EU-ACP NUS Project "Strengthening capacities and informing policies for developing value chains of neglected and underutilized crops in Africa"

NATIONAL ACTION PLAN FOR THE PROMOTION OF AMARANTH AND BAMBARA GROUNDNUT IN KENYA

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NATIONAL ACTION PLAN FOR THE PROMOTION OF AMARANTH VALUE CHAIN IN KENYA

BACKROUND

Amaranth is the collective name for the species belonging to the genus *Amaranthus.* It originated from Mexico where it has been cultivated for over 6000 years (Iturbide and Gispert, 1994). The *Amaranthus* species commonly found in Kenya are *A. dubius* and *A. hybridus* grown for vegetable, *Amaranthus cruentus* grown for grain and A. *hypochondriacus* grown for both vegetable and grain. The grain amaranth crop is a non-grass cereal, classified in a very unique food group called “pseudo cereals”.

Figure 1: Vegetable amaranth types

In Kenya, the traditional amaranth has been used as a vegetable but was long regarded as a food for the poor. In the recent times, both the traditional leafy vegetable amaranth and grain amaranth have become increasingly attractive food groups for upper income groups, particularly in urban and peri-urban markets, and vulnerable groups with special nutritional needs (e.g. HIV-AIDS infected people).

Grain amaranth was gazetted in Kenya in Legal Notice No. 281 of 19th July, 1991 as a food crop. The Poverty Eradication Commission in Kenya launched a project in 2005 to promote cultivation of grain amaranth a as a food security crop in districts where traditional food crops often fail due to droughts associated with climate change. The Amaranth Project which was originally

launched in in Bondo district and has since been successfully replicated in many regions of the country.

Figure 2: Grain amaranth types

Compared to staple cereal crops, the grain amaranth is early maturing (less than three months), can be grown several times a year and tolerates drought, heat stress, high soil acidity and salinity. Amaranth seed contains 8-17% of edible oil, useful for both domestic cooking and industrial purposes. The oil contains a special component known as squelene, found only in in dogfish liver, whale fish liver oil and shark liver oil. Lysine in grain amaranth is said to be herbal cure for herpes (a common and painful skin disease in HIV/AIDS victims). Additionally, it is claimed that several more diseases are prevented, managed or healed by this grain. Grain amaranth has potential for increased production due to low cost of inputs and its adaptation to a wide range of agro-ecological zones.

Amaranthus, as a leafy vegetable, has been integrated in local communities' culture as food over many generations. Stakeholders in Kenya have identified this crop as one of the most important African leafy vegetables. Leafy vegetable amaranth contains superior levels of

carotene, vitamin C, protein, iron, calcium, magnesium, fibre and antioxidants compared to exotic vegetables such as cabbage.

Despite the potential nutritional and food security advantages only a few farmers have started growing the amaranth. The production levels for both vegetable and grain amaranth are very low. Recent statistics show that leafy vegetable amaranth is grown under 1,679 ha with a production volume of 17,445 MT valued at KES 524 million while the grain amaranth is grown under 682 ha, with a production volume of 3,068 MT valued at KES 202 million (HCDA 2012). The leading leafy vegetable amaranth producing counties in Kenya are Kilifi, Kisii, Murang'a and Lamu while the leading grain amaranth producing counties are Nyamira, Migori, Busia and Nandi.

Amaranth, considered a neglected and underutilized species (NUS), gets little attention if any from research, economic activities and general policy support. It, however, has a great potential as a tool to fight poverty, hunger, malnutrition and disease. It also helps make agricultural production systems more resilient to climate change as well as empower indigenous communities, particularly women and youth. In view of this, an ACP-EU supported NUS Project coordinated by Biodiversity International, University of Nairobi and other partners organized a stakeholder workshop in Nairobi at which a value chain analysis was conducted on amaranth and Bambara nut. The outputs of this workshop have been used to develop the National Action Plan (NAP) for amaranth value chain. The NAP consists of key thematic areas, constraints, opportunities and actions for upgrading the value chain. There are six thematic areas namely: market access and consumer demand, input supply, Agronomy/Technological and product development, organization management, regulatory and policy and finance.

