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Production of Honey with a Potential for Geographical Indication Labeling as a Bee Conservation Tool

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Abstract

The link between food products (including honey) and environmental qualities in the area of production is a major concern for many consumers. Characteristics of Geographical Indication (GI) products are attributable to the nature of the natural environment and production practices in the area of origin. Production of GI products can in many instances enhance biodiversity conservation. This study assessed how potential GI in Kenya can promote bee forage and habitat conservation for pollination benefits, thus food security. Results showed existence of some factors that define GI honeys in Kenya and their link to bee conservation. These factors include; institutional frameworks, organizational support, collective action, that promote products for premium prices, thereby facilitating biodiversity conservation efforts for sustainable production.

Key words: Geographical Indications, Honey, Bee Conservation, Kenya.

Introduction

Geographical Indication (GI) is a form of intellectual property identifying a product as originating from a region/locality/territory where its quality and reputation is associated with its geographical origin (UNIDO, 2010). GI have been thought to have the potential to protect the traditional indigenous know-how that is associated with agro-food production and to legally regulate land-use strategies and harvesting practices, by means of various specifications. As a result, GI provide a relevant tool to protect and promote or enhance biodiversity (Larson Guerra, 2004). It is important therefore not to only consider the biological characteristics of a geographical area, but also the local knowledge and practices involved (Bérard and Marchenay, 2006) in order to achieve biodiversity benefits.

The European Union has registered some of its agricultural products as GIs and this has added billions of moneys to their economy. The products registered include honeys whose qualities are determined by the geographical setting and resources, production system, handling, processing and storing methods; thus a human and natural link. The only African GI registered honey is Oku white honey from Cameroon, which is produced in the *Kilum Ijim* forest on Mount Oku. The honey has a unique taste and a white colour which is attributed to specific floral plants where bees obtain their nectar (Blakeney et al., 2012). Apart from increasing monetary value and employment creation, this honey has promoted forest and biodiversity conservation through a number of programs that include reforestation degraded areas (Bainkong, 2014) for sustainable production.

Giovannucci et al., (2009) emphasise that even with originality of a potential GI product, the benefits will not accrue to the actors without the support of the legal and institutional frameworks. Other

factors that support GI registration of products include; collective action, prices and market for the product, specificity and reputation of product, support from other actors along the value chain, product production methods and link of a product characteristics to history or tradition of the geographical area (Bramley and Biénabe, 2013).

Kenya has acknowledged the importance of GI and a law to facilitate GI registration has been drafted, now awaiting enactment (Ramba, 2013). Furthermore, several honeys with potential for this kind of protection have been identified (KIPI, 2009). Perceptions on honey reputation and quality by the honey producers and consumers on the honey identified as potential for GI registration in Kenya, have been attributed to; geographical area where the honeys are produced and the initiatives by the stakeholders in the sector (Warui et al., 2014). These initiatives include capacity building through trainings on hive management, honey value addition, ecosystem conservation and supply with equipment for beekeeping.

The trend in global competitive market environment for agricultural products is moving into recognizing quality and unique products with a regional link. Demand for pollination services is also increasing with the rising need for agricultural products from a growing human population (Aizen and Harder, 2009), therefore, a need to conserve pollinators. Studies conducted in Kenya showed variations in bees' presence in different habitats noting a low pollinator abundance and diversity (Gikungu et al., 2006; Kasina et al., 2009). This has been associated with land use changes which interfere with the habitats and access to forage for the bees. A study to assess how production of potential GI honeys in Kenya can contribute to conservation of bees' forage and habitat has been undertaken including evaluation of the GI potential of Kenyan honeys.

Material and Methods

This study was conducted in Kitui, Baringo and West Pokot, Kenya. These areas are characterized by dry woodland forests and common *Acacia species* which form habitat and source of food for the bees and other pollinators. Two focus group discussions with honey producer groups, key informant and in-depth interviews with representatives from the Ministry of Agriculture Livestock and Fisheries, Kenya Industrial Property Institute, Kenya Bureau of Standards, honey processors and traders were conducted and 417 questionnaires administered in the three areas.

