



UEBT
SOURCING[®]
WITH RESPECT

BIODIVERSITY ACTIONS

HIBISCUS IN WEST AFRICA

A Case Study

A Biodiversity Action Plan (BAP) provides guidance in designing and implementing concrete practices on sustainable use and conservation of biodiversity when growing and sourcing natural raw materials.



HIBISCUS *Hibiscus sabdariffa* var. *sabdariffa*

The Facts

- An annual herbaceous shrub native to tropical and sub-tropical countries
- Drought tolerant and able to grow in poor soil
- Often cultivated in Nigeria in low-input, labour intensive multi-cropping systems on land previously farmed
- Its swollen red calyces are considered a specialty botanical product
- Used in the herbal tea and beverage industry
- Leaves often used for animal fodder and fibre
- Has labour intensive processing

Local Flora and Fauna

The sourcing area studied in this case is located in the West Sudanian Savanna, a broad belt that stretches through West Africa. This ecoregion is characterized by large tree species with an undergrowth of shrubs, long grasses and herbs.

Some protected tree species are found in the sourcing areas. Several indigenous trees and shrubs of importance are conserved on purpose by farmers for use as medicine, fodder and fuel. Shrubby regrowth is often used for sheltering crops. Very few wildlife remains in the area. These include squirrels, hares and monitor lizards. Larger mammals have been over-hunted and are now rare.

Desertification

In this dry wooded savanna, some native tree species function to stop land degradation induced by human activities. However, non-native trees with an economic value were promoted as part of afforestation programs. These trees adapted easily and are now competing with the native trees.

The local ecological balance is at risk and increased desertification has become the most immediate consequence. Seasonal dry winds blowing from the desert do not face sufficient plant barriers, thereby causing soil erosion by blowing away soil particles and the nutrients that allow it to remain arable. Sand dunes are now visible in non-desert areas.

Native trees function as barriers for seasonal, dry wind coming from the desert and are useful in preventing the soil loss that leads to desertification. Re-planting these trees helps restore this function. Reforestation costs, in terms of land for farmers, are offset by crop resilience due to improved soil.



REGENERATION



Hibiscus is a source of income that can be grown in poor soil conditions.

However, desertification is threatening soil quality to the point that soil conditions may no longer be suitable for hibiscus to grow. Actions to improve soil conditions will ensure that soil health is enhanced and that crops are resilient in changing ecological conditions.

SUSTAINABLE USE



GOAL 1 IMPROVE SOIL CONDITIONS

- **Compost or manure application on farms**
 - Organic fertilizers such as compost and manure improve soil physical, chemical and biological properties.
 - Application of organic fertilizers increases soil organic matter content, a critical component of soil health as it contributes to the infiltration and storage of water, stabilizes soil structure, improves nutrient cycling, limits soil erosion, and many more vital soil functions.
- **Natural farming practices**
 - Implementation of intercropping, sometimes with legumes, as well as crop rotation and allowing the land to lie fallow after three years of cultivation, ensures nutrients are reintroduced in the soil.
 - No heavy machinery is used to ensure that soil structure and biodiversity are not under pressure.



GOAL 2 PROTECT BIODIVERSITY ON AND OFF THE FARM

- **Prevent pests and diseases**
 - Farmers reproduce their own seeds and use them the following year. In this process they take seedbeds sanitation measures to avoid the spread of diseases. An agronomist from the sourcing company supports farmers as needed.
 - Genetic variety is ensured since it contributes to increase plant resistance to pests and diseases. When one variety is not resilient enough, other varieties will compensate.
- **Reduce application of pesticides**
 - Pesticides and chemicals are used only as a last resort. Implementation of Integrated Pest Management (IPM) is preferred. This includes prevention of pests and diseases, manual weed control, intercropping and the use of plant varieties adapted to local climatic and soil conditions.
 - Farmers also increase the presence of beneficial plants and insects by creating habitats for them in and around the farms.

GOAL 3 CONTRIBUTE TO REFORESTATION

■ Plant native trees

- Native tree species are selected for reforestation, which contributes to enhancing local biodiversity and slowing down the spread of non-native vegetation.
- Indigenous species are planted on the farm to act as shade trees and to protect the soil from heavy wind and rain. They are also planted outside farms as vegetative barriers near water bodies, roads and forests.