THEME 1: MARKET ACCESS AND CONSUMER DEMAND

Constraints:

- The high nutritional and medicinal value of amaranth is not widely known among consumers
- Low volumes and inconsistent supply of the product due to sporadic production and low crops yields
- High cost of final amaranth products compared to products of other food crops. This limits the products to high income consumers thus excluding the middle and low income groups of consumers who are the majority

- Consumer preference for leafy amaranth yet it is more perishable and has limited opportunities for transformation than grain amaranth
- Limited knowledge on consumer preferences by the farmers and buyers
- Low quality of amaranth grain delivered to the market, leading to low prices and high grain rejection rates
- Exploitation of farmers by middle men who reap most of the benefits from the crop
- Poor road network in the production areas, leading to high transportation and postharvest losses particularly for the highly perishable vegetable amaranth

Opportunities:

- Increased demand for health enhancing traditional foods, particularly in the urban and peri-urban areas, as a means of combating rising lifestyle diseases associated with meat consumption and meeting nutritional needs of HIV-AIDS affected individuals
- Increasing urbanization due to devolved units and rising number of supermarkets across all the major towns in Kenya
- Strong institutions that deal with product quality standards, seed quality assurance and variety development exist
- Farmers willing to form groups for collective action in production and marketing
- Road network expanding in the country
- There are transformed products based on grain amaranth in all three countries (e.g. maize flour fortified with amaranth flour, cereals, popcorn, cakes and biscuits).
- Amaranth has a high capacity to improve incomes and create employment

Proposed actions:

- Promote public awareness of amaranth products, particularly grain amaranth and its derivatives, and their utilization
- Provide clear information on the nutritional benefits of amaranth products (and nutritional stability) to the public by the Ministry of Health
- Strengthen research (e.g. on crop management, market-driven varieties, postharvest handling, markets and utilization) and extension programmes
- Establish farmer groups to engage in collective marketing of amaranth produce and products so as to ensure adequate and consistent supplies to the market.
- Engage government to improve infrastructure in amaranth growing areas
- Amaranth researchers to engage the public and policy makers through: e.g. writing popular articles for the press and magazines, reaching out to radio and TV, using website platforms and formulating persuasive policy briefs

- Develop marketing strategies (e.g. promotions, exhibitions) particularly for grain amaranth, possibly learning from successes in the vegetable amaranth
- Promote increased production so as to enhance quantities for the market
- Develop farm-based cottage units
- Promote improved postharvest and storage practices

THEME 2: INPUT SUPPLY (E.G. SEEDS, FERTILIZERS, PESTICIDES)

Constraints:

- Poor quality seed due to relatively undeveloped seed systems: there is lack of certified seed, seed system is largely informal and there is limited diversity of amaranth varieties.
- Knowledge and information on existing amaranth varieties is scarce.
- Limited and inefficient use of fertilizers and pesticides: Farmers lack knowledge on fertilization and pesticide regimes, pests and diseases, as wells the fertility status of their soils because soil tests are not carried out
- High cost of seeds, fertilizers, pesticides and other inputs

Opportunities:

- Breeding new varieties by researcher
- Seed bulking to meet the demand
- Public and private laboratories providing services such as soil tests, chemical tests and diagnostics for pests and diseases exist.
- Local sources of organic fertilizers and pesticides that are more cost-effective than inorganic fertilizers
- Input suppliers willing to provide extension support
- Stockist networks exist
- Demand for quality seed exists
- Devolved governments willing to support quality seed acquisition

Proposed actions:

- Strengthen the seed sector in order to improve the diversity and quality of seed supply
- Public investment in breeding new high yielding and good quality amaranth varieties
- Governments and NGOs to identify and distribute seed of the best varieties that can be produced by well-trained farmer groups: farmer-produced seeds and 'seed fairs' may need more attention because initially the seed markets are still small

