order to promote the fertility and productivity of the farmlands, one of the feasible intervention areas is the introduction of on-farm and homestead forestry practices.

Legume-based agro-forestry also serves multiple purposes such as fixing nitrogen (increased crop production) and enhances carbon pool and counter balance desertification. Pods and leaves can be used as fodder for livestock. Vegetation cover increment on farmlands enhances carbon sequestration, and climate mitigation. Moreover, intensification of agricultural practices is one of the priorities in the National Action Plan to combat desertification Convention in Ethiopia.

#### DESCRIPTION

##### **Objectives**

- To build the capacity of the farmers for improved soil management through the promotion of awareness, raising or availing indigenous and multi-purpose trees and provision of technical advice on the indigenous trees seedling production and planting;
- To promote legume-based agro-forestry;
- To promote the growing of fruit trees.

##### **Activities**

- Detail assessment of current situation;
- Undertake consultation with stakeholders;
- Create awareness;
- Identification of potential and target areas;
- Establishment of tree nurseries;
- Training of farmers and agricultural extension workers;
- Preparation of full project proposal.

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

- A number of nursery sites for fruit trees, fodder and legumes identified;
- Farm and homestead forestry and agro-forestry practiced in selected pilot districts;
- Capacity building and key actors trained.

##### **Potential long-term outcomes**

Sustainable Fodder production; improved soil fertility, increased food security

## **IMPLEMENTATION**

### **Institutional arrangement**

Ministry of Agriculture and Rural Development (MoRAD) will lead the coordination of the project.

### **Risks and barriers**

Lack of finance, lack of technical capacity, legal/institutional

### **Evaluation and monitoring**

A project steering committee composed of representatives from stockholders will oversee the project. Regular progress reports will be submitted to all concerned bodies by the lead institution and field visits will be conducted, as appropriate. Evaluation of the project will be carried out by independent technical experts.

## **COST**

Estimated (indicative and tentative) project cost

***Full project implementation: USD 5 million***

***Project design: USD 100,000***