Acacia Operation:
Support to Food Security, Poverty Alleviation and Control of Soil Degradation in the Gums and Resins Producing Countries
The ‘Acacia Operation’ is a project supporting food security and rural development in arid lands of gums and resins producing Sub-Sahara African countries. It is the preparatory phase of a 10-year programme of assistance to countries in the framework of the Network for Natural Gums and Resins in Africa (NGARA).

The project, by strengthening the local resources, aims to improve and sustain the agricultural and pastoral systems, diversify and increase the household sources of income and thus contribute to the socio-economic development of the concerned populations. The project focuses particularly on the poorest and most vulnerable groups of the rural society and is financed under special funds transferred to FAO by the Italian Cooperation Programme for Food Security.

**PROJECT:** GTFS/RAF/387/ITA  
**OVERALL OBJECTIVE:** Contributing to the MDG of reducing undernourished people to half in 2015  
**DONOR:** Trust Fund for Food Safety and Food Security - Italian Contribution  
**CONTRIBUTION:** US$4 190 085  
**PARTICIPATING COUNTRIES:** Burkina Faso, Chad, Kenya, Niger, Senegal, Sudan  
**DURATION:** 30 months, starting November 2003

**BENEFICIARIES**

a) **Women** who are charged with the task of collecting water and firewood  
b) **Pastoralists, farmers** and their families  
c) **Rural population and peasant communities** living in dry areas  
d) **Displaced populations** and **refugees** concentrated in arid lands  
e) **Private sector** and stakeholders from production to collection, processing and export  
f) **Government, industry, consumers and academia** dealing with sustainable development of natural resources

The overall objective aims at contributing to sustainable development, food security and the fight against desertification through the promotion and integration of gums and resins in rural economies in Africa. Within this long term goal, the present project has the following purpose:

**Strengthen the analytical and operational capacity of six pilot countries to address food security and desertification problems through improvement of agro-silvo-pastoral systems and sustainable development of the gum and resin sectors**

The table provides country data of the six participating countries.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>CAPITAL CITY</th>
<th>POPULATION (million)</th>
<th>LAND sq. Km</th>
<th>HDI 1 (2002)</th>
<th>GDP/ Capita US$</th>
<th>AGRICULTURAL GDP%</th>
<th>EXPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>Ouagadougou</td>
<td>12.2</td>
<td>274 122</td>
<td>159</td>
<td>965</td>
<td>37.6</td>
<td>Cotton, millet, livestock, gold</td>
</tr>
<tr>
<td>Chad</td>
<td>N'Djamena</td>
<td>8.59</td>
<td>1 284 000</td>
<td>155</td>
<td>850</td>
<td>58</td>
<td>Cotton, cattle, gum arabic</td>
</tr>
<tr>
<td>Kenya</td>
<td>Nairobi</td>
<td>28.7</td>
<td>569 259</td>
<td>123</td>
<td>1 022</td>
<td>19.3</td>
<td>Tea, horticultural products, coffee, petroleum products, fish, cement</td>
</tr>
<tr>
<td>Niger</td>
<td>Niamey</td>
<td>11.6</td>
<td>1 267 000</td>
<td>173</td>
<td>900</td>
<td>58</td>
<td>Uranium, livestock, cowpeas, onions, gum arabic</td>
</tr>
<tr>
<td>Senegal</td>
<td>Dakar</td>
<td>9.66</td>
<td>196 720</td>
<td>145</td>
<td>1 419</td>
<td>20</td>
<td>Fish, groundnuts (peanuts), petroleum products, phosphates, cotton</td>
</tr>
<tr>
<td>Sudan</td>
<td>Khartoum</td>
<td>31.1</td>
<td>2 506 000</td>
<td>138</td>
<td>664</td>
<td>15</td>
<td>Oil, petroleum products, cotton, sesame, groundnuts, gum arabic, sugar</td>
</tr>
</tbody>
</table>

1. Millennium Development Goal  
2. UNDP Human Development Index measures changes over time in the level of human development and it is based on three indicators: longevity, educational attainment and standard of living. Ranking: 1-53 (High HDI), 54-137 (Medium HDI), 138-173 (Low HDI). UNDP Human Development Report 2002.
STRATEGIES

