Domestication And Development Of Baobab And Tamarind ~ DADOBAT

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Objective: DADOBAT aims at developing sustainable production systems of baobab (*Adansonia digitata* L.) and tamarind (*Tamarindus indica* L.) in Benin, Ghana, Mali and Senegal based on characterisation, conservation, and use of local genetic resources. This is expected to have a positive impact on food security and income generation.

WP1: Field characterisation of plant material over different agro-ecological zones in the 4 countries and match macroscopic characterisation using 'traditional' descriptors with results of molecular fingerprinting

- Identify superior tamarind and baobab accessions adapted to different agro-ecological zones and resistant/tolerant of (a)biotic stresses
- Morphological characterisation
- Match folk classification to formal characterisation
- Identify production potential from complete tree harvesting
- Document pollination and fruit set behaviour
- Identify genetic parameters explaining (a)biotic stress tolerance/resistance
- Describe pests, diseases, parasitic weeds

WP2: Eco-physiological characterisation of plant material for understanding drought stress tolerance/resistance *in situ* and *ex situ*

- Characterise (in the field) tamarind and baobab accessions for eco-physiological traits (transpiration, photosynthesis and water use efficiency) related to drought stress
- Characterise (in the laboratory) tamarind and baobab accessions for eco-physiological traits (transpiration, photosynthesis and water use efficiency) related to drought stress

WP5: Characterisation of nutritional and medicinal properties of primary and secondary products

- Document ethnobotanical knowledge in the 4 West-African countries
- Document traditional processing
- Identify mineral and organic compounds for nutrition and medicine
- Identify (an)organic compound profiles from processed goods
- Identify optimal storage and processing methods

WP3: Domestication: determination of optimal germination conditions and maximum germination rates

- Identify best propagation and multiplication techniques
- Identify best potting mixture
- Identify reasons for dormancy and best methods for breaking dormancy
- Identify superior provenances in terms of growth and stress resistance

WP6: Production and marketing chain analysis, including socio-economics and SWOT analysis

- Identify international (niche) market opportunities for baobab and tamarind products
- Document present-day local market characteristics for baobab and tamarind
- Develop (inter-)national marketing strategies for baobab and tamarind

WP4: Development of improved cropping techniques: pruning, irrigation, fertilising, etc

- Describe management practices for optimal production and quality, and plant growth and development
- Identify best irrigation method and watering frequency for optimal yield and water use efficiency
- Identify fertiliser needs and establish influence of fertiliser on plant growth and development

WP7: Documentation and information dissemination

- Create project-specific website
- Develop practical conservation and management manuals, fact-sheets, posters, …
- Organise technology transfer training workshops
- Disseminate relevant (scientific and technical) information to all actors along the agro-food chain (from grower to end-user)
- Inform stakeholders about the results delivered by the project

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- Laboratory of Applied Ecology, University of Abomey-Calavi (Benin)
- Institute of Rural Economy (Mali)
- Bomarts Farms Limited (Ghana)
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