

**TERMS OF REFERENCE FOR *NIGERIA GUM ARABIC SECTOR
DEVELOPMENT PROGRAM***

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BACKGROUND

Gum arabic, an exudate of *Acacia senegal* and related tree species, is an essential ingredient of many industrial products such as soft drinks, candies and pharmaceuticals. While it is harvested and traded in several African countries, Sudan in particular excels in the production and marketing of quality gum arabic and has become a major supplier to the United States. Unfortunately, the recent U.S. economic embargo imposed on Sudan has restricted access to its markets. The purpose of this program is thus to identify and support activities that will allow U.S. consumers to access sustainable supplies of quality gum arabic from Nigeria in a manner that will benefit both countries.

After Sudan and Chad, Nigeria is the third-largest exporter of gum arabic in Africa; its annual exports are estimated to total 5,000 tons. Some of this gum is not actually produced in Nigeria, but rather originates in neighboring countries, such as Chad and Sudan. Those Nigerian states that produce or have the potential to produce gum arabic include Bauchi, Borno, Jigawa, Kano, Katsina, Kebbi, Sokoto and Yobe. Preliminary research indicates that the bulk of Nigerian exported gum arabic is classified as either grade two or grade three and is thus unable to penetrate the U.S. and European markets, which are dominated by the best quality (grade one) supply. This program aims to strengthen the capacity of stakeholders in Nigeria to increase their production and marketing of quality gum arabic and is designed as well to support the USAID and the Government of Nigeria (GON) transition strategy. The specific strategic objective to which this program is expected to contribute is "*Strengthen Institutional Capacity for Economic Reform and Enhance Capacity to Revive Agricultural Growth.*"

CONSTRAINTS TO GUM ARABIC PRODUCTION AND MARKETING IN NIGERIA

Product quality and guaranteed supply are two critical elements that influence the gum arabic market. Product quality can be affected by several factors, which include the

species of tree used in harvesting, the stem-wounding techniques used to initiate the flow of gum, the particular season used for harvesting, collection and cleaning techniques, and handling and transportation practices. In order to guarantee a reliable supply of a quality product, harvesters and traders of gum arabic must establish and maintain efficient and consistent operating standards, which will require substantial training and reorganization of current procedures. Because Nigeria has never regarded production of gum arabic as a significant component of its economy, both product quality and guaranteed supply are conspicuously absent in the country's gum arabic sector. However, with 66 percent of the Nigerian population living below the poverty line, the sector is quickly gaining importance. Nearly all the governments of the northern Nigerian states view the gum arabic sector as an opportunity to address the problem of poverty in their region. In fact, it was the specific request submitted by one of the state governors to the U.S. government that prompted the development of this program.

PROGRAM GOAL

The goal of the Nigeria Gum Arabic Sector Development Program is twofold: 1) to ensure the reliable and sustained supply of quality gum arabic from Nigeria to U.S. industries; and 2) to strengthen the capacity and ability of Nigerian stakeholders to produce and market quality gum Arabic, thereby increasing income, creating jobs and diversifying Nigeria's foreign exchange earning sources by taking full advantage of the new U.S. market opportunities created as a result of the U.S. economic embargo on Sudan.

PROPOSED ACTIVITIES/PROGRAM ELEMENTS

1. Strengthen Nigerian gum arabic producer associations

In Nigeria, gum arabic is traditionally harvested from wild forests on public or private lands. Workers who collect the gum sell it to middlemen who then trade it to exporters. Workers who harvest gum arabic are usually either peasant farmers who do it for

additional income when they have time or hired laborers who depend on the harvest as a primary source of income. In neither case do these individuals receive training or have any knowledge of best practices. Consequently, the gum is usually only harvested after it has exuded from the tree through a naturally caused wound, which affects the quantity of resulting product, while little or no attention is paid to ensure that foreign materials—twigs, flowers, bark—do not get into the product, which affects the quality. Another problem is that many collectors do not know how to distinguish the different grades of gum products, which is exacerbated by the fact that the product is harvested from the wild where different acacia species are mixed.

The objective of this activity is thus to assist in forming gum arabic collectors/producers associations (where such associations do not already exist) that can produce and market quality gum arabic. Specific items to be addressed include:

- Best practices in producing, collecting, storing, transporting and marketing quality gum arabic.
- Best small business practices and financial management.
- Silvicultural practices to manage the species distribution in the natural stand to minimize the incidence of product contamination during the collection process.