- Training of extension service provides and farmers on quality seed production, use of fertilizers and pesticides, integrated pest management and integrated soil fertility management
- National gene banks need to generate new information on grain amaranth diversity
- Characterization of amaranth varieties is necessary: collection and exchange of grain amaranth should be encouraged, not only between the African regions but also between Africa and Latin America and Asia where grain amaranth value chains are better developed.
- Conduct farmer surveys to document knowledge on the existing varieties.
- Promote collective (group) procurements of inputs to ensure bargain input prices
- Promote soil tests-to establish soil fertility status- and diagnostics for pests and diseases

THEME 3: AGRONOMY/TECHNOLOGICAL/PRODUCT DEVELOPMENT

Constraints:

- Poor agronomic practices
- High post-harvest losses (quantity and quality)
- Information on the stability of important nutritional factors during processing/storage is lacking.
- Inadequate knowledge on post-harvest handling and processing of amaranth.
- Lack of accurate information by the extension providers
- Over dependence on rain-fed agriculture
- Lack of labour due to migration to towns by young people
- Crude threshing methods and lack of handling equipment/materials
- Lack of capacity in product development and analysis
- Not a priority crop in research

Opportunities:

- Robust research and extension systems in place and well distributed
- Appropriate processing technologies exist
- Most county governments have prioritized and are investing in mechanization; departments of engineering in universities can develop machines for farming operations
- New products development by the public and private sector
- Diversity of amaranth products exists
- Packaging institutions and personnel exist

Proposed actions:

- Intensify innovation regarding the development of new attractive products based on Bambara groundnut
- Document knowledge needs of farmers, processors and extension workers
- Train farmers in improving quality standards during harvesting (avoiding sand contamination)
- Conduct agronomic, postharvest (e.g. on nutrient stability during processing and storage) and product development research
- Develop training manuals with information on production, post-harvest handling and processing
- Develop new equipment (or adapt existing) for harvesting, drying and processing: universities and private sector could collaborate in this action
- Document processing knowledge, including consumers' recipes. Clearly, linking with other countries within and outside of Africa to learn from existing experience is of great importance.
- Conduct retooling trainings for extension service providers
- Test and validate diversified products for taste & consumer preference through demonstrations

THEME 4: ORGANIZATION MANAGEMENT

Constraints

- Farmers are not well organized and often act independently; this reduces their bargaining power with buyers when negotiating prices
- Farmers lack or have limited knowledge on value addition and processing operations they themselves could engage in and profit from.
- There are limited linkages between farmers and the private sector
- There is lack of collection centres which are necessary to ensure adequate and consistent supply of the produce to the market
- Farmers lack agribusiness skills
- Unrealistic expectations of over-enthusiastic farmers particularly with respect to prices

Opportunities:

- There are many national and county based organizations engaged in farmer empowerment and organization activities
- Extension service providers are available and can assist in farmer organization

- Government has affirmative action funds (Constituency Development Fund, Youth Enterprise Fund and Women enterprise fund) that can be accessed by youth and women groups dealing with agro-based enterprises
- Existence of farmer groups and merry- go-rounds
- Value chain stakeholder forums exists

Proposed actions:

- Catalyze the formation of farmer groups for collective action in production, bulking of produce in collection centres and marketing the products
- Provide increased training and extension support to farmers, with emphasis on group organization and agribusiness skills.
- Strengthen the linkages among farmers, extension service providers and researchers
- Conduct promotional activities that encourage farmers to pursue value addition and processing opportunities for wealth creation through grain amaranth
- Establish and strengthen linkages between the farmers and the private sector that promote amaranth value chains.
- Sensitize farmers on market requirements and opportunities
- Just like for amaranth, establish a core group of researchers who would coordinate research activities and interact with researchers in other countries. Such a group would be responsible also for feeding new knowledge to extensionists, farmers and, in the case of information regarding e.g. nutritional properties of products to relevant Ministries and policy makers.