- Adopting a global approach which looks for the orientation of production systems and integration of their development factors (Man/Nature/Technology)
- Improving management of natural resources
- Increasing food production
- Development of plantations for gums and resins production
- Utilisation of mechanized water harvesting technology (Vallerani System) to mitigate the increasing desertification through rehabilitation of arid lands
- Supporting rural population to establish agro-silvo-pastoral systems
- Increasing cooperation and technology exchange among African countries
- Strengthening national capacities within the government, industry, consumers and the academia to develop adequate policies on the gums and resin sector
- Improve the capacity of African producing countries in resource assessment and monitoring

EXPECTED RESULTS

- Elaborated project proposal for a ten-year plan for the gums and resins producer countries in Africa
- Established pilot activities in six selected countries linked to supporting institutions
- Rehabilitated marginal and degraded lands at around 1 500 ha/year/country
- Improved Agro-Silvo-Pastoral production systems
- Increased food supply and improved household food security
- Improved production and domestic and export markets of gums and resins
- Increased income at rural level from gums and resins production and marketing
- Collected data on land rehabilitation and food and fodder production for the long term approach at national and regional levels
- Elaborated information and data bank on production and commercialisation of gums and resins at regional and sub regional levels
Ongoing Results

Between 2004 and 2005 each country has been able to select sites and carry out pilot phase activities on the basis of community identified needs. Around 100 sites have been worked covering a total surface area of 6000ha. Some countries like Senegal have concentrated their intervention in covering larger areas, while other countries like Kenya have considered it more important to use project inputs to carry out control and monitoring of worked sites.

Some countries like Niger are focusing their intervention on the re-establishment of Acacia senegal plantations in the rehabilitation of degraded areas. While other countries have implemented a system of agricultural and fodder production in addition to other important dryland species including Acacia senegal and A. seyal.

In this program, more than 2 million Acacia seedlings have been raised in the nurseries for planting besides direct sowing. Approximately 350,000 people living under the threshold of poverty are directly involved in rehabilitation of degraded areas and establishment of systems of production. Additionally, about three and a half million people (nomads, merchants, collectors, producers and others) are indirectly beneficiaries of the project.

Monitoring activities are ongoing, indicating that in some areas the agricultural and fodder production was very good and the survival of Acacia trees wasgood despite the low rains of 2004 and locust invasion in the Sahel region was between 60-90%.

The project was able to develop an intensive program of capacity building through training workshops on use and application of the mechanized water harvesting technology (Vallerani System), agricultural production, tapping and collection of gum including post harvest handling. The project also supported the establishment and strengthening of national associations with a focus on producers and collectors aimed at improving benefit sharing.

Many countries are working on establishment and strengthening of synergies with related projects, NGOs, CBOs, private sector, international organisations and other local institutions to facilitate an integrated approach in the intervention areas.

Gum arabic

Gum arabic is the oldest and best known of the natural gums and an important article of commerce for thousands of years. Its high solubility and yet low viscosity in water confers on gum arabic the highly valued emulsifying, stabilising, thickening and suspending properties that have enabled it remain a major item of international trade despite competition from other natural gums and semi synthetic substitutes.

Gum arabic is defined by JECFA as the dried exudation obtained from the stems and branches of Acacia senegal or Acacia seyal and is produced by 16 countries in Sub Saharan African countries. A young gum arabic producing tree can produce 200 to 2 000 grams of gum arabic annually. The trees produce gum when they are stressed during the dry season, which varies from country to country.

It is colourless, tasteless and cold water soluble and is used mainly in the food industry and also in pharmaceutical, printing, textile, paint and adhesive industries. The actual amount of gum arabic in international trade is 60,000 metric tons and this amount will increase considering its characteristic as a functional food.

The Network for Natural Gums and Resins in Africa

The Network for Natural Gums and Resins in Africa (NGARA) and the Acacia Operation project is promoting the expansion of production in member countries, trade and stabilisation of supply at international level and the organization of national associations to develop policies on gums and resins at national and regional levels.

Additionally NGARA in collaboration with FAO is focusing attention on gum resins which are also important commodities of commerce with very scarce information. There is an ongoing initiative to review the status of trade and markets in member countries and internationally.

Gums and resins remain important commodities for poverty alleviation and improvement of food security in the production areas.

For more information, please contact

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