The activity will be implemented in all Nigerian states where gum arabic production is active and marketing in progress. Since the aim is to serve all Nigerian states capable of producing gum arabic, the implementation process will commence by training the trainers and will continue until all the targeted groups in these states have received training.

Where consistent with the cultural norms of the various localities and populations, the activity will include women and youths who are already involved or who wish to be involved in the sector.

2. Strengthen the capacity of local private sectors involved in gum arabic trading and export.

In Nigeria, several small-, medium- and large-scale parts of the private sector are involved in the processing and marketing of gum arabic—for many individuals, this has been their only source of business. Until recently, these groups were involved in the local purchase and export of raw gum arabic. According to available information, the group has been unable to penetrate the U.S. market primarily because the Nigerian product could not compete with that of the Sudanese in terms of quality. In addition to the poor handling of the gum in the first stages of production, this inferior quality could be due to lack of appropriate organization, technology and the skills needed to ensure that export consignments meet international quality standards.

Fortunately, some exporters have recognized the problem and are taking action. For example, one of the main exporters, who belongs to the Dangote group, recently installed two modern laboratories that will check the quality of the products they receive. Another step taken has been the creation of an initiative to organize producers into associations so that they can better coordinate their activities.

The purpose of this activity is thus to help exporters become better organized, build on what they have already started and assist them in their efforts to enhance product quality.

Specific activities may include:

- Creating a forum/consultation to identify key policy and technical problems facing the industry and develop a strategy to solve them.
- Providing technical assistance to quality control laboratories through staff training, improved communication and information systems, etc.
- Training in gum arabic business management, including U.S. public- and private-sector policies.
- Creating linkages between producers, local traders and exporters in order to facilitate communication.
- Any other actions that may be considered necessary after the consultation process.

- US and Nigerian private sector expressed constraints, opportunities and requirements to enhance the competitiveness of the Nigerian gum arabic sector defined/identified
- Nigerian private sectors involved in gum arabic processing and export fully acquainted with the requirements and expectations of the of the US gum arabic industries in order to develop their strategy to penetrate the new market opportunity.

3. Train farmers' associations in nursery development, selected agroforestry systems, tree planting and silvicultural practices.

As mentioned above, gum arabic is currently harvested from natural stock. As a result, the farm gate price for the product is determined based on cost of labor and transport and does not include that of capital investment (land, tree planting and management.) This is the case not only in Nigeria but also for the entire region. It is therefore not surprising that all the exporters interviewed confirmed that, with the present market value for the product, investment in tree planting for the sole purpose of gum arabic production is unprofitable. However, the entire gum arabic belt is a region where the natural resource base is highly degraded and the forest vegetation severely depleted, while wind and sand erosion as well as low soil fertility have contributed to the poor productivity of its agricultural sector. Because of this, many West African countries including Nigeria, in concert with the World Bank, invested millions of dollars in planting trees to combat desertification in the 1970s and 1980s.

Unfortunately, such ambitious projects are no longer feasible. This activity therefore focuses on a similar approach that encourages tree planting for the purpose of soil fertility management and combating desertification, but does so in a manner that involves community participation and allows participants to reap additional economic benefits.

The farmers of the region rely heavily on natural fallow systems to manage soil fertility for food crop production. In many countries, with their increasing populations, fallow

periods are no longer lengthy enough to allow natural re-establishment of soil fertility. Several studies have shown that the introduction of fast-growing trees that fix nitrogen in the soil of a fallow system can accelerate the process of fertility restoration. In the humid tropics, species such as leucana, gliricidia and calliandra are typically used for this purpose. Semiarid areas have few such fast-growing species; however, one nitrogen-fixing tree (*Acacia Senegal*) has been used successfully in Sudan. Four–five years after planting, the tree is ready for gum arabic production, which makes it a good cash crop. After another 5–10 years of exploitation for gum arabic, a tree farm can be brought under cultivation for crop production without using inorganic fertilizer.

