



## EMPOWERING WOMEN IN GUM ARABIC PRODUCTION FOR SUSTAINABLE DEVELOPMENT: A REVIEW

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### ABSTRACT

This review explores the pivotal role of women in gum arabic production, an industry historically dominated by men. The review investigates women's evolving roles and contributions in this sector, highlighting the multifaceted dimensions of their empowerment. We tackle the challenges women face in gum arabic production, highlighting the numerous advantages of promoting gender equality in this sector. Our results provide essential insights for policymakers, researchers, and practitioners focused on achieving global food security and sustainable agricultural initiatives. This study enhances our comprehension of gender dynamics in agriculture while offering practical recommendations for fostering equitable and sustainable development.

**Keywords:** Gum Arabic, Women's Empowerment, Sustainable Development, Gender Equality, Economic Contributions

### INTRODUCTION

Gum arabic, a natural exudate harvested from specific *Acacia* tree species, is prominent in the global economy. It is renowned for its versatile applications spanning industries such as food, pharmaceuticals, and cosmetics (Elamin, 2014a). Traditionally, the gum arabic production sector has been predominantly male-dominated, relegating women's roles to the periphery (FAO, 2011). However, recent years have witnessed a remarkable shift, marked by an increasing presence of women in this historically male domain (UN Women, 2020). This transformation carries profound implications, especially in regions where gum arabic production is an economic linchpin, notably across various African countries.

Gum arabic, often affectionately referred to as the "African Gold" (Elamin, 2014b), transcends its economic significance to hold cultural and ecological importance deeply rooted in

local communities (Omar, Abdulafeez and Eltayeb, 2014). In addition to its economic relevance, gum arabic is crucial for stabilising emulsions in the food sector and is a key component in pharmaceutical creation (Elamin, 2014a). Considering its various uses, maintaining gum arabic production is essential for economic growth and the environmental protection of ecosystems.

This comprehensive review embarks on a profound exploration of the burgeoning role of women in gum arabic production, casting light on the pivotal importance of their involvement. It endeavours to unravel the multifaceted dimensions of women's empowerment within this sector, comprehending their evolving roles, recognising their formidable challenges, and underscoring the manifold advantages of fostering gender equality and women's empowerment in the gum arabic production domain.

By delving into the dynamics, challenges, and potential benefits of women's participation in various facets of gum arabic production, from tapping and collection to value addition and distribution, this review aspires to underscore the indispensable role women play in propelling sustainable livelihood opportunities within the industry (IFAD, 2018). The objective extends beyond advocating for the equitable inclusion of women; it also seeks to emphasise the broader significance of this transformation concerning gender equality, economic growth, and environmental sustainability.

## **JUSTIFICATION FOR FEMALE INFLUENCE IN GUM ARABIC PRODUCTION**

The participation of women in gum arabic production is grounded in compelling justifications that span economic, social, and environmental dimensions, thereby emphasising the critical role of women in the industry (FAO, 2011). The following sections outline the multifaceted justifications for fostering female influence in gum arabic production:

### **Enhancing Economic Contributions**

Women's participation in gum arabic production significantly augments the industry's economic contributions. Increasing the workforce engaged in gum arabic harvesting, processing, and value addition through women's participation boosts productivity and enhances economic benefits for communities (FAO, 2011). Their involvement significantly enhances the industry's growth potential and profits, supporting the broader economic health of the community region.

### **Improving Livelihoods and Poverty Reduction**

Women's participation in gum arabic production substantially improves livelihoods and reduces poverty, especially in resource-constrained regions (World Bank, 2001). Earnings generated through gum arabic activities are often channeled into critical areas such as education, healthcare, and basic family needs. As primary income earners, women's contributions bolster household well-being and economic stability, ultimately mitigating poverty within communities (IFAD, 2018).