Results and Discussion

Table 1: Situational analysis of factors and descriptors that can facilitate GI development of honey in Kenya and contribute to biodiversity conservation

Factors that contribute to GI registration ; responses on their presence or existence in Kenyan case studies	% response in Kitui n=136		% response in Baringo n=140		% response in West Pokot n=141	
	Yes	No	Yes	No	Yes	No
Product specificity and reputation; Geographical characteristics influencing prices of honey	68	32	61	39	41	59
Support; Access to extension services	64	36	64	36	54	46
Support; Access to credit/finances	42	58	79	21	48	52
Legal framework; presence of legislation and other informal institutions supporting GI	60	40	69	31	50	50
Collective action; Membership in honey producer group	61	39	48	52	36	64

Based on the results (Table 1) honeys from the three regions (Kitui, Baringo and West Pokot), have shown some existing factors that may facilitate their GI registration and their presence in the case

studies. Distinct white colour and taste of Oku white honey from Cameroon is attributable to the flora and cold weather of the mountainous forest that has benefited from conservation efforts (Blakeney et al., 2012), resulting to high reputation and increase in price premium (Bainkong, 2014). Results from the focus group discussions in Kenya showed that honeys from the three areas have unique characteristics. They include; sweet taste that range between mild to strong, distinct aroma (nice flower scent), viscosity (mostly liquid and smooth in the mouth) and colour (ranging between light brown to dark brown). These characteristics are attributable to production method and presence of indigenous plants and other suitable vegetation in the areas, thereby calling for their conservation to maintain honey quality.

Certified organic products attracts premium prices due to environmental qualities observed in their production, the same way as GI, which apart from increasing price premiums, also contribute to biodiversity conservation (Larson Guerra, 2004; Allaire, 2012). Pesticides and other harmful chemicals have effects on bees and other pollinators (Valk van der et al., 2013). The study in Kenya showed that most producers do not use chemicals in their farms and this has enabled production of organic honey. This honey characteristic has created demand for the honeys due to its high reputation and buyers travel from Nairobi, Kenya's capital city and other towns to buy honey from these areas. The honey is sold at higher prices compared to other regions, thereby earning producers good income, that create an incentive to motivate them to conserve the environment (bees and plants) in order to benefit more from this kind of honey.

Collective action in product production enhances economies of scale (Barjolle et al., 2005) through reduction of transaction costs (Reviron et al., 2004; Doward et al., 2004). This means more benefits to producers and other actors in the value chain as a result of development and access to new markets. Table 1 shows that 61% of respondents in Kitui, 48% in Baringo and 36% in West Pokot have joined honey producer groups and they have collaborated with other actors for support in capacity building on beekeeping and biodiversity conservation through trainings, extension services, supply of beehive equipment and financial support. Collective action through cooperation of producer associations and other actors may lead to concerted conservation efforts for protection of local flora, crucial in maintaining the unique characteristics of honey.

Legal and institutional frameworks are important in GI development (Giovannucci et al., 2009; Blakeney et al., 2012). Information gathered from an interview with a representative from Kenya Industrial Property Institute, an Intellectual Property Rights Institution and Kenya Bureau of Standards, quality standard and assurance body revealed that the GI draft Bill and Honey standards in Kenya advocates for environmental conservation in order to produce quality products especially for the agricultural products. Results from the field interviews showed that honey producers have made some efforts in conserving biodiversity around areas where the products are produced in order to ensure that their quality are up to standard and acceptable to the market.

Local know how and traditional knowledge contribute to originality of a product thereby, and this plays a key role in GI development (Vandecandelaere et al., 2010). Some informal institutions in the three case studies were noted and they are; norms and taboos that are used to govern the quality of honey. This involves use of traditional methods of pest control and conservation of indigenous plants known to produce food for the bees and habitats. This bring about self-control on use of natural resources creating sustainable utilization.

Conclusions and Outlook

Honey producers in Kitui, Baringo and West Pokot, Kenya can benefit from GI potential honeys if the GI law is enacted and other and measures considered. This would increase prices premiums and income for producers, forming an incentive to conserve bee forage and habitat for sustainable production. More support from political and institutional environment, regional and local organizations; coordination of actors in the honey sector; creation of awareness on GI is however, needed to facilitate GI registration of honeys and conservation of the biodiversity around the products' origin.

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