THEME 5: REGULATORY/POLICY

Constraints:

- Lack of policies relevant to the promotion of grain amaranth
- Inadequate implementation of existing agricultural policies
- Lack of public sector support for research and development of amaranth, including funding
- Lack of awareness by policy makers on the potential of grain amaranth to improve food insecurity and nutrition

Opportunities:

- Increasing number of high-end supermarkets stocking grain and vegetable amaranth therefore bringing it to the attention of policy makers who patronize them

- Print media and electronic receptive to featuring profitable crop enterprises e.g. Seeds of Gold and Shamba Shape Up"
- Development of better policies
- Implementation of existing policies

Proposed actions:

- Awareness-raising amongst the public sector on grain amaranth opportunities is a priority, in order to inform policy processes.
- Lobby the Food and Nutrition Council to inform about grain amaranth as a healthy and nutritious cereal, to complement existing grain crops.
- Mobilize funds, especially via public-private-partnerships
- Develop policy briefs and lobby for development and implementation of policies relevant to the promotion of the grain amaranth
- Utilize the media platforms to promote amaranth

THEME 6: FINANCE

Constraints:

- Lack of funding for research and technology transfer and dissemination
- Poor access to loans by small scale farmers, processors and other players in the amaranth value chain due to lack of collateral such as land titles and property ownership documents
- High interest rates on loans leading to high repayment defaults and disinterest in loan acquisition
- Lack of gender inclusiveness in decision making regarding loans acquired by married women: women may acquire loans but husbands often take charge of how it is utilized

Opportunities:

- Increased number of affirmative action (pro-poor) funds/grants at the national and county government levels
- Increased number of credit organizations willing to provide loans to farmer groups
- NGOs and other agencies exist that can provide seed money for farmers and processors
- There are a number of institutions and professionals who can provide training on agribusiness and loan management to farmers and processor
- Available banking services

Proposed actions:

- Provide initial donor support (e.g from NGOs) to smallholder farmers to enable them to become established players in the value chains and able to possess “soft” collateral (e.g. through communal savings or funds generated by own profitable operations in the value chain) which permit access to banking services including loans
- Create sufficient consumer awareness and demand for specific amaranth products which would attract the attention of the private sector.
- Lobby county governments to provide financial support to amaranth value chains in their counties
- Link farmers, processors and other value chain players to credit providers
- Organize farmers into functional groups to collectively access loans
- Train farmers on agribusiness, credit acquisition and credit management to avoid loan repayment defaulting
- Train farmers and processors (both men and women) on gender inclusiveness in agribusiness and loan management to ensure efficient use of financial resources

NATIONAL ACTION PLAN FOR THE PROMOTION OF BAMBARA GROUNDNUT VALUE CHAIN IN KENYA

BACKROUND

Bambara groundnut (*Vigna subterranean* L. Verdc) is a grain legume cultivated, for its subterranean pods, mainly by subsistence farmers in semi-arid areas of sub-Saharan Africa. In Kenya it is grown largely in Western, Nyanza and Coastal regions, with recent introduction into Central Kenya. The crop is extremely well adapted to drought prone environments, tolerant of poor quality soils and can yield a crop in conditions where groundnut cannot. It fixes atmospheric nitrogen and therefore suitable for intercropping systems with cereals and root crops.

Figure 3: A crop of Bambara groundnut

Bambara groundnut is considered a complete food because its seed contains about 63% carbohydrate, 19% protein and 6.5% fat. It is richer than groundnuts in essential amino acids such as isoleucine, leucine, lysine, methionine, phenylalanine, threonine and valine. Bambara groundnut has a gross energy value that is greater than that of other common pulses, such as cowpea, lentil and pigeon pea. The crop also has weed-suppressing characteristics, especially against striga which is widespread in common in western Kenya. It however contains low levels of trypsin inhibitor and tannin.