### **Diversification of Knowledge and Skills**

Incorporating women into gum arabic production provides diverse viewpoints, expertise, and cultural insights. Women diversify the sector's knowledge base, leading to innovative approaches and more sustainable practices (Berkes, 1999). Their familiarity with local ecosystems and close relationship with natural resources involved in gum arabic production often result in more environmentally friendly and sustainable practices (Agarwal, 2010).

### **Environmental Stewardship**

Women's participation aligns with sustainable and environmentally friendly practices in gum arabic production. Their proximity to the natural resources used in the industry fosters a sense of stewardship and conservation. As key contributors, women often promote responsible harvesting techniques and reforestation efforts, ensuring the long-term viability of gum arabic production while safeguarding the environment (Agarwal, 2009).

### **Community Cohesion and Social Development**

Women's involvement in gum arabic production strengthens social bonds and community development. Often organised in women's groups, cooperatives, or associations, they collectively engage in activities that foster community growth and participatory decision-making processes (IFAD, 2018; Jales, 2018). This collaboration strengthens social networks, which are crucial for tackling common challenges and fostering community spirit among residents.

### ***2Empowerment and Gender Equality***

Women's participation in gum arabic production empowers them economically, socially, and politically, challenging traditional gender roles and norms (UN Women, 2020). It contributes to greater gender equality and women's rights. By enabling women to take control of their economic destinies and participate actively in decision-making processes, this involvement drives empowerment and dismantles gender disparities in the sector. These multifaceted justifications underscore the indispensable role of women in gum arabic production, emphasising the need to harness their contributions for sustainable development, economic growth, and gender equality.

### **Women's Role in Gum Arabic Collection and Harvesting**

Women assume diverse and essential roles in the gum arabic production process, making significant contributions to the industry's sustainability and the well-being of their communities. Their active involvement spans various critical stages, including:

#### **Gum Arabic Tapping**

Women are essential participants in the gum arabic tapping, which involves making precise incisions on acacia trees to extract the valuable gum. Their profound understanding of the best times, methods, and locations for tapping is essential for implementing sustainable harvesting strategies (USAID, 2019). Women actively engage in the labour-intensive process of incising trees to extract gum, underscoring their indispensable role in the initial stages of production.

### **Collection and Sorting Gum**

Women frequently gather the gum arabic that seeps from the cuts. They carefully sift and clean the gum to guarantee its quality before it undergoes further processing (USAID, 2017). Research indicates that women predominantly safeguard Indigenous knowledge and expertise crucial to the collection of gum arabic, exerting significant influence over the entire production and supply chain (Omar et al., 2014).

### **Value Addition and Processing**

Women are vital in transforming gum arabic from raw material into various end products like pharmaceuticals, cosmetics, and food additives. Their skills in processing raw gum into finished goods are key for adding value and improving the industry's economic viability (Elamin, 2014b).

### **Storage and Distribution**

The storage and transportation of gum arabic products within small-town marketplaces or to distant markets frequently fall under the purview of women. Their efforts guarantee consistent gum arabic product availability to customers, thus fulfilling an essential function in maintaining market supply (FAO, 2009a).

### **Income Generation and Livelihood**

Women's active participation in gum arabic collection and processing directly contributes to their economic empowerment and their households' overall well-being. The income generated through these activities often supports family needs and bolsters economic stability (FAO, 2011).

### **Community Involvement**

Women's engagement in gum arabic harvesting fosters social cohesion and community involvement. Women's groups, cooperatives, and associations often collaborate on these activities, leading to collective decision-making and community development (IFAD, 2018; Jales, 2018). The participation of women strengthens social networks, which are crucial for tackling common challenges and nurturing community spirit among residents. Women's extensive engagement in these critical aspects of gum arabic collection and processing underlines their indispensable role in sustaining the industry, enhancing rural livelihoods, and fostering community development.