The purpose of this activity therefore is to improve farmers' technical skills and encourage them to adopt acacia-based agroforestry systems in order both to produce gum arabic and to increase soil fertility. The activity will also enhance farmers' skills in silvicultural practices to enable them to effectively manage the natural forest for quality gum arabic production. Along with this will be a new and enabling policy environment that will serve as an incentive to farmers to manage public forestlands better. This last goal will be achieved through negotiations and forming close working relationships with Nigeria's policymakers.

Specific items to be addressed include:

- Training farmers' associations in nursery techniques, tree planting and silvicultural practices to manage gum arabic forests.
- Training farmers in appropriate agroforestry systems and the use and management of acacia trees for soil fertility management and gum arabic production.
- Negotiating with the Nigerian government to implement a policy granting a limited right to farmers to manage acacia trees on public land for quality gum arabic production.
- Strengthening the capacity of extension systems to effectively serve the rural communities interested in gum arabic production and acacia-based agroforestry systems.

4. Provide public-sector policy development and technical assistance for national-level gum arabic quality control and marketing

In addition to the underdevelopment of the Nigerian gum arabic sector, poor business practices of individuals seeking short-term gains also appear to be responsible for the non-competitiveness of the Nigerian product. In addition, therefore, to the quality control effort currently in progress within the private sector, this activity will work with both the private and the public sector at state and federal levels to establish national-level quality control mechanisms. Such mechanisms will include the development of appropriate regulatory mechanisms and the establishment of key infrastructures. Specifically, the program will:

- Facilitate dialogue between policymakers and the private sector that will identify major policy and technical constraints and help ease them.
- Develop a regulatory framework to ensure that the various grades of gum arabic produced in Nigeria are classified, checked and certified accordingly.
- Strengthen the technical capacity of the government to test and certify gum arabic produced in Nigeria for export.

PROGRAM IMPLEMENTATION STRATEGY

Partnership

The U.S. and Nigerian companies that trade in gum arabic are the best sources of information on the industry and can describe the specific steps necessary to make Nigerian gum arabic competitive. These companies also have the expertise, knowledge and technologies needed to strengthen Nigerian capacity to produce quality gum arabic of an international standard. The leading implementing organization in the Nigeria Gum Arabic Sector Development Program will therefore work closely with both the U.S. and Nigerian private sectors in planning and implementing this program. Of equal importance to the success of the program are Nigerian policymakers at both the state and federal levels, who will thus be involved from its beginning to its end. Several national agricultural and forestry institutions in Nigeria have expertise in nursery management,

silviculture and semi-arid agroforestry systems. The contractor will identify appropriate organizations/institutions in this field and involve them in implementing the relevant components of this program.

Partnering with the national programs will also share costs such as staff time, office space, training, workshop venue, and so on.

Geographical focus

The program will include all the northern states of Nigeria that produce or have the potential to produce gum arabic of economic significance.

Scale of operation

With the exception of the policy and technical support components, a significant proportion of the program portfolio focuses on capacity building or training. The best strategy that will cover the target area and population in the shortest possible time is through training the trainers. The early phase of the program will focus on training those trainers drawn from all the Nigerian states and will follow up the process for trainers at the local government level in each state. The contractor will be responsible for the implementation of all the training requirements at farmers' associations; the household level of the training targeted to farmers; and the individual's level in each state for the trainings targeting the local industry, extension programs, producers and/or traders as the case may be.

Reporting procedure

Performance monitoring and reporting will be conducted following the USAID/Nigeria mission program/project progress-reporting cycle and USAID/Washington's performance monitoring guidelines.

Starting and ending date

It is expected that the contract agreement between USAID and a contractor will be signed on or before April 15, 2001. The program will end 18 months from the contract date, with a possible extension (at no additional cost to USAID) for another 6 months.

Illustrative Budget

1. Training—5 sessions in a 3-5 state region of gum arabic belt @ \$12,000/training	\$60,000
2. Training—15 trainings for farmers groups @ \$5,000/training	50,000
3. Short-term TA (Local professionals) 24 person months@ @\$2000/PM	50,000
4. Project manager (based in U.S) @ @75,000/yr X 1.4 yrs	105,000
5. Travel and perdiem	30,400
• 4 trips to Nigeria @15 days each (\$7,000/trip)	
• 4 domestic trips @3 days each (\$800/trip)	
Subtotal	295,400
Overhead (est)	<u>150,000</u>
Total	450,000