

Effect of Conflict on Gum Arabic Production in Sudan

"Case Study of Abujebeaha, South Kordofan State-Sudan"

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DOI: 10.29322/IJSRP.8.10.2018.p8219

<http://dx.doi.org/10.29322/IJSRP.8.10.2018.p8219>

Abstract- The main objectives of this study were to assess the causes of decline of gum Arabic production, its effect on socio-economic and environmental settings and to identify the appropriate strategies to develop this subsector after the breakout of 2011 war. Gum Arabic is an important agricultural product in Sudan economy, and it is considered the main livelihood for many people in Kordofan, particularly in Abujebeaha locality-South Kordofan State. Following the breakout of the war in 2011, the production of gum Arabic has rapidly deteriorated, consequently, the socio-economic has negatively influenced. To meet the above quoted objectives, a questionnaire was designed; when about 302 questionnaires were distributed to individuals. Moreover, semi-structured interviews (SSI) were conducted, furthermore, observations were also considered. The said collected data were statistically analyzed. The results revealed 91.7% of the respondents stated that the war, insecurity, and frequent fir settings were the main causal of drop in gum Arabic production. About 23% of the respondents attributed drop to natural calamities such as drought, flood, natural pests (locust attack). and diseases. 94% of the respondents expressed that there is no association between decline of gum Arabic production and fund availability. The study concluded that several reasons were behind the decline of gum Arabic production in the study area including human activities and natural calamities. As recommendations, peace building is important to achieve ample security. Raising the awareness of the local community in regard to gum Arabic trees management and conservation is highly recommended. Introduction of new regulations to manage the utilization of gum Arabic in sustainable manner, and create value added through gum processing.

Index Terms- Conservation, sustainability, Community. Processing.

I. INTRODUCTION

Abujebeaha locality, the study area belongs to South Kordofan State. It is about 52 Km from Kadoguli, and 481

km from Khartoum, the capital of Sudan, with total population of 181,116^[1].

The gum Arabic is produced from naturally growing tree known as *Acacia Senegal* (Hashab) which grows natural across the country in the gum belt, which is located in the arid and semi-arid zones within the latitudes 9° 30' - 16° 24' N and longitudes 27° - 32° E, where various vegetations are distributed according to the soil types and trend of rainfall distribution in the area.

Sudan is the world largest producer country of gum Arabic. It alone contributes to more than 60 percent of world gum production^[2].

Kordofan area has the lion share in terms of gum Arabic production in the domestic and international trade. However; the crop yield has sharply declined due to many factors, including environmental, social, political and economic (imposed sanction on Sudan). Therefore, Sudan lost the markets, and left a room for other countries like Chad and Nigeria to rank the top in international market of gum Arabic.

Gum is usually produced conventionally by small scale farmers; using simple hand tools. They represent about 20% of Sudan's population, and considered among the poorest people in the country^[3].

Studies reflected that the long experienced devastating conflict in South Kordofan including Abujebeaha with huge gum Arabic potentiality, showed significant gum Arabic yield decline since 2011, where production declined and remained below 25% of total contribution to Sudan average annual production^[4]. Nevertheless, the evidences revealed diminishing of *Acacia Senegal* species (Hashab trees) due to several factors, among these human activity such as the horizontal expansion of rain-fed farming, firs, wood collection, tree browsing and natural factors like frequent spells of drought, flood, pest and disease. Economical factors like low prices, lack of fund etc.

Despite these challenges, a good amount of rainfall in 2012 pushed the production of gum Arabic to 80,000 MT. The local trade Association was very ambitious to produced 90,000 MT, Unfortunately, the actual production was 40,000 Mt, and the Sudan's global market share was 40 %^[5].

From the aforementioned, great effort is needed to increase and promote the gum Arabic production and productivity. Among the possible solutions, the Sudan Government has to reconcile with armed oppositions. Such approach builds confidence, encourages urban-rural migration, particularly the displaced people, and brings back peace, security, and attracts more investors. Eventually, the engagement of business partnership in gum Arabic production will lead to improved livelihoods, rural development as well as the increasing the opportunities for achieving higher Gross Domestic Product (GDP).