### **Gender Gaps and Challenges**

Women in gum arabic production face significant gender disparities and challenges that hinder their full participation, economic empowerment, and overall well-being. These challenges stem from entrenched social norms, unequal resource access, and restricted opportunities. Some key challenges include:

### **Unequal Access to Land and Resources**

Women often have restricted access to land and other productive resources, such as the acacia trees essential for gum arabic production. This unequal access prevents them from fully engaging in tasks like harvesting and processing (Doss, 2006; UN Women).

### **Limited Market Access and Bargaining Power**

Various obstacles limit women's market access and negotiating power within the gum arabic sector. These hurdles encompass issues like inadequate transportation, lack of market information, and imbalanced negotiating capacity, resulting in lower prices for their products (World Bank, 2013).

### **Low Technical Skills and Knowledge**

Insufficient training and technical knowledge among women in gum arabic production curtail their ability to maximise productivity and product quality. This knowledge gap encompasses harvesting, processing, and value addition, limiting their economic potential (Quisumbing, Rubin, Manfre, Waithanji, Van den Bold and Olney, 2015).

### **Time and Work Burden**

Women frequently manage two roles, juggling home duties alongside gum arabic production simultaneously. This dual role reduces their time and energy for other income-generating activities and personal development (UN Women, 2020).

### **Lack of Decision-Making Power**

Women often participate inadequately in decision-making processes related to gum arabic production, including resource management and community activities (Agarwal, 2009).

### **Gender-Based Violence and Discrimination**

Gender-based violence and discrimination can negatively impact women's participation in gum arabic production. Fear of violence or social censure can limit their mobility and decision-making capacity. Addressing these concerns is imperative to provide equal opportunities for women in the sector (Kabeer, 2005).

These gender gaps and challenges underscore the pressing need for targeted interventions and policies that empower women in gum arabic production, address these barriers, and promote gender equality and economic empowerment.

### **Empowerment and Sustainable Livelihoods**

Empowering women in gum arabic production not only contributes to gender equality but also fosters sustainable livelihoods within the context of this valuable natural resource. The empowerment of women brings forth multifaceted benefits, including:

### **Enhanced Income Generation**

Training women in gum arabic production while providing resources and linking to markets boosts success income. This economic empowerment improves their capacity to meet household needs and invest in education, health, and other essential services (FAO, 2011).

### **Diversified Livelihood**

Empowering women in the production of gum arabic can inspire them to engage in various income-generating activities beyond harvesting, such as processing, value addition, and marketing. This diversification enhances resilience in shifting market conditions or environmental challenges, acting as a risk buffer (Ellis, 1998).

### **Environmental Sustainability**

Empowered women are more likely to participate in sustainable resource management practices within gum arabic production. This may involve responsible harvesting techniques, reforestation efforts, and conservation strategies, contributing to the industry's long-term viability (Agarwal, 2009).

### **Local Community Development**

When women are empowered in gum arabic production, they often reinvest their earnings in their families and communities. This contributes to local development by improving access to education, healthcare, and infrastructure, enhancing overall quality of life (World Bank, 2001; Mason and King, 2001).

### **Respect for Indigenous Knowledge**

Empowerment recognises and respects the traditional knowledge that women often hold regarding gum arabic production and its ecosystem. Incorporating this knowledge into modern practices can lead to more sustainable and culturally sensitive approaches (Berkes, 1999).

### **Participation in Decision-Making**

Empowered women have a stronger voice in deciding how to produce gum arabic and develop communities. Their involvement guarantees that their needs, concerns, and viewpoints are considered accountable. This can lead to better community outcomes and more efficient resource utilisation (Agarwal, 2019). The empowerment of women in gum arabic production holds the promise of not only advancing gender equality but also fostering sustainable livelihoods, which contribute to the well-being of individuals and communities. Stakeholders should prioritise initiatives that support women's access to resources, provide skill development, and promote their active involvement in decision-making processes.