Figure 4: Bambara groundnut seeds

The superior nutritional and ecological attributes make Bambara groundnut an excellent crop for drought prone and low soil fertility environments of Kenya. It has the potential to improve food security and nutrition in Kenya, make agricultural production systems more resilient to climate change and improve incomes of communities, especially women and youth. However, the crop has received very little attention from researchers and policy makers. There are many landraces in western Kenya that may undergo genetic erosion because the crop has not received much attention from the National Gene Bank of Kenya (GBK). There is therefore an urgent need to safeguard the genetic basis of Bambara groundnut. The average yields are low with a mean yield of 63.42 kg/ha. This may be attributed low quality and poor agronomic practices among other factors.

In recognition of the importance of Bambara groundnut the ACP-EU supported NUS Project coordinated by Biodiversity International, University of Nairobi and other partners organized a stakeholder workshop in Nairobi at which a value chain analysis was conducted Bambara groundnut. The outputs of this workshop have been used to develop the National Action Plan (NAP) for Bambara groundnut value chain. The NAP consists of key thematic areas, constraints, opportunities and actions for upgrading the value chain. There are six thematic areas namely: market access and consumer demand, input supply, Agronomy/Technological and product development, organization management, regulatory and policy and finance. Note that most of the constraints, opportunities and proposed actions for Bambara groundnut are largely similar to those of amaranth.

THEME 1: MARKET ACCESS AND CONSUMER DEMAND

Constraints:

- Insufficient & inconsistent supply of produce to the market
- Lack of market awareness
- Limited knowledge on the product and its utilization e.g. regional claims regarding its usefulness in male fertility
- The product is available only in selected rural market centres
- Quality standards for Bambara have not been developed
- Contains anti-nutritional factors (e.g. trypsin inhibitors and tannins) leading to digestibility problems
- It takes too long to cook thus costly in processing and not attractive to urban consumers

Opportunities:

- Demand for Bambara groundnut products exists in Kenya
- Existence of other rural/urban markets & market segments/channels
- Strong institutions that deal with product quality standards
- Farmers willing to take up Bambara groundnut technologies and form groups for collective action
- There is potential for processing/precooking

Proposed actions:

- Identify and/or develop varieties that take a shorter time to cook.
- Promote public awareness of the nutritional value of Bambara groundnut products and their utilization
- Promote pre-cooking of Bambara groundnut to increase consumer acceptance particularly in urban areas
- Identify and/or develop varieties with low levels of anti-nutritional factors
- Investigate whether nutritional properties of Bambara groundnut remain stable during processing operations.
- Strengthen research (e.g. crop management, market-driven varieties, postharvest handling, markets and utilization) and extension programmes
- Establish farmer groups to engage in collective marketing of Bambara groundnut produce and products so as to ensure adequate and consistent supply to the market.
- Develop marketing strategies (e.g. promotions, exhibitions) including demonstrations on recipes
- Promote production of Bambara groundnut so as to enhance quantities for the market

- Create links, networks and link farmers to markets
- Conduct a market survey for Bambara groundnut and convene a Bambara groundnut value chain for a
- Develop ICT platforms for innovative extension

THEME 2: INPUT SUPPLY (E.G. SEEDS, FERTILIZERS, PESTICIDES)

Constraints:

- Poor quality seed due to undeveloped seed systems
- Knowledge and information on existing Bambara groundnut landraces is limited
- Limited and inefficient use of fertilizers and pesticides: Farmers lack knowledge on fertilization and pesticide regimes, pests and diseases, as wells the fertility status of their soils because soil tests are not carried out
- High cost of seeds, fertilizers, pesticides and other inputs
- Unavailability of seed

Opportunities:

- Stockist networks exist
- Demand for quality seed exists
- Devolved governments willing to support quality seed acquisition
- Research capacity to breed new varieties exists
- Seed bulking to meet the demand
- Public and private laboratories providing services such as soil tests, chemical tests and diagnostics for pests and diseases.
- Existence of organic fertilizers and pesticides that are more cost-effective
- Input suppliers willing to provide extension support

