

GUMS AND RESINS MARKET SURVEY REPORT

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1. INTRODUCTION:

Kenya's Arid and Semi-arid lands (ASALs) form part of the East Africa's dry regions which extends northwards from central Tanzania through Southern eastern and Northern Kenya. Westwards and further northwards, the ASAL area extends to the eastern parts of Uganda, South East Sudan, Southern Ethiopia and Somalia's western frontier. It further merges into the sahelian zone that extends to Djibouti and Eritrea. (Chikamai BN, 2002).

These dry land areas are endorsed with a rich diversity of plant and animal resources that inhabitants have used and marketed locally for generations. Some of the products from these resources have also been articles of international commerce for thousands of years and continue to play an important role in the economies of a number of African countries to the present day. The majority of these resources/products fall into the category of non-timber/wood forest products (NTFPs / NWFPs) with the most important comprising Gum Arabic from *Acacia Senegal* and *Acacia Seyal*, myrrh and myrrh-type gum resins from *commiphora myrrh* and related species of *commiphora*, *frankincense* from *Boswellia* species and aloe gel from Aloe species. Hitherto; Kenya's dry land inhabitants have not benefited adequately from this rich diversity and many of them continue to live under conditions of extreme poverty.

Livestock is still the most important resource for the pastoralists. However, with population pressure and frequent droughts (leading to deaths of livestock), gums and resins provide a viable option for income generation. This however is influenced by over-reliance on external market which is mainly dominated by a few middlemen, who exploit the communities by offering low prices. The purpose of this survey therefore is to establish whether there is a potential market for gum locally and the quantities used by various companies.

2. SCOPE AND METHODOLOGY:

The survey was conducted in Nairobi on May 2006. Thirty five companies were included in the sample frame. These were as follows:

Table1 Sample frame

Industry type	Sample size
Paint manufacturing	7
Canning industries	7
Dairy industries	2
Confectionery industries	5
Soft drinks and beverages	3
Adhesive and chemical industries	9
Pharmaceutical companies	2

Data was collected using a structured questionnaire and the various company types were selected randomly. Secondary data was collected by reviewing existing literature on gums and resins in Kenya.

3. GUM TYPES AND UTILIZATION:

None of the companies included in the survey was using gum Arabic in its natural or processed form. The main reasons cited for not using gum Arabic were unavailability and poor supply, high prices and undesirable chemical properties which cannot be modified compared to the substitutes. Out of the 35 companies surveyed, only two were not using any type of gum or resin in their production process. The various industries using other natural substitutes of gum include

- paint industries
- canning
- Adhesives and chemical industries
- Confectionery
- Pharmaceuticals
- Dairy
- Soft drinks and beverages

The various quantities used are shown in the table below.

	Industry type	Av. amount used/yr in Kgs	Av. Cost /Kilogram in Ksh
1	Paint industries	30,000	110
2	Canning	2,808	800
3	Adhesives & chemicals	2,179	660
4	Confectionery	10,000	520
5	Pharmaceuticals	700	1620
6	Dairy	200	120
7	Soft drinks & beverages	5,000	

4. GUM TYPES

There are six commonly used synthetic and natural substitute gums. These include *Xanthum* gum (*ketrol*), *Ribetak*, Polyester, *Guar gum*, *Estergum* and *Alkyd (pental)* resin. The percentages of companies using the various types are shown below.

Gum type	Percentage(companies using)	Industrial use
Xanthum (Ketrol)	29%	Pharmaceuticals and fruit processing
Alkyd (Pental) resin	35%	Paint industries
Ribetak	12%	Adhesives/chemical industries
Guar gum	6%	Confectioneries
Estergum	6%	Confectioneries

**Xanthum*, *guar gum* and *estergum* are natural substitutes for gum Arabic.

The soft drink companies are using sugar concentrates mainly obtained from South Africa. Preference for synthetic resins is because they are easily modified as chlorination substitute and addition. Normal substitutes on the other hand are cheap.

5. USES OF GUMS AND RESINS IN THE PRODUCTION PROCESS

Companies use gums or resins in their middle to last stages of production. There are various reasons advanced by various industry types for using gums and resins. Fruit processors and canners use gums to achieve uniformity of products, maintain wholesomeness of product and to avoid separation. It enables their products have what they call mouth feel.

Adhesives and chemical industries use resins as tackifiers while pharmaceuticals use gum to enable their products obtain the correct viscosity / thickness. It acts as a suspending agent.

For confectionery industries, gums are used for hardening sweets and forming the base for chewing gum. In the paint industry, resins are used as binding elements. This is mainly during the stage of formulation of paint. It is a film forming material. These substitutes and synthetic have been in use by the various companies since inception.

6. SOURCES OF GUMS AND RESINS:

China is the most preferred country for importing *Xanthum* gum and *Ester gum*. For all the companies using *Xanthum*, only one was importing from U.K and another from Germany. Polyester which is mainly used in chemical and adhesive industry is imported from South Africa. Sugar concentrates for making soft drinks also originate from South Africa.

The polybasics for making Alkyd resin for paint are imported from Sweden, Germany and Europe. These are then mixed with alcohol 80% of the companies import directly from the countries of origin while the rest purchase from local dealers.

7. THE FUTURE FOR GUM ARABIC AND RESINS IN KENYA

The future of gum Arabic in Kenya in terms of utilization is bleak. It is only viable when looked from the perspective of export. The two companies (Arid Lands Resources Ltd and Rangeland resources) involved in exporting gum from Northern Kenya experience fluctuations. Sometimes they can't meet the export demand and in other times no orders for gum are placed. They however at the end of the day export all what they store. The Quality Assurance Manager of Henkel (K) Ltd summed the future trend as follows "synthetic resins are on a daily basis gaining grounds on adhesives, paints and packaging glues while natural rubbers and resins are the in thing in food additives e.g. *xanthum*, *guar gum* etc, as people tend to move to consuming organic foods".

From all the technical and quality assurance managers talked to, one thing about gum Arabic was common – that it offers the best quality but it is expensive and not readily available. The cost is prohibitive because it increases the cost of production and the companies using it cannot compete favourably in the global market. Natural gum is also considered acidic and difficult to modify its chemical properties.