## **Capacity Building for Women's Empowerment**

Building the capacity of women in gum arabic production is essential for their empowerment and active participation. This includes:

### **Technical Skill Enhancement**

Capacity-building programmes to enhance women's technical skills in gum arabic collection, processing, and value addition are pivotal in promoting active participation. These programs provide women with the necessary know-how to efficiently tap acacia trees, process gum exudates, and engage in value-added activities such as sorting and packaging (Katharina, 2021).

### **Financial Literacy and Entrepreneurial Skills**

Equipping women with financial literacy and entrepreneurial skills is essential for their empowerment. Training initiatives that cover financial management, budgeting, and business planning enable women to make informed decisions about their involvement in gum arabic production, enhance their income-generation capabilities, and foster economic independence (Iqbal, 2018).

### **Leadership and Advocacy Training**

Initiatives to improve women's capacity for advocacy and leadership enable them to engage actively in decision-making processes within the gum arabic sector. By enhancing their ability to voice opinions, negotiate effectively, and engage in policy discussions, women can significantly contribute to creating gender-sensitive policy strategies. Increasing the number of women participating in decision-making processes, giving them access to pertinent training and education, and fostering an environment that encourages active participation in policy discussions can all help achieve this.

Capacity-building programs should focus on these areas to empower women in gum arabic production. This, in turn, contributes to their economic independence and the overall sustainability of the gum arabic industry.

## **Policy Support for Women's Empowerment**

Supportive policies are crucial to empower women in gum arabic production. This includes:

### **Gender-Inclusive Policies**

Women's empowerment depends on gender-sensitive policies that address the unique difficulties they experience in producing gum arabic. These regulations should encourage equal access to productive resources, land tenure rights, and financing options. Additionally, they should aim to abolish gender-based discrimination and guarantee equal participation along the entire value chain (UNCTAD, 2021).

### **Secure Land Tenure Rights**

Policies that secure women's land tenure rights are instrumental in promoting their long-term engagement in gum arabic production. Access to land is pivotal for resource management and sustainable practices. Ensuring women's rights to land ownership encourages investment in production activities and improves their overall economic status (Iqbal, 2018).

### **Women-Focused Extension Services**

Gender-sensitive extension services catering to women's specific needs in gum arabic production can significantly enhance their knowledge and skills. These services should encompass technical training, information dissemination, and access to modern technology, enabling women to adopt improved practices and achieve higher productivity (Muhammed, 2020).

Effective policy support is essential to empowering women in the gum arabic industry and providing them with the tools and opportunities they need to thrive.

### **Initiatives and Best Practices**

Several initiatives and best practices have been implemented to support women's participation in gum arabic production. These include:

#### **Training and Skill Development**

Providing women with training and skill development opportunities in gum arabic harvesting, processing, and value addition can enhance their economic contribution and decision-making abilities. Training programs should focus on improving technical skills, business management, and quality control (FAO, 2011).

#### **Access to Resources**

Ensuring women's access to land, credit, seeds, and other productive resources is vital for their participation and success in gum arabic production. Land ownership and access can be facilitated through legal reforms and community-based approaches (Doss 2006, IFAD, 2018).

#### **Market Linkage**

Women's income and bargaining power may be increased by facilitating opportunities to reach markets and encouraging participation in value chains (World Bank, 2013; Fiona, 2016). In gender-segregated environments, women-led cooperatives can be especially useful in removing social and cultural barriers that might otherwise prevent women from participating in the workforce (World Bank, 2013; Fiona, 2016).

#### **Awareness and Advocacy**

Raising awareness about women's rights and promoting gender-sensitive policies at both community and government levels can create an enabling environment for women's empowerment. Advocacy efforts should address gender norms and stereotypes that hinder women's participation (UN Women, 2020).



### **Access to Information and Technology**

Women's productivity and decision-making can be enhanced by giving them access to information, extension services, and relevant technologies. Knowledge-sharing and market information can be facilitated through mobile platforms and digital tools (Aker and Mbiti, 2010).