EXPECTED IMPACTS

Based on experience and scientific studies:¹

- Higher soil nutrient levels and microbial biomass, as well as better soil physical properties and increased crop yields, are all possible results of the application of compost or manure on fields.
- Reducing pesticide use and excluding harmful products decrease the negative impacts of farming on biodiversity.
- Promoting beneficial insects and controlling pests through natural methods reduce the need for pesticides.
- Avoiding excess pesticide and herbicide inputs benefits invertebrate populations, plants and birds. A higher diversity of soil fauna can be found in low chemical-input systems.
- Fauna colonises reforested areas; its abundance is similar to that found in natural sites.
- Areas with plantings of native species hold more wildlife than other areas/habitats.

Pesticides can damage pollinating insects that have a vital role in ecosystems.

Natural methods of pest control and prevention contribute to rebalance ecosystem structure, composition and function. They also enhance the resilience of smallholder and subsistence farmers, such as hibiscus growers who have limited access to external inputs.



CONSERVATION





The UEBT Standard was the initial motivation

UEBT's Ethical BioTrade Standard – through its requirements in Principles 1 and 2 (Conservation of Biodiversity/Sustainable Use of Biodiversity) – guides its members and their suppliers to define and implement systemic approaches to biodiversity conservation and sustainable use. To facilitate this process, UEBT recommends companies adopt Biodiversity Action Plans as a strategic road map for businesses to contribute to reversing the loss of biodiversity on Earth.

HOW TO BEGIN?

Acting for biodiversity means acting in a systemic and context specific way. You can:

- Assess opportunities and threats to biodiversity in the context of your sourcing.
- Implement actions that focus on conservation, restoration, and sustainable use.
- Plan different measures and coordinate with different actors along the supply chain.

The starting point for action was concrete farmer needs and challenges. Compliance with the UEBT standard contributed in systematising those actions.

Roles and responsibilities

- The local company sourcing hibiscus promotes and subsidises the actions with technical and economic support.
- The manager of the UEBT certification program, and their team of agronomists at the company, identify the needs and suitable actions together with the farmers.
- Farmers are in charge of implementing some actions with economic and non-monetary incentives from the company.
- Technical staff at the company support farmers in implementation with extension services.
- Technical staff are also in charge of monitoring the implementation and assessing results.
- Actions and a workplan are defined by the sourcing company for several farmers. Monitoring begins one year after implementation.

Learnings to share

The processes demanded coordination with people in the field to ensure everything was participatory. The background knowledge of technical staff and the long-term experience of farmers have been crucial to identify key issues and solutions. The starting point for the actions were the concrete needs of and challenges faced by farmers due to changing ecological conditions. Compliance with the UEBT standard contributed to systematize actions, and to assess and adjust those actions.

About UEBT and this work

This case study is one of many examples of plans and types of actions that can be taken to reduce negative impacts on biodiversity or promote positive impacts. UEBT has drawn this material from its work with various companies and provides these cases to inspire companies to take concrete actions in their own supply chains.

UEBT wishes to thank Refem Millers, whose work inspired this case.

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References

- ¹ Smith, R.K., Meredith, H. and Sutherland, W.J. (2017) in: W.J. Sutherland, L.V. Dicks, N. Ockendon and R.K. Smith (eds) *What Works in Conservation 2017*. Open Book Publishers, Cambridge, UK. (Smith et al; 2017). Plotto, A., Mazaud, F., Röttger, A., and Steffel, K. (2004). *Hibiscus: Post-production management for improved market access*. Food and Agriculture Organization of the United Nations (FAO). Magin, C. (n.d.). Western Africa: Stretching from Nigeria to Senegal. Retrieved December 11, 2019, from www.worldwildlife.org/ecoregions/at0707

Picture references MAIN: HIBISCUS (*HIBISCUS SABDIRIFFA* VAR. *SABDIRIFFA*), LOCUST BEAN TREE (*CERATONIA SILIQUA*), COLLECTED DRIED HIBISCUS, HONEY BEE (*APIS MELLIFERA*)



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