From empirical studies, three aspects are of great concern in the area of gum production in greater Kordofan, namely:

- **Policy:** The Khartoum meeting in 2017 focused on assessing the impact of the Government policy on the export and marketing of gum Arabic, identified options for changing the current marketing arrangements in order to increase and stabilize gum exports, capture more value added and provide producers with a larger share of export prices. The outcomes of the study were (1) Controlling the gum Arabic export market could increase export revenues for Sudan and raise the income of small scale farmers. (2) Ample security is crucial for providing recovery on the gum belt to encourage investors in gum production chain. (3) Establishing Governmental Gum Arabic Bank to fund the producers, processors and marketing monopoly.
- **Environmental aspects:** The *Acacia Senegal* grows best in sandy soils with annual average rainfall between 200-400 mm, and in clay soils with average annual rainfall between 400-800 mm [6]. Climate change brought variable changes, pertaining the ecosystem services, and agro-biodiversity in the gum Arabic belt, where, the local communities practice a subsistence economy, They harvest gum Arabic, cultivate some crops, rear animals, collect firewood, charcoal,

medicinal plants. The land mi-sue made the economic value of the ecosystem is not properly recognized; hence the livelihood system is likely to be adversely affected. Among the possible remedy is the introduction of business partnership between the government, international companies and local producers to invest and support the funding in gum production, processing and marketing [7].

- **Pricing system:** The gum Arabic Company in 1997 declared policies referred as privileges of Gum Arabic Company. This included non-pricing policy as an incentive to protect gum producers from smugglers and middlemen. Another aspect in this system is the constraints in gum production including biological, natural, organizational, planning, conflict, fires, roads, socio-economic, marketing, high commissions, smuggling, and the lack of fund.

II. METHODOLOGY

In this study, qualitative and quantitative research methods were followed. Questionnaire was designed, and randomly distributed to 302 respondents. Semi-structured interview (SSI) was conducted; involving gum Arabic producers. Moreover, value chain approach, and Focus Group Discussion (FGD) were carried out with gum producers, gum labors, traders, Banks, Cooperatives' Administrations, Ministry of Agriculture, National Forest Cooperation, and Gum Arabic Board services in four villages of Abujebeaha [Abujebeaha town (43 respondents), Tummar (36), Jedeid (157), and Siragia (66)]. Finally; observations were considered.

The collected data were statistically analyzed; using Statistical Packages for Social Science (SPSS).

III. RESULTS AND DISCUSSION

Table (1): Respondents' answers about war effect on gum Arabic production in the Study area (2018).

Did the conflict cause a decline in gum production in Abujebeaha? Yes or No		Frequency	Percent
Valid	Yes	277	91.7%
	No	025	08.3%
	Total	302	100%

Source: Field Survey 2017

From the above table (1), most respondents (91.7%) believe that conflict was the main causal of declined in gum Arabic production, and few respondents (8.3%) said other factors caused the decline in gum Arabic production in the study area.

Table (2): Effect of war on Gum Arabic business, and trade in the study area (2017).

Has the war in 2011 any impact on gum Arabic business and trade?		Frequency	%
Valid	Yes	285	94.4%
	No	17	5.6%
	Total	302	100%

Source: Field Survey 2017

Table (2), revealed that the majority of the respondents (94.4%) stated that war has resulted in fear among the gum actors including the investors. Moreover, the conflict has displaced the producers influenced on gum Arabic business and trade in the study area, while few respondents (5.6%) believed that other factors contributed to the diminishing business and trade in the stay area following the war in 2011.

Table (3): Relationship between fund availability and gum Arabic production in the study area (2017).

Did the lack of fund has impact on gum Arabic production in the study area following the war in 2011?					
			Lack of capital		Total
			Yes	No	
Question: Did the 2011 conflict cause a decline in gum Arabic production in Abujebeaha area? Yes or No	Yes	Count	219	58	277
		%	72.5%	19.2%	91.7%
	No	Count	18	7	25
		%	6.0%	2.3%	8.3%
Total		Total Count	237	65	302
		%	78.5%	21.5%	100.0%

Source: Field Survey 2017.

From the above table (3); the majority of the respondents (78.5%) confirmed that lack of fund is associated with the drop of gum Arabic production in the study area, while few respondents (8.3%) did not agree with this argument.

IV. CONCLUSION AND RECOMMENDATIONS

Conclusion:

This study identified several factors contributed to the decline of gum Arabic production in Abujehaea locality, including natural, human, economic and political factors.

Recommendations:

1. Reconciliation between the government and the armed opposition to avail peace and security to resume gum Arabic production.
2. The local communities should take part in gum Arabic policy formulation and implementation.
3. New arrangement for gun Arabic funding, production, processing and marketing is of great concern.
4. Provision of basic infrastructures and services to gum Arabic production area is important.
5. A forestation program is important for the recovery and conservation of gum Arabic belt.

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