### **Gender-Responsive Policies**

Governments and organisations develop and implement gender-responsive policies that address women's specific needs and challenges in gum arabic production. These policies should support women's participation and leadership (IFAD, 2018). These initiatives and best practices are essential for empowering women in the gum arabic industry, enabling them to contribute effectively and improve their livelihoods.

### **Global Perspective on Gum arabic Production and Trade**

Gum arabic production and trade hold international significance due to their multifaceted roles in various industries, global market dynamics, and socioeconomic implications.

### **International Significance**

Gum arabic, primarily sourced from African Acacia trees, holds significant global importance. It is crucial in numerous products, especially in the food and beverage industry (Dolan and Sorby, 2005). Its essential emulsifying, thickening, and stabilising properties make it crucial in producing soft drinks, candies, and pharmaceuticals (Kadam, Patil, and Yadav, 2015).

### **Market Dynamics**

The global gum arabic market is dynamic and influenced by various factors. The demand for gum arabic fluctuates due to trends in the food and beverage industries, and the pharmaceutical and cosmetic sectors (Food and Agriculture Organization [FAO], 2009b).

International trade policies, such as tariffs and import regulations, also shape market dynamics (Sen, Korsun, and Sen, 2014; Gum Arabic Market Size, Industry Share & Trends—2032 | FMI).

Understanding gum arabic production's international significance and market dynamics' intricacies is crucial for leveraging its economic potential and ensuring sustainable practices.

## **CONCLUSION**

In conclusion, this review has explored the multifaceted realm of women's empowerment in gum arabic production, shedding light on its importance, challenges, and potential impacts on sustainable development. Key findings from this examination underscore women's critical role in this industry, from gum arabic tapping to processing and distribution. Moreover, it has been elucidated that empowering women in gum arabic production can enhance economic contributions, improve livelihoods and reduce poverty, foster environmental stewardship, strengthen community cohesion and social development, and promote gender equality.

Empowering women in this sector has far-reaching potential. This can boost household incomes, reduce poverty, improve food security, and enhance community well-being.

Additionally, adopting gender-inclusive policies and practices can foster more sustainable and environmentally friendly gum arabic production. A series of action recommendations are necessary to actualise these potential benefits.

## **RECOMMENDATIONS FOR ACTION**

The recommendations for action outline key strategies to empower women in gum arabic production, fostering equitable participation and sustainable development. Implementing these recommendations will enhance women's economic contributions and drive community-wide progress.

- **Skills Development:** Introduce training programs to improve women's technical skills in gum arabic collection, processing, and value addition.
- **Financial Literacy and Entrepreneurial Skills:** Provide education to women on financial literacy and entrepreneurship, enabling them to make informed choices and effectively manage resources within the gum arabic value chain.
- **Gender-Inclusive Policies:** Formulate and enforce policies aimed at addressing the unique challenges faced by women in gum arabic production, ensuring that their needs and contributions are considered and prioritised.
- **Secure Land Tenure Rights:** Establish policies to secure women's land tenure rights, enabling them to invest in and benefit from long-term engagement in gum arabic production.
- **Market Access:** Facilitate women's access to local and international markets while encouraging active involvement in value chains to enhance income and negotiation power.
- **Awareness and Advocacy:** Promote awareness of women's rights and advocate for gender-sensitive policies at both community and governmental levels to reduce systemic barriers.
- **Access to Information and Technology:** Guarantee that women can access essential information, extension services, and appropriate technologies to enhance productivity, efficiency, and decision-making capabilities.
- **Support Women's Leadership:** Build women's capacity for leadership and advocacy, empowering them to participate actively in policy dialogues and decision-making platforms.

By acknowledging and supporting the essential contributions of women in gum Arabic production, stakeholders can foster a more inclusive, equitable, and sustainable community. These initiatives will not only advance gender equality but also contribute to the overall economic and environmental resilience of the sector.

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