Proposed actions:

- Strengthen the seed sector in order to improve the diversity and quality of seed supply
- Invest in breeding new high yielding, short cycle and good quality Bambara groundnut varieties for different agro-ecological zones
- Partner with seed companies for production and distribution of Bambara groundnut seed
- Training of extension service provides and farmers on quality seed production, use of fertilizers and pesticides, integrated pest management and integrated soil fertility management
- Conduct research on fertilizer regimes and pest and disease control.
- National gene bank need to generate new information on Bambara groundnut

- Characterization of Bambara varieties is necessary: collection and exchange of Bambara groundnut should be encouraged
- Conduct farmer surveys to document knowledge on the existing varieties.
- Promote collective (group) procurements of inputs to ensure bargain input prices
- Promote soil tests-to establish soil fertility status- and diagnostics for pests and diseases
- Involving farmers in documenting local knowledge and in training programmes would be beneficial.

THEME 3: AGRONOMY/TECHNOLOGICAL/PRODUCT DEVELOPMENT

Constraints:

- Poor agronomic practices
- Harvesting methods result in a high proportion of pods being left under soil.
- High post-harvest losses (quantity and quality)
- Information on the stability of important nutritional factors during processing/storage is lacking.
- Inadequate knowledge on post-harvest handling and processing of amaranth.
- Lack of accurate information by the extension providers
- Crude threshing methods and lack of handling equipment/materials
- Lack of capacity in product development and analysis
- Not a priority crop in research
- Poor milling characteristics because of hard pods and a seed coat that does not de-hull easily
- Little information is available on potential maximal yields using either optimised agronomic practices or through selection of high-yielding varieties
    - Bambara is a nitrogen-fixing legume but very little information is available on the diversity of rhizobia in farmers' fields.
    - Bambara is susceptible to a number of diseases
    - Lack of information on the technology necessary for shelling and peeling.

Opportunities:

- Robust research and extension systems in place and well distributed
- Appropriate processing technologies exist
- Government has shown commitment to increase funds for research

- Mechanized farming: most county governments have prioritized and are investing in mechanization; departments of engineering in universities and research institutions can develop machines for farming operations
- New products development by the public and private sector
- Diversity of Bambara products exists
- Packaging institutions exist & personnel

Proposed actions:

- Intensify innovation regarding the development of new attractive products based on Bambara groundnut
- Document knowledge needs of farmers, processors and extension workers
- Train farmers in improving quality standards during harvesting (avoiding sand contamination)
- Conduct agronomic, postharvest (e.g. on nutrient stability during processing and storage) and product development research
- Develop training manuals with information on production, post-harvest handling and processing
- Develop new equipment (or adapt existing) for harvesting, drying and processing: universities and private sector could collaborate in this action
- Document processing knowledge, including consumers' recipes. Clearly, linking with other countries within and outside of Africa to learn from existing experience is of great importance.
- Conduct retooling trainings for extension service providers
- Conduct research to optimize agronomic practices (e.g. time of planting seeds, fertiliser, spacing, control of diseases and the influence of rhizobia spp, need for earthing up and harvesting methods that reduce the problem of residual pods left behind in soil)
- Yields in arid areas should be investigated in detail in order to make firm recommendations as to the potential of producing Bambara in future climate change scenarios.

