

CHAPTER 2 PROJECT IDEA FOR AGRICULTURE SECTOR

2.1 **Brief Summary of Project Idea for Agriculture Sector**

The project idea of Drought Resistant Sorghum Varieties was identified through stakeholder consultation on the basis of its potential to climate change adaptation and contribution to socio-economic development. The main purpose of the project is to increase food security in the ASAL area by expanding the area under arable land and promoting wide adoption of Drought Resistant Sorghum in Kenya's ASAL Counties. Sorghum is not only drought tolerant but also adaptable to most of Kenya's climatic zones and soils. The project will be implemented in 10 selected ASAL counties with a possible extension to other counties.

2.2 **Specific Project idea for Promotion of Adoption of Drought Tolerant Sorghum in Arid and Semi-Arid Lands (ASALs) of Kenya**

2.2.1 **Introduction/Background**

Rainfall pattern is unreliable in most parts of the country and droughts have become more frequent. Therefore there is need for introduction of high yielding, drought tolerant, early maturing crop varieties, such as drought tolerant sorghum, in order to enhance food security in the country. Drought tolerant sorghum requires relatively little rainfall and it therefore grows well in arid and semi arid areas.

Drought resistant sorghum technology reduces the risk of total crop failure and provides the producers with chances of dealing with uncertainties created by climate change because it requires little moisture to mature. It is also adaptable to most of Kenya's climatic zones and soils and is not affected by pests as much as other cereals such as maize.

The drought resistant sorghum project idea was developed through a participatory and all inclusive process involving consultations of key stakeholders in workshops, brainstorming sessions with the Adaptation Technical Working Group, and consultations with technical officers. The proposed project ideas will be piloted in 10 selected counties in arid and semi arid areas of Kenya which are hard hit by climate change and later replicated to other parts of this country.

The **goal** of the proposed project is to introduce drought tolerant sorghum varieties to 100,000 farmers in 10 selected ASAL counties by the year 2017.

2.2.2 **Objectives**

- i) To create awareness and build capacity of stakeholders on drought resistant sorghum varieties in 10 selected counties in the ASAL areas.
- ii) To promote adoption of drought tolerant sorghum varieties through seed multiplication in 10 demonstration centres in each participating county.
- iii) To promote marketing and distribution of sorghum varieties seeds to agro-dealers, stockists and retailers in order to enhance production of sorghum by participating farmers.
- iv) To promote access to loans and credits to farmers.

2.2.3 Outputs

- i) Stakeholders are trained in the management of drought resistant sorghum varieties
- ii) Awareness created on the availability of the drought tolerant sorghum varieties.
- iii) Sorghum foundation seeds are made available in 10 demonstration centres
- iv) 50% of farmers in 10 selected ASAL counties adopt the technology
- v) Improved efficient and effective seed marketing system is in place in 10 selected counties
- vi) Access to markets and services in 10 selected counties is improved.
- vii) Loan scheme for drought tolerant sorghum created in the 10 counties

2.2.4 Relationship to the Country's Sustainable Development Priorities

Kenya's Vision 2030 recognizes agriculture as a key driver of the national development programs towards realization of the Vision. Agricultural policy of 2006 emphasizes the goals of increasing productivity and income growth, especially for smallholders, enhanced food security, and equity. This will mainly be achieved through increasing agricultural productivity and incomes by encouraging diversification into non-traditional agricultural commodities and value addition to reduce vulnerability and enhancing the food security, which will lead to the achievement of Millennium Development Goals (MDGs). Promotion of development of drought resistant sorghum in the ASALs will assist Kenya to achieve food security and also enhance its capacity to adapt to climate change in the ASALs of Kenya which occupy about 85% of the total land area.

2.2.5 Project Deliverables

The proposed promotion of adoption of drought tolerant sorghum varieties technologies is expected to have the following deliverables:

- i) Training manuals on seed production, inspection, storage and certification for extension officers and agro-dealers.
- ii) Workshops and training seminars and reports
- iii) Annual and quarterly project review reports
- iv) Drought tolerant sorghum technology is developed and used by targeted communities in 10 participating counties for climate change adaptation.
- v) Report on the project impact on socio-economic status of local communities including employment, improved livelihood, gender empowerment, children education
- vi) Visibility materials for further enhancement, transfer and diffusion of technologies are developed.

2.2.6 Scope and Possible Implementation

The National Climate Change Response Strategy (2010) was the first national policy document to fully acknowledge the reality of climate change and give guidance on policy decisions on climate change adaptation measures. As a follow-up measure, the National Policy for the Sustainable Development of Northern Kenya and Other Arid Lands emphasized how to ensure food and nutrition security in arid and semi-arid

lands, where unpredictability is certain to increase as the impact of climate change deepens.

In the semi-arid areas of Kenya, four agricultural projects that include drought growing of sorghum are being run by the National Agricultural and Livestock Extension Programme (NALEP), SIDA, Swedish International Development Agency (SIDA), Government of Kenya (GoK) and the National Museums of Kenya (NMK) and about 5 % of farmers have been reached. The proposed project will link to these and other related ongoing present and past projects in the ASAL areas.

The technology has been developed but not widely adopted by farmers in the country. However, the adoption studies have been on and are still on-going. Extension agents and NGOs are promoting drought tolerant sorghum for food security and beer brewing. Trials are on for forage sorghum variety that is capable of multiple cutting for over 3 years, which will double the harvest per acres. Each farmer will initially grow the drought tolerant sorghum on one acre piece of land.

The project will be piloted in 10 ASAL counties with possible replication to the other counties in the ASAL areas and will target about 10,000 farmers per county. It is expected that the production of the sorghum will address food security in the area.

2.2.7 Project Activities

The project activities and associated actors are sequentially presented in Table 2.1.

