# Collaborative product development to enhance local food security and livelihoods in Eastern Africa


1. Introduction
- The BAOFOOD project (2016-2019) aims to promote the domestication, production, market development, processing and consumption of baobab (Adansonia digitata L.) for the improvement of food security, nutrition and rural livelihoods in Kenya and the Sudan
- The project’s ultimate goal is to establish a community-based processing unit in Kenya to produce and supply highly nutritious baobab products for home consumption and local and regional markets
- Such community-based enterprises (CBE) developing new products can considerably contribute to local food security, employment, alternative household income and improved livelihoods
- This poster aims to present the project’s approach in more detail, whereby new products are collaboratively being developed instead of the sole effort of an enterprise

2. Methods
- Approaches and concepts from the product development and community-based enterprise literature have been reviewed
- A survey (N=120) has been conducted in Kilifi county/ Kenya in the community, in which the baobab processing CBE shall be established to assess current practices, knowledge gaps and training needs
- Knowledge which is currently being generated within the BAOFOOD project feeds into the product development process. Activities include:
  - Morphological characterisation and inventory of baobab trees;
  - Analyses of nutrient composition and bioactive compounds of raw baobab fruits as well as processed products;
  - Assessment of nutritional status and food preferences of households;
  - Market and producer studies.

3. Preliminary results

<table>
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<tr>
<th>Steps in food product development</th>
<th>Conditions faced by the BAOFOOD project</th>
<th>Proposed BAOFOOD approach</th>
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| **Product strategy development** | Initial screening | - Study area characterized by food insecurity and malnutrition, as well as low levels of socio-economic development [2]
- Target group for the baobab product already defined in project proposal (population groups particularly vulnerable to malnutrition and food insecurity, such as school children, female-headed households, rural poor point) |
| Preliminary market assessment | - Majority of rural households recognise baobab as a food source, but only few harvest and/or process it [2]
- There are only low processed baobab products locally available (e.g., Malvaya, home-made baobab porridge and juice), and rural populations mostly not aware of more sophisticated product concepts |
| Detailed market research | - Much smaller budget available compared to commercial product development projects |
| **Product design and process development** | Product concept development | - Product concept and technologies need to be locally reproducible and cost-effective
- There is no cold chain locally available
- Much smaller budget available compared to commercial product development projects |
| **Product commercialisation** | Financial feasibility study | - Profit making not the most important motive, but some return is necessary to ensure sustainability of the product [3]
- NGO and project partner ‘Wild Living Resources’ currently promotes further CBEs in the community (e.g., charcoal, mushrooms) |
| Prototype design | - Locally available levels of knowledge and technology of baobab processing relatively low [2]
- To reflect the needs of various target groups, as many as possible products shall be established [cf. 3] |
| In-house testing | - Much smaller budget available compared to commercial product development projects |
| Consumer testing | - Baobab often locally considered as ‘poor people’s food’ [4]; consumer acceptance needs to be achieved |
| Scaling-up | - Establishment and construction of community-based processing unit core part within the BAOFOOD project
- Community awareness and motivation generated through previous project activities as well as ongoing efforts of NGO ‘Wild Living Resources’ in the community |
| **Post-launch operational and financial analysis** | Trial production | - Limited know-how for baobab processing within community
- Limited availability and locally selected baobab-products in community with assistance of project team, training |
| Market test | - Baobab often locally considered as ‘poor people’s food’ [4]; consumer acceptance needs to be achieved |
| Pre-launch business analysis | - Limited know-how for business development within community
- Advice on experience of successful baobab-processors connected to project to be sought |
| Production start-up | - Expertise for baobab processing and upscaling of production limited within community [2]
- Collaboration with existing baobab processing companies if useful |
| **Launch** | Market launch | - Much smaller project budget compared to commercial marketing campaigns
- Low-cost outreach and collaboration with civil society partners, e.g., school leading programmes |
| Post-launch operational and financial analysis | - Adjustment of local economic and social development, community mobilisation and environmental preservation more important than profits [3] |

References

4. Conclusion
This more unconventional product development pathway gives local baobab processors, often characterised by limited resources and expertise for product and business development, the opportunity to develop nutritious baobab products collectively in a project setting. It is increasingly recognised that successful product innovations and market success depends strongly on collaboration and stakeholder involvement.

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