THEME 4: ORGANIZATION AND MANAGEMENT

Constraints

- Farmers are not well organized and often act independently; this reduces their bargaining power with buyers when negotiating prices

- Farmers lack or have limited knowledge on value addition and processing operations they themselves could engage in and profit from.
- There are limited linkages between farmers and the private sector
- There is lack of collection centres which are necessary to ensure consistent supply to the market
- Farmers lack agribusiness skills
- Unrealistic expectations of over-enthusiastic farmers particularly with respect to prices

Opportunities:

- There are many national and county based organizations (NGOs, CBO's) engaged in farmer empowerment and organization activities
- Extension service providers are available and can assist in farmer organization
- Government has affirmative action funds (Constituency Development Fund, Youth Enterprise Fund and Women enterprise fund) that can be accessed by youth and women groups dealing with agro-based enterprises
- Existence of farmer groups and merry- go-rounds
- Value chain stakeholder forums exists

Proposed actions:

- Catalyze the formation of farmer groups for collective action in production, bulking of produce in collection centres and marketing the products
- Provide increased training and extension support to farmers, with emphasis on group organization and agribusiness skills.
- Strengthen the linkages among farmers, extension service providers and researchers
- Conduct promotional activities that encourage farmers to pursue value addition and processing opportunities for wealth creation through Bambara groundnut
- Establish and strengthen linkages between the farmers and the private sector that promote Bambara groundnut value chains.
- Sensitize farmers on market requirements and opportunities
- Just like for amaranth, establish a core group of researchers who would coordinate research activities throughout e.g. the hub nation and would interact with researchers in other countries. Such a group would be responsible also for feeding new knowledge to extensionists, farmers and, in the case of information regarding e.g. nutritional properties of products to relevant Ministries and policy makers.

THEME 5: REGULATORY/POLICY

Constraints:

- Low emphasis on Bambara groundnut in in the draft Oil and Nuts Crops policy
- No standards for Bambara products
- Lack of public sector support for research and development of Bambara groundnut, including funding
- Lack of awareness by policy makers on the potential of Bambara groundnut to improve food security and nutrition
- No regulation for Bambara groundnut seeds
- Crop is not listed as one of the high value traditional crops in operation manuals and other agricultural policy documents.

Opportunities:

- Print media and electronic receptive to featuring profitable crop enterprises e.g. Seeds of Gold and Shamba Shape Up"
- Draft oil & nut crops policy and other relevant policies in place
- Regulatory institutions exist

Proposed actions:

- Awareness-raising amongst public sector on grain amaranth opportunities is a priority, in order to inform policy processes.
- Mobilize funds, especially via public-private-partnerships
- Develop policy briefs and lobby for development and implementation of policies relevant to the promotion of the Bambara groundnut
- Utilize the media platforms to promote amaranth
- Lobbying and advocacy for Bambara groundnut inclusion in policy frameworks

THEME 6: FINANCE

Constraints:

- Lack of funding for research and technology transfer and dissemination
- Poor access to loans by small scale farmers, processors and other players in the amaranth value chain due to lack of collateral such as land titles and property ownership documents

- High interest rates on loans leading to high repayment defaults and disinterest in loan acquisition
- Lack of gender inclusiveness in decision making regarding loans acquired by married women: women may acquire loans but husbands often take charge of how it is utilized

Opportunities:

- Increased number of affirmative action (pro-poor) funds/grants at the national and county government levels
- Increased number of credit organizations willing to provide loans to farmer groups
- NGOs and other agencies exists that can provide seed money for farmers and processors
- There are a number of institutions and professionals who can provide training on agribusiness and loan management to farmers and processor
- Available banking services

Proposed actions:

- Provide initial donor support (e.g. from NGOs) to smallholder farmers to enable them to become established players in the chains and able to possess "soft" collateral (e.g. through communal savings or funds generated by own profitable operations in the value chain) which permit access to banking services including loans
- Create sufficient consumer awareness and demand for specific Bambara groundnut products which would attract the attention of the private sector.
- Lobby county governments to provide financial support to Bambara groundnut value chains in their counties
- Link farmers, processors and other value chain players to credit providers
- Organize farmers into functional groups to collectively access loans
- Train farmers on agribusiness, credit acquisition and credit management to avoid loan repayment defaulting
- Train farmers and processors (both men and women) on gender inclusiveness in agribusiness and loan management to ensure efficient use of financial resources
- Partner with selected credit institutions & develop a credit package for Bambara production