Table 2.1: Project Activities and Actors

	Activity	Actors
1.	First stakeholders meeting and establishment of Project Implementation Committee (PIC)	Ministry of Agriculture and Ministry Special of Programmes
2.	Establishment of project offices and demonstration centers in 10 selected counties	Ministries of Agriculture and Special of Programmes and PIC
3.	Recruitment of project staff	Ministries of Agriculture and Special of Programmes and PIC
4.	Community sensitization and public awareness campaigns on Drought Tolerant sorghum varieties	Technical officers from the Ministries of Agriculture and Special of Programmes and PIC
5.	Training of Extension Staff , Agro Dealers, Stockiest, Retailers on seed business on: Production, Inspection, Certification, Storage, Processing, Packaging and Marketing and Good Agricultural Practices (GAP)	Technical officers from the r Ministries of Agriculture and Special of Programmes and PIC
6.	Dissemination of information on the technology to farmers through print and electronic media and public meetings	Project Staff and PIC
7.	Provide subsidies to enhance access to seeds, fertilizers and other inputs to increase Sorghum Production	Technical Officers from Ministries of Agriculture and Special of Programmes and Project Employees
9.	Initiate collaboration initiatives between Research Institutions and Extension Officers.	Project staff
10.	Initiate networks, collaboration and cooperation amongst the various Stakeholders involved in seed business	Project Staff
11.	Promote access to markets and services in and outside Kenya	PIC and Project staff
14.	Provide loans and credits to farmers	Financial Institutions

2.2.8 Timelines

The project will be implemented in 5 years and the activities will be implemented as indicated on Table 2.2

Table 2.2: Timelines for Project Implementation

	Activities	Timeline
1	Staff employment	01 Month-03 Month
2	Information sensitization and public awareness creation	04-60 Month
3	Training of extension staff, agro dealers and stockists	05-60 Month
4	Promote information flow to farmers through I.C.T to reach many farmers	06-60 Month
5	Enhance networking, collaboration and cooperation amongst stakeholders	06-60 Month
6	Intensify the collaboration between extension officers and farmers	30-60 Month
7	Provision of equipment, stationery and related activities	01 Month-03 Month
8	Provide loans and credit to farmers	08-60 Month

2.2.9 Budget/Resource Requirements

The total project budget the National project is as shown in table 2.3 below is Kshs. 20.04 billion which will be used to implement 100,000 draught tolerant sorghum projects in 10 selected counties. The project budget will be implemented as shown in table 2.2 below.

Table 2.3: Summary of the Proposed Budget

	Activity	Cost per County (Million Kshs)	Cost per County (Million Kshs)
1.	Establishment of project offices and demonstration centers in 10 selected counties	10	100
2.	Community sensitization and public awareness campaigns on Drought Tolerant sorghum varieties	5	50
3.	Training of Extension Staff, Agro Dealers, Stockiest, Retailers on seed business	60	600
4.	Dissemination of information on the technology to farmers through ICT, print and electronic media, and public meetings	2	20
5.	Provide subsidies to enhance access to seeds, fertilizers and other inputs to increase Sorghum Production	10	100
6.	Initiate collaboration initiatives between Research Institutions and Extension Officers.	2	20
7.	Promote access to markets and services in and outside Kenya	2	20
8.	Provide loan and credits to farmers	100	1000

9.	Staff employment and remuneration and related activities	10	100
10.	Reimbursable	1	10
11.	Monitoring and evaluation	2	20
Total Budget (Million KShs)		204	2040

The project will be funded through community contributions, governmental budgetary allocations, and soft loans from micro-financing institutions and grants from development partners and Non-governmental organisations and private sector.

The Government budgetary allocations will fund government extension officers, land for demonstration centres, research on the technologies, devolve fund for implementation of the technologies and infrastructure.

The communities will contribute labour, land for implementation of the climate change adaptation technologies within the counties. For purposes of sustainability and ownership of the technologies the communities will be expected to implement the technologies through soft loans which they will be expected to pay back. The government will put in place enabling framework to enable local community to access soft loans from micro-finance institutions.

The development partners will co-finance special funds for micro-finance, training and awareness creation materials, vehicles and equipment, exchange visits and Consultancies. NGOs and private sector in partnership with the Government will be expected to contribute to diffusion of the technologies.

The project implementation will be carried out in partnership with community, government, private sector, NGOs and Development partnership.

2.2.10 Measurement/Evaluation

The project will have a project steering committee chaired by the Ministry of Agriculture. Other members will comprise representatives from the relevant government institutions, financial institutions, development partners, NGOs and project beneficiaries. The Project Steering Committee will be responsible for monitoring project implementation and will receive project progress reports from the Project Manager on quarterly basis.

2.2.11 Possible Complications/Challenges

Political goodwill was seen as the greatest risk to the implementation of the drought tolerant sorghum. This can however, be addressed through sensitization of technical officers on the benefits of adopting this technology and continuous collaboration and update. The other challenge is difficulties in obtaining funding for the project, mainly due lack of donor financial support and competition with other organs of the government like health and education for limited government funds. This can be addressed through sourcing of funds from donors private companies particularly the end users of sorghum and micro-credits to local communities.

Climate related factors such as prolonged drought and the associated impacts on agriculture can be a major constraint to the implementation of the proposed project. While this is beyond the projects control, local communities will be encouraged to put in place measures for adapting to climate change such as water harvesting and storage. The challenge can also be addressed through establishment on early warning systems and timely dissemination of information on climate variability to farmers.

2.2.12 Responsibilities and Coordination

The project will be coordinated by the Ministry of Agriculture in collaboration with the interested stakeholders. These include the following:

- i) Government of Kenya
- ii) Civil society(NGOs)
- iii) Private sector
- iv) Financial institutions
- v) Development Partners