

Enhancing Production and Market Access for Honey Producers in Arid and Semi-Arid Lands of Kenya

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Key Highlights

Honey production holds a great promise of improving the livelihood of honey producers in the Arid and Semi-Arid Lands (ASALs) of Kenya, which are characterized by dry weather conducive for apiculture. This policy brief focuses on interventions towards enhancing honey production and marketing. The key highlights include:

- i) Honey production in Kenya holds a great promise of improving the livelihood of honey producers. However, key production challenges in beekeeping include pesticide usage, limited access to credit, and reliance on traditional beekeeping technologies.
- ii) Honey producers face difficulties in accessing markets, absence of standardized quality criteria, and navigating unstructured markets hampering commercialization efforts.
- iii) There is need to improve market access infrastructure, facilitating credit access, promoting sustainable beekeeping practices, supporting the formation of producer cooperatives, enhancing quality standards, and encouraging modern beehive adoption.

Introduction

Honey production in Kenya holds a great promise of improving the livelihood of honey producers. It has a huge potential specifically in the arid and semi-arid lands of Kenya, characterized by dry weather conducive for apiculture. Arid and semi-arid areas of Kenya also have rich flora and fauna such as Acacia trees, which provide quality nectar for honey production. Despite holding this potential, honey production in Kenya has consistently fallen significantly short of its estimated potential of 100,000 metric tonnes annually. For instance, in 2021, Kenya's annual honey production reached a modest 17,265 tonnes with a five-year average of 18,521 tonnes between 2017 and 2021 as reported by FAOSTAT.

Similarly, the marketed output of honey falls short of the market demand, leading to the importation of natural honey. Over the years, Kenya has been a net importer of natural honey. The numbers reveal a trade deficit between 2013 and 2021, with imports amounting to US\$ 3,307,572 and exports totalling US\$ 2,542,457 as indicated by UN-COMTRADE. This trade imbalance underscores a fundamental issue that Kenya's quantities of marketed honey production fall short of market demand from households and industries such as beauty, food, and pharmaceuticals. The failure to meet market demand can be linked to low uptake of honey commercialization in Kenya. Honey commercialization is key to improving the livelihood of communities in

the ASALs through the generation of employment opportunities, diversified income sources, and value addition. The regional development authorities such as Kerio Valley Development Authority and Tana River Development Authority have programmes that aim to increase honey commercialization through farmer capacity building, encouraging adoption of modern bee hives and provision of ready markets to the farmers.

Key Constraints in ASAL Honey Production and Commercialization

The key challenges that honey production faces include pesticide usage, accessibility to credit, and dependence on traditional technology. Commercialization of honey is negatively affected by limited market access, absence of standardized quality criteria, and the prevailing unstructured markets in rural areas.

i) Pesticide usage detrimental to production and bee health

Use of pesticides and herbicides is associated with reduced honey production, low quality of honey, and loss of bee colonies. While pesticides and herbicides have the potential to help in pests and weeds management, they can directly harm bees, weaken their health and render them more susceptible to diseases and

parasites, consequently leading to significantly shrank bee colonies. Moreover, pesticides and herbicides can contaminate the nectar and pollen that bees collect for honey production. This contamination not only reduces the quality of honey but also hinders plants cross-pollination. As a result, it is a lose-lose situation; honey production dwindles, and the bees that facilitate the cross-pollination process in the crop farming process suffer from the negative consequences of pesticide exposure. While pesticides and herbicides have their uses in agriculture, their indiscriminate usage can have far-reaching and detrimental effects on an essential natural process. Therefore, careful and responsible use of pesticides and herbicides is paramount to ensure the sustainability of both bee populations and the honey industry.

ii) Credit accessibility

Access to credit plays a critical role in the honey production landscape of Kenya's ASALs. Beekeepers face various upfront costs to get their honey production off the ground. These expenses include acquiring modern beehives, protective gear, training, and ensuring their honey meets quality standards. Having access to credit eases the financial burden and allows beekeepers to invest in these essential resources and infrastructure. Securing credit gives them the financial boost to scale up their operations and produce more honey. In the arid regions of Kenya, beekeepers are more likely to face financial constraints, and therefore access to credit proves to be even more impactful on honey production. This implies that supporting beekeepers in arid areas to secure credit can help have higher marginal benefits in terms of honey production and improved quality.

iii) Use of traditional beekeeping technology

Traditional beekeeping technologies are still widely used in ASALs of Kenya. According to statistics by the National Information Platform for Food and Nutrition (NIPFN), majority of beehives used in the country are traditional. There are 897,598 traditional log hives nationwide, whereas the improved hives, including the KTBH, Langstroth hive, and box hives, are significantly fewer in number—281,733 KTBH, 221,990 Langstroth hives, and 25,148 box hives. Several reasons are attributed to this. First, there is limited access to modern beehives, because they are more expensive than traditional beehives. Secondly, cultural preference tends to impede the adoption of modern beekeeping equipment as beekeepers in ASALs prefer to use traditional beehives because they have been used by their families for generations. Traditional beekeeping is relatively low-cost, but it comes with major drawbacks. For instance, traditional beehives have been associated with lower honey production compared to modern beehives, which makes it difficult for beekeepers to meet demand. It is also difficult to harvest from a traditional beehive as the process may lead to poor quality or even honey losses. As a result, the low-quality honey produced from traditional beehives fetches lower prices. Additionally, traditional beehives are more susceptible to pests and diseases and therefore lower productivity.

iv) Access to markets

Access to markets poses a challenge to honey producing households. Beekeepers who can easily access markets tend to have a chance of selling their honey at favourable prices, ultimately driving increased commercialization. However, beekeepers often encounter several hurdles when trying to reach a broader range of buyers. For those in rural areas, the major challenge is the physical distance to the market and the associated costs. They therefore end up selling their honey to the neighbouring households, and fetching very low prices. For instance, in Baringo County, a kilogramme of honey is sold at Ksh 300 per kilogramme (NIPFN Data), which is way below the market price of Ksh 800 per kilogram. Kerio Valley Development Authority and Tana River Development Authority through their honey purchase programmes are cushioning beekeepers from price exploitation in their respective jurisdictions as they buy honey from beekeepers, package and sell at competitive prices at its wider national markets. However, in the regions that are not covered by regional bodies, the producers have been forced to sell to the middlemen and the local market, thereby fetching lower prices.

Most ASAL counties are vast, implying a long distance to the nearest shopping centre, which are often characterized by poor road networks that limit the volumes/quantities of honey delivered by beekeepers, mostly on foot. Honey is, therefore, usually packed and sold in recycled containers because they are light enough to carry. Where terrain allows, bicycles are a common means for delivery of bulk quantities of honey packed in 20-litre buckets. However, this attracts additional costs of hiring transport to the market, consequently reducing profit margins. Those who have physical access to the market grapple with inadequate market information that would enable them make informed decisions about when and where to sell their honey and at what price. Without this information, beekeepers are likely to suffer price exploitation. Market access and market information are bridges that connect honey producers to their potential customers and are crucial to enabling competitiveness.

v) Quality standards

There are limited grading or quality check services on honey available in the local markets, leading to mistrust between buyers and sellers due to honey adulteration and low-quality honey in the market. Buyers are forced to use unorthodox means of determining the quality of honey, such as colour test, water content, level of inverted sugars and flavour. These means of quality testing are often ineffective and may not identify the quality of honey accurately. The absence of quality checks in the markets hampers efforts to commercialize honey.

vi) Unstructured markets

Small-scale honey producers in the ASALs have embraced a direct-to-consumer approach, selling their honey at community markets, roadside stalls (kiosks), and local shops. While this method offers a direct connection to local consumers, it also makes it complicated to set competitive prices to ensure predictable profitability for all honey producers. Direct-

to-consumer approach thrives, but its limitations are evident in the limited access to larger consumer bases, leaving producers with fewer opportunities for expansion and growth. The best alternative will be for producers to come together and set up producer cooperatives. Cooperatives offer better bargaining power and access to larger markets, providing a lifeline for producers seeking a more stable and profitable market for their honey.

Conclusion and Policy Recommendations

Honey production is determined by the type of beehive used, access to credit, and pesticide usage, particularly in arid and semi-arid areas. Modern beehives prove to be more effective in honey harvesting, while traditional ones are associated with greater challenges and contamination risks. Beekeepers with credit access can make strategic investments in resources, including modern beehives and training, resulting in higher honey production. The use of pesticides is linked to reduced honey production, directly impacting bee health and contaminating nectar and pollen. Honey commercialization emerges as a pivotal factor in uplifting the livelihoods of honey-producing households. However, beekeepers often grapple with barriers in accessing credit and markets, limiting their ability to expand production and effectively market their output.

Policy Recommendations

- i) **Strengthen market access:** Given the geographical challenges faced by beekeepers, especially in rural areas, it is important to improve market access infrastructure. Developing better road networks and transportation options will reduce transportation costs and enable beekeepers to reach a wider range of markets efficiently. Regional authorities could play a significant role in expanding market access, much like the successful initiatives of the Kerio Valley Development Authority and the Tana River Development Authority. The regional bodies can be supported to expand to regional and international markets.
- ii) **Facilitate access to credit:** Recognizing that credit plays a vital role in honey production and commercialization, policy makers can develop accessible credit programmes tailored to the needs of beekeepers. These credit facilities will empower beekeepers to invest in essential resources, such as modern beehives and training, resulting in increased honey production and income.
- iii) **Promote sustainable beekeeping practices:** Sustainable beekeeping practices, including avoiding the indiscriminate use of pesticides and herbicides, are crucial to protecting bee populations and ensuring the quality of honey production. Policy makers and development practitioners could promote these practices through education and training programmes, thus enhancing the sustainability of the industry. Training programmes could be used to educate beekeepers about the safe and responsible application of these chemicals.
- iv) **Support the formation of producer cooperatives:** Encouraging small-scale honey producers to form cooperatives could create a unified platform for negotiation, improving bargaining power, and expanding access to larger markets. These cooperatives can offer stability and profitability, providing a vital alternative to the unstructured market.
- v) **Enhance quality standards:** Introducing standardized quality checks for honey in local markets is essential to build trust between buyers and sellers. These quality standards could help combat issues such as honey adulteration and the presence of low-quality products in the market, ultimately boosting consumer confidence and commercialization.
- vi) **Encourage modern beehive adoption:** Promoting the adoption of modern beehives is critical to improving honey production. Offering financial incentives or subsidies for the transition from traditional to modern beehives could mitigate the drawbacks associated with traditional hives, leading to higher honey yields and